Impact evaluation of Norway's participation in EU Framework Programmes for research and innovation

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Preface

The Ministry of Education and Research has commissioned Samfunnsøkonomisk Analyse AS and Technopolis Group to conduct an impact evaluation of Norway's participation in the EU's Framework Programmes for research and innovation.

This report presents an evaluation of how Norwegian participation in Horizon 2020 and Horizon Europe to date contributes to the objectives set out in the Government's strategy for research and innovation cooperation with the EU. The report further includes evaluations of PES and Retur-EU and an assessment of anticipated costs and benefits of participation in the tenth Framework Programme.

The analysis was carried out from June 2025 to June 2026 by a team consisting of Maja Tofteng, Emil Cappelen Bjøru, and Karin Ibenholt from Samfunnsøkonomisk Analyse AS and Tomas Åström, Sebastian E. Berggren, Catharina Palm, Diogo Machado, and Erik Arnold from Technopolis Group. The team gratefully acknowledges support from a range of stakeholders who have helpfully assisted with the study. These include representatives of the Ministry of Education and Research, members of an Advisory Committee, interviewees and survey respondents, as well as representatives of the Research Council of Norway, who assisted with eCorda and RCN data.

Oslo, 22. juni 2026

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Key findings

The Norwegian Ministry of Education and Research commissioned this report to support the Government's decision on and the Parliament's consent to Norwegian association to FP10 (2028-2034). EU countries have benefited from such Framework Programmes (FPs) since 1984. From modest beginnings, the FPs have grown in scale and scope to become probably the biggest competitive research and innovation funding programme in the World.

Norway has been fully associated to the FPs since 1994. National strategic objectives for FP participation can be summarised as increasing the performance of the national research and innovation (R&I) system beyond that which would have been achieved by national policy alone. Like EU members and the other Associated States, Norway effectively pays the EU a contribution to the total FP budget based on the relative size of its economy. The share of the FP budget that Norway wins back in project funding competitions can therefore be thought of as one useful (if crude) success-indicator among others for the Norwegian R&I system.

The effects of national and EU policies on Norwegian performance are complementary and are hard to tease apart. However, the FPs have to obey the subsidiarity principle, namely that the EU should not do things that can be accomplished at national level. So, for example, the FP works at bigger scale, provides access to bigger competition arenas and bigger markets, networks researchers and industry across the continent, provides access to collaborations with strong research groups and companies, and sets higher quality standards in basic research via the European Research Council, than can be done at national level. Correspondingly, at the national level, it is often the stronger research groups, the bigger and more technologically capable companies, and the institutes with the strongest industrial networks that are most motivated to participate and do well in the FPs. FP effects are not only at the project and participant levels but also involve setting, coordinating, or modifying agendas.

Our conclusions in relation to Norway's strategic objectives for FP participation are:

1. **Raise quality of Norwegian research and research environments**. FP participants produce more articles than non-participants, and these are more widely cited than those of other Norwegian researchers. Norwegian-led project proposals are achieving higher success rates
2. **Increase value creation and competitiveness, and support transitions**. FP participants build and expand international research, industry, and market networks, especially in R&I-intensive industries. European Partnership strengthen FP participants' positions in highly competitive industries and in relation the Green Transition
3. **Handle societal challenges and address Sustainable Development Goals**. The objectives of European Partnerships in combination with the HE goal to spend 35 percent of funding on climate-related R&I provide strong directionality towards these goals
4. **Contribute to R&I policy development and new collaboration patterns**. While Norway has some R&I priorities closely related to its natural endowments and industry structure, thematic alignment between EU and Norwegian priorities and instruments is increasing. FP participants become part of extensive international networks

Norwegian actors shall receive 2.8 percent of FP competition-based funding. This share has been rising throughout the period considered in this report (2014 to date), and currently exceeds both

the government’s target of 2.8 percent and Norway’s contribution i of 2.4 percent. We have further assessed the costs and benefits of Norwegian association to the forthcoming programme, FP10 (2028-2034). The programme will include many of the same instruments as Horizon Europe. Two important proposed changes compared to HE are a requirement for interaction with the European Competitiveness Fund (ECF) and the inclusion of R&I for dual-use civil and defence technologies. Further, the proposed budget involves a relative increase in business innovation-oriented measures relative to basic research and societal challenges. An important backdrop to the proposal is that FP10 aims to address the barriers to increasing innovation and value creation in Europe in the context of a changing geopolitical landscape.

It is our view that Norway's FP association has contributed, and will continue to contribute, significant benefits to the Norwegian society. Participation in the FPs exposes Norwegian R&I actors to Europe-wide competition and allows for international R&I collaboration. Benefits of FP10 association include access to Europe-wide R&I networks, research and technology infrastructure, competence, and data, and R&I instruments Norway cannot replicate. All of these can enhance innovation, absorptive capabilities, and research relevant for meeting societal challenges. Benefits of participation in FP10, outweigh costs of participation. The benefits of international R&I collaboration, knowledge sharing, and market access are particularly important for a small country like Norway and are further amplified by current geopolitical uncertainties.

The message from the Swiss and UK experiences, is that long-term, reliable association is necessary to maintain international networks and thus also Norway’s position in the European R&I ecosystems and trust and legitimacy in the FP. The penalties for instability are severe, and we are unable to identify any meaningful benefits. Norway should therefore maintain its current form of association.

RCN has two instruments that support FP participation. Project Establishment Support (PES) aim to increase the number and quality of Norwegian proposals by supporting organisational and individual capacity-building. The Retur-EU scheme is a vital structural measure for the Norwegian institutes. Without it, not only Norwegian institutes but also many of the companies with which they collaborate would be less able to participate in the FPs.

Contents

Summary

The EU Framework Programmes for Research and Innovation (FPs) are a series of multi-year funding programmes established by the European Union to support research, technological development and innovation. Norway has participated in the FPs since the 1980s, initially on a project-by-project basis and has been associated to the programmes since 1994 based on the EEA agreement. The FPs have evolved over time, aiming to strengthen Europe's scientific and industrial competitiveness. They employ a wide range of instruments, and the objectives and portfolio of instruments evolve between programme periods. The overall FP budget has increased over time, particularly from the seventh Framework Programme (FP7) onwards. The two most recent FPs are Horizon 2020 (H2020, 2014–2020) and Horizon Europe (HE, 2021–2027).

Mandate

Samfunnsøkonomisk Analyse and Technopolis Group were commissioned by the Ministry of Education and Research (MER) to evaluate the impacts of Norway's participation in the FPs since 2019, thus covering both H2020 and HE. The assessment of impacts focuses on the Strategy for Norway's participation in Horizon Europe and the European Research Area (ERA) from 2021. The strategy objectives are;

- Participation shall raise the quality of Norwegian research and generate more outstanding and innovative environments.
- Participation shall increase value creation, strengthen Norway's competitiveness and capacity for innovation and contribute to transition in the private and public sector.
- Participation shall enable us to handle major societal challenges, help us achieve the Sustainable Development Goals and contribute to the sustainable development of society.
- Participation shall contribute to the development of research and innovation policy and to new patterns of collaboration across national borders, sectors and fields.

Lastly, there is an ambition of a 2.8 percent financial return.

The assignment also includes evaluations of the Project Establishment Support (PES) and Retur-EU programmes of the Research Council of Norway (RCN), as well as an assessment of anticipated costs and benefits of participation in the forthcoming FP10 programme. The assessment of participation in FP10 is based on a comparison between, on the one hand, continued association to the FPs with, on the other hand, channelling Norway's FP10 financial contribution and the cost of Retur-EU to national R&I instruments.

The FPs encompass broad portfolios of sub-programmes and instruments. This evaluation focuses on the FPs as a whole rather than on sub-programmes, individual instruments, or single projects. The evaluation is relevant as an evidence base for the Government's decision on and the Parliament's consent to Norwegian association to FP10.

The report relies on document reviews, registry analyses, web surveys, interviews, and innovation and econometric analyses.

Norwegian FP Participation

There has been a strong increase in Norway's participation in the FPs in recent years. Norway was awarded 1.7 percent of the competitive funding in FP7 and 2.5 percent in H2020. This share is also referred to as financial return. By the end of 2024, Norway had been awarded 3.3 percent of the competitive funding in HE. The share is 2.3 percent in H2020 and 2.9 percent in HE respectively when excluding the Norway-based Coalition for Epidemic Preparedness Innovations (CEPI), which funds vaccine research worldwide. However, RCN's recurring analyses show that the financial return has declined somewhat since then. By October 2025, Norway had been awarded 3.1 percent of the competitive funding in HE.

Norway's financial return amounted to EUR 2.3 billion over the course of the period 2019–2024 in current prices, corresponding to approximately NOK 27 billion in 2025 prices. This includes NOK 3,3 billion to CEPI.

The FPs fund a variety of research and innovation (R&I) activities in Norway. Companies and organisations from all parts of the country participate, but participation is dominated by a handful of very active research institutes and universities.

Private-sector participation is far more diversified and includes companies of all sizes. While companies participate in several projects, most companies take part in only one project within the same programme period.

FP funding to the private sector has increased year by year, but measured as a share of total Norwegian FP funding, the share going to the private sector is lower so far in HE than it was in H2020. FP funding to research institutes has increased both in kroner and as share of total Norwegian FP funding. Research institutes often act as project coordinators and play central roles in facilitating private-sector participation.

Most collaborative projects require participation from multiple partners, with a minimum of three partners from three different countries. In H2020, Norwegian participants most often collaborated with German organisations, followed by French, Spanish, Italian and British organisations. The overall pattern remains similar in HE, although Spanish partners have become more common and British partners less common due to Brexit, following which the UK did not become associated to HE until 2024.

Fulfilment of Strategic Objectives

In our judgement, the available evidence provides a solid basis for concluding that the impacts of Norway's FP participation are in line with the strategy objectives which is discussed below. In a few areas the evidence available does not allow definitive assessments. This is due to methodological challenges such as long time-horizons and unclear attribution (that is, whether the effects are caused by FP participation). There is nonetheless reason to believe that participation over time will contribute positively to Norwegian economic and societal objectives.

Participation shall raise the quality of Norwegian research and generate more outstanding and innovative environments

Research quality is a contested concept, as there is no single or generally accepted way to measure it. Our data nonetheless provide some indications that FP participation contributes to quality. Over time, FP projects with Norwegian participants have resulted in increasing numbers of scientific articles with Norwegian authors, suggesting that Norwegian researchers are actively contributing to the research frontier.

On average, Norwegian articles resulting from FP projects have greater impact than the average article within their respective scientific fields and are frequently cited by other researchers. However, the number of citations per article has not increased, so we cannot conclude that the quality of Norwegian research has further increased beyond its already-high level. This may in part reflect the fact that it takes time for citations to accumulate.

An alternative way of approaching quality is to note that proposals with Norwegian coordinators have achieved significantly higher success rates in HE than in H2020. Moreover, Norway's markedly increased financial returns since FP7 would not have been possible without growth in the numbers of outstanding and innovative Norwegian researchers and research groups. Such environments are present across all stakeholder categories, but especially among HEIs and research institutes.

Patterns of participation and success across FP instruments also provide valuable information about Norway's areas of scientific and technological strength. Participation in Pillar 1, Excellent Science, has increased notably from H2020 to HE, while the highest return is achieved within Pillar 2, Global Challenges and European Industrial Competitiveness, where Norway performs particularly well in Cluster 5 (Climate, Energy and Mobility) and Cluster 6 (Food, Bioeconomy, Natural Resources, Agriculture and Environment).

Participation shall increase value creation, strengthen Norway's competitiveness and capacity for innovation and contribute to transition in the private and public sector

Taking part in FP projects allows participants to build international networks and allows them to contribute to and gain access to the research frontier. For private-sector participants, participation may also support the development of new markets and access to funding, investors, and advisory services. A majority of private-sector participants report increased international competitiveness, new customers and increased sales in our web survey. Many private-sector participants also expect to obtain increased exports, new suppliers, new business models, reduced costs, and new value chains.

We have undertaken an econometric analysis to examine whether there are any systematic differences in economic development between companies participating in the FPs and ones participating only in national programmes. We do not find any additional effect on productivity, value creation or profitability.

We have also conducted a systematic comparison of responses to the national Community Innovation Survey (CIS). The comparison suggests that the share of companies reporting new innovations and a high degree of international orientation is somewhat higher among those participating in the FPs and national measures, than among those participating only in national funding instruments. The share is substantially higher than among companies that have not received public R&I funding.

We cannot determine whether FP participation makes companies more innovative. The comparison nevertheless suggests that Norway's participation in the FPs contributes to directing resources towards more internationally oriented and R&I-intensive companies. This may contribute to increased innovation and value creation over time.

Participants from the R&D sector also report in the survey that participation has contributed to increased international competitiveness. R&D participants further report that participation in the FPs leads to follow-on projects with international public funding and is important for recruiting international researchers to Norway.

FP participation can contribute to diffusion of knowledge, development of a culture of innovation, and strengthened absorption capacity, which both the private and public sectors benefit from. The full magnitude of such spillovers is difficult to isolate and measure empirically.

European Partnerships are key instruments for advancing the EU's ambitions for competitiveness and transition in both the private and public sectors. Norwegian actors participate in many Partnerships, and Norway performs particularly well in Co-programmed Partnerships. This extensive participation is likely to contribute to transition in the private and public sectors in Norway and internationally, but the time horizons are long and attribution is often unclear, meaning that a definitive assessment of these effects cannot be made.

Participation shall enable us to handle major societal challenges, help us achieve the Sustainable Development Goals and contribute to the sustainable development of society

Through participation in FP projects, Norway can generate and gain access to knowledge, research infrastructures, data and international networks relevant to handling major social challenges. As noted above, Norwegian participants are particularly active in areas such as climate, energy and environment. Norwegian articles from FP projects frequently address Sustainable Development Goals (SDGs). So it is for publications in the grey literature citing Norwegian articles. Moreover, the extensive Norwegian engagement in partnerships and Missions could also contribute to addressing SDGs and to sustainable development of society.

Impacts in terms of, for example, emission reductions require that research findings are translated into policy and regulations. Policymaking and application rely on diverse evidence where research findings typically only provide one piece of a larger puzzle.

Participation shall contribute to the development of research and innovation policy and to new patterns of collaboration across national borders, sectors and fields

Interviewees report strong alignment between Norwegian and European R&I priorities, as reflected in Norway's Long-Term Plan and the FP's emphasis on high-quality R&I, climate action, and broader societal goals. This convergence is considered a result of shared societal challenges.

Interviewees also point to concrete examples of EU influence, such as the introduction of EU Missions, which have inspired Norwegian policymakers to launch three Norwegian Missions. Moreover, RCN and IN have increasingly aligned procedures, criteria and terminology with FP practice, and national instruments explicitly incentivise FP participation.

Norway's FP participation also influences national policy on other policy domains, as evidenced by interviews and by the frequent citation of the above-mentioned grey literature in Norwegian policy documents.

We also find that FP participation has led to extensive national, international, intersectoral, and interdisciplinary collaboration. Many of these collaborations are likely to involve new partners, but there is no reliable way to determine the proportion.

In addition, there is an ambition that Norwegian actors shall receive 2.8 percent of the competition-based funding

By the end of 2024, Norway's accumulated return in HE excluding funding to CEPI was 2.9 percent, and 3.3 percent including CEPI. RCN's most recent analysis at the time of finalising this report shows that the accumulated return in HE by October 2025 was 3.1 percent including funding to CEPI.

Importance and impacts of PES

Project Establishment Support (PES) is a measure administered by RCN. Its objectives are to improve the quality of FP proposals, increase the number of FP proposals and increase the number of FP proposers. The rationale for the PES measure is that producing an FP proposal generally requires much greater time investment than a proposal to RCN or IN, and that FP participation rules are

considerably more complex. Frequent FP proposers have used part of their PES grants to establish internal functions to support both individual FP applicants and project participants to lower the threshold to participation.

Frequent FP proposers may apply for block grants, whereas infrequent FP proposers may receive single grants to support preparation of specific FP proposals. Practices and grant amounts differ between organisations.

In general, stakeholders of all categories may use the PES grant for explicit external costs, such as travel and consultancy services. HEIs and hospital trusts may not charge for the time invested by employees, whereas institutes and companies may do so. However, HEIs and hospital trusts may indirectly charge personnel costs by enlisting someone else – often another researcher and often from within the same department – to take over regular duties, such as teaching, from the researcher working on a proposal (*frikjøp*).

PES funding totalled approximately NOK 140 million per year, measured in 2025 prices, in the period 2019–2023. In 2024, funding decreased dramatically but rebounded in 2025.

Proposals with Norwegian coordinators have become more competitive under HE in terms of success rates and excellence scores. The quality of Norwegian-coordinated proposals is consequently developing in line with the first objective of PES. The high success rates are largely due to the institutes, which receive most of the PES funding and whose survey responses indicate especially strongly that PES funding has enabled them to build capacity to apply for and coordinate FP projects.

Further, the number of Norwegian proposals increased rapidly under H2020 and the number under HE exhibits a trend similar to the one under H2020. The development of Norwegian proposal production is thus also in line with the second objective of PES.

Whether PES has led to more new proposers (the third objective) cannot be assessed unequivocally. Since most PES funding is awarded through block grants, it is not known which FP proposals, and thus which researchers, have benefited from PES funding. Most recipients of single grants so far under HE did not receive PES support in H2020, which suggests that single grants may have mobilised some new proposers, at least from the private sector. At the same time, the number of recipients of single grants has fallen during HE after increasing rapidly in H2020. According to RCN, the significantly lower number of recipients initially reflected low demand due to a lack of relevant calls at the start of HE, and from 2023 also stricter rules and the introduction of a funding cap.

Developments over time are thus in line with the PES objectives regarding the number and quality of FP proposals even if we cannot establish a causal relationship between PES support and these outcomes. In contrast, it seems that the number of Norwegian proposers with PES support has decreased so far in HE. The implications for policy fall into two parts.

First, PES grants appear to play a useful role in encouraging individuals and organisations with limited experience to apply to the FPs and helping them develop the skills needed. The population of beginners will constantly be refreshed.

Second, PES block grants allow frequent FP participants to build proposal-writing capacity and have contributed to growing Norwegian success in the FPs. Many other European countries have run similar schemes in the past but have discontinued them once frequent participants have learnt how to address the challenges of participating in the FPs. This evaluation points partly in a similar direction; there has indeed been organisational learning, and this is consistent with the improving performance. This implies that it may be time to gradually scale down PES funding for frequent FP participants.

However, we also heard testimony that the signal value of both kinds of PES support is important in encouraging researchers to apply to the FP.

Importance and impacts of Retur-EU

Retur-EU is a compensatory measure for institutes participating in FP projects. In H2020, the financial rules for participation were simplified compared with previous FPs, but the rate used to calculate eligible overhead costs was fixed at 25 percent for all stakeholder types. For institutes with costly infrastructure, this resulted in significantly reduced cost coverage. While this affected institutes in all countries, the consequences were more severe for Norwegian institutes, which have lower base funding than institutes in almost all other countries, meaning that they have fewer resources for co-funding FP projects. The Retur-EU funding rate was increased in 2015 in response to the new financial rules in H2020, and again in 2020.

Retur-EU adds at least another 33.3 percent to the FP funding granted to institutes participating in FP projects. All institutes eligible for RCN project funding receive 33.3 percent Retur-EU funding, but the percentage may be as high as 50 percent for institutes receiving their base funding from RCN depending on the institute's hourly rates and level of base funding. Eight percent of the annual Retur-EU budget funds bonuses for collaborating with a Norwegian participant from the private or public sector, or for taking on the role of coordinator.

Retur-EU funding has increased rapidly. In 2023, the Retur-EU budget was set at NOK 500 million, but in 2024 this cap was removed to give institutes greater flexibility to maintain FP proposal activity.

The objectives of Retur-EU are to increase institutes' FP participation, coordination of FP projects, and collaboration with the private and public sectors, as reflected in the bonus system.

Retur-EU is a necessary measure for extensive FP participation by Norwegian institutes given their low level of base funding. The increases in the funding rate in 2015 and 2020 were followed by increased FP participation and increased coordination, implying that the changes to Retur-EU made more extensive FP commitments financially feasible.

Institutes collaborate extensively with the Norwegian private sector. As coordinators, they include at least one Norwegian company in the consortium in 65 percent of projects, and when participating as regular partners, they do so in 40 percent of projects. The difference likely reflects the coordinator's position and influence in defining the project's scope and partnership. The number of such projects has increased substantially from H2020 to HE, but there has been no material change in the share of projects involving at least one Norwegian company.

Institutes collaborate less frequently with public sector actors, likely because this group tends to participate less than other stakeholders. In 10–15 percent of projects, institutes tend to include at least one Norwegian public organisation in the consortium, regardless of whether they coordinate them or not. The number of such projects has increased from H2020 to HE, but there has been no material change in the share of projects involving at least one Norwegian public organisation.

Retur-EU has contributed to an increase in institute participations, and a greater propensity to coordinate projects. There has not been an increase in the share of projects involving partners from the private and public sectors.

The 2020 change to Retur-EU was particularly important for the technical-industrial institutes, which have the lowest base funding and typically also the highest overhead costs in the institute sector. They therefore tend to receive the highest Retur-EU funding rates. The removal of the budget cap in 2024 appears to have reduced the need for institutes to hold back proposals out of concern that parts of the

required co-funding would not be covered, and this seems to have contributed to further growth in proposal activity.

Retur-EU is an absolute necessity for extensive FP participation. Several institutes have taken the strategic decision to coordinate proposals and have become so good at it that their success rates are quite high. Institutes coordinate proposals and partner with other Norwegian organisations when it makes sense and provided the consortium agrees. The bonus system, however, does not seem to influence behaviour.

Potential benefits of participating in FP10

FP10 is the EU's proposed next framework programme for research and innovation and is intended to succeed HE. The proposed budget for FP10 is EUR 175 billion, or EUR 155 billion in 2025 prices.

Compared with HE, some changes in programme structure have been proposed, including a stronger link between research, innovation, scaling up and competitiveness, as well as a clearer geopolitical and security policy backdrop. The proposal must also be seen in connection with the European Competitiveness Fund (ECF). Several ongoing EU programmes are expected to be brought together in the ECF. The priorities of the ECF are reflected in four policy windows: Green transition and industrial decarbonisation; Health, biotechnology, agriculture and bioeconomy; Digital leadership; and Resilience and security, defence industry and space. Although FP10 and the ECF are formally separate programmes, close coordination is envisaged, particularly in Pillar 2 of FP 10.

We have compared a baseline scenario in which Norway maintains its current association with the FPs to an alternative in which the financial contribution associated with participation in FP10 and Retur-EU is channelled through national R&I instruments. We have assumed a financial return in line with the current ambition of 2.8 percent. Given the assumptions applied, participation in the upcoming FP is marginally better than the baseline alternative when considering the costs and benefits we have quantified. The difference is, however, relatively small and sensitive to changes in the assumptions.

There is considerable uncertainty as to whether Norwegian participants will achieve a return in line with the Government's target. Success will depend, among other things, on whether EEA EFTA countries such as Norway face restrictions in specific parts of the new programme, whether Norwegian organisations have sufficient capacity to sustain and expand participation, including taking on coordinator roles, and whether research institutes have sufficient incentives to participate, which is influenced in part by the design of Retur-EU. The current FP10 proposal also suggests increased emphasis on innovation-oriented instruments, where Norwegian participation and success rates have historically been somewhat lower than in other areas. The scale of Norwegian participation will therefore also depend on whether the private sector has sufficient incentives and competitiveness to participate. Norway's financial return will furthermore depend on other countries' competitiveness and incentives to participate.

FP participation nevertheless provides benefits compared with national instruments that we have not valued in monetary terms. The FPs enable research collaboration with partners both within and beyond Europe. As in HE, we expect participation in FP10 to give Norwegian actors access to competence, infrastructure and data, as well as to R&I instruments that do not exist in Norway. Examples of instruments in FP10 include mobilisation schemes, partnerships and infrastructure schemes that Norway could find difficult to establish on its own.

FP10 and related EU programmes and strategies will be important instruments for strengthening European innovation, digital competitiveness and sovereignty, as well as cooperation on defence capabilities. FP10 places greater emphasis on innovation, commercialisation and European

competitiveness than previous programmes, as reflected, among other things, in the budget share allocated to innovation instruments and the link to the European Competitiveness Fund (ECF).

We expect that participation in FP10 may promote innovation, productivity and transition in the Norwegian economy, although the extent of private-sector participation and the effects on the Norwegian economy are highly uncertain. Another new feature of FP10, compared with its predecessor, is the proposal that the programme should support dual-use research, that is, research for both civilian and military purposes, as well as its link to the European Defence Fund. The implications of this are still uncertain, but it may create new opportunities for Norwegian R&D environments and companies.

Further, participation in FP10 will give Norwegian policymakers and funding agencies access to European policy arenas, enabling benchmarking, policy development and policy coordination. Participation in working groups, Partnerships and R&I projects can directly and indirectly influence R&I policy development as well as other policy domains. Having access to such arenas can be particularly valuable for Norway, as a non-EU Member State.

Participation in FP10 may also promote research and policy coordination relevant to address societal challenges. For example, the FP10 proposal includes a target that 40 percent of programme expenditure should contribute to climate objectives, up from the 35 percent target in Horizon Europe, a principle of “do no significant harm”, and a strong focus on zero pollution of water and transport safety.

It is our assessment that Norway’s FP association has contributed, and will continue to contribute, to significant non-monetised benefits that outweigh the costs of association. The benefits of international R&I collaboration, knowledge sharing, and market access are particularly important for a small country like Norway. The value of EU collaboration is further amplified by current geopolitical uncertainties, rising trade policy tensions and wars, sanction regimes and competition between large economic blocs. The FPs and related EU programmes and strategies are important tools to strengthen European innovation, digital competitiveness and sovereignty, and defence capabilities.

Norway could, at least in theory, also participate on a project-to-project basis, but we expect that this would result in a significant decline in Norwegian participation in FP projects, FP funding, and possibilities to participate in the abovementioned policy arenas. Project-by-project participation could thus significantly reduce the ability to build long-term relationships, to attract international researchers to Norway and to remain integrated in the ERA.

Norwegian policymakers and RCN could also seek to increase international collaboration through national instruments, but it would not be possible to fully compensate what would be lost in terms of international collaboration, development of competitiveness, access to infrastructure, and mobility instruments.

Norway can benefit from FP-funded R&I regardless of participation in FP projects and may even gain from the FP-generated research without being associated. However, by being associated and engaging in projects and Partnerships, Norwegian participants can contribute to the development of new knowledge, enhance Norway’s absorptive capacity for R&I and facilitate faster knowledge diffusion to the Norwegian private and public sector.

We have also considered the implications of FP participation in light of the experiences of Switzerland and the UK. Switzerland has repeatedly been associated with the FPs but has also at times been treated as a third country as a result of difficulties in its relationship with the EU and delays in association negotiations. The UK lost its membership status as a result of Brexit and therefore became a third country but has more recently returned as a partly Associated Country. The comparison shows that participants respond quickly to restrictions on participation, which can undermine the stability of

existing consortia and reduce opportunities to establish new ones. The British example also suggests that even the possibility that the FP relationship may change can be enough to discourage potential partners. Participation and collaboration may increase again following re-association, but rebuilding trust and establishing positions in research and industry systems takes time and effort. International R&D relations are fragile. Association to the FPs, and the perception that the association is stable and predictable over time, is therefore important for Norway's integration into the ERA.

Recommendations

The overarching question for this evaluation is whether Norway should participate in FP10. The comparison between full FP association and the alternative of channelling equivalent funds through national instruments suggests that the benefits of full association outweigh the costs. The FP remains the most important instrument for integrating Norway into the European innovation ecosystem, and the potential negative effects of non-association are substantial, both in the short and the long term. The evaluation therefore concludes that **Norway should associate itself with FP10**, since there is no realistic and equally beneficial alternative.

With continued association, Norway should maintain its efforts to ensure that Norway gets to participate on equal terms with EU Member States. In addition, Norway should strive for further simplifications to FP participation rules and procedures, efficient linkages to other EU programmes and strategies, and in particular the European Competitiveness Fund (ECF). Norway should also seek to ensure that research topics of strategic relevance to Norway remain key priorities. Given the limited opportunities for Norway to directly influence the FP, national policy and national instruments should complement the FPs.

While developments are broadly in line with the objectives of PES, the evaluation cannot establish how much of this can be attributed to PES specifically. The most frequent Norwegian FP participants among HEIs and institutes have become most competitive. This suggests **gradually scaling down PES funding to frequent FP participants and instead prioritising infrequent FP participants.**

However, the evaluation cannot determine whether continued PES funding will be needed to sustain success in an increasingly competitive environment, in line with the government's ambitions for financial return. Furthermore, as FP10 (and ECF) is expected to place greater emphasis on innovation than previous FPs, this may warrant measures to support private sector participation. These are ultimately matters of political judgement.

The evaluation of Retur-EU suggests a clear relationship between Retur-EU funding and institutes' FP participation, which in turn supports participation by private- and public-sector actors. Retur-EU helps offset the gap between FP funding and research institutes' actual costs of participation. The evaluation concludes that **Retur-EU should be continued. The bonus system could be discontinued** since it does not appear to influence behaviour. However, the signal effect of the bonus system may be considered important enough to retain it.

Sammendrag

EUs rammeprogrammer for forskning og innovasjon (FP) er en serie flerårige finansieringsprogrammer for å støtte forskning og innovasjon. Norge har deltatt i rammeprogrammene siden 1980-tallet, først på prosjektbasis og som assosiert land siden 1994. Programmene har utviklet seg over tid for å styrke Europas vitenskapelige og industrielle konkurranseevne. Rammeprogrammene omfatter et bredt spekter av virkemidler, og programmenes mål og virkemiddelportefølje kan variere fra ett rammeprogram til det neste. Det samlede budsjettet for rammeprogrammene har økt over tid, særlig fra det syvende rammeprogrammet og utover. De to nyeste rammeprogrammene er Horisont 2020 (H2020, 2014–2020) og Horisont Europa (HE, 2021–2027).

Mandat

Samfunnsøkonomisk Analyse og Technopolis Group har på oppdrag fra Kunnskapsdepartementet (KD) evaluert virkningene av Norges deltakelse i rammeprogrammene siden 2019. Vi har vurdert deltakelsen opp mot målene i den norske strategien for deltakelse i Horisont Europa og Det europeiske forskningsområdet (ERA) fra 2021. Målene i strategien er:

- Deltakelsen skal øke kvaliteten i norsk forskning og gi flere fremragende og innovative miljøer.
- Deltakelsen skal øke verdiskapingen, styrke norsk konkurranse- og innovasjonsevne og bidra til omstilling i privat og offentlig sektor.
- Deltakelsen skal gjøre oss i stand til å håndtere store samfunnsutfordringer, bidra til å oppfylle bærekraftsmålene og bidra til en bærekraftig samfunnsutvikling.
- Deltakelsen skal bidra til utvikling av forsknings- og innovasjonspolitikken og til nye samarbeidsmønstre på tvers av landegrenser, sektorer og fag.

I tillegg er det en ambisjon om at norske aktører skal motta 2,8 prosent av de konkurranseutsatte midlene.

Rapporten omfatter også en evaluering av prosjektetableringsstøtte (PES) og Retur-EU, samt en vurdering av forventede kostnader og nytte ved deltakelse i det neste rammeprogrammet, FP10. Vurderingen av FP10 bygger på en sammenligning mellom fortsatt assosiering til rammeprogrammet på den ene siden, og kanalisering av Norges finansielle bidrag til FP10 og Retur-EU gjennom nasjonale virkemidler på den andre.

Vi har vurdert deltakelsen i rammeprogrammene som en portefølje av virkemidler, snarere enn å analysere programområder, enkeltvirkemidler eller enkeltprosjekter. Evalueringen er relevant for Regjeringens beslutning om og Stortingets samtykke til norsk assosiering til FP10.

Rapporten bygger på et bredt spekter av datakilder og datainnsamlingsmetoder, herunder dokumentgjennomganger, registeranalyser, nettbaserte spørreundersøkelser, intervjuer samt økonometrisk analyse av regnskapsdata og analyse av data fra SSBs innovasjonsundersøkelse.

Deltakelse

Det har vært en sterk økning i Norges deltakelse i rammeprogrammene de siste årene. Norge mottok henholdsvis 1,7 prosent av de konkurranseutsatte midlene i FP7 og 2,5 prosent i H2020. Ved utgangen av 2024 hadde Norge mottatt 3,3 prosent av de konkurranseutsatte midlene i Horisont Europa. Returandelen viser hvor stor andel av de utlyste midlene som har gått til norske miljøer. Returandelen i H2020 og HE var på 2,3 og 2,9 prosent når Coalition for Epidemic Preparedness Innovations (CEPI) holdes utenfor. CEPI finansierer vaksineforskning verden over. Forskningsrådets løpende analyser viser at den finansielle returen har falt noe gjennom 2025. Per oktober 2025 hadde Norge mottatt 3,1 prosent av de konkurranseutsatte midlene fra Horisont Europa.

Returen utgjorde EUR 2,3 milliarder i perioden 2019–2024 i løpende priser, tilsvarende om lag NOK 27 milliarder i 2025-priser. Dette inkluderer NOK 3,3 milliarder til CEPI.

Rammeprogrammene finansierer et mangfold av FoI-relaterte aktiviteter i Norge. Bedrifter og organisasjoner fra alle deler av landet deltar i rammeprogrammene, men deltakelsen domineres av et fåtall svært aktive forskningsinstitutter og universiteter.

Deltakelsen fra privat sektor er langt mer mangfoldig. Noen virksomheter deltar i flere prosjekter, mens de fleste deltar bare i ett prosjekt innenfor samme programperiode.

Finansiering fra rammeprogrammene til privat sektor har økt over tid, men andelen av de norske midlene som går til privat sektor er så langt lavere i Horisont Europa enn den var i Horisont 2020. Finansiering til forskningsinstitutter har økt både i kroner og som andel av samlede norske midler. Instituttene har ofte rollen som koordinator og spiller en sentral rolle i å legge til rette for deltakelse fra privat sektor.

De fleste samarbeidsprosjekter krever som et minimum tre partnere fra ulike land. Norske deltakere samarbeidet oftest med tyske organisasjoner, etterfulgt av franske, spanske, italienske og britiske i H2020. Mønsteret er i hovedsak det samme i HE, men spanske partnere forekommer oftere og britiske partnere sjeldnere. Storbritannia var et EU-medlemsland i H2020, men gikk ut som følge av Brexit. Landet ble assosiert til Horisont Europa fra 1. januar 2024.

Måloppnåelse

Etter vår vurdering er det et solid grunnlag for å konkludere med at den norske deltakelsen i rammeprogrammene har gitt virkninger i tråd med strategiens mål, som omtalt under. På enkelte områder gir kunnskapsgrunnlaget ikke tilstrekkelig basis for entydige vurderinger. Det skyldes blant annet metodiske utfordringer knyttet til lange tidshorisonter og uklar attribusjon, det vil si om effektene faktisk kan tilskrives deltakelsen. Likevel er det grunn til å tro at utviklingen over tid vil bidra positivt til å nå norske økonomiske og samfunnsmessige mål.

Deltakelsen skal øke kvaliteten i norsk forskning og gi flere fremragende og innovative miljøer.

Begrepet forskningskvalitet er omstridt, og det finnes ikke én entydig eller allment akseptert måte å måle forskningskvalitet på. Våre data gir indikasjoner på at deltakelse i rammeprogrammet bidrar til økt forskningskvalitet. Antallet vitenskapelige publikasjoner med norske forfattere som springer ut av rammeprogramprosjekter har økt over tid, noe som indikerer at norske forskere deltar aktivt i utviklingen av den internasjonale forskningsfronten.

I gjennomsnitt har norske artikler som springer ut av rammeprogramprosjekter større gjennomslag enn gjennomsnittsartikkelen innenfor de respektive fagfeltene, og de siteres ofte av andre forskere. Vi finner imidlertid ikke at antall siteringer per artikkel har økt, og kan derfor ikke fastslå at kvaliteten på

norsk forskning har økt ytterligere utover et allerede høyt nivå. Dette kan blant annet skyldes at det tar tid før siteringer akkumuleres.

En alternativ tilnærming til å vurdere kvalitet er å ta utgangspunkt i suksessrater og gjennomslag i rammeprogrammene, der norske aktører konkurrerer med aktører fra andre land. Søknader med norske koordinatorer har oppnådd klart høyere suksessrater i Horisont Europa enn i Horisont 2020. Norges markerte økning i finansiell retur siden FP7 ville dessuten ikke vært mulig uten en vekst i antallet fremragende og innovative norske forskere og forskningsmiljøer. Slike miljøer finnes i alle aktørgrupper, men særlig i universitets- og høyskolesektoren og i instituttsektoren.

Deltakelses- og suksessmønstre på tvers av rammeprogrammets virkemidler gir også viktig informasjon om hvilke områder Norge har særlig sterke forsknings- og innovasjonsmiljøer innenfor. Deltakelsen i søyle 1, Fremragende forskning, har økt betydelig fra Horisont 2020 til Horisont Europa. Den høyeste returen oppnås imidlertid innenfor søyle 2, Globale utfordringer og konkurransedyktig europeisk næringsliv, der Norge står spesielt sterkt i klynge 5 (Klima, energi og mobilitet) og klynge 6 (Mat, bioøkonomi, naturressurser, landbruk og miljø).

Deltakelsen skal øke verdiskapingen, styrke norsk konkurranse- og innovasjonsevne og bidra til omstilling i privat og offentlig sektor.

Rammeprogramprosjekter gir deltakerne mulighet til å bygge og utvide internasjonale nettverk, få tilgang til ny kunnskap og bidra til forskningsfronten. Deltagere fra privat sektor kan få tilgang til nye markeder, finansiering, investorer og rådgivningstjenester. Deltakere fra privat sektor oppgir i en spørreundersøkelse at deltakelsen har gitt økt internasjonal konkurranseevne, nye kunder og økt salg. Mange forventer også økt eksport, nye leverandører, nye forretningsmodeller, reduserte kostnader og nye verdikjeder.

Vi har gjennomført en økonometrisk analyse for å undersøke om det er systematiske forskjeller i økonomisk utvikling mellom foretak som har deltatt i rammeprogrammene og som samtidig kan ha mottatt støtte fra nasjonale virkemidler, og foretak som bare har deltatt i nasjonale virkemidler. Vi finner ingen tilleggseffekt på produktivitet, verdiskaping eller lønnsomhet.

Deltakelsen kan likevel bidra positivt til innovasjon, omstilling og verdiskaping på sikt. Vi har gjennomført en systematisk sammenligning av svar fra den nasjonale innovasjonsundersøkelsen. Sammenligningen viser at andelen foretak som rapporterer om innovasjoner og internasjonal orientering, er noe høyere blant dem som deltar i rammeprogrammene og som samtidig kan ha fått støtte fra nasjonale virkemidler, enn blant dem som bare deltar i nasjonale virkemidler. Andelen er betydelig høyere enn blant virksomheter som ikke mottar slik støtte i det hele tatt. Vi kan ikke slå fast om deltakelsen i rammeprogrammene gjør virksomhetene mer innovative. Sammenligningen tyder uansett på at deltakelse i rammeprogrammene bidrar til å dreie ressurser mot mer internasjonalt orienterte og FoI-intensive foretak. Dette kan bidra til økt innovasjon og verdiskaping over tid.

Også deltakere fra FoU-sektoren rapporterer i spørreundersøkelsen at deltakelsen har bidratt til økt internasjonal konkurranseevne. De rapporterer også at deltakelsen fører til oppfølgingsprosjekter med internasjonal offentlig finansiering og er viktig for rekruttering av internasjonale forskere til Norge.

FoU-aktørers og virksomheters deltakelse i rammeprogramprosjekter kan bidra til å utvikle og spre kunnskap, til å utvikle en innovasjonskultur og til å styrke absorpsjonskapasiteten, det vil si evnen til å ta i bruk og videreutvikle ny kunnskap. Slik kunnskap kan spres til offentlig og privat sektor gjennom mobilitet, samarbeid, formidling mv. Omfanget av slike eksterne effekter er vanskelig å isolere og måle empirisk.

Europeiske partnerskap er sentrale virkemidler for å realisere EUs ambisjoner om styrket konkurranseevne og omstilling i både privat og offentlig sektor. Norske aktører deltar i mange

europeiske partnerskap, og Norge hevder seg særlig godt i avtalebaserte partnerskap. Denne omfattende deltakelsen bør bidra til omstilling i privat og offentlig sektor i Norge og internasjonalt, men tidshorisontene er lange og attribusjonen ofte uklar, slik at det ikke er grunnlag for en entydig vurdering av omstillingseffekten.

Deltakelsen skal gjøre oss i stand til å håndtere store samfunnsutfordringer, bidra til å oppfylle bærekraftsmålene og bidra til en bærekraftig samfunnsutvikling.

Gjennom deltakelse i rammeprogramprosjekter kan Norge utvikle og få tilgang til kunnskap, forskningsinfrastruktur, data og internasjonale nettverk som er relevante for å håndtere store samfunnsutfordringer. Som nevnt ovenfor er norske deltakere særlig aktive innen områder som klima, energi og miljø. Norske vitenskapelige artikler som springer ut av norske rammeprogramprosjekter omhandler ofte FNs bærekraftsmål (SDG-ene). Det samme gjelder norske rapporter og annen grålitteratur som refererer til disse vitenskapelige artiklene. Omfattende norsk engasjement i partnerskap og EUs samfunnsoppdrag (missions) kan også bidra til en bærekraftig samfunnsutvikling.

Virkninger i form av for eksempel utslippsreduksjoner eller bidrag til FNs bærekraftsmål forutsetter imidlertid at forskningsresultater omsettes i politikk og regelverk. Politikkutforming og anvendelse bygger på ulike typer kunnskap og dokumentasjon, der forskningsresultater normalt bare utgjør én del av et større kunnskapsgrunnlag.

Deltakelsen skal bidra til utvikling av forsknings- og innovasjonspolitikken og til nye samarbeidsmønstre på tvers av landegrenser, sektorer og fag.

Mange informanter peker på at det er sterk overensstemmelse mellom norske og europeiske FoI-prioriteringer, noe som gjenspeiles i Langtidsplan for forskning og høyere utdanning, og rammeprogrammenes vektlegging av høy kvalitet i FoI, klimatiltak og bredere samfunnsmål. Denne konvergensen anses som et resultat av delte samfunnsutfordringer.

Vi finner også konkrete eksempler på at deltakelse i rammeprogrammet har bidratt til utviklingen av norsk FoI-politikk. For eksempel har Norge innført tre samfunnsoppdrag etter inspirasjon fra rammeprogrammet. Forskningsrådet og Innovasjon Norge har i økende grad tilpasset sine prosedyrer, utvelgelseskriterier og terminologi til rammeprogrammets praksis. Samordningen mellom nasjonale og europeiske virkemidler har blitt mer fremtredende.

Norsk deltakelse i rammeprogrammet påvirker også nasjonal politikk på andre områder, noe som underbygges både av intervjudata og av den hyppige henvisningen til ovennevnte grålitteratur i norske politikkdokumenter.

Vi finner også at rammeprogramprosjekter har ført til omfattende nasjonalt, internasjonalt, sektorovergripende og tverrfaglig samarbeid. Mange av disse samarbeidene involverer trolig nye partnere, men det finnes ingen pålitelig måte å fastslå hvor stor andel dette utgjør.

Strategien inneholder videre en ambisjon om at norske aktører skal motta 2,8 prosent av de konkurranseutsatte midlene

Ved utgangen av 2024 var Norges akkumulerte retur i HE, ekskludert finansiering til CEPI, på 2,9 prosent, og 3,3 prosent inkludert CEPI. Forskningsrådets nyeste analyse på tidspunktet for ferdigstillelsen av denne rapporten viser at den akkumulerte returen i Horisont Europa per oktober 2025 var 3,1 prosent inkludert finansiering til CEPI.

Betydning og virkninger av PES

Prosjektetableringsstøtte (PES) er en ordning som administreres av Forskningsrådet. Målene med PES er å forbedre kvaliteten på søknader til rammeprogrammene, øke antallet søknader og øke

antallet søkere. Begrunnelsen for PES-ordningen er at det å produsere en rammeprogramsøknad generelt krever mye større tidsinvestering enn en søknad til Forskningsrådet eller Innovasjon Norge, og at reglene for deltakelse i rammeprogrammet er betydelig mer komplekse. Aktører som deltar ofte har brukt deler av PES-tilskuddene sine til å etablere interne funksjoner for å støtte både individuelle søkere og prosjektdeltakere for å senke terskelen for deltakelse.

Erfarne søkere til rammeprogrammet kan søke om rammebevilgning, mens mindre erfarne søkere kan motta enkeltstøtte til forberedelse av konkrete rammeprogramsøknader. Praksis og støttebeløp varierer mellom organisasjoner.

Søkere kan bruke PES-midler til eksplisitte eksterne kostnader, som reiser og konsulenttjenester. Institutter og selskaper kan også føre opp tidsbruk for egne ansatte. Universitets- og høyskoleinstitusjoner og helseforetak kan ikke gjøre dette, men kan indirekte belaste personalkostnader ved å frikjøpe andre til å overta ordinære oppgaver, for eksempel undervisning, slik at den ansatte kan konsentrere seg om søknadsskriving.

Samlet PES-støtte var på om lag 140 millioner kroner årlig, målt i 2025-priser, i perioden 2019–2023. Utbetalt PES-støtte falt i 2024, men økte igjen i 2025.

Søknader med norske koordinatorer har blitt mer konkurransedyktige i Horisont Europa, målt ved suksessrater og karakterer for kvalitet. Kvaliteten på norskkoordinerte søknader utvikler seg dermed i tråd med det første målet for PES. De høye suksessratene skyldes i stor grad instituttene, som også mottar mesteparten av PES-finansieringen. Antallet norske søknader økte raskt i Horisont 2020, og utviklingen i Horisont Europa følger i hovedsak samme mønster. Utviklingen i norsk søknadsaktivitet er dermed også i tråd med det andre målet for PES. Vi kan imidlertid ikke fastslå en kausal sammenheng mellom PES-støtten og utviklingen i antall søknader eller kvaliteten.

Når det gjelder det tredje målet – å øke antallet søkere – er vurderingen mer usikker, blant annet fordi mesteparten av PES-midlene tildeles som rammebevilgninger. Antallet norske søkere som mottar PES-støtte ser ut til å ha gått ned så langt i Horisont Europa. De fleste mottakerne av enkeltstøtte i Horisont Europa mottok ikke slik støtte i Horisont 2020, noe som tyder på at enkeltstøtten har mobilisert noen nye søkere, særlig i privat sektor. Ifølge Forskningsrådet reflekterte det betydelig lavere antallet mottakere i starten først og fremst lav etterspørsel som følge av få relevante utlysninger i den tidlige fasen av Horisont Europa. Fra 2023 bidro også strengere regler og innføringen av et finansieringstak til det lavere antallet mottakere.

Utviklingen over tid er i tråd med PES-målene angående antall og kvalitet på rammeprogramsøknader, men vi kan ikke dokumentere at det er PES som har bidratt til disse resultatene. De politiske implikasjonene er todelte:

Det ser ut til at PES kan oppmuntre enkeltpersoner og organisasjoner med begrenset erfaring til å søke til rammeprogrammet og hjelpe dem med å utvikle nødvendige ferdigheter. Gruppen av nybegynnere vil kontinuerlig fornyes.

Samtidig gir PES-rammebevilgning hyppige rammeprogramdeltakere mulighet til å bygge kapasitet innen søknadsskriving, og dette sammenfaller med økende norsk suksess i rammeprogrammene. Mange andre europeiske land har hatt lignende ordninger tidligere, men har avviklet dem etter hvert som erfarne deltakere har lært å håndtere utfordringene ved deltakelse i rammeprogrammene. Denne evalueringen peker delvis i samme retning; det har funnet sted organisatorisk læring, og dette er i tråd med den forbedrede prestasjonen. Dette tilsier at tiden kan være inne for gradvis å nedskalere PES-finansieringen for hyppige rammeprogramdeltakere. Samtidig har vi hørt at signalverdien av begge former for PES-støtte er viktig for å oppmuntre forskere til å søke til rammeprogrammet.

Retur-EU

Retur-EU er en kompensasjonsordning for institutter som deltar i rammeprogramprosjekter.

I H2020 ble de finansielle reglene i rammeprogrammet forenklet, samtidig som satsen for hvilke kostnader som kunne inngå i beregning av støtte fra rammeprogrammet ble endret. For institutter med kostbar infrastruktur innebar dette en betydelig reduksjon i kostnadsdekningen. Selv om de endrede finansielle reglene i H2020 påvirket institutter i alle land, var konsekvensene mer alvorlige for norske institutter. Norske institutter har lavere basisfinansiering enn institutter i nesten alle andre land, og har dermed mindre rom for å medfinansiere rammeprogramprosjekter.

Endringen innebar at norske institutter hadde mindre midler for å kunne medfinansiere rammeprogramprosjekter. Støttesatsen i Retur-EU ble økt i 2015 som følge av de nye finansielle reglene i H2020, og igjen i 2020.

Alle institutter som er kvalifisert for prosjektfinansiering fra Forskningsrådet kan motta Retur-EU, men støttegraden varierer for å reflektere de enkelte instituttenes timesatser og nivå på basisbevilgning. Instituttene mottar 33,3 prosent Retur-EU-støtte, men andelen kan være så høy som 50 prosent.

Åtte prosent av det årlige Retur-EU-budsjettet er avsatt til bonus for samarbeid med en norsk virksomhet, samarbeid med en norsk offentlig organisasjon eller for å påta seg rollen som koordinator. Målene med Retur-EU er å øke instituttenes deltakelse, koordinering av rammeprogramprosjekter og samarbeid med privat og offentlig sektor, slik dette kommer til uttrykk i bonussystemet.

Retur-EU-finansieringen har vokst raskt. I 2023 ble Retur-EU-budsjettet satt til 500 millioner kroner, men i 2024 ble denne øvre rammen fjernet for å gi instituttene større fleksibilitet til å opprettholde søknadsaktiviteten til rammeprogrammene.

Retur-EU er en nødvendig ordning for omfattende deltakelse i rammeprogrammene fra norske institutter, gitt instituttenes lave nivå på basisfinansieringen. Økningene i støttesatsen i 2015 og 2020 ble etterfulgt av økt rammeprogramdeltakelse og økt koordinering, noe som tyder på at endringene i Retur-EU gjorde mer omfattende rammeprogramdeltakelse mulig.

Vi finner også at instituttene samarbeider med norske virksomheter i mange prosjekter. Som koordinatorer inkluderer de minst ett norsk selskap i konsortiet i 65 prosent av prosjektene, og når de deltar som ordinære partnere, skjer dette i 40 prosent av prosjektene. Forskjellen reflekterer trolig koordinatorens posisjon og innflytelse når prosjektets innretning og partnerskap skal defineres. Antallet slike prosjekter har økt i Horisont Europa sammenlignet med H2020, men det har ikke vært noen vesentlig endring i andelen instituttkoordinerte prosjekter med minst én partner fra næringslivet.

Instituttene samarbeider i mindre grad med offentlig sektor, noe som trolig i hovedsak skyldes at denne aktørgruppen generelt har lavere deltakelse i rammeprogrammene. Instituttene inkluderer som regel minst én norsk offentlig organisasjon i konsortiet i 10–15 prosent av prosjektene, uavhengig av om instituttene er koordinatorer eller partnere. Også antallet prosjekter der norske institutter koordinerer og har med en norsk offentlig aktør, har økt i Horisont Europa sammenlignet med H2020, men det har ikke vært noen vesentlig endring i andelen.

Retur-EU har bidratt til flere instituttdeltakelser og til økt tilbøyelighet til å koordinere prosjekter. Ordningen har også bidratt til en økning i antallet prosjekter med norske private og offentlige aktører, men ikke til en vesentlig økning i andelen prosjekter som omfatter slike partnere.

Endringene i 2020 var særlig viktige for de teknisk-industrielle instituttene, som har den laveste basisbevilgningen og typisk også de høyeste indirekte kostnadene. De mottar derfor ofte den høyeste støttesatsen. Vi ser en særlig sterk vekst i søknadsaktiviteten etter fjerningen av budsjetttaket i 2024. Dette kan være et uttrykk for at instituttene unnlot å sende inn søknader av frykt for ikke å få dekket deler av deres medfinansiering i prosjektene.

Retur-EU er en sentral forutsetning for omfattende deltakelse fra norske institutter i rammeprogrammene. Flere institutter synes å ha tatt et strategisk valg om å prioritere koordinering av søknader, og har samtidig oppnådd svært høye suksessrater. Instituttene koordinerer søknader og samarbeider med andre norske organisasjoner der dette synes hensiktsmessig. Intervjudataene tyder på at bonusordningen ikke påvirker denne praksisen.

Mulig nytte av deltakelse i FP10

FP10 er EUs foreslåtte neste rammeprogram og skal etterfølge Horisont Europa. Det foreslåtte budsjettet for FP10 er 175 milliarder euro, eller 155 milliarder euro i 2025-priser. Sammenlignet med Horisont Europa foreslås enkelte endringer i programstrukturen, blant annet en sterkere kobling mellom forskning, innovasjon, oppskalering og konkurransekraft, samt et tydeligere geopolitisk og sikkerhetspolitisk bakteppe. Forslaget må også ses i sammenheng med Det europeiske konkurransekraftfondet (EKF). EKF er foreslått som en samling av flere eksisterende EU-programmer, strukturert rundt fire prioriterte «politikkvinduer»; Ren omstilling og industriell avkarbonisering, Helse, bioteknologi, landbruk og bioøkonomi, Digitalt lederskap og Motstandsdyktighet, sikkerhet, forsvarsindustri og rom. Selv om FP10 og EKF formelt er separate programmer, er det lagt opp til nær samordning særlig innen søyle 2 av FP10.

Vi har sammenlignet et basisalternativ med et alternativ der den finansielle kontingenten knyttet til deltakelse i FP10 og Retur-EU kanaliseres gjennom nasjonale virkemidler for forskning og innovasjon. Vi har forutsatt finansiell retur i tråd med dagens ambisjon om 2,8 prosent. Gitt våre forutsetninger, fremstår deltakelse i FP10 som marginalt bedre enn alternativet der tilsvarende midler kanaliseres gjennom nasjonale virkemidler, når vi ser på de nytte- og kostnadsvirkningene vi har tallfestet. Forskjellen er imidlertid relativt liten og sensitiv for endringer i forutsetningene.

Det er betydelig usikkerhet knyttet til om norske deltakere vil oppnå en retur i tråd med regjeringens mål. Norsk deltakelse vil blant annet avhenge av om EØS og EFTA-land som Norge vil møte begrensninger i bestemte deler av det nye programmet, og om norske organisasjoner har tilstrekkelig kapasitet til å opprettholde og utvide deltakelsen, herunder påta seg koordinatorroller. Deltakelsen avhenger særlig av om forskningsinstituttene har tilstrekkelige insentiver til å delta, noe som blant annet påvirkes av innretningen på Retur-EU.

Det foreliggende FP10-forslaget tyder dessuten på sterkere prioritering av innovasjonsrettede virkemidler, der norsk deltakelse og suksessrater historisk har vært noe lavere enn på andre områder. Omfanget av den norske deltakelsen vil derfor også avhenge av at næringslivet har tilstrekkelige insentiver og tilstrekkelig konkurranseevne til å delta. Videre vil Norges finansielle retur avhenge av andre lands konkurranseevne og insentiver til å delta.

Uansett gir deltakelse i rammeprogrammene betydelige nyttevirkninger som ikke er verdsatt i kroner. Som for HE, forventer vi at deltakelse i FP10 vil gi norske aktører tilgang til kompetanse, infrastruktur og data, samt til FoI-virkemidler som ikke finnes i Norge. FP10 vil inneholde virkemidler for mobilisering, partnerskap og oppbygging av infrastruktur som Norge vanskelig kan etablere på egenhånd.

FP10 og tilhørende EU-programmer og strategier vil være viktige virkemidler for å styrke europeisk innovasjon, digital konkurransekraft, suverenitet og samarbeid om forsvarsrelevante kapabiliteter. Den

foreslåtte koblingen til Det europeiske konkurransekraftfondet (EKF), en sterkere vekt på innovasjon og kommersialisering, og åpningen for forskning med sivile og militære bruksområder kan skape nye muligheter for norske FoU-miljøer og bedrifter. Vi forventer at deltakelse i FP10 kan bidra til innovasjon, omstilling og verdiskaping i Norge, men virkningene på norsk økonomi er usikre.

Deltakelse i FP10 vil dessuten gi norske myndigheter og finansieringsaktører tilgang til arenaer for sammenligning, politikkutvikling og koordinering som vi har sett i tidligere rammeprogram. Tilgang til slike arenaer kan være særlig viktig for Norge som ikke-EU-land.

Deltakelse i FP10 kan dessuten bidra til forskning, samarbeid og politikkoordinering som er relevant for håndtering av samfunnsutfordringer. FP10-forslaget inneholder for eksempel et mål om at 40 prosent av programutgiftene skal bidra til klimamål, opp fra målet på 35 prosent i HE, et prinsipp om «ikke å gjøre vesentlig skade», samt en sterk vektlegging av nullforurensning av vann og transportsikkerhet.

Etter vår vurdering har Norges assosiering til rammeprogrammene bidratt, og vil fortsatt bidra, til betydelige nyttevirkninger som ikke kan verdsettes i kroner. Samlet vurderer vi at disse nyttevirkningene er langt større enn kostnadsvirkningene.

Nytten av internasjonalt samarbeid, kunnskapsdeling og markedsadgang er særlig stor for et lite land som Norge. Verdien av europeisk samarbeid forsterkes av dagens geopolitiske usikkerhet, økende handelspolitiske spenninger og krig, sanksjonsregimer og konkurranse mellom store økonomiske blokker. Rammeprogrammene og relaterte EU-programmer er sentrale virkemidler for å styrke europeisk innovasjon, suverenitet, digital konkurransekraft og forsvarsevne. Selv om nyttevirkningene er usikre, mener vi det er stor risiko knyttet til å skulle stå utenfor rammeprogrammet.

Norge kan i prinsippet delta i FP10 på prosjektbasis. Dette ville innebære en betydelig reduksjon i norsk deltakelse, mottatt finansiering og tilgang til de ovennevnte arenaene for samarbeid og politikkutvikling. En slik deltakelsesform ville kunne svekke Norges evne til å bygge langsiktige internasjonale samarbeidsrelasjoner, tiltrekke seg internasjonale forskere og opprettholde tett integrasjon i Det europeiske forskningsområdet (ERA).

Norske myndigheter og Forskningsrådet kan også søke å styrke internasjonalt samarbeid gjennom nasjonale virkemidler, men det ville ikke vært mulig å fullt ut kompensere for det som ville gå tapt med hensyn til internasjonalt samarbeid, konkurransekraft, tilgang til infrastruktur, og mobilitetsinstrumenter.

Norge kan dra nytte av forskning og innovasjon finansiert gjennom rammeprogrammet uavhengig av deltakelse i rammeprogramprosjekter, og til og med uten å være assosiert. Ved å være assosiert og delta i prosjekter og partnerskap kan norske deltakere imidlertid bidra til utvikling av ny kunnskap, styrke Norges evne til å ta i bruk og nyttiggjøre seg ny forskning og innovasjon, og legge til rette for raskere kunnskapsspredning til norsk privat og offentlig sektor.

Vi har også vurdert implikasjonene av deltakelse i rammeprogrammene i lys av erfaringene fra Sveits og Storbritannia. Sveits har gjentatte ganger vært assosiert med rammeprogrammene, men har også til tider blitt behandlet som et tredjeland som følge av vanskeligheter i forholdet til EU og forsinkelser i forhandlingene om assosiering. Storbritannia mistet sin medlemsstatus som følge av brexit og ble assosiert i 2024. Erfaringene fra Sveits og Storbritannia viser at deltakere reagerer raskt på endringer i tilknytningsform. Den britiske erfaringen tyder også på at selv en antydning om at tilknytningen til rammeprogrammene kan endres, kan være nok til å avskrekke potensielle partnere. Deltakelse og samarbeid kan ta seg opp igjen ved ny assosiering, men det tar tid og krever innsats å bygge tillit og etablere posisjoner i forsknings- og næringslivssystemene. Internasjonale FoU-relasjoner er skjøre. Assosiering til rammeprogrammene, og oppfatningen av at assosieringen er stabil og forutsigbar over tid, er derfor viktig for Norges integrasjon i ERA.

Anbefalinger

Det overordnede spørsmålet i denne evalueringen er om Norge bør delta i FP10. Sammenligningen med alternativet der tilsvarende midler kanaliseres gjennom nasjonale virkemidler tilsier at nytten av full assosiering overstiger kostnadene, og at det ikke finnes noe realistisk og likeverdig alternativ.

Rammeprogrammet vil fortsette å være det viktigste virkemidlet for å integrere Norge i det europeiske innovasjonssystemet, og de mulige negative virkningene av manglende assosiering er betydelige, både på kort og lang sikt. Evalueringen konkluderer derfor med at **Norge bør assosiere seg til FP10**. Ved fortsatt assosiering bør Norge opprettholde innsatsen for å sikre deltakelse på like vilkår med EU-medlemsstatene. I tillegg bør Norge arbeide for ytterligere forenklinger i reglene og prosedyrene for deltakelse i rammeprogrammene, effektive koblinger til andre EU-programmer og strategier, og særlig til Det europeiske konkurransekraftfondet (EKF). Norge bør også søke å sikre at forskningstemaer av strategisk betydning for Norge fortsatt prioriteres. Gitt de begrensede mulighetene Norge har til å påvirke rammeprogrammet direkte, bør de nasjonale virkemidlene utfylle virkemidlene i rammeprogrammene.

Selv om utviklingen i store trekk er i tråd med PES sine mål, kan evalueringen ikke fastslå hvor mye av dette som kan tilskrives PES spesifikt. De hyppigste norske FP-deltakerne blant universiteter og institutter har blitt svært konkurransedyktige. Dette tyder på at man **gradvis kan nedskalere PES til erfarne FP-deltakere, og i stedet prioritere aktører med lite erfaring.**

Evalueringen kan imidlertid ikke avgjøre om fortsatt PES-finansiering er nødvendig for at norske miljøer skal fortsette å lykkes under tiltagende konkurranse og i tråd med regjeringens ambisjon om finansiell retur. Det at FP10 (og EKF) forventes å legge større vekt på innovasjon enn tidligere rammeprogrammer, kan innebære at det er behov for tiltak for å øke næringslivets deltakelse. Dette er til syvende og sist politiske spørsmål.

Evalueringen av Retur-EU viser en tydelig sammenheng mellom ordningen og instituttenes deltakelse i rammeprogrammene. Retur-EU bidrar til å redusere gapet mellom finansieringen fra rammeprogrammet (FP) og forskningsinstitusjonenes faktiske kostnader ved deltakelse. Evalueringen konkluderer med at **Retur-EU bør videreføres. Bonussystemet kan avvikles**, siden det ikke synes å påvirke atferd. Signaleffekten av bonussystemet kan imidlertid anses som viktig nok til å beholde det.

1 Mandate

Norway has participated in the EU's Framework Programmes for research and innovation (FPs) since the 1980s, initially on a project-by-project basis, and as an Associated Country since 1994. The two most recent FPs are Horizon 2020 (H2020, 2014–2020) and Horizon Europe (HE, 2021–2027).

This evaluation focuses on impacts of Norway's participation in the FPs since 2019 up to now, thus covering both H2020 and HE, FP10 (2028–2034) and the financial support measures. The evaluation includes three tasks:

- Task 1: An evaluation of the impacts of Norway's participation in H2020 from 2019 and HE from 2021 to date
- Task 2: A cost-benefit analysis of the potential benefits of Norway's participation in FP10
- Task 3: An evaluation of the financial support measures PES and Retur-EU on Norway's participation in the FPs and the relevance of such measures for future participation

For the most part, we have conducted the evaluation using a similar methodological approach and the same data-acquisition methods as in our previous evaluation (Tofteng, et al., 2020). This gives us a unique baseline for long-term comparisons between FPs and national instruments as well as between types of institutions across time (and across FPs). It provides valuable insights into the reasons for the remarkable growth in Norwegian FP participation seen in recent years, which are relevant to understand the importance of the national mobilisation and support system and its support measures (Task 3) and what to expect with regards to FP10 (Task 2).

The evaluation is first and foremost relevant as foundation for Parliament's decision on whether Norway should associate itself to FP10 and the European Competitiveness Fund (ECF). The assessment of impacts in Task 1 focuses the Strategy for Norway's participation in Horizon Europe and the European Research Area (ERA) from 2021 (Ministry of Education and Research, 2021) which sets objectives and ambitions for Norway's involvement in European research and innovation (R&I) cooperation.

The FPs encompass a broad portfolio of instruments and sub-programmes. This evaluation focuses on the FPs as a whole rather than on individual instruments or sub-programmes. The quantitative analyses rely on the Commission's eCorda database, which includes the vast majority of grants awarded through the FPs. However, while eCorda does not include grants awarded through some European Partnership types (as further explained in Section 4.4.3) and does not always detail who the ultimate beneficiaries of grants are, in the aggregate these exceptions have limited effects on the overall findings. While Euratom is included in eCorda, Norwegian participation is governed through a separate association agreement and has been recently assessed in dedicated studies, including the 2025 evaluation of Norwegian participation in Euratom (Samfunnsøkonomisk Analyse, 2025) and the work of the Norwegian Nuclear Power Committee (Norwegian Nuclear Commission, 2026)[1]. Euratom is therefore not included in this evaluation.

The evaluation also sheds some light on relevant on-going issues, such as the importance of private-sector research and development (R&D) and the role of research institutes. The Government announced a Strategy to increase private-sector investments in R&D in 2024 (Ministry of Trade, Industry and Fisheries, 2024), which includes an ambition to increase Business Expenditure on R&D

[1] For more information see https://nettsteder.regjeringen.no/kjernekraftutvalget/

(BERD) to 2 percent of Gross Domestic Product (GDP) by 2030. The Government has also announced that it will review the research institutes in 2026 (Ministry of Higher Education and Research, 2025). We elaborate on the three evaluation tasks below. More details on methods and data sources are provided in Section 1.4.

1.1 Task 1: Impacts of participation

Task 1 is to assess the impacts of Norwegian participation in H2020 (since 2019) and HE (to date) in light of the objectives of the 2021 strategy (Ministry of Education and Research, 2021):

1. Participation shall raise the quality of Norwegian research and generate more outstanding and innovative environments.
2. Participation shall increase value creation, strengthen Norway's competitiveness and capacity for innovation and contribute to transition in the private and public sector.
3. Participation shall enable us to handle major societal challenges, help us achieve the Sustainable Development Goals and contribute to the sustainable development of society.
4. Participation shall contribute to the development of research and innovation policy and to new patterns of collaboration across national borders, sectors and fields.
5. Lastly, there is an ambition of a 2.8 percent financial return.[2]

These objectives have evolved somewhat from the 2014 strategy for H2020, but the changes are mostly subtle. However, the objective for financial return has been increased substantially (from 2.0 percent). Impacts will be assessed in line with an FP impact logic, using a broad scope of data sources, including document reviews, registry analyses, web surveys, interviews, and innovation and econometric analyses.

1.2 Task 2: Cost-benefit analysis of FP10

Our choice of data sources and methods enables us to compare Norway's FP participation with that of other countries (including the traditional comparator countries) since the beginning of the Seventh Framework Programme (FP7) that started in 2007, to study long-term trends. On a similar note, reuse of most of the project participant web survey questions from our 2020 evaluation enables us to compare survey responses with those of the previous evaluation. The methods relevant for Task 1 are described in more detail in Section 1.4 are also relevant to Tasks 2 and 3.

As an Associated Country, Norway must choose whether to participate in the FPs or not. Participation requires a substantial explicit financial contribution. A key question is therefore whether the benefits of participation outweigh the costs. In Task 2, we assess the costs and benefits of Norwegian association to FP10.

Assessing the costs and benefits of FP10 is a complex undertaking due to the complexity of the programme, (the need for an ex-ante assessment, meaning that the analysis must be conducted before FP10 is launched and therefore relies on expectations about the relevance of the programme's scope, its structure, and likely impacts rather than observed outcomes, and the many factors influencing both costs and benefits. The assessment is based on findings from Task 1 and what we know about the FP10 as of April 2026. In addition, we also investigate the cost and benefits of participation, by looking at the Swiss and UK experience.

[2] In the Strategy the financial return is formulated as an ambition, but we nevertheless treat it as an objective to simplify the narrative.

1.3 Task 3: Evaluation of Retur-EU and PES

Task 3 is to assess the importance and impacts of the support measures Retur-EU and PES on Norwegian actors' FP participation, both historically and in FP10 (should Norway decide to join).

Retur-EU aims to increase Norwegian institutes' FP participation, to increase their project coordination and to increase their collaboration with companies and public organisations. Retur-EU, then called STIM-EU, was introduced in 2012 (under FP7). The measure's budget saw a massive increase in 2015 to compensate for new financial rules under H2020. Initially, the measure was mainly aimed at the institutes receiving their base funding from the Research Council of Norway (RCN), but over the years it was expanded to include additional institute categories. The rationale for the measure, which provides additional base funding, is the very low base funding of Norwegian institutes compared to their foreign counterparts.

PES co-funds production of FP proposals with the objectives of increasing participation in FP projects. In the first years of HE (until 2024), PES also co-funded positioning and mobilisation activities. PES was introduced in 2004 (under FP6) and has gone through a number of changes since then, including a rapid budget increase in the beginning of H2020. Frequent proposers among higher-education institutions (HEIs), hospital trusts and institutes receive annual block grants, whereas infrequent proposers, mainly companies, may receive grants for single proposals.

Data-acquisition methods include registry analyses, web surveys, and interviews. Results are related to those of Technopolis 2018 evaluation of STIM-EU and PES (Åström, et al., 2018).

1.4 Overview of methods and data sources

In the following Sub-sections we present the methods used for acquiring and analysing data.

1.4.1 Document study

We have reviewed an extensive range of documents to ensure that the evaluation is firmly founded on existing knowledge of Norwegian FP participation and is aware of the relevant findings of international FP-related studies. Documents include our own previous evaluations, the Commission's final evaluation of H2020 and its interim evaluation of HE, the white paper on the Norwegian research system (Ministry of Higher Education and Research, 2025), European Commission proposal and Norwegian input with regards to FP10, as well as documents on Swiss and UK experiences of not being associated to the FPs (Task 2).

1.4.2 Registry analyses

We have explored and analysed the following datasets:

- The Commission's confidential eCorda datasets on proposals and applicants in H2020 and HE, cleaned and augmented with Norwegian stakeholder categories by RCN
- The Commission's publicly available eCorda datasets on:
    - Projects and participants in H2020 and HE
    - Topics of projects in H2020 and HE
    - Publications resulting from projects in FP7, H2020 and HE
    - Patent applications resulting from projects in FP7 and H2020
- OpenAlex to identify scientific articles with at least one Norwegian author (resulting from projects with at least one Norwegian participant)
- Overton to identify citations in documents in the grey literature to scientific articles with at least one Norwegian author

- Orbis IP to identify Norwegian patent applicants (resulting from projects with at least one Norwegian participant)
- RCN data on STIM-EU and Retur-EU base funding
- RCN data on PES funding

All eCorda datasets were extracted in May 2025, but we have drawn the line at 31 December 2024 to analyse full calendar years. For selected metrics, we have included analysis results for FP7 from our 2020 evaluation (Tofteng, et al., 2020); we have not re-analysed FP7 data on proposals and projects. However, we have analysed FP7 data on scientific articles and patent applications since the Commission did not publish such data at the time of the 2020 evaluation. While most analysis results are presented in the main report, additional results are provided in Appendices A and B.

1.4.3 Web surveys

We have conducted four web surveys:

- Survey 1 of project leaders in RCN projects representing companies (private sector)
- Survey 2 of project leaders in RCN projects representing public organisations, HEIs, institutes and hospital trusts
- Survey 3 of PES block grant administrators
- Survey 4 of institute managing directors responsible for Retur-EU base funding

The Commission no longer shares the contact details of individuals representing participants in FP projects for evaluation purposes[3], so for surveys 1 and 2 we sent invitations to project leaders in RCN projects started in 2019–2024 that correspond to the three main pillars of H2020 and HE. Project leaders of other stakeholder categories than those mentioned above were filtered out from the list provided by RCN.

Surveys 1 and 2 commenced with a question on whether the respondent personally had participated in at least one project in H2020 or HE to create a cohort of FP project participants and another of RCN project participants. Results of surveys 1 and 2 are presented for the following stakeholder categories:

- Private sector: limited companies (including publicly owned ones)
- Public sector: any kind of public organisation except HEIs, institutes and hospital trusts
- R&D sector: HEIs, institutes and hospital trusts

Table 1.1 summarises survey populations and response rates. Of the respondents to surveys 1 and 2, 54 percent were classified as FP project participants, meaning that 46 percent responded were classified as RCN project participants. Further details on the web surveys, including full question formulations, are provided in Appendix C.

Table 1.1: Survey populations and response rates for web surveys.

Stakeholder category	Number of responses	Response rate
Private sector project participants (survey 1)	271	29%
Public sector project participants (survey 2)	73	30%
R&D sector project participants (survey 2)	746	31%
PES block grant administrators (survey 3)	38	58%
Institute managing directors (survey 4)	29	59%

Source: Technopolis web surveys.

[3] The Commission still shares information on Principal Investigators in ERC projects and coordinators of MP projects, but these individuals are far from representative of the "average" FP participant.

The questions in surveys 1 and 2 were largely based on those used in our 2020 evaluation of Norway's FP participation (Tofteng, et al., 2020) to enable comparison. However, we only comment on differences where responses between the surveys differ by ±20 percentage points.

A limitation of web surveys and interviews is that responses are subjective and possibly tactical. The web survey and interview results are therefore triangulated with results from registry analyses, CIS data analyses, and econometric analyses which ought to yield objective information.

1.4.4 Interviews

We have conducted interviews to supplement these data, to acquire a thorough understanding of the structural impacts of FP project participation corresponding to the 2021 strategy objectives and RCN's support measures, including the importance of and expectations on FP10, and to investigate success stories of financial and societal impacts, also beyond the 2021 strategy objectives.

The interviews serve to complement the experiences and views collected through the web surveys, as well as to investigate intricate policy-level issues. We have conducted 30 interviews covering more than 72 representatives of ministries, research funders, sector organisations, interest representatives, EU-advisors, and management of key FP participants.

1.4.5 Econometric analyses

The economic performance of FP-participating companies depends on a wide variety of factors. Many FP-participating companies also receive funding from national R&I instruments. To assess the economic impacts of Norwegian FP participation, we have compared the performance of companies that have received FP funding to that of companies which have only received funding from national R&I instruments. We use propensity score matching to compare companies of similar, observable characteristics, including no. of employees and fixed assets, while controlling for industrial affiliation and age in the regressions. We match companies through these variables for the year before R&I funding was granted.

This method was also used in our 2020 evaluation, and we have replicated the analysis using two approaches. We re-analyse the same projects as in the 2020 evaluation (Tofteng et al., 2020) but with company accounts updated to 2024. Any identified impacts will then reflect earlier projects but will provide insights into possible long-term impacts of FP participation. We also analyse impacts of the projects of the 2018–2024 period.

1.4.6 CIS data analyses

Statistics Norway (SSB) conducts a Community Innovation Survey (CIS) every second year. The survey captures whether companies have developed or implemented new or significantly improved goods or services (product innovation), new or improved production or business processes, as well as organisational or marketing innovations. In addition to mapping different types of innovation activity, the survey also examines whether enterprises have engaged in R&D or innovation-related collaboration and collects information on total innovation expenditure.

We have used CIS data to investigate whether companies that participate in FP projects are more active in innovation and international markets than companies that only participate in RCN-funded projects. Although any observed differences cannot be interpreted as causal effects of FP participation, such comparisons are still informative, as they may indicate that FP projects tend to attract or support companies that are more innovative.

2 EU Framework Programmes

The Framework Programmes on Research and Innovation are a series of multi-year funding programmes established by the European Union to support research, technological development, and innovation. The programmes have evolved over time, aiming to strengthen Europe's scientific and industrial competitiveness.

The Framework Programme[4] is the largest, open competitive research funding programme in the World. This chapter summarises the history of the FPs, previous evaluations of Norway's FP participation, then briefly summarises Norwegian FP policy.

In 1984, when the first FP began, the EEC was already a lot more than a free trade area or the European Economic Community of its title, but still much less than any sort of Union, and a great deal less than the federal state of which its founders dreamt. In the economy, the Community's hope was to unify a highly fragmented internal market and drive the restructuring of an equally fragmented supply side to compete with the USA and the rising strength of Japanese industry. The Common Market provided policy instruments such as tariffs and regulations, but the Community had no mandate to pursue an industrial policy, and little basis for research or innovation policy in a decade when the Organisation for Economic Co-operation and Development (OECD) countries were abandoning old-style industrial policies that served largely to postpone the death of rust-belt industries and were instead turning to innovation policy as a way to steer industrial development through restructuring and renewal.

The FP gave the European Commission some legitimacy in R&I and a way to build a back-door into industry policy over time – for example, by funding European telecommunications equipment R&D via the FP at the same time as deregulating telecoms services by removing the monopolies of the European state-owned telephone services companies. This was intended to create the scale on the demand side that would be needed for European companies to be able to compete globally. Just as, in practice, the EU has developed by incrementally expanding its spheres of influence and control, always seeking 'more Europe', so it has expanded the FP and increased the scope of related EU policy instruments over time. When Norway first associated, the FP was a small and narrow thing with little scope for connection to wider EU policy. Today, not only is the FP incomparably wider and bigger

[4] Both EU and national policymakers tend to refer to the Framework Programme (FP) as a single continuous entity, reflecting its role in long-term policymaking. However, it has periodically to be established in European law and the EU budget, with each successive FP having its own number or name. The time-limited nature of these individual FPs means that, while Member States are automatically involved in all of them, Associated Countries have to negotiate the terms and extent of their association with each renewal of the FP. For EEA EFTA States like Norway, this process is largely automatic, while the timing and extent of the association can be less consistent for other Associated Countries like Switzerland and the UK.

but the powers of the EU and its range of innovation and industrial policies are much larger, so the policy opportunities available to Member States are now even greater than those of non-members. While many multilateral research initiatives were set up in Europe in the decades following the Second World War, since 1984 those focusing on funding (COST, EUREKA) have been swallowed up and underwritten by the EU while new infrastructures have increasingly been coordinated and partly funded under EU arrangements such as ESFRI and the various ERICs. EU Member States continue in the aggregate to spend many times as much money as the EU does on R&I policy, but at the European level EU R&I Policy is close to being 'the only game in town'. This trend is further reinforced by geopolitical developments that militate against R&I cooperation with other blocs, making 'internationalisation' increasingly synonymous with 'Europeanisation'.

2.1 History of the FPs

The European Coal and Steel Community was established by treaty in 1951. 1957 saw the signature of additional treaties establishing the European Atomic Energy Community (EURATOM[5]) and the European Economic Community (EEC). However, while the Coal and Steel Community and EURATOM had research among their competencies, the EEC did not. Hence, during the 1950s-1970s, European research cooperation was achieved by establishing a long list of multilateral treaty organisations such as the European Organization for Nuclear Research (CERN – 1953), the European Southern Observatory (ESO – 1962), and the European Molecular Biology Organisation (EMBO – 1963). The European Commission started planning in 1967 to set up the European Cooperation on Science and Technology (COST), which was originally intended to become something like the FP. However, its development was politically blocked by bickering between France and the Netherlands, and its implementation was hampered by being built on seven parallel international treaties, each defining an area of cooperation, which made it almost impossible to plan or operate. "In 1970-71 COST became the first instrument of European science policy, but completely lacked any strategy." (Roland, 1988). The EEC Council resolution of 14 January 1974[6] about the coordination of national policies, the definition of science and technology projects of interest to the EC and the need for the Community to have its own science and technology policy put an end to the ambition for COST to be a research funder (though it remains a powerful international research networking organisation).

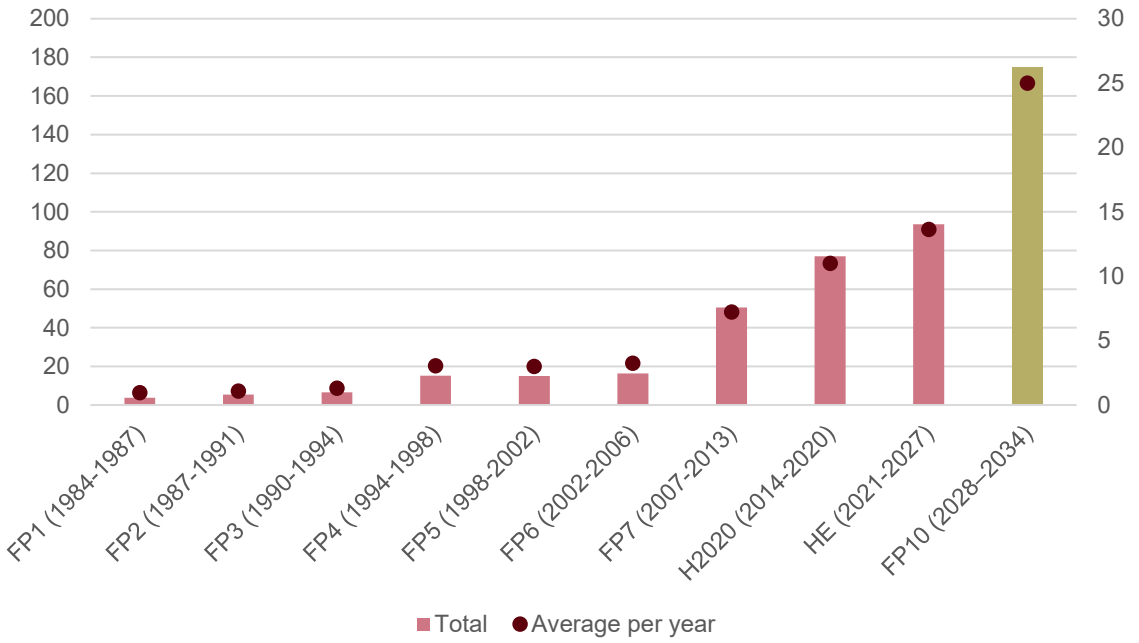
In 1974, the EEC still lacked formal competence for research but had started to use Article 235 of the Treaty of Rome, which allowed the Commission to seek agreement from the Council and the Parliament to conduct individual research programmes. Thirty specific R&D programmes were launched between 1973 and the start of FP1, though all were short and had small budgets (Reillon, 2017). Pushed by Étienne Davignon, Commissioner for Industrial Affairs from 1981, the Commission proposed to set up a Framework Programme for Research and Technological Development within the EEC. This was approved by the Council in 1983 to cover the period 1984–1987 (FP1) and launched the following year. The procedure used to decide on FP1 was then baked into the Single European Act of 1986. The Commission's authority over the FPs was successively increased in the Maastricht, Amsterdam and Lisbon treaties, simplifying decision-making and reducing the opportunities for individual Member States to block the FPs (Reillon, 2017). The fact that Eureka (1984) is still the most recent European multilateral organisation funding research to be established suggests that – whatever its complications – the FP has proved more effective than alternative means to build EU R&D cooperation.

[5] Norway has never been a member of the Coal and Steel Community or of EURATOM. Norway and the European Communities signed an agreement in March 1987 that allowed Norwegian researchers to collaborate with EURATOM on a case by case basis. A separate agreement on radiological protection was signed in 1994. Norway continues close cooperation with EURATOM on nuclear fusion.

[6] OJ. No C7/1, 29.1.74.

The FP budget is now negotiated as a part of Multiannual Financial Framework (MFF), alongside other policy budgets. The overall budget of the FP has grown with time, particularly from FP7 and onwards (see Figure 2.1), reflecting the growth in the number of EU Member States and the EU budget, but also the increasing political importance of European cooperation in R&I.

Figure 2.1 FP budgets (columns, left axis) and average annual budget (dots, right axis). Nominal prices at the time of agreement. In billion EUR.



Source: European Commission. Note: Annual averages calculated based on commitments, not disbursements. FP10 budget of EUR 175 billion is subject to change.

FP1 (1984–1987) was in practice an extension of existing initiatives in computing and energy R&D. It funded collaborative R&D with a clear industry focus and was very much technology-push orientated, reflecting the Commission's desire to bridge the technology gap between Europe and its industrial competitors, notably the USA and Japan (Arnold & Guy, Parallel Convergence: National Strategies in Information Technology, 1986). Subsequent FPs strived to achieve wider economic impact (Arnold, et al., 2011). FP2 (1987–1991) concentrated on ICT, energy and materials. FP3 (1990–1994) broadly followed the same pattern, focusing on fewer action lines, and besides collaborative research projects also introduced aspects of human capital and mobility.

The Maastricht Treaty of 1993 made research one of the EU's horizontal functions (removing the need for repeated unanimous decisions by Member States on R&D programmes and broadening the scope from industrially orientated R&D to also include basic research) and empowered the Commission to coordinate national R&D policies. A major shift in the Commission's approach to R&D policy was introduced thereafter, with a much more holistic view on innovation (European Commission, 1995). Instead of support to single industry sectors, attention was shifted to diffusion and the exploitation of new technologies. The EC white paper on Growth, Competitiveness and Employment (1993) and the following communications underlined the importance of education and training, increased labour market flexibility, financing of new companies, regulations and technology transfer. Following these lines, FP4 (1994–1998) extended the scope of the FP to basic research, applied research, technology development and demonstration. While FP4 included few socioeconomic aspects, FP5 (1998–2002) marked a clear shift from technologically oriented research to R&I tackling defined societal objectives and included some social as well as technical sciences.

During FP5, the new Commissioner for Research Philippe Busquin sought to expand the influence of EU R&I policy beyond the FP by incorporating the idea of a European Research Area (ERA)[7] into the Lisbon Strategy adopted in 2000 that aimed to make the EU "the most competitive and dynamic knowledge-based economy in the world"[8]. The ERA aimed to create a single European market for knowledge, defragment European R&I policy, and structure the activities of Member States, initially by focusing the EU effort on a limited number of themes and introducing Public-Public Partnerships (notably Article 169 partnerships[9], ERA-NETS and European Technology Platforms – ETPs) co-funded by the EU and Member States. FP6 was the vehicle for introducing these new ERA instruments.

Across FP3–FP6 there was "considerable thematic continuity, with major themes either flat or growing in budget terms" (Arnold, et al., 2011). The biggest field in terms of funding was ICT-related research with a rather consistent volume but decreasing share of total funds as successive FPs grew, adding life sciences, biotechnology, food and health to the FP budget.

FP7 (2007–2013) was longer than its predecessors, stretching to seven years to match the rhythm of the EU Multiannual Financial Framework (MFF). It contained a layer of new initiatives, including the creation of the European Research Council (ERC) to support excellent research, and a focus on research infrastructure. This period was marked by the launch of Joint Technology Initiatives (JTIs) around key technologies as a framework for Public-Private Partnerships (PPPs) at a European level. Growing numbers of Public-to-Public Partnerships were also set up under Article 185 (previously 169) of the Treaty Establishing the European Union, while Joint Programming Initiatives (JPIs) to coordinate Member States' thematic research started to operate from 2010. The "international" (i.e. non-EU) dimension was mainstreamed into the specific programmes of FP7, and increased attention was given to SMEs. In the second half of FP7, there were much more targeted attempts to merge R&I policy agendas, leading to a conclusion that this effort also required concerted complementary policies, such as demand side policy.

2.2 FPs in focus in this report

2.2.1 Horizon 2020 (2014–2020)

FP8 – Horizon 2020 (H2020) – was the first FP to be clearly integrated with wider EU policy. The financial crisis of 2008 had wiped out years of socioeconomic progress and exposed structural weaknesses in the economy of Europe. In 2010, the Commission responded with a Communication: *Europe 2020, A Strategy for Smart, Sustainable and Inclusive growth*[10], outlining policy responses for the coming decade that included seven "flagship" initiatives. The first of these was the Innovation Union[11] – promising to strengthen the FP as part of a package of wider measures to increase Europe's knowledge base, get ideas to market by funding innovation and creating a single innovation market, support cohesion through more use of structural funds for innovation, and build powerful European Innovation Partnerships. Working out what that meant in detail for the FP took until 2013, when H2020 was announced.

Figure 2.2 shows the overall structure of H2020, with the three pillars of "Excellent Science", "Industrial Leadership" and "Societal Challenges", corresponding to its academic, industrial and political constituencies. It also had dedicated budget lines for "Spreading excellence and widening

[7] Towards a European research area, Commission of the European Communities, COM(2000) 6, 18 January 2000.

[8] Presidency conclusions, Lisbon European Council, 23 and 24 March 2000.

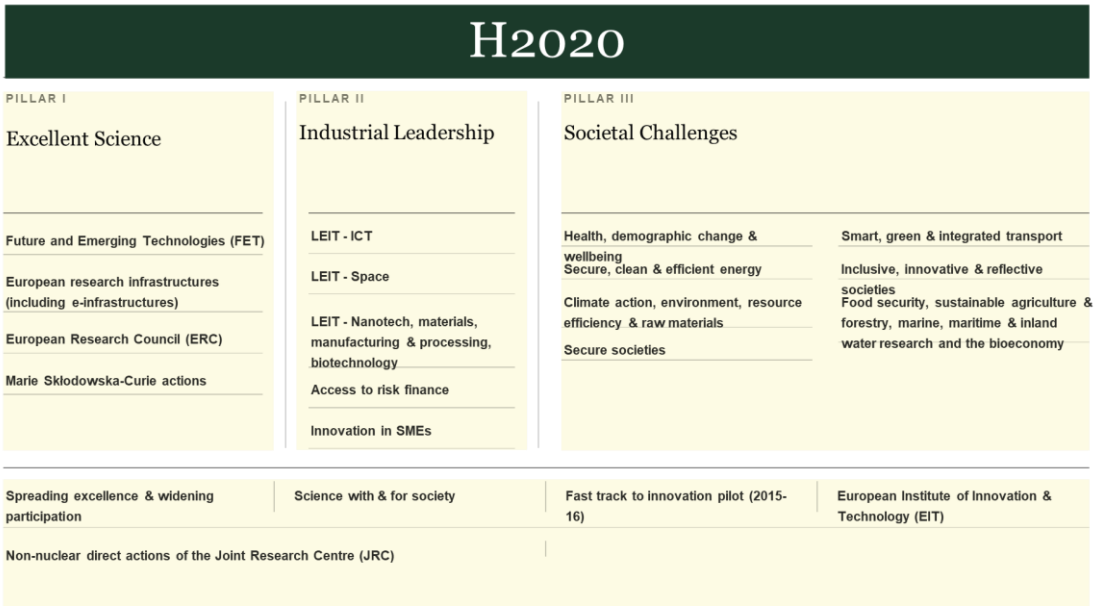
[9] Now known as Article 185 partnerships, based on the renumbering of articles in the Lisbon Treaty of 2009.

[10] Communication from the Commission, Europe 2020. A strategy for smart, sustainable and inclusive growth, COM (2010)2020, Brussels, 3.3.2010.

[11] Europe 2020 Flagship Initiative Innovation Union, SEC(2010) 1161, Luxembourg: Publications Office of the European Union, 2011

participation", "Science with and for society", the European Institute of Innovation and Technology" (EIT), the pilot project "Fast track to innovation", the non-nuclear direct actions of the Joint Research Centre (JRC).

Figure 2.2 Pillars and programmes in H2020.



Source: European Commission

Growth of the ERC and the addition of the Future Emerging Technologies (FET) programme meant that science-orientated activities increased from about 25 to 31 percent of the budget between FP7 and H2020. Industrial leadership accounted for 21 percent of the H2020 budget, though many industry-relevant themes were continued within the new Societal Challenges pillar, which had the largest slice of the budget (39%).

A major objective of H2020 was to help bridge the innovation gap in Europe through better use of EU instruments. Its policy toolbox covered almost the whole spectrum of innovation policy instruments, spanning both supply and demand. Demand-side instruments were intended to complement the technology push of the R&I initiatives. They included pre-standardisation or pre-commercial procurement of innovative solutions (i.e. the co-funding of Pre-Commercial Procurement (PCP) and Public Procurement of Innovative solutions (PPI) actions), standardisation and other user-centred instruments to help accelerate the deployment and diffusion of innovative products and services into the market.

In addition to the major funding instruments – Research and Innovation Actions (RIA), Innovation Actions (IA), and the new, bottom-up SME instrument – H2020 provided new financial instruments such as the InnovFIN SME Guarantee Facility (managed by the European Investment Bank), which targeted eligible local banks, leasing companies and guarantee institutions. H2020 also included 'linkage instruments' such as forward-looking activities and foresight, cross-sectoral networks and brokerages, innovation observatories and policy learning networks. These supported cross-cutting networks to respond to societal challenges, e.g. by encouraging collaboration between different disciplines and sectors and supporting links among established and emerging networks.

The Strategic Research and Innovation Agendas (SRIAs) established by ETPs, JPIs and EIPs are now considered key elements of the external advice and societal engagement needed for the implementation of the FPs. H2020 also co-funded the R&I activities that implement these SRIAs,

aiming to align the H2020 work programme stakeholder needs and to crowd in national private and public sector funding.

However, while H2020 had a more pronounced emphasis on innovation than FP7 did, and a completely new structure, most previous themes remained in place

2.2.2 Horizon Europe (2021–2027)

FP9 – Horizon Europe (HE) – has a budget of EUR 95.5 billion. It is substantially rooted in the policy priorities emerging in the latter phases of H2020, i.e. the "three Os" concept of Open Innovation, Open Science and Open to the World, and also has a three-pillar structure (Figure 2.3). Pillar 1, "Excellent Science", focuses on reinforcing EU scientific leadership via the ERC, the Marie Skłodowska-Curie Actions (MSCAs) and the provision of Research Infrastructures. Pillar 2, "Global Challenges and European Industrial Competitiveness", aims to tackle global challenges in line with the Sustainable Development Goals (SDGs), while strengthening the global competitive position of European industry. Pillar 3, "Innovative Europe", focuses on stimulating, nurturing and deploying disruptive and market-creating innovations, and on enhancing European ecosystems conducive to innovation.

Figure 2.3 Pillars and programmes in Horizon Europe.

Source: European Commission

One of the main novelties of pillar 2 is the introduction of Clusters and Missions. Clusters are 'top-down' initiatives aimed to incentivise cross-disciplinary, cross-sectoral, cross-policy activities and international collaboration, whereas Missions are high-ambition, high-profile initiatives, based on stakeholder involvement, aiming to find concrete solutions to challenges facing European citizens and society.

A novelty in pillar 3 was the introduction of the European Innovation Council (EIC), aimed at supporting innovators and start-ups with radically new ideas through three replacements for the earlier SME Instrument: Pathfinder provides grants for early-stage, high-risk innovation and aims at multi-disciplinary consortia; while Transition and Accelerator aim to bridge the "valley of death" and support entrepreneurs by encouraging co-investment between public and private sector investors and attracting scalable firms.

HE was intended to continue the problem-driven research and innovation emphasis of H2020. Its three pillars are not directly equivalent to those of H2020, but most instruments and themes remained in place.

2.2.3 FP10 (Horizon Europe, 2028–2034)

The Commission's proposed MFF budget for 2028–2034 sets the context for FP10, which is – like FP9 – to be called Horizon Europe (European Commission, 2025). The MFF proposal totals to 1,98 trillion euro for the 7-year period (corresponding to 1,75 trillion euro in 2025-prices)[12]. The budget is split into three policy areas plus administration.

- "Economic, territorial and social cohesion, agriculture, rural and maritime prosperity and security" is the largest policy area making up approximately half of the budget. This includes the Structural and Regional Development Funds, the Common Agricultural Policy, and repaying the Next Generation EU loans the EU took primarily to fund the post-Covid Research and Resilience Facility, but also handling migration, police, and border policies.
- "Competitiveness, prosperity and security" includes the European Competitiveness Fund (ECF), FP10, Connecting Europe Facility, Erasmus+, Euratom, and a long list of smaller policy programmes totals to 409 billion euro in current prices (362 billion euro in 2025-prices). The proposed budget for FP10 is 175 billion euro in current prices (corresponding to 155 billion euro in 2025-prices).
- "Global Europe" is the smallest policy area covering development aid and other aspects of foreign policy totals to 200 billion euro (corresponding to 177 billion euro in 2025-prices) The MFF budget aim to reduce the number of programmes from 52 to 16, and that at least 35% of the EU budget will support projects related to climate and environment.

The MFF proposals aim to draw the EU budget together into a more coherent, policy-driven shape, in the face of the 'multi-crisis' of climate, environment, changing geopolitics, potentially paradigm-shifting developments in artificial intelligence (AI) and wider digitalisation, and the need for new sustainability, security, resilience, technological sovereignty, innovation and industry policies. The MFF negotiations are expected to continue into late 2027, so while the grand lines of the budget are broadly set, there remains scope for negotiation about the detailed implementation, to adjust budgets, and to influence work programmes.

Compared with its predecessor, the second Horizon Europe programme (FP10) rearranges and adds a little to the first Horizon Europe's three pillars and adds a fourth pillar on the ERA (Figure 2.4). The main drivers for change between HE and FP10 appear, first, to be growing geopolitical tensions that in turn trigger greater effort on security, defence, technological sovereignty, and, more recently, the Draghi report (2024) that provides official recognition of the dangers posed by stagnating productivity and innovation in the European economy. The EU already has multiple other initiatives in place to tackle aspects of the competitiveness problem, including the Clean Industrial Deal, the AI Continent Action Plan, the Affordable Energy Action Plan, the Industrial Action Plan for the automotive sector, the EU Startup and Scaleup Strategy, the Life Science Strategy, so the EU policy background to FP10 is already much more complex than was the case with earlier FPs.

[12] The proposed FP10 budget is EUR 175 billion in current prices, which the European Commission has estimated to correspond to EUR 155 billion in 2025 prices. We have applied the same conversion factor when estimating 2025-price equivalents for other MFF policy areas and instruments.

Figure 2.4 FP10 proposed pillars

Source: European Commission (2025)

FP10's overall objectives is to strengthen the EU's competitiveness and scientific technological basis, and to address global challenges on excellence in research and innovation. Its specific objectives are to:

- Promote the core values of scientific freedom and openness
- Increase Europe's excellent knowledge base by focusing on EU added value
- Improve research careers and attract the best researchers in Europe and beyond, in line with the 'Choose Europe' approach
- Mobilise public and private investments across the full R&I chain – from fundamental research to market commercialisation
- Contribute to increase its investments in innovation, notably by supporting innovation throughout Europe and increasing coherence between EU funding schemes and Member State's investments
- Harness the EU budget's potential to reduce risk and unlock greater investment opportunities
- Focus investment on EU strategic priorities, including single market, clean transition, decarbonisation, circularity, digitisation, security, resilience and social cohesion
- Improve access to EU funding through faster, user-centric, simplified, and harmonised procedures to broaden participation and accelerate results

The ECF is proposed to cover the following four policy windows; clean transition and industrial decarbonisation, health biotech, agriculture and bioeconomy, digital leadership, resilience, security, defence, industry and space. FP10 was initially proposed to be a part of ECF. While it has been decided that ECF and FP10 are formally separate and independent programmes, a key part of the FP10 proposal remains for Pillar 2 to be programmed in close connection to ECF priorities, so that FP10 and the ECF can together offer support for the entire investment journey of a project (from conception phase to scale-up).

At the time of writing, important uncertainties remain for Associated States.

- Whether they will be excluded from parts of FP10's Pillar 2 unless they also find some form of association to ECF

- Whether Associated States will still be allowed to be involved in all parts of P10
- Whether a new form of wider association to the growing proliferation of European innovation-relevant programmes outside the FP is feasible and desirable

2.3 Previous evaluations of Norwegian FP participation

Participation in the FPs involve a substantial reorientation of Norway's international research relationships. Before World War II, Norway's main cultural and scientific links were with Germany. That relationship ended abruptly on 9 April 1940. During and after the war, links were built with the UK and the USA, which were Norway's dominant international scientific partners in the post-War period – despite the continuous cooperation, both informal and formal, with the other Nordic countries. Participating in the FPs therefore represented a reorientation and a reconnection with continental Europe that required building up new networks.

2.3.1 FP2–4

Norway initially participated in certain of the Specific Programmes in the FPs on a self-funding basis under a framework agreement on science & technology cooperation between Norway and the EU. From 1994, with the signature of the European Economic Area (EEA) agreement, Norway became a full participant in the FPs. NIFU's report "A Sky full of Stars" (Hagen, et al., 1997) reviewed Norwegian experience with Specific Programmes of the FPs up to 1996–1997, i.e. the period of the framework agreement and the first couple of years of FP4.

In FP2 and FP3, the largest group of Norwegian participants was the research institutes, followed by higher-education institutions (HEIs), whereas industry was barely represented. In FP2, Norway was involved in about 2 percent of FP projects, but by the start of 1996 this had increased to some 6 percent. Industry started to be more involved by the start of FP4, with almost one third of Norwegian project participations in 1996–1997 being from companies. About 23 percent of participations were by HEIs, but the leading group remained the institutes (38 percent). For the whole period covered by the report, Norway was most strongly represented in themes that reflected national priorities and strengths, notably marine and maritime, transport, energy and parts of electronics.[13] The UK was Norway's biggest partner in the FPs, followed by Germany, France, Italy, the Netherlands and Sweden. To a considerable extent this list simply reflects the fact that large countries have more potential partners than small ones. However, the ranking and presence of the UK, the Netherlands and Sweden suggest that links to these countries were stronger than would be implied simply by their size.

NIFU's survey of participants (Hagen, et al., 1997) showed that the three most important reasons researchers gave for participating in FP4 were access to funding, networks and knowledge in other countries. Success in getting into the FP networks required experience. All participants had previously conducted research using national funding, but FP projects were usually more interdisciplinary than their national work. Almost all Norwegian coordinators (86 percent) had managed international research collaborations before. Success was cumulative: one FP project tended to lead to another. Norwegian project leaders in FP3 felt well positioned to participate in FP4, based on the experience and networks they had accumulated.

One result of this was that 65 percent of Norwegian participants said they had been contacted by others and invited to join a consortium. Still, 45 percent said they had heard of the consortium through the EU or RCN. Research institutes valued the implicit 'quality label' that FP participation gave them. They put more time into FP proposals than the HEIs, did, but struggled to meet the co-funding

[13] The programmes involved were MAST, TSER, ACTS, JOULE and TRANSPORT.

requirements of the FP, since they had very little core funding compared with institutes in most other European countries.

2.3.2 FP5

FP5 distinguished itself, among other things, by a greater focus on societal problems and thus a greater role for social science than its predecessors. However, the overlaps between Norwegian and FP thematic priorities remained limited. Norway accounted for 2 percent of all project participations and was present in 7 percent of all projects. The NIFU, STEP and Technopolis evaluation (2004) indicated that the financial return – in the sense of the proportion of Norway's financial contribution to the FP that returns to Norway in the form of FP project funding – was about 90 percent, but pointed out that the costs of administration (10 percent) and the commitment to the JRC (5 percent) together meant that only 85 percent of the FP budget was contestable, so a 90 percent return was more than would be needed to 'bring back' the addressable part of Norway's subscription to the FPs (NIFU, STEP and Technopolis, 2004)

As before, the institutes were the biggest beneficiaries of FP5, though their share of participations fell from 43 percent in the first three years of FP3 to 37 percent in FP5. While the number of SMEs participating rose in response to the increased SME focus of FP5, large Norwegian companies reduced their participation compared with FP4. Compared with its notional financial contribution to each programme, Norway was in FP5 over-represented in ENVIRO and ENERGY and under-represented in IST and GROWTH.

2.3.3 FP6 and FP7

The subsequent evaluation covers FP6 and the first two years of FP7 (2007–2008), see Godø et al. (2009). In FP6, Norway had 1.8 percent of all participations and was involved in 8.4 percent of the projects. That compared with 6.6 percent of the projects in FP5, but FP6 was organised into fewer, bigger projects than its predecessors. Norway coordinated 149 (18%) of the 834 projects in which it was involved.

Another effect of the larger projects was an apparent increase in the size of project networks. Thus, Norwegian participants had links to 5,933 project partners in FP5, but to 23,557 in FP6. Norway had the largest numbers of project links with the UK (13%), Germany (12%), France (11%), Italy (8.5%) and the Netherlands (7%). The tendency for some projects to be extensions of previous FP work continued, with 16 percent of the projects with Norwegian involvement being such extensions.

The Norwegian success rate was 25 percent – well above the overall rate of 18 percent. However, much of this difference was probably the result of the large number of participations by SMEs. Norwegian participation was above the level needed for a *juste retour* in the FOOD, SUSTainable DEVelopment, CITIZEN and SME programmes. Norway was also prominent in ERA-NETs and the programme of Support for the Development of Coherent Policies.

2.3.4 FP7 and Horizon 2020

The most recent evaluation[14] covered all of FP7 (2007–2013) plus H2020 up to and including the second third of 2019 (2014–2018). It confirmed the pattern of increasing Norwegian capacity and competitiveness in the FPs over time, showing that Norway's financial return as a share of competitive funding was 1.68 percent in FP7 but had climbed during H2020 to an unprecedented peak of 2.2 percent during 2019. Table shows that Norway was well represented in FP proposals and that it achieved a better-than-average success rate, though this fell somewhat between FP7 and H2020. The share of coordinatorships was higher than the share of participations, indicating that Norway played more of a leading- than a following-role in in FP projects. HEIs and research institutes dominated Norwegian participation, but there was a swing to industry of 10 percent of the FP funding awarded to

[14] Tofteng et al, (2020)

Norwegian organisations between FP7 and H2020, reflecting increased participation by large Norway-based companies. The pattern of participation in specific programmes continued to be consistent with Norwegian strengths in ICT and resource-based industries.

Table 2.1 Key figures for Norwegian participation in FP7 and H2020 (end of 2018).

	FP7	H2020 (part)
Proposals with Norwegian participation	ca, 7,000 (4.5%)	ca. 8,500 (4.2%)
Funded projects with Norwegian participation	1,485 (5.9%)	1,227 (5.3%)
Norwegian share of all participations	1.6%	1.7%
Norwegian share of coordinatorships	2.0%	1.9%
Accumulated return as a share of competitive funding	1.7%	2.2%
Success rate	20.8%	15%
FP Funding to Norwegian participants (2025-NOK)	10.8 bn.	9.8 bn.
Share of funding to		
• Research institutes	39%	31%
• HEIs	37%	30%
• Private industry	19%	29%
The majority (>50%) of Norwegian projects in:	ICT, SME, PEOPLE, ENV and KBBE	MSCA, ICT, ENERGY, FOOD
Projects with Norwegian participation are overrepresented in:	SME, ENV, FOOD	ENERGY, FOOD, ENV, INFRA

Source: Tofteng et al., (2020).

2.4 Development of Norwegian FP policy

Norway's financial contribution to the FPs is calculated based on its gross domestic product (GDP) and paid for in cash.[15] The fact that the cost is explicit and growing has contributed to a policy focus on making the most of the FP association, and a series of research white papers and national strategies have therefore focused on the importance of increasing Norwegian participation to gain as much benefit as possible.

The 2005 research white paper St.meld. 20 *Vilje til forskning* (Commitment to research) (Ministry of Education and Research, 2005) highlighted internationalisation of Norwegian research a main objective of government research policy, and specifically emphasised the importance of active participation in the FPs. The white paper led to the development of a Strategy for Norway's research collaboration with the EU, which set an objective for 2007–2010 that Norwegian organisations should bring back a share of funding from the competitive parts of the FP corresponding to Norway's proportional contribution to the overall FP budget. The 2009 research white paper St. meld. 30 *Klima for forskning* (Climate for research) (Ministry of Research and Education, 2009) reiterated that participation in the FPs was crucial to the internationalisation of Norwegian research but noted that the return objective for 2007–2010 timeframe would be difficult to achieve. The 2013 research white paper St. meld. 7 *Lange linjer – kunnskap gir muligheter* (Long-term perspectives – knowledge provides opportunity) (Ministry of Research and Education, 2013) in turn confirmed that participation in the FPs was the government's most important instrument for promoting internationalisation of Norwegian research.

[15] See Chapter 8 for a more thorough assessment of cost of FP participation

In 2014, Norway decided to associate itself with H2020, and shortly thereafter the government presented its Strategy for R&I cooperation with the EU, which set four qualitative objectives (Ministry of Education and Research, 2014):

- Participation shall increase the quality of Norwegian research and innovation and help Norwegian research and innovation succeed internationally
- Participation shall contribute to increased innovation capacity, value creation and sustainable economic development
- Participation shall contribute to improved social welfare and more sustainable social development through research and innovation that enable us to deal with major societal challenges
- Participation shall help to develop our own research and innovation sector, both through further development of policies and instruments and through new patterns of cooperation across national borders, sectors and fields

The strategy concluded that HEIs, research institutes, hospital trusts and the private sector had significant potential for greater participation, and set a target of winning 2 percent of the competitive funds in H2020, while noting that this financial return was not the main motive for participation. That same year, the first Long-term Plan for Research and Higher Education, St. Meld. 7 *Langtidsplan for forskning og høyere utdanning 2015–2024* (Ministry of Research and Education, 2014), emphasised the need to strengthen research and education and the importance of continued internationalisation. For the 2 percent goal to be reached, the scope of Norwegian activities would need to increase radically, but there was inherent potential to increase Norwegian FP participation in all sectors. In cooperation with RCN, the government was therefore to develop a set of instruments to respond to the needs of various sectors, taking the Strategy for R&I cooperation with the EU as point of departure.

The white paper emphasised that different sectors had different needs. Research institutes were described as needing support to bridge the gap between costs covered by FP funding and actual costs. Since the institutes played an important role in mobilising industry, this would also increase company participation. HEIs and hospital trusts were described as needing information and support for positioning activities, writing proposals, and establishing and conducting projects. Industry's greatest need was said to be funding to mobilise companies to take part, and to assist them in establishing projects. In the white paper, the Government announced that it would raise appropriations to programmes that stimulate Norwegian participation in the H2020 by NOK 400 million.

The 2017 Humanities white paper, St. Meld. 25 *Humaniora i Norge* (Humanities in Norway) (Ministry of Research and Education, 2017), argued that the humanities were underutilised in tackling societal challenges, and that the government would work to increase their presence in Horizon Europe. The same year, the industry white paper, St. Meld. 27 *Industrien – grønnere, smartere og mer nyskapende* (A greener, smarter and more innovative industry) (Ministry of Trade, Industry and Fisheries, 2017), reiterated the 2 percent objective and explained that Norway's competitiveness depended on using both national R&D results and technology developed elsewhere, and that FP participation facilitated this. There was scope to increase industry's H2020 participation to foster innovation capacity, value creation and sustainable economic development. Effective cooperation between RCN and IN, was especially important for SME participation.

The second version of the Long-term Plan, St. Meld. 4 *Langtidsplan for forskning og høyere utdanning 2019–2028* (Ministry of Research and Education, 2018), continued the emphasis on making the most of the FPs and preparing for the upcoming HE. However, the new plan is less explicit about the importance of H2020 participation. Interviewees for this evaluation suggest this is because participation has come to be taken for granted. In 2021, the government presented an updated strategy for R&I cooperation with the EU, again with four qualitative objectives (Ministry of Education and Research, 2021). These objectives were reminiscent of the ones of the 2014 strategy, and the

changes were mostly subtle. However, the updated strategy raised the target FP return from 2.0 to 2.8 percent.

The 2022 version of the Long-term Plan (St. meld. nr. 5, 2022–2023) (Ministry of Rearch and Higher Education, 2022) referred to the need for Norway's R&I system to internationalise further and the importance of FP participation in this process. It underscored the importance of the green transition, in which the FPs play a role, and urged the Norwegian industrial ICT and biotechnology sectors to engage even more closely with it. The report pointed out Norway's commitment to establishing its own national missions, but was lukewarm about the EU Missions, which were to be pursued via the policies of R&I agencies rather than being explicitly reproduced at the Norwegian level.

The 2022 Long-term Plan document was followed up in March 2025 by a research system white paper, Meld. St. 14 (Ministry of Higher Education and Research, 2025). This stressed the importance of following up the Draghi (Draghi, 2024) and Heitor reports (Heitor et al., 2024) at both national and European levels, while continuing to focus on the green and digital transitions, the digital transitions and especially capacity-building and infrastructure in AI, as well as security and defence issues. The white paper celebrates Norwegian success in the FPs, and by implication the FP's wider role in promoting a stronger Norwegian R&I system.

Consistent themes across Norwegian policy papers include the importance and successes of Norwegian participation in the FPs. While Norway's funding returns on its investment in the FP budget is much discussed, the systemic benefits of membership have become increasingly clear and Norway has increasingly integrated into European and international R&I communities and networks. Earlier in the period since Norway became fully associated to the FP there was some concern that Norwegian thematic priorities (such as oil and gas, the marine and the maritime) did not align well with those of the FP. However, the FP's priorities and those of Norway have increasingly converged, especially since the societal challenges came onto the EU agenda and the EU has been more concerned with sustainability and digital transitions, and the consequences of increased political tensions.

3 Activities

In this Chapter, we start constructing an impact logic for Norway's participation in the Framework Programmes by investigating Norwegian organisations' participation in proposals and projects. We conclude that participation has developed exceptionally well, mainly driven by extensive involvement of higher education institutions and research institutes.

In Chapters 3–5 we present our findings, eventually to be able to draw conclusions on the extent to which Norway's FP participation has contributed to fulfilment of the objectives of the government's Strategy for R&I cooperation with the EU (Ministry of Education and Research, 2021). We structure our narrative via an impact logic, where Chapter 3 presents activities, Chapter 4 results and Chapter 5 impacts, thus gradually constructing an impact logic for Norway's FP participation.

This Chapter focuses on competitive instruments only, i.e. on R&I projects won in competition, which constitute the vast majority of the FPs' instruments (and funding) – as well as of RCN's corresponding instruments, which we use as benchmark. While detailed comparison of FP and RCN funding rules would be difficult, both the FPs and RCN usually issue open calls for proposals for co-funded projects, meaning that project participants have to cover some of the project costs themselves. In line with state-aid rules, basic (fundamental) research nevertheless may be fully funded by public sources (such as the FPs and RCN), whereas the permissible share of public funding decreases the closer to market a project lies. In practice, this means that organisations that mainly conduct basic research – most often higher-education institutions (HEIs) – may get up to 100 percent of their costs covered by public funds, whereas, at the other end of the spectrum, private companies generally receive a lower proportion of cost coverage in projects where they collaborate with HEIs and institutes that receive a higher level of public funding. Within state-aid rules, co-funding requirements in collaborative projects are determined at project, not participant, level, so the funding level can vary substantially between participants in the same project. In practice, most participants in FP projects usually receive some level of public funding, but with substantial differences between participant types, instrument types and FPs.

This Chapter starts by outlining Norway's overall FP participation in proposals and projects based on registry analyses and then goes on to analyse motives for participating in FP and RCN projects, as well as some aspects of the projects in which respondents to our web surveys have participated. The Chapter also draws on interviews with management of key FP participants.

3.1 Data sources and terminology

The registry analyses of projects in H2020 and HE are based on the Commission's publicly available eCorda datasets, whereas the analyses of proposals are based on Commission datasets that are not publicly available; these were provided by RCN. All datasets were extracted in May 2025, but we have drawn the line at 31 December 2024 to analyse full calendar years. Results for FP7 come from our 2020 evaluation of Norway's FP participation (Tofteng, et al., 2020); we have not re-analysed FP7 data on proposals and projects.

The eCorda database includes the vast majority of grants awarded through the FPs but does not include grants awarded through some European Partnership types (as further explained in Section 4.4.3) and does not always detail who the ultimate beneficiaries of grants are. Moreover, while Euratom is included in eCorda, we have excluded participation in this sub-programme since Norwegian participation is governed through a separate association agreement and has been recently assessed in dedicated studies[16].

For proposals (and applications) the year quoted is the year of call closure (i.e. proposal deadline); for projects (and participations) it is the year of contract signature with the Commission.[17] Given the different sizes of the countries used for comparison, we present results normalised by Eurostat figures on the number of R&D personnel (full-time equivalent, FTE). Further details on the registry analyses are provided in Appendices A and B.

In presenting results from the registry analyses, we use the following terminology:

- A **proposal** is often submitted by a consortium. Each organisation's involvement in that proposal is termed an **application**. Similarly, the involvement of each individual organisation within a **project** is termed a **participation**
- When analysing the coordination of proposals and projects, we look separately at **multi-partner (MP)** projects, in order to exclude when no consortium is involved (no partners)

The stakeholder category notations in eCorda is a bit awkward, so we have adopted our own terminology, see Table 3.1.

Table 3.1: Stakeholder categories.

eCorda abbreviation	eCorda category	Terminology used in this report
HES	Higher or secondary education organisation	Higher-education institution (HEI)
REC	Research organisation	Institute, Research and Technology Organisation (RTO)
PRC	Private for profit organisation – excl. education	Private-sector organisation, company
PUB	Public body – excl. research and education	Public-sector organisation, public organisation
OTH	Other	Other

The eCorda stakeholder categories do not completely coincide with the R&D sector categories commonly used in Norway, but we have no choice but to use the eCorda categorisation when we compare Norway's FP participation with that of other countries. However, we use the Norwegian sector categorisation when we only consider Norwegian participants. The concordance between eCorda and Norwegian classifications is nonetheless quite good, and the odd inconsistency at organisation level

[16] See for example Norwegian Nuclear Commission (2026) and Samfunnsøkonomisk Analyse (2025).

[17] For FP7, project start year is used for projects (and participations), but this minor inconsistency is irrelevant for long-term trends.

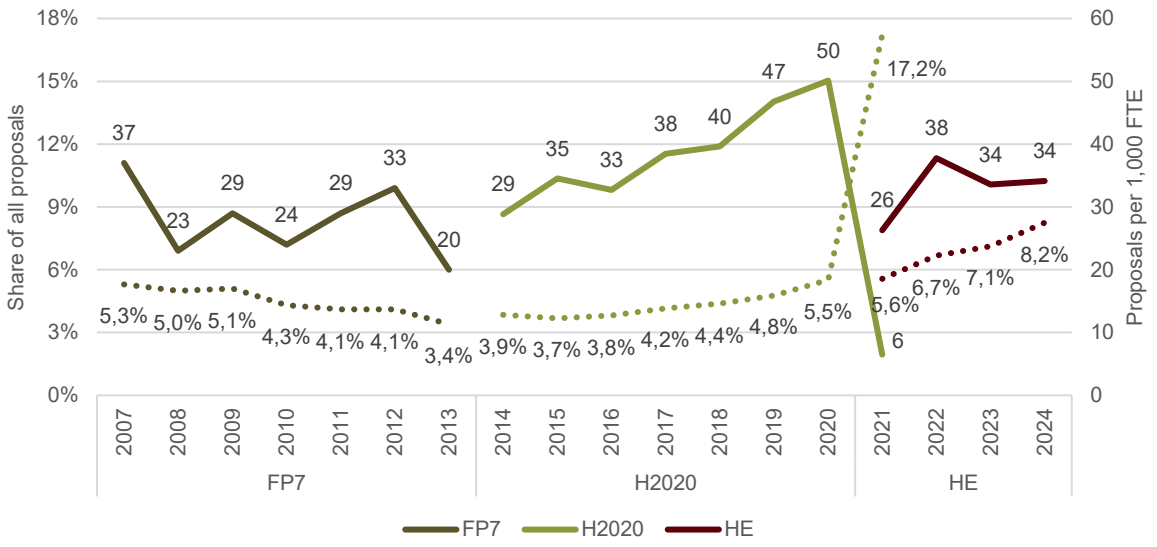
does not materially disturb overall analyses by stakeholder category. However, it should be noted that the uniquely Norwegian hospital trust category (*helseforetak*) does not exist in eCorda; hospital trusts are spread over the HES, PUB, REC and OTH categories.

The questions in the participant surveys were largely based on those used in our 2020 evaluation of Norway's FP participation (Tofteng, et al., 2020) to enable comparison. However, since the respondents to the present surveys probably only occasionally were the same ones that answered the surveys six years ago, such comparisons are associated with notable methodological challenges. Therefore, we only comment where responses between surveys differ by ±20 percentage points and urge readers not to draw far-reaching conclusions on such differences. In the 2020 evaluation, results were not presented separately for public-sector respondents, meaning that no comparisons can be made for this stakeholder category.[18]

3.2 Participation in proposals

Figure 3.1 shows the number of proposals with Norwegian participants per 1,000 FTE R&D personnel (solid lines, right axis) and their share of all proposals from all countries (dotted lines, left axis) by year of call closure. Ignoring anomalies at the end of H2020, the trend for Norway's share of all proposals has been positive since the beginning of H2020. While the share of Norwegian proposals exhibited a negative trend in FP7, it has more than doubled since then.

Figure 3.1. Norwegian proposals to FP7, H2020 and HE.



Source: eCorda.

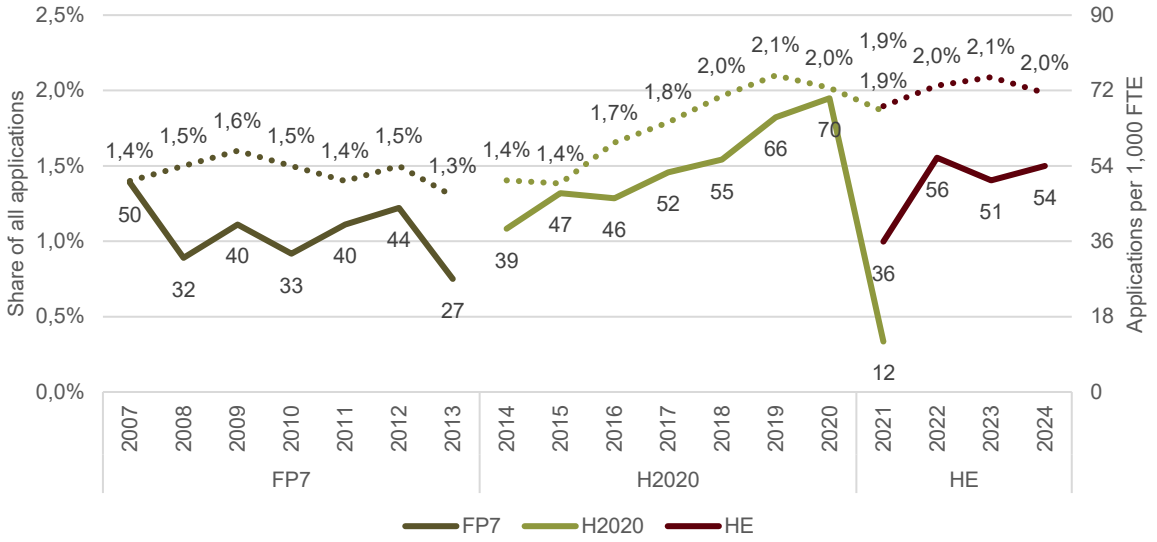
Note that Figure illustrates that some proposals to H2020 were submitted after the formal end of the programme (the seven-year programme durations are indicated beneath the years). We will come across similar situations in several later figures where the activities of FPs so to speak overlap.

Figure 3.2 similarly shows the number of Norwegian applications per 1,000 FTE researchers (solid lines, right axis) and their share of all applications (dotted lines, left axis). Again, the trend for Norway's

[18] In the 2020 evaluation they were included in the R&D sector since they were so few.

share was negative in FP7, but it gradually improved under H2020 and has been rather stable since then.

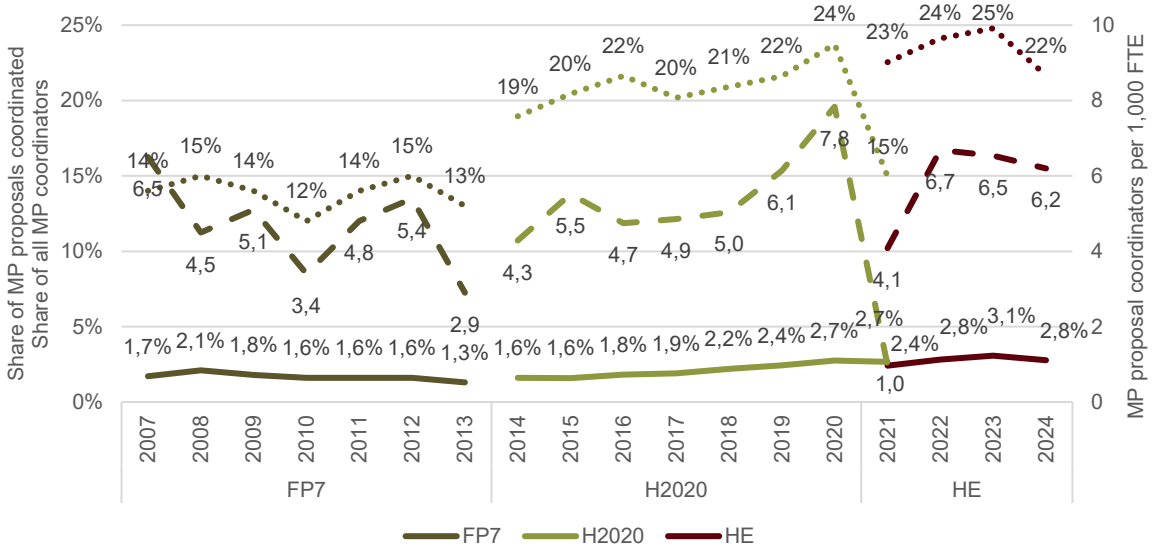
Figure 3.2. Norwegian applications to FP7, H2020 and HE.



Source: eCorda.

Figure 3.3 shows the number of MP proposals coordinated by Norwegian organisations per 1,000 FTE researchers (dashed lines, right axis), their share of all MP coordinators (solid line, left axis), and the share of all Norwegian MP proposals that have been coordinated by Norwegian organisations (dotted lines, left axis). We see slightly deteriorating trends for both shares under FP7, improvements under H2020 and a stabilisation so far under HE, where roughly one Norwegian MP proposal in four has been coordinated from Norway. The share of all MP proposal coordinators coming from Norway has more than doubled compared to the final years of FP7.

Figure 3.3. Norwegian-coordinated MP proposals to FP7, H2020 and HE.

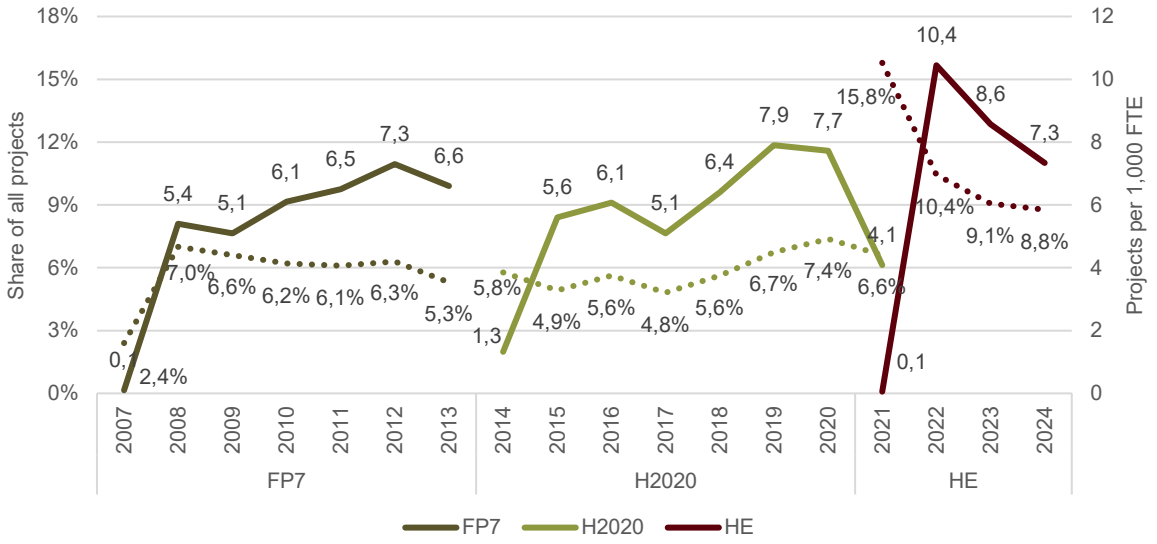


Source: eCorda.

3.3 Participation in projects

Figure 3.4 shows the number of projects with Norwegian participants per 1,000 FTE researchers (solid lines, right axis) and their share of all proposals (dotted lines, left axis) by contract signature year. The trend for share of all projects was negative in FP7, positive in H2020, and is negative so far in HE – albeit from a very high level (ignoring the first year when very few project contracts were signed).

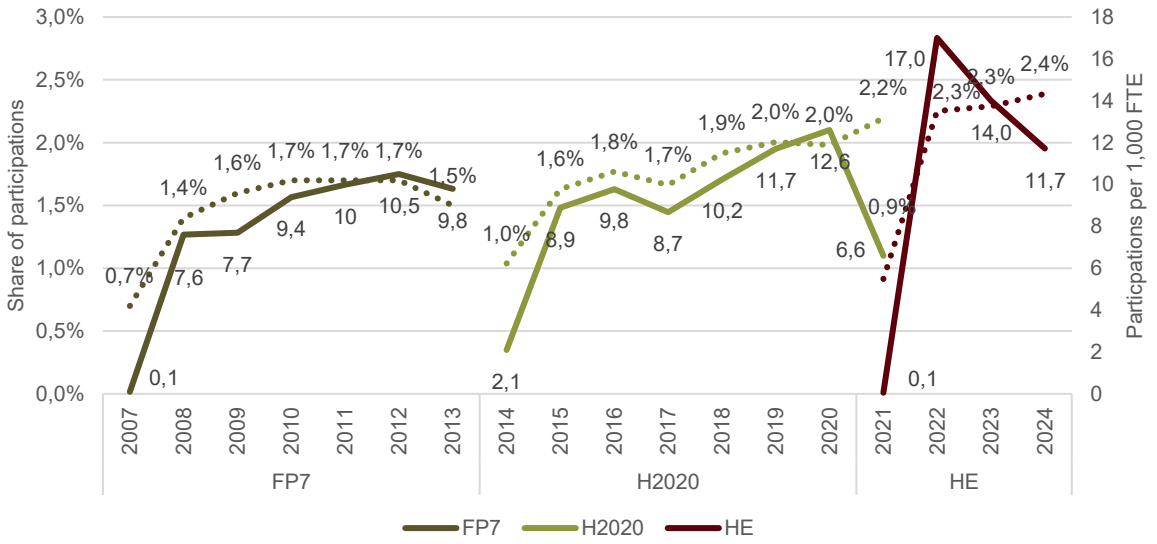
Figure 3.4. Norwegian projects in FP7, H2020 and HE.



Source: eCorda.

Figure 3.5 similarly shows the number of Norwegian participations per 1,000 FTE researchers (solid lines, right axis) and their share of all participations (dotted lines, left axis). In both these respects, the overall trends have been positive since the beginning of FP7.

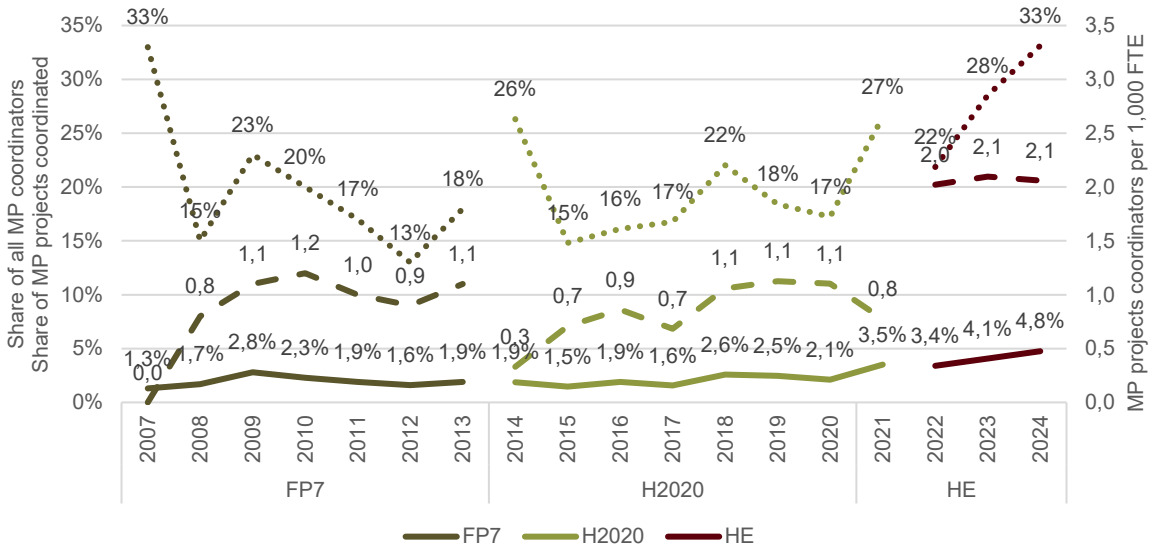
Figure 3.5. Norwegian participations in FP7, H2020 and HE.



Source: eCorda.

Figure 3.6 shows the number of MP projects coordinated by Norwegian organisations per 1,000 FTE researchers (dashed lines, right axis), their share of all MP coordinators (solid lines, left axis), and the share of all Norwegian MP projects that have been coordinated by Norwegian organisations (dotted lines, left axis). There are few clear trends in FP7 and H2020, but so far in HE the number of MP projects coordinated and their share of all projects have roughly doubled compared to the long-term averages in H2020, and in 2024 Norwegian organisations coordinated every third Norwegian MP project. By 2024, the share of all MP projects coordinated by Norwegian organisations had trebled compared to the first half of H2020.

Figure 3.6. Norwegian-coordinated MP projects in FP7, H2020 and HE.



Source: eCorda.

Additional analyses of Norway's participation in FP projects are presented in Appendix B.

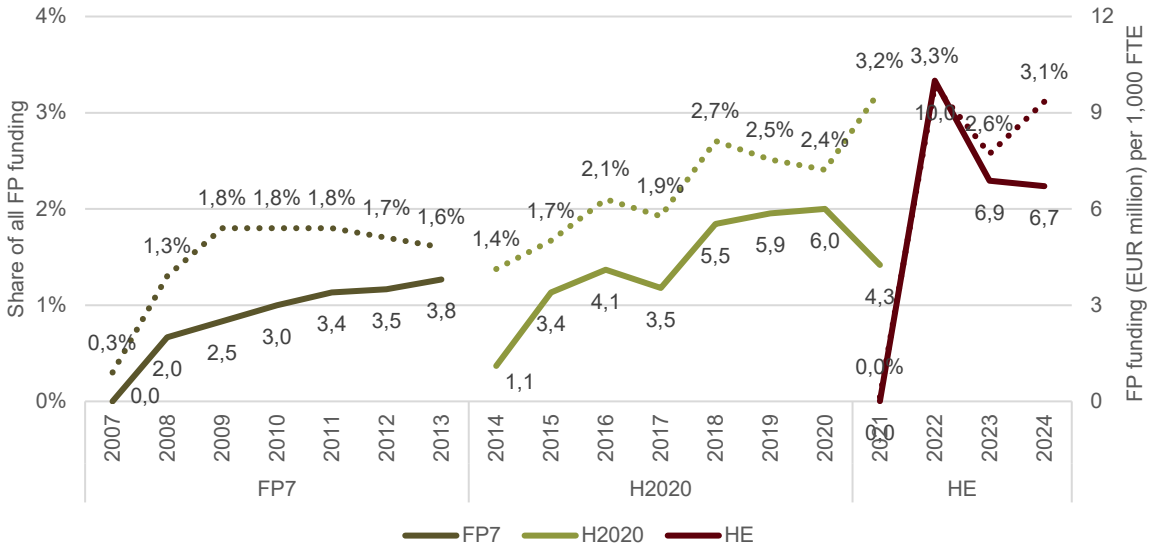
3.4 Funding

Norway's financial return amounted to EUR 2.3 billion over the course of the period 2019–2024 in current prices, corresponding to approximately NOK 27 billion in 2025 prices[19]. This includes NOK 3,3 billion to CEPI.

Figure 3.7 shows FP funding to Norwegian organisations per 1,000 FTE researchers (solid lines, right axis) and their share of all FP funding awarded in competitive calls, i.e. Norway's financial return (dotted lines, left axis). In this Figure, we have excluded EUR276 million in funding to the Norway-based foundation Coalition for Epidemic Preparedness Innovations (CEPI) which re-distributes this funding to vaccine researchers worldwide (meaning that most of this funding does not benefit Norwegian organisations).

[19] Amounts converted to 2025-prices using public consumption deflator from SSB's national accounts.

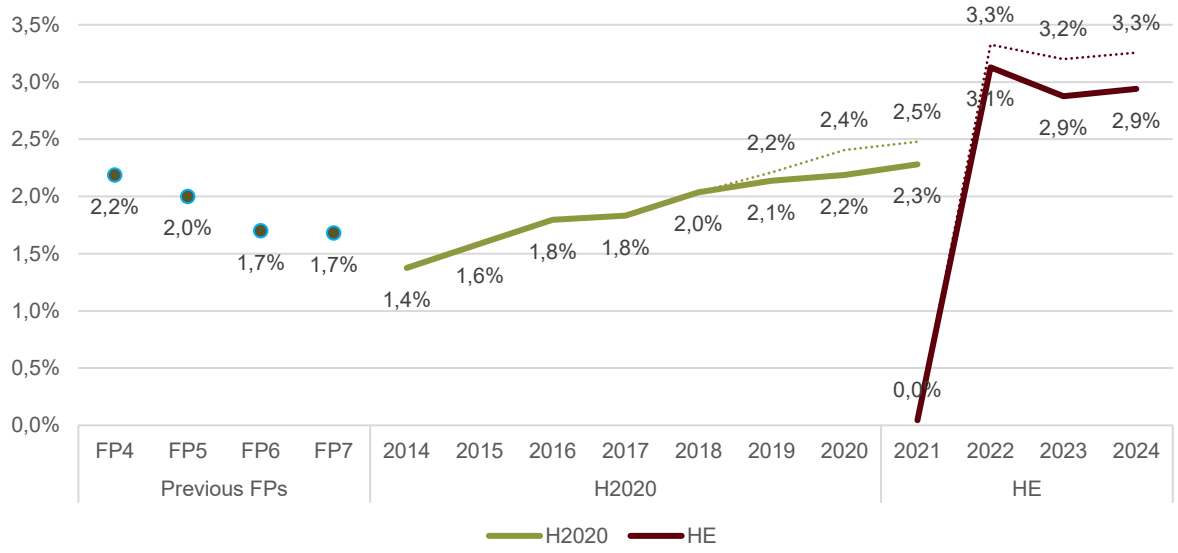
Figure 3.7. Funding to Norwegian participants in FP7, H2020 and HE, excluding CEPI.



Source: eCorda.

Figure 3.8, which shows Norway's financial return since FP4, illustrates that the deteriorating trend in the first FPs that Norway was associated to bottomed out in FP7 and that the financial return has improved continuously since then. Note that in contrast to Figure 3.7, this Figure shows the *accumulated* return for H2020 and HE, respectively. The solid lines for H2020 and HE show the return excluding CEPI funding, which we consider the more relevant metric for reasons mentioned above, whereas the thin, dotted lines include CEPI funding for reference.

Figure 3.8. Norway's long-term, accumulated financial return.

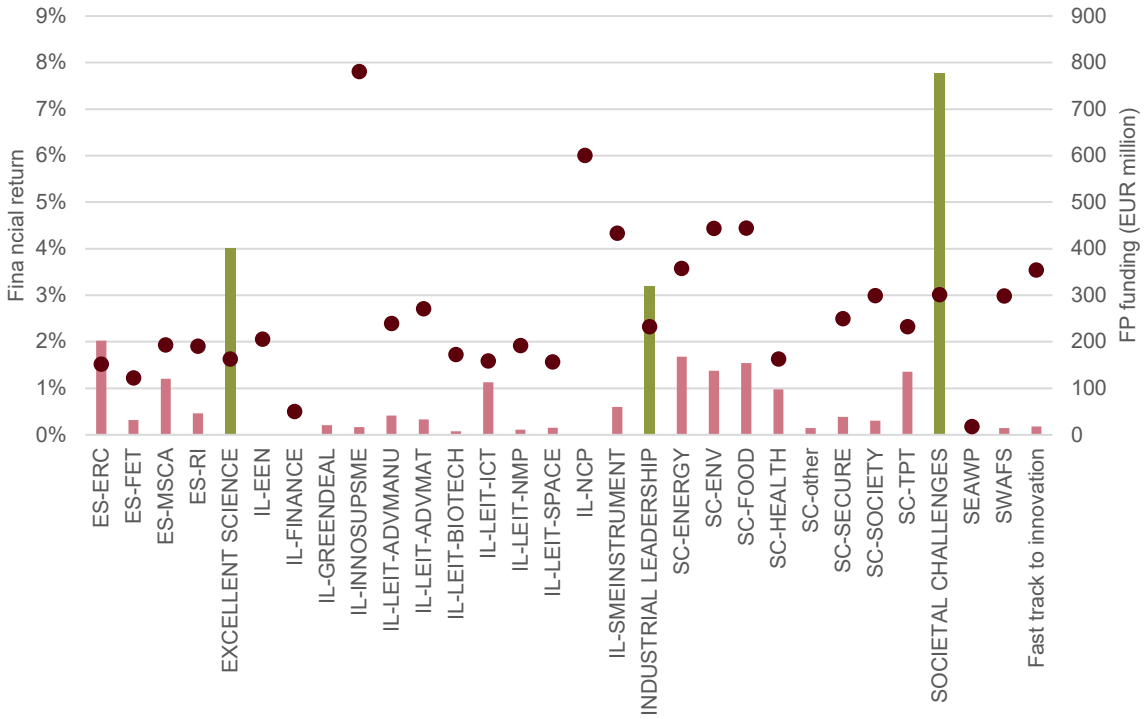


Source: RCN (FP4–FP6), eCorda.

Norway's financial return differed a lot between H2020 pillars and sub-programmes, see Figure 3.9. In absolute terms (bars, right axis), Norwegian organisations received the most funding in the Societal Challenges pillar, followed by Excellent Science and Industrial Leadership (the green bars sum up the pink sub-programme bars to their left). Norwegian organisations were also in relative terms (dots, left

axis) the most successful in Societal Challenges with a return of 3.0 percent, followed by Industrial Leadership with 2.3 percent and Excellent Science with 1.6 percent.

Figure 3.9. Funding to Norwegian participants by H2020 pillars and sub-programmes, excluding CEPI.

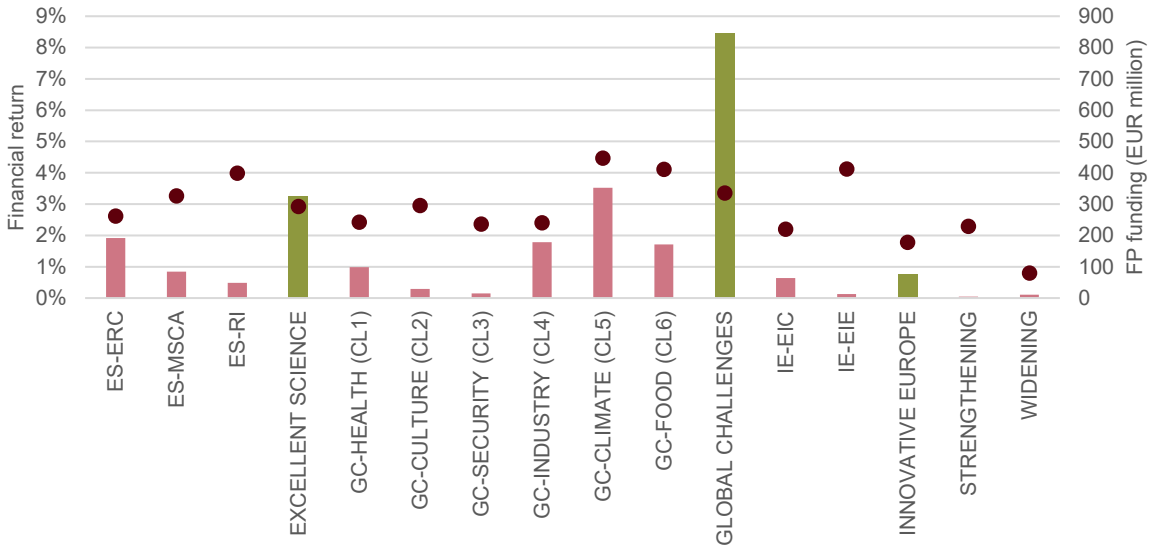


Source: eCorda.

Note: Abbreviations are explained in the end of the report. In the small IL-GREENDEAL sub-programme Norwegian organisations won 37% of total funding, but the dot is not shown due to truncated axis.

Figure 3.10 illustrates that Norwegian organisations so far in HE have received the most funding, in both absolute and relative terms, in the Global Challenges and European Industrial Competitiveness pillar with a return of 3.4 percent, followed by Excellent Science with 2.9 percent and Innovative Europe with 1.8 percent. The funding from the Excellent Science pillar, which largely has the same meaning in both FPs, constitutes a very notable improvement on H2020. Norway does particularly well in the sub-programmes for Research Infrastructure (ES-RI), Climate, Energy and Mobility (GC-CLIMATE), Food, Bioeconomy, Natural Resources, Agriculture and Environment (GC-FOOD), and European Innovation Ecosystems (IE-EIE).

Figure 3.10. Funding to Norwegian participants by HE pillars and sub-programmes, excluding CEPI.



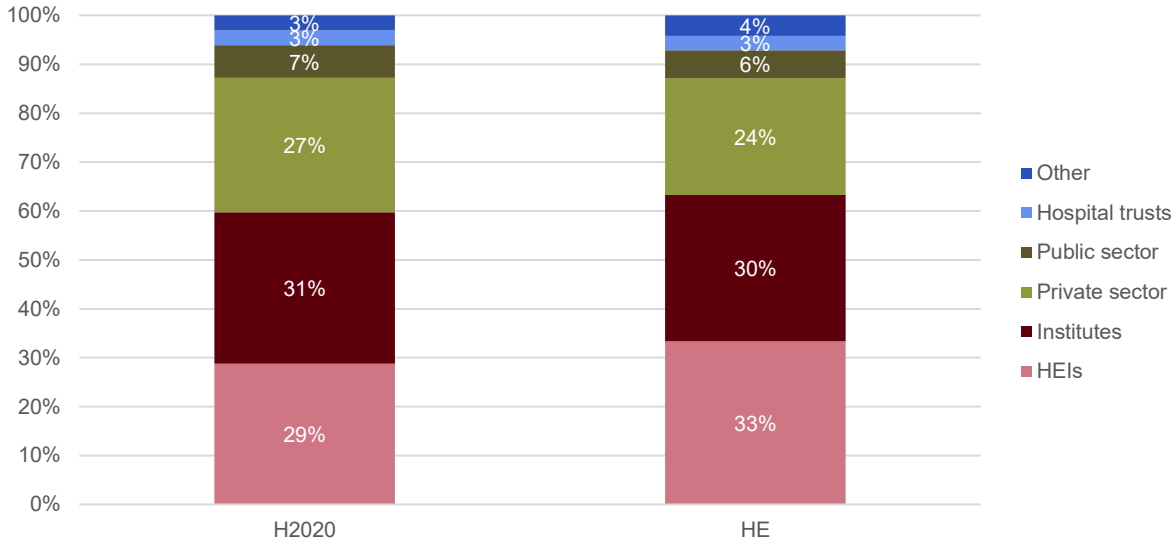
Source: eCorda.

Note: Abbreviations are explained in the end of the report.

3.5 Project participants

Figure 3.11 illustrates that HEIs and institutes dominate in terms of number of participations in both H2020 and HE. HEI participation has increased notably to HE in relative terms, while private-sector participation has decreased by almost as much. Participation by institutes and the public sector has simultaneously decreased marginally.

Figure 3.11. Project participants (Norwegian stakeholder categories).

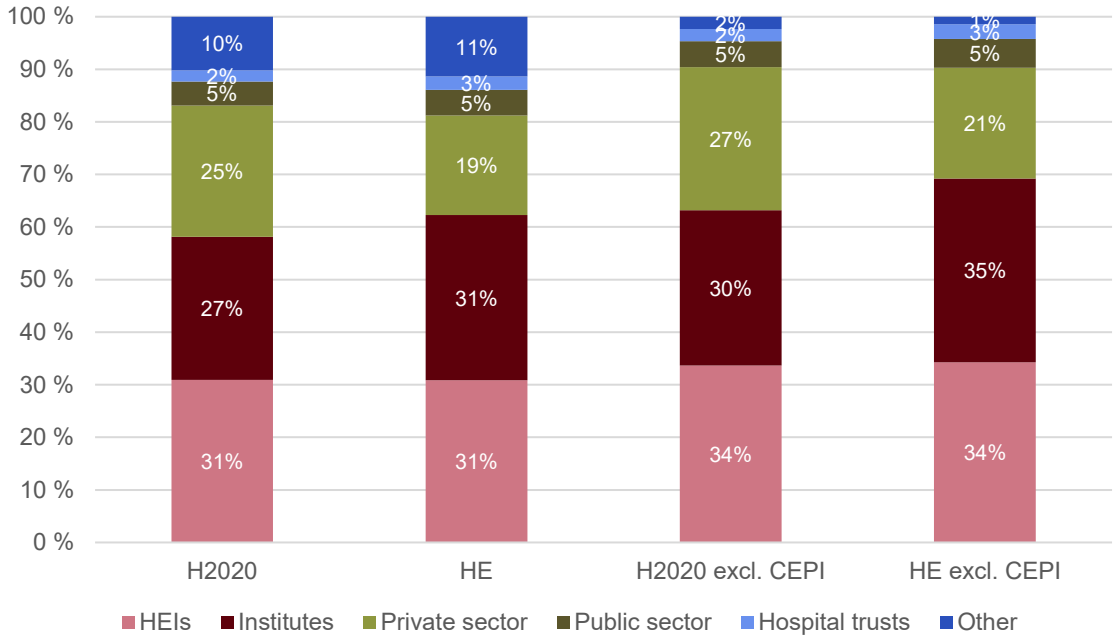


Source: eCorda augmented with Norwegian stakeholder categories.

Figure 3.12 shows funding to project participants by stakeholder category, both including and excluding CEPI. Considering the latter, we see that HEIs and institutes dominate also in terms of

funding received in both H2020 and HE. The share of funding to institutes has increased substantially, whereas funding to private-sector participants has decreased even more in relative terms.

Figure 3.12. Funding to project participants (Norwegian stakeholder categories).



Source: eCorda augmented with Norwegian stakeholder categories.

Table 3.2 summarises average funding per stakeholder category. Overall, funding per participation has increased from H2020 to HE, which is also true for all main stakeholder categories (ignoring the other category). So far in HE, institutes have (on average) received the largest grants, followed by HEIs and hospital trusts, but the differences in funding between stakeholder categories have evened out in HE.

Table 3.2 Average funding per participation, excluding CEPI (EUR million, Norwegian stakeholder categories).

	H2020	HE	Increase
HEIs	0,56	0,59	4%
Institutes	0,48	0,64	35%
Private sector	0,46	0,48	4%
Public sector	0,34	0,47	39%
Hospital trusts	0,43	0,54	24%
Other	0,29	0,19	-37%
All	0,48	0,55	15%

Source: eCorda augmented with Norwegian stakeholder categories. Current prices.

It should be noted that participations and funding to public-sector organisations in Figure 3.11, Figure 3.12, and Table 3.2 include participations of RCN. However, most of the FP funding that RCN receives is subsequently redistributed to other Norwegian organisations in bi- and multilateral calls for proposals within Co-funded European Partnerships (where the funding granted by RCN goes to Norwegian actors), see further Section 4.4.3.

Actors from all parts of Norway participate in H2020 and HE, but participation is dominated by actors in the Oslo region (Oslo and Akershus), Trøndelag and Vestland. Participation from actors in Trøndelag is heavily dominated by institutes and HEIs, whereas participants from Oslo and Akershus, and Vestland are far more diversified.

The geographical distribution of funding remains relatively stable across the two FPs. However, the share allocated to actors in Trøndelag and Viken has increased slightly in HE compared to H2020, while funding to actors in Oslo and Østfold has decreased somewhat. This is in large part due to H2020 funding to Østfold being strongly dominated by a large Flagship project coordinated by Borregaard (2016–2022)[20].

The Norwegian University of Science and Technology (NTNU), the University of Oslo (UiO) and the SINTEF Group account for the highest number of participations. Organisations are counted according to their organisational registration numbers, with SINTEF's participations being spread over several affiliated institutes. Together, the SINTEF Group, NTNU and UiO account for around 30 percent of all Norwegian participations in HE.

Private-sector participation is far more diversified. While companies such as DNV, Equinor Energy and Telenor participate in several FP projects, most companies only participate only in one project within the same programme.

Table 3.3 Private sector participation in the FPs. By the number of participations.

Share of private sector participants with	H2020	HE (2024)	2019-2024
1 participation	74%	82%	76%
2-4 participations	23%	16%	20%
More than 5 participations	4%	3%	4%
All	100%	100%	100%
Number of companies (unique org. numbers)	559	395	593

Source: eCorda.

Most FP participants have received funding from national funding agencies during the same period see Table 3.4. Among private-sector participants in H2020 or HE during the period 2019–2024, 54 percent received funding from the Research Council of Norway (RCN), while 57 percent received support through Skattefunn. 22 percent received funding from Innovation Norway (IN). 74 percent of FP-participating companies have received funding from at least one national R&I agency covered in the analysis during the same period. 21 percent of private-sector participants in Horizon Europe had also participated in H2020 during the period 2019–2024.

The shares should be interpreted with caution, as they are sensitive to the period covered. For example, the share of HE participants that previously participated in H2020 would be higher (26 %) if the full H2020 programme period were considered. Likewise, the shares of organisations that have received support from national funding instruments may increase if a longer observation period is applied. We are unable to determine whether participation in the FPs and national funding instruments

[20] Flagship demonstration of an integrated plant towards large scale supply and market assessment of MFC | EXILVA | Project | Fact Sheet | H2020 | CORDIS | European Commission

relates to the same R&I activities. Nonetheless, the results indicate that many organisations combine participation in the FPs with support from national funding instruments.

Table 3.4 Private sector participation in the FPs and funding from other national funding agencies. 2019-2024.

Main instrument	H2020	HE	FPs
Supporting funding agency			
H2020	100 %	21 %	47 %
HE	30 %	100 %	67 %
RCN	62 %	55 %	54 %
IN	27 %	21 %	22 %
Skattefunn	62 %	57 %	57 %
Any national	83 %	73 %	74 %

Source: eCorda. RCN and The Norwegian Industrial Policy Instruments Database.

Private-sector participation is concentrated to industries like manufacturing, ICT, and professional, scientific and technical activities, which together account for well over half of all private-sector participations (55–60%)

In terms of company size, companies of all sizes participate in the FP. FP participation is however somewhat skewed towards medium-sized and larger companies compared to national instruments, which may reflect the scale, complexity and resource requirements of FP projects. By contrast, national instruments engage a substantially broader base of companies, including ones from other industry sectors and regions. Twenty-five percent of FP participants have not received funding from national agencies during the same period. These companies are dispersed across sectors and company sizes; however, those without national funding are typically smaller companies.

Public-sector participants include cities and municipalities (incl. Oslo, Bergen, and Stavanger), as well as government agencies and directorates, and public companies (such as Statnett and SIGMA2).

3.6 Participants' motives for participation

In this Section, we begin to consider the nature of Norwegian FP projects based on results of web surveys of project participants, as well as on interviews with managements of key FP participants. We compare the responses of participants in FP project with those of project leaders of RCN projects to explore how FP projects differ from RCN projects. Further details on the surveys are provided in Appendix C.

3.6.1 Private sector

We first consider private-sector participants' collaboration-related motives for participating in R&I proposals and thus in R&I projects, see Figure 3.13. The bars show the share of respondents that clearly agreed that establishing or strengthening R&I collaboration with organisations of these stakeholder categories was an important motive for participation.[21] Private-sector participants in both

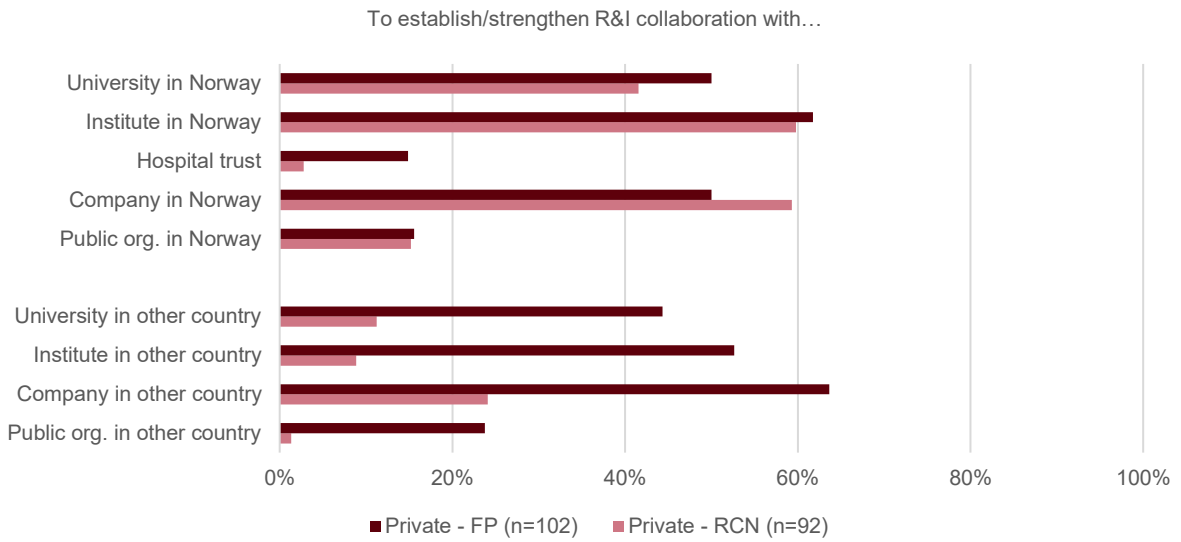
[21] Respondents were asked to rate motive statements on a five-tiered Likert-type scale: To a very large extent/To a large extent/To some extent/To a small extent/Not at all. The results shown are the shares of respondents that chose the two "top"

FP and RCN projects were mainly motivated by the opportunity to collaborate with Norwegian institutes, companies and universities, but FP participants were also driven by the opportunity to collaborate with the same categories of foreign organisations. A couple of private-sector respondents explain why this may be so important:

"EU projects are for us most important to improve collaboration with companies along the value chain."

"We wanted to work with possible future business partners and create a supply chain and pilot production partners. Pilot production was completely out of reach in Norway."

Figure 3.13. Private-sector participants' collaboration-related motives for participation.



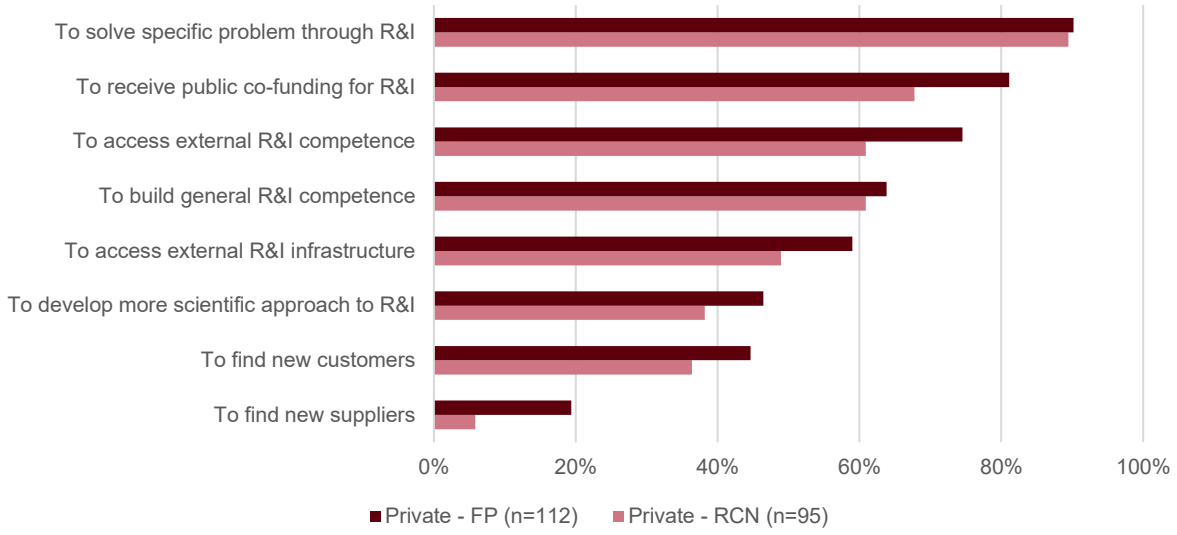
Source: Technopolis web surveys.

Compared to the responses to the 2020 survey, private-sector respondents now rate collaboration with Norwegian companies, institutes, and HEIs as much more important motives (+38%, +35%, and +22%, respectively). The differences were less than ±20 percentage points for all other alternatives in Figure 3.13 (which we hereby mention for the last time).

In Figure 3.14, we consider motives other than collaboration-related ones. The Figure shows that more than three in four private-sector FP participants were lured by opportunities to solve a specific problem, receive public co-funding and access external R&I competence. It is noteworthy that private-sector FP participants were slightly more motivated than RCN participants in all respects shown in the Figure. Since the 2020 evaluation, accessing external competence, solving a specific problem, and accessing external infrastructure have become more important motives for participating in FP projects (+26%, +25%, and +22%, respectively).

alternatives, i.e. To a very large extent + To a large extent. In this and later figures showing survey results, alternatives are abbreviated to enhance readability; the full formulations that respondents considered are provided in Appendix C.

Figure 3.14. Private-sector participants' additional motives for participation.

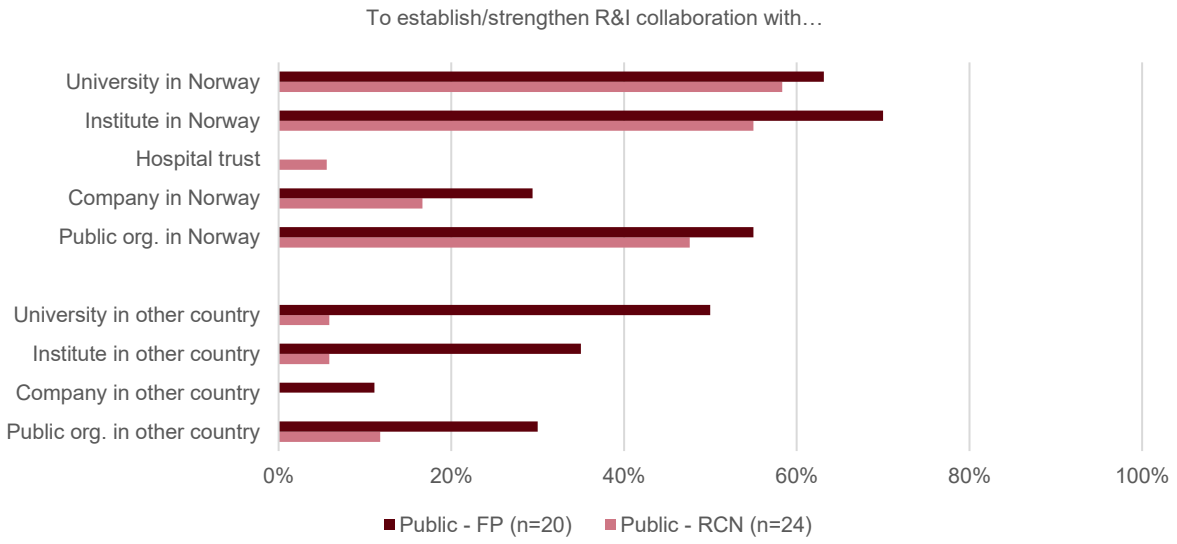


Source: Technopolis web surveys.

3.6.2 Public sector

Figure 3.15 shows that the trends are essentially the same for public-sector participants, but they were keener on participating with other public-sector organisations and less keen on participating with companies than private-sector participants. It should be noted that the number of respondents from the public sector is considerably lower than for the other stakeholder categories (numbers are shown in figure legends); this applies to all survey results for project participants.

Figure 3.15. Public-sector participants' collaboration-related motives for participation.

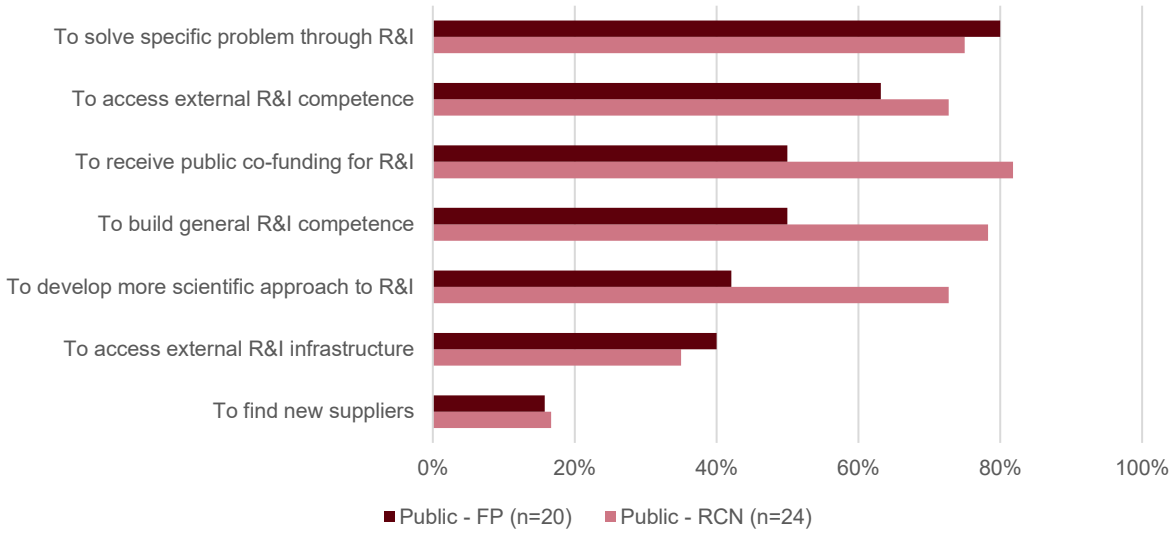


Source: Technopolis web surveys.

Whereas Figure 3.14 showed that private-sector FP participants seemed more motivated in all respects than RCN participants, Figure 3.16 demonstrates that public-sector FP participants in several respects were considerably less motivated than RCN participants. They were the most notably less

motivated when it came to receiving public co-funding, developing own competence and developing a more scientific approach to R&I. In these respects, RCN project participation appeared to be a more attractive proposition.

Figure 3.16. Public-sector participants' additional motives for participation.

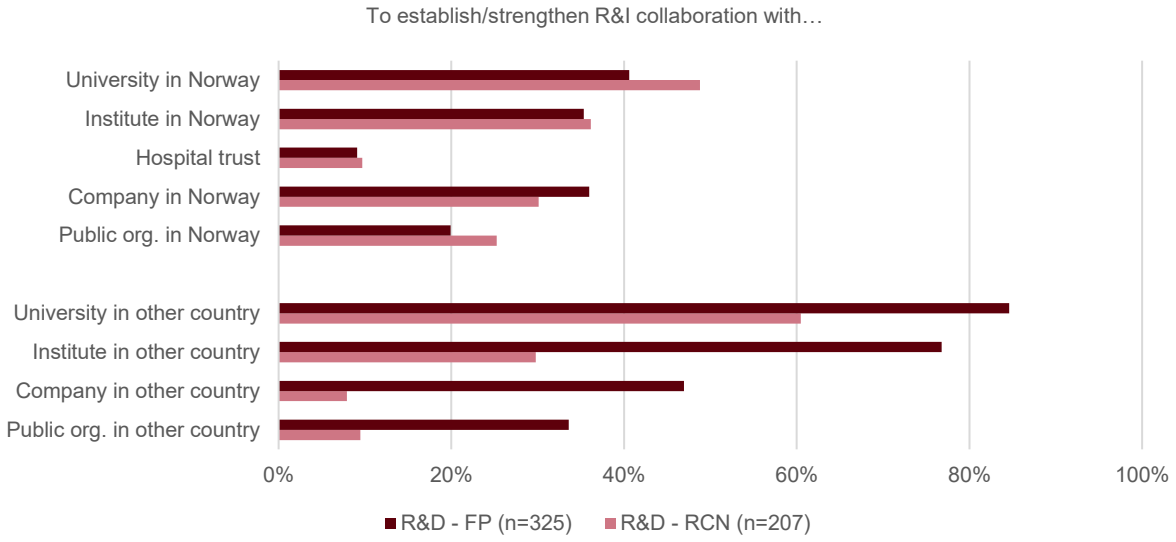


Source: Technopolis web surveys.

3.6.3 R&D sector participants

R&D-sector participants in both FP and RCN projects were the least motivated by national collaboration and in contrast the most keen on international collaboration, particularly participants in FP projects, see Figure 3.17. Compared to the 2020 survey, respondents from the R&D sector now nevertheless rate collaboration with Norwegian HEIs and institutes as more important motives (+28% and +22%, respectively).

Figure 3.17. R&D-sector participants' collaboration-related motives for participation.



Source: Technopolis web surveys.

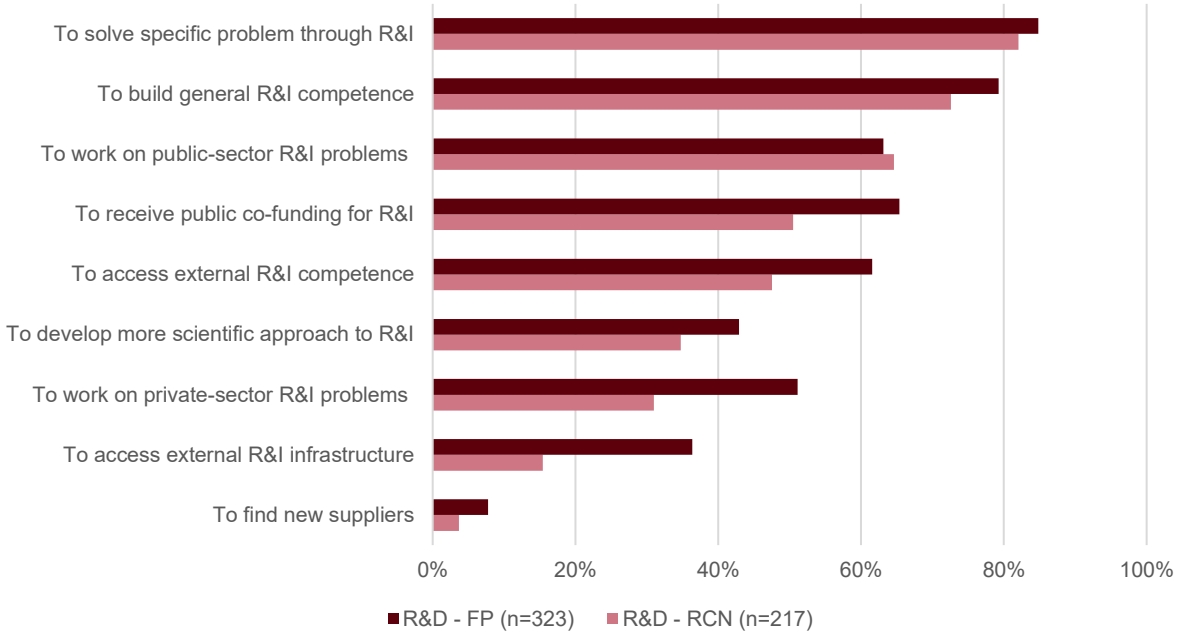
In the context of collaboration, it should be noted that a considerable share of R&D-sector participants, particularly HEIs, participate in projects in the Excellent Science pillar, where most European Research Council (ERC) and many Marie Skłodowska-Curie Action (MSCA) projects are single-partner projects, meaning that participants have no partners (at least no formal ones, as far as the Commission is concerned).

In free-text responses, several HEI representatives nonetheless highlight the importance of collaborating with internationally leading institutions, thus integrating Norwegian researchers into important interdisciplinary networks and ensuring that Norwegian researchers adhere to international standards of research. Interviewees from HEIs and institutes also emphasise that it is critically important for Norwegian researchers to be part of international networks and stay abreast of the research frontier to remain competitive. In a free-text response an institute representative observes that “Norway is a small country that partly lacks critical mass for research”, which is a sentiment voiced also in interviews with institute representatives.

Interviewees from HEIs and institutes explain that FP participation is strongly supported by management and that there has been a notable cultural change among researchers so that FP participation is now expected and considered prestigious, both for the individual and the organisation. Interviewees mention that management sends a clear message that external income (not only from EU) should increase, in part since national R&I funding is said to be shrinking.

Just like private-sector FP participants, R&D-sector FP participants were somewhat more motivated than RCN participants in all respects shown in the Figure but one, see Figure 3.18. Comparing the three Figures on additional impacts, we find that FP participants of all three stakeholder categories tended to be motivated by the same factors, although in somewhat different order: they all placed solving a specific problem on top, closely followed by receiving public funding, accessing external competence and developing own competence. The same may be said for RCN participants, but the level of motivation appears to be weaker (except for public-sector participants).

Figure 3.18. R&D-sector participants’ additional motives for participation.



Source: Technopolis web surveys.

In interviews, HEI and institute representatives highlight the opportunity to build general knowledge, not least in emerging fields, which the FPs tend to address earlier than RCN, and to access others' knowledge and infrastructure. An institute representative argues for the need to build competence that is not requested today but will be required tomorrow.

Several respondents from both HEIs and institutes use the survey free-text opportunity to elaborate on FP projects as enablers for addressing societal challenges, and to do so with enough resources to really make a difference. The same argument is put forth by several institute interviewees. Both interviewees and survey respondents also underscore human capital-related motives. An institute survey respondent gives an example:

"The FPs are a crucial funding source for ambitious projects and helping young and mid-career scientists to establish career-long research programmes and international recognition. Extremely good value for money."

Several institute representatives elaborate on motives related to private-sector needs:

"FP projects provide an exceptional opportunity for collaboration with European industry, research institutes and industry that brings value to all participants, including Norwegian industries and researchers."

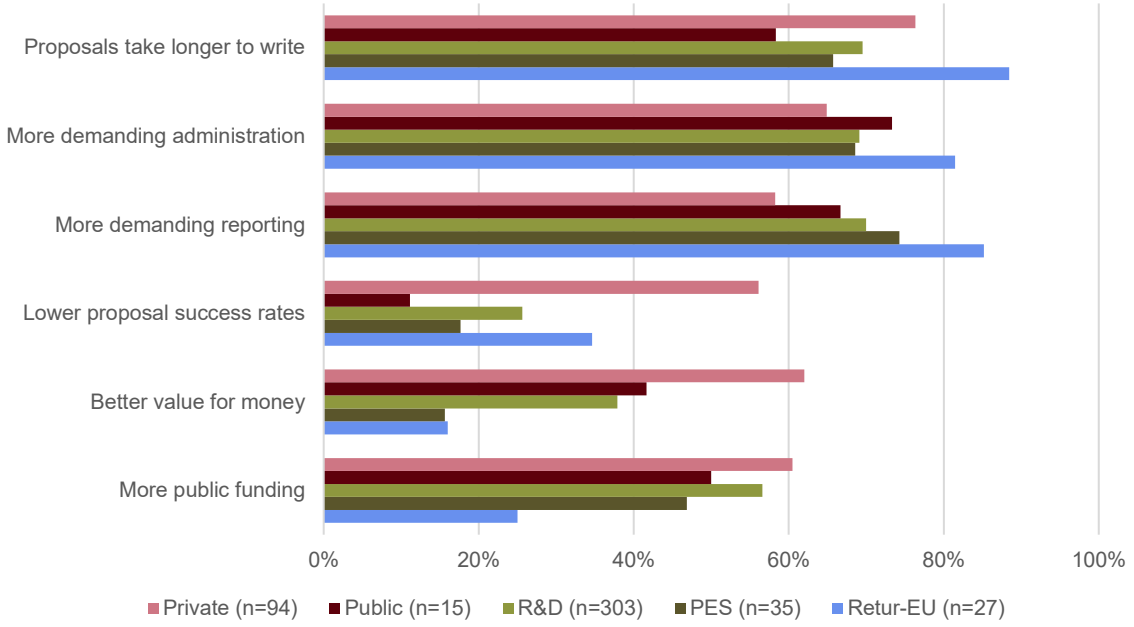
"EU projects allow for more efficient industry collaboration, higher societal relevance, and increased chance of industrial uptake and impact."

"FP projects contribute to better understanding of required technology developments to make Europe more competitive in relation to nations being more protective in sharing competence (e.g. China)."

3.7 Deterrents to participation

Although Norway's FP participation is massive, there are deterrents to even more extensive participation. We also used the web surveys to explore reasons – or motives – not to participate in the FPs. Figure 3.19 shows a comparison of administrative aspects of FP and Norwegian proposals and projects as assessed by survey respondents that have experience of FP projects (and proposals) – as well as of RCN projects (and proposals). The Figure also includes assessments of administrators of Project Establishment Support (*Prosjektetableringsstøtte*, PES) block grants ("PES") and institute managing directors responsible for Retur-EU base funding ("Retur-EU"), who probably – for the most part – are more likely to have only indirect experience of FP projects. Respondents in all five categories agree that FP proposals take longer to write and that projects are associated with more demanding administration and reporting.

Figure 3.19. Comparison of administrative aspects of FP and Norwegian proposals and projects.



Source: Technopolis web surveys.

We suspect the wide variation in respondents' perceptions of success rates (above) is at least partly driven by different categories of respondent applying to different FP sub-programmes. The responses are nevertheless with the *de facto* situation that institute coordinators have the highest success rates (so far in HE), followed by HEIs, others (not represented in Figure 3.19), companies and public organisations (we will back this statement up with registry analyses presented in Chapter 5). Moreover, although direct comparison is difficult, previous studies as well as interviews for this evaluation indicate that FP proposal success rates are sometimes higher than those in RCN calls, which is something that several representatives of both HEIs and institutes mention in free-text responses.

Private-sector project participants are by far the most content with FP projects in terms of value for money, while PES block grant administrators and institute directors are the least content; interestingly, R&D-sector project participants, who mostly are from HEIs and institutes, disagree and rate value for money much higher. It is unsurprising that institute directors are the least likely to agree that FP projects yield more public funding than RCN projects where institutes get full cost coverage (we get back to this in Chapter 7). The remaining respondent categories largely agree that they get more public funding in FP projects, which is further emphasised in several free-text responses by company representatives.

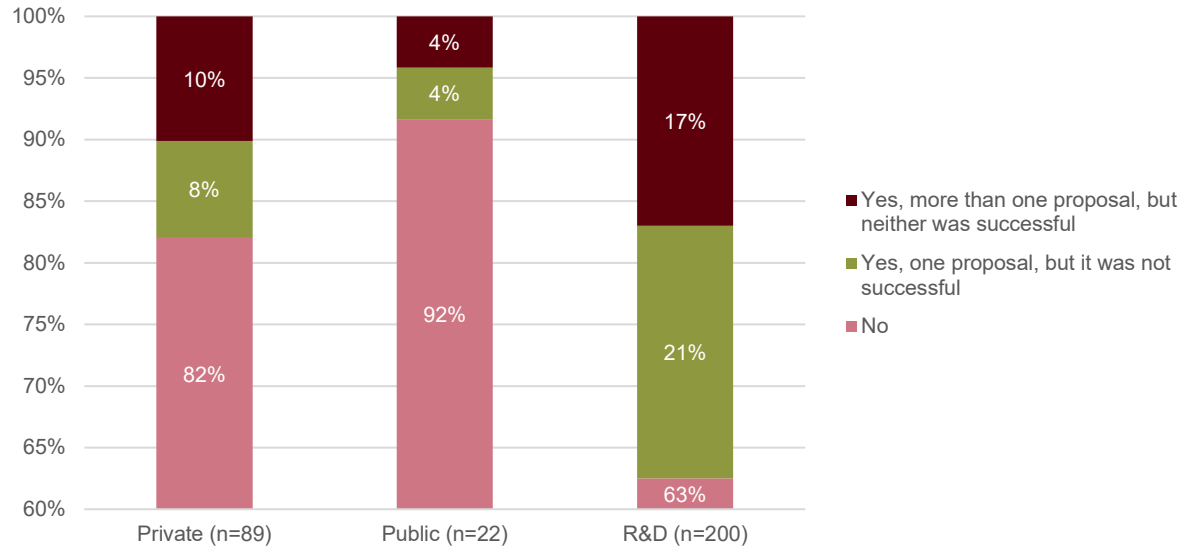
A couple of institutesrepresentatives's reason at length about drawbacks, but conclude that FP participation still is worth the effort. In the words of one of them:

"Perhaps the main disadvantage is all the work that goes into a proposal and the sometimes very low probability of winning a project. But there are so many advantages if you succeed in terms of reputation and international network with industry and researchers, which brings back so much value to Norwegian participants from both industry and research sectors."

Several HEI representatives explain that the ERC has a more rigorous, transparent and trustworthy evaluation process that RCN's FRIPRO instrument and that the outcome is more predictable. Moreover, ERC grants are said to be considerably larger.

Through our surveys of participants in RCN projects (i.e. the ones that answered that they had not participated in an FP project), we learned that almost half of RCN-project participants had not participated in FP projects (cf. Table C.0.2). We took the opportunity to ask why they had not done so, but before we look at their responses it is important to understand whether respondents actually have participated in FP proposals (but not in FP projects). Figure 3.20 (note that the scale is truncated) shows that clear majorities of these respondents do not have personal experience of participating in FP proposals, meaning that their views are likely to be based on hearsay.

Figure 3.20. FP proposal experience of respondents without experience of participating in FP projects.

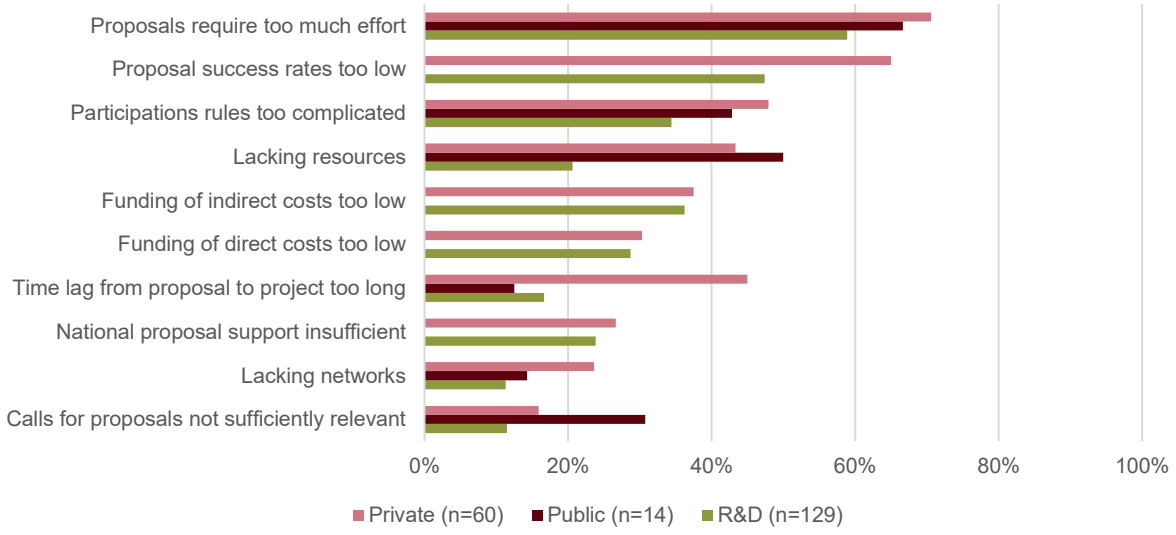


Source: Technopolis web surveys.

With this observation in mind, we note from Figure 3.21 that respondents' most common reason for not participating in FP proposals is that they require too much effort.[22] This response is related to the third-ranked one, that FP participation rules are too complicated. What is "too much" and "too complicated" is of course in the eye of the beholder, but respondents are right in believing that FP proposals generally require more effort and similarly that FP participation rules are generally more complicated than the RCN equivalents. As we noted above, FP proposal success rates are sometimes higher than with RCN, so although this assessment in some cases may be correct it is nevertheless likely to represent a significant exaggeration. It seems reasonable to assume that respondents' view that they lack the resources and networks to participate are well-founded, but it can be argued that the remaining assessments may be less well founded, given the lack of experiences among clear majorities of respondents (cf. Figure 3.20). In summary, Figure 3.21 suggests that a significant proportion of RCN-project participants stay away from the FPs based on misconceptions.

[22] Where bars are missing, no respondent selected To a very large extent or To a large extent.

Figure 3.21. Reasons for not participating in FP and Norwegian proposals among non-participants.



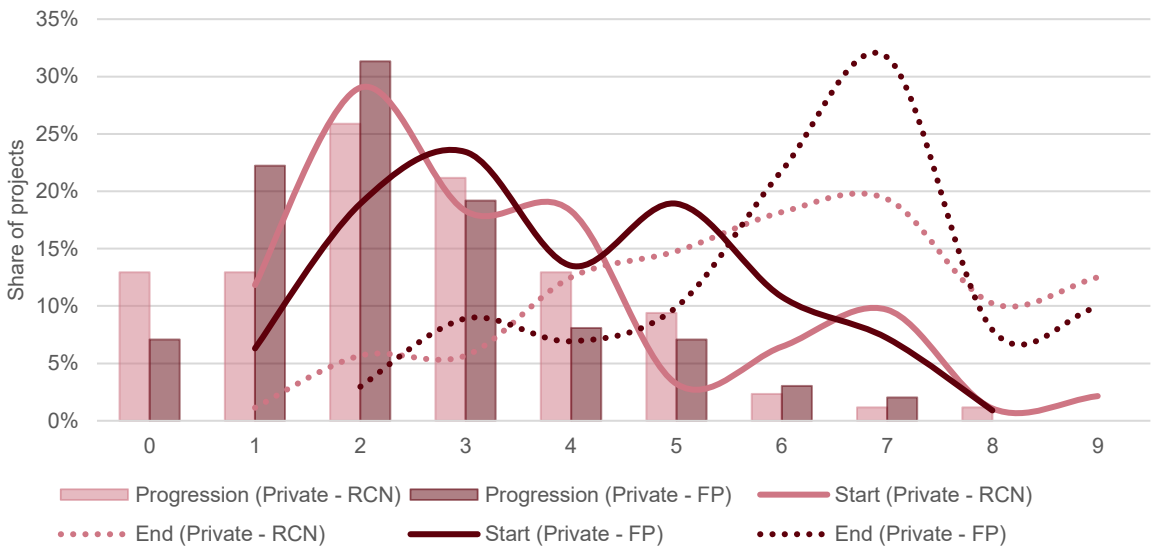
Source: Technopolis web surveys.

3.8 Technology Readiness

The Technology Readiness Level (TRL) concept is a means to characterise the technical maturity of a technology or a project on a scale from observation of basic scientific principles (TRL1) to implementation in commercial or public operations (TRL9).

Survey respondents were asked to assess the TRL at the start and end of their projects. Figure 3.22 presents private-sector participants' assessments of TRL at project start (solid lines) and end (dotted lines), as well as the TRL-progression from start to end (columns). This confusing Figure indicates that FP projects on average both start and end at somewhat higher TRLs than RCN projects, while the average TRL-progression is slightly lower.

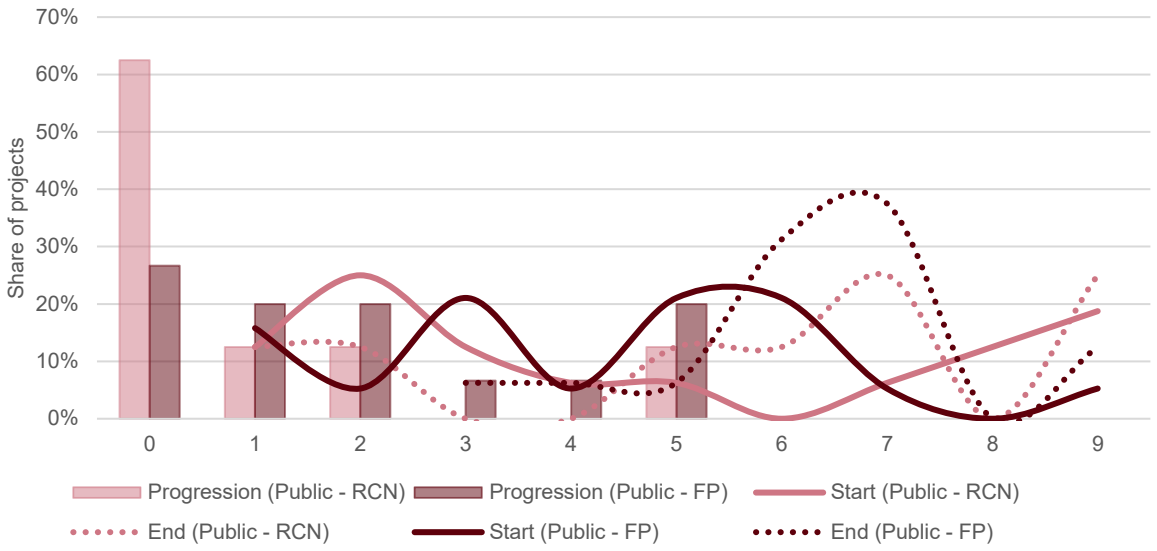
Figure 3.22. TRL at start and end of project according to private-sector participants (n_{FP}=111, n_{RCN}=93).



Source: Technopolis web surveys.

Figure 3.23 presents the public-sector participants' estimates. Since this Figure is based on very few responses – particularly for RCN projects where TRL assessments seem to have been very difficult to make – the only interpretation that seems prudent is that public-sector FP participants largely seem to agree with private-sector FP participants. However, it is important to realise that the projects that the two stakeholder categories have assessed are (probably) not the same ones.

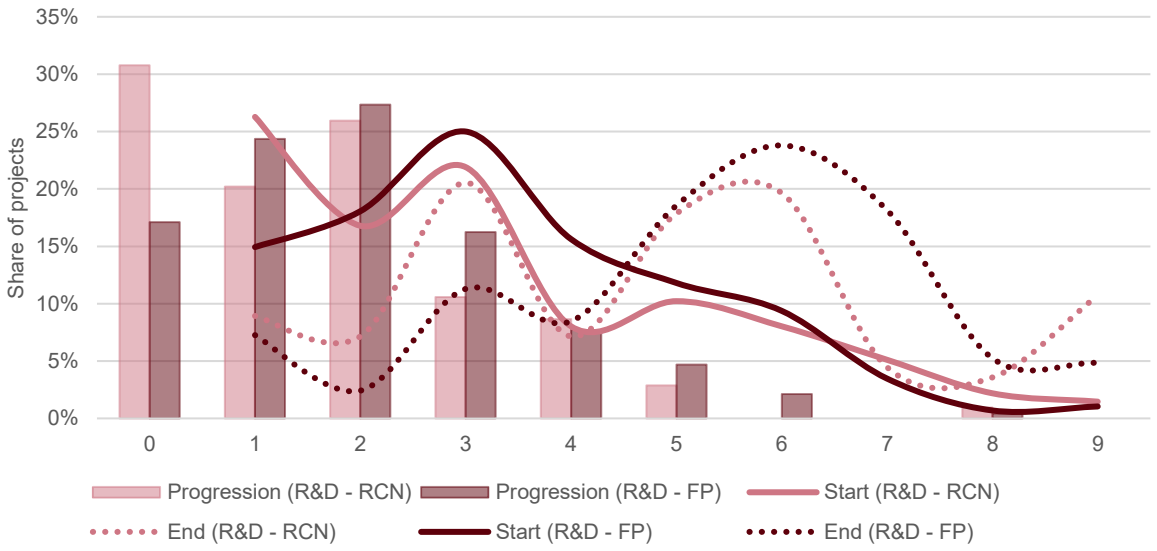
Figure 3.23. TRL at start and end of project according to public-sector participants (n_{FP}=19, n_{RCN}=16).



Source: Technopolis web surveys.

Figure 3.24 indicates that R&D-sector participants' projects operate at notably lower TRLs than private-sector participants' projects. This is true for both project start and end, as well as for TRL-progression, and it is true both for FP and RCN projects, which seems reasonable considering that many respondents, particularly from HEIs, probably had fundamental research projects in mind when responding to the survey (e.g. ERC and MSCA projects among FP participants and FRIPRO projects among RCN participants).

Figure 3.24. TRL at start and end of project according to R&D-sector participants (n_{FP}=288, n_{RCN}=137).



Source: Technopolis web surveys.

Table 3.5 summarises the average results of Figure 3.22–Figure 3.24 and also shows average project durations. FP projects are (on average) significantly longer than RCN projects and it would therefore seem logical that the TRL progression should be greater in FP projects. However, this seems not to be the case for private-sector participants, which if counterintuitive. That FP projects tend to operate at higher TRLs is also mentioned in free-text responses by respondents from both the private and R&D sectors. The TRL progressions in FP projects in the Table are marginally higher than the ones in the 2020 evaluation (2.5 for Private - FP, 2.1 for R&D - FP).

Table 3.5: Average TRL at project start and end, TRL-progression and project duration.

	Average TRL at start	Average TRL at end	Average TRL progression	Average duration (years)
Private - FP	3.9	6.1	2.4	3.5
Private - RCN	3.5	5.9	2.6	1.7
Public - FP	4.3	6.4	2.1	4.1
Public - RCN	–	–	–	3.1
R&D - FP	3.4	5.3	2.0	3.7
R&D - RCN	3.2	4.8	1.6	2.9

Source: Technopolis web surveys, eCorda and RCN.
Note: Insufficient TRL data for Public - RCN participants.

3.9 Input additionality

Additionality is the property of an activity being additional, i.e. to have an impact beside a redistribution of funds. One way to identify input additionality is to ask beneficiaries of funding, i.e. project participants. The challenge with this approach is that respondents may answer tactically, meaning that respondents who want an instrument to be maintained may be inclined to exaggerate its effects. Despite this, it is of interest to try to get a picture of respondents' own assessments. In the web surveys, respondents were asked what would have happened if their project had not been funded through H2020 or HE. In theory, projects that would have been conducted the same way without FP funding may be considered to have no additionality. Projects that nonetheless would have been conducted but with lower ambition level may be considered as having intermediate additionality. Projects that would not have been conducted at all without FP funding may be considered to have high additionality.

Figure 3.25 shows that two out of three private-sector respondents and nearly nine of ten respondents from the public and R&D sectors judge that their project would not have been implemented at all had their FP proposal not been awarded funding (note that the scale is truncated). This consequently suggests that FP projects tend to be associated with high input additionality. A private-sector respondent provides an example of obvious additionality:

“It's the type of project we need in the long-term, but wouldn't have had time, resources and funding to prioritise, unless it comes as a publicly funded research project. It has given important contributions to my company's innovation capabilities.”

An R&D-sector respondent from an institute explains:

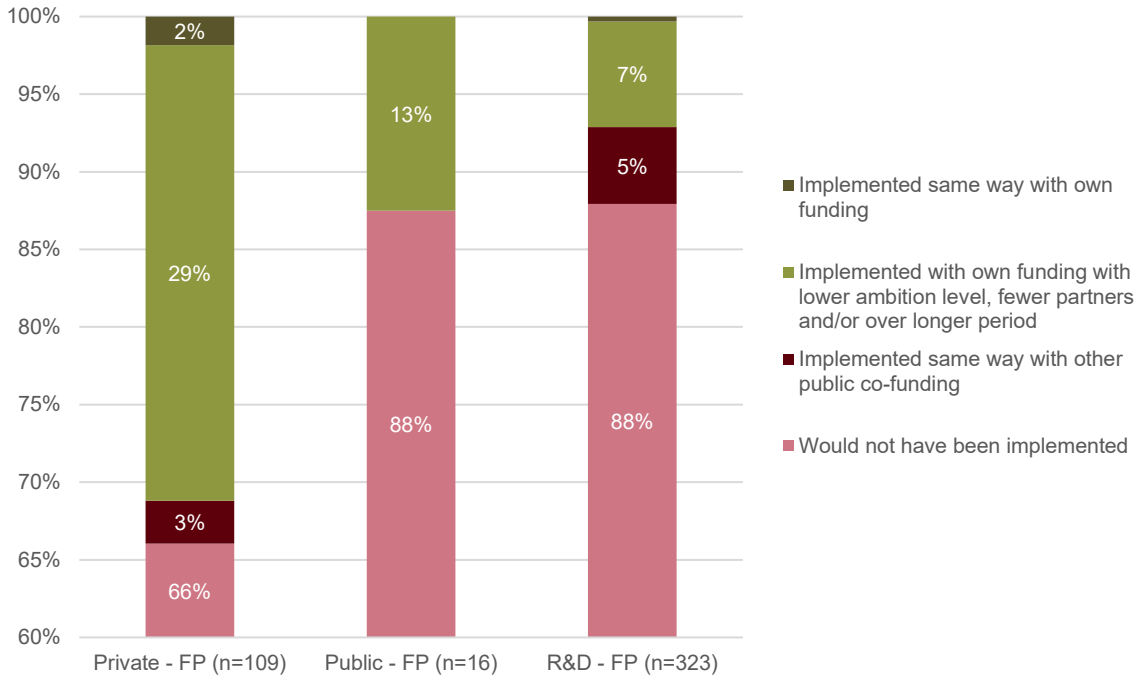
“This kind of collaborative project is not possible without co-funding from the FP.”

The private- and R&D-sector respondents that judge that the project would have been implemented the same way but with other public co-funding mostly mention RCN, but some also refer to the European Space Agency (ESA). Nearly a third of private-sector respondents believe that the project

would have been implemented with own funding, but in almost all cases with lower ambition level, fewer partners and/or over a longer period, which consequently suggest intermediate additionality. Considerably lower shares of respondents from the public and R&D sectors share this assessment. A private-sector respondent elaborates on the opportunity the FP funding provided:

"The project made it possible to fast-track development. It may have otherwise not been started for another 2–3 years."

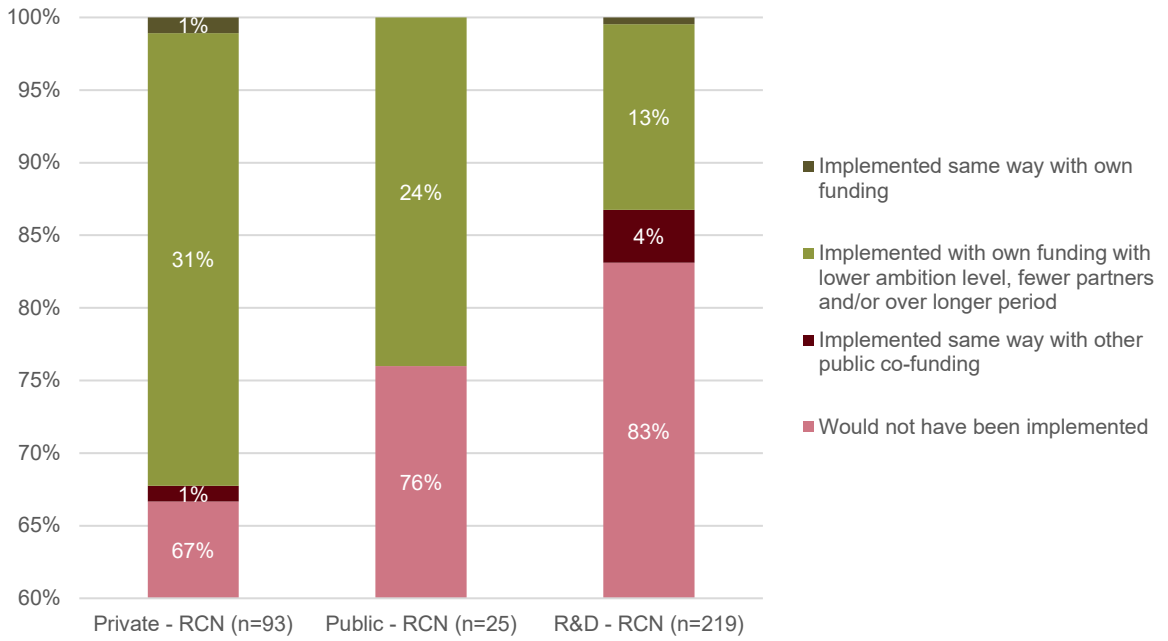
Figure 3.25. What would have happened if the project had not been co-funded through the FP?



Source: Technopolis web surveys.
Note: The "Would not have been implemented" part of the bars have been truncated.

Figure 3.26 shows the equivalent responses from participants in RCN projects. The responses from private-sector respondents are almost identical to those in Figure 3.25, thus indicating equal additionality, whereas the additionality seems to be lower for RCN projects according to public- and R&D-sector respondents. This seems reasonable since FP projects tend to be larger and typically involve more partners. Such projects are therefore more demanding to initiate and implement, which increases the likelihood that they would not have been carried out without FP funding.

Figure 3.26. What would have happened if the project had not been co-funded by RCN?



Source: Technopolis web surveys.
Note: The "Would not have been implemented" part of the bars have been truncated.

3.10 Summary

In this Chapter, we have shown that Norway's participation in terms of FP proposals and projects (as well as applications and participations) has developed exceptionally well since FP7. To sum up this remarkable trajectory, we may conclude that Norway comfortably exceeded the Government's 2.0 percent ambition for financial return in H2020 (Ministry of Education and Research, 2014) and looks set to exceed also its even more ambitious ambition of 2.8 percent for HE (Ministry of Education and Research, 2021) (cf. Figure 3.8: 2.9% without CEPI by the end of 2024, 3.3% with CEPI). Organisations from all parts of the country participate in the FPs, but participation is dominated by organisations in the Oslo region, Trøndelag, and Vestland.

HEIs and institutes dominate in terms of number of FP participations (around a third of participations each), followed by companies (around a quarter), while public-sector organisations and hospital trusts participate at significantly lower levels (cf. Figure 3.11). HEIs and institutes also dominate in terms of FP funding received (around a third of funding each), followed by companies (around a fifth), and with public-sector organisations and hospital trusts at significantly lower levels. Average funding per participation has increased from H2020 to HE, mainly due to large increases for participants from the public sector, institutes and hospital trusts, while participants from HEIs and the private sector have seen smaller increases (cf. Table 3.2).

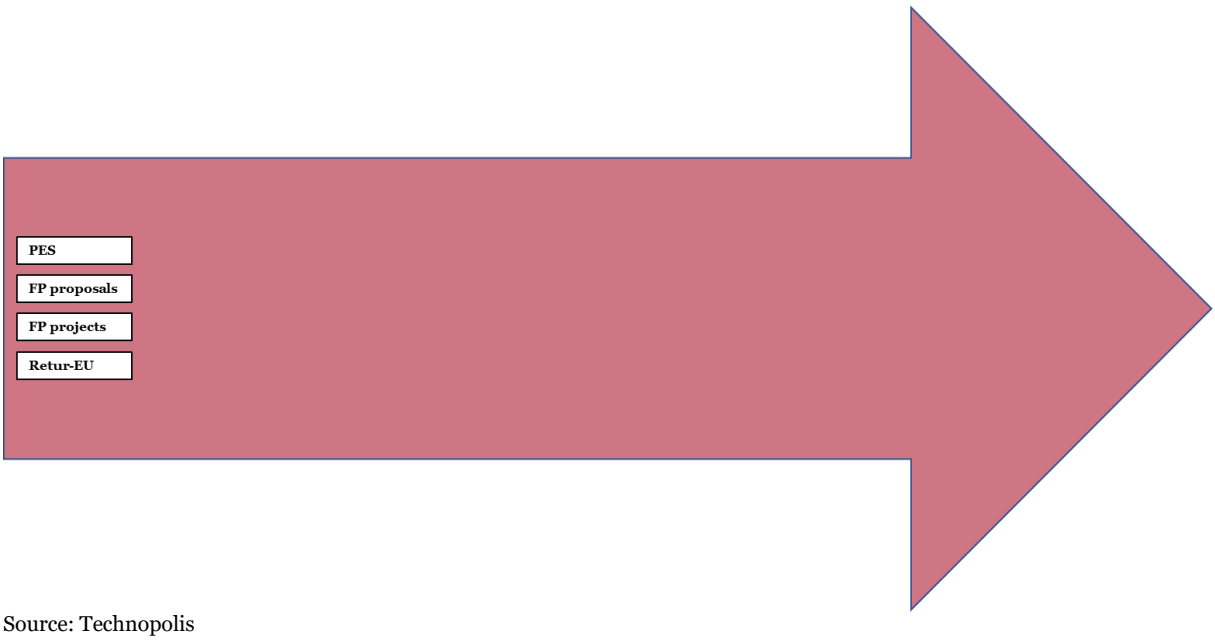
Regardless of whether they have participated in FP and RCN projects, representatives of all stakeholder categories were motivated by establishing or strengthening R&I collaboration with other Norwegian organisations. However, FP project participants were considerably more motivated by the opportunity to collaborate with foreign organisations (cf. Figure 3.13, Figure 3.15, and Figure 3.17). FP participants of all stakeholder categories tended to be motivated by the same additional factors, with solving a specific problem on top, followed by receiving public funding, accessing external competence, and developing own competence (cf. Figure 3.14, Figure 3.16, and Figure 3.18); the same largely applied to RCN participants. Participants from both the private and R&D sectors assess

that FP projects on average both start and end at somewhat higher TRLs than RCN projects (cf. Table 3.5).

Private-sector participants in FP and RCN projects view it as equally likely that that their project would not have been implemented without public funding, but nearly a third believe that the project would have been implemented anyway with own funding. In contrast, participants from the public and R&D sectors believe that FP projects would not have been implemented without public funding to a greater degree than RCN projects, and in both cases to a considerably greater extent than private-sector participants (cf. Figure 3.25 and Figure 3.26).

Having summarised the findings of this Chapter, we may now start sketching an impact logic for Norway's participation in H2020 and HE, see Figure 3.27. We also include the PES and Retur-EU measures that we get back to in Chapters 6 and 7, respectively.

Figure 3.27. First step of impact logic.



Source: Technopolis

4 Results

This Chapter investigates the results that the activities outlined in the previous Chapter have generated. We conclude that participation in projects has contributed to extensive international collaboration, as well as many highly cited scientific articles that disseminate project results through scientific and grey literatures. Participation in European Partnership and research infrastructure projects is extensive, and participation in programme governance facilitates R&I policy coordination.

This Chapter presents results from web surveys of participants in FP and RCN projects, registry analyses of eCorda data, bibliometric analyses, as well as interviews with management of key FP participants, funding agencies, and R&I policymakers. Since R&I projects by definition produce knowledge, this is taken for granted and therefore is not a subject of any web survey question.

4.1 Results for private sector

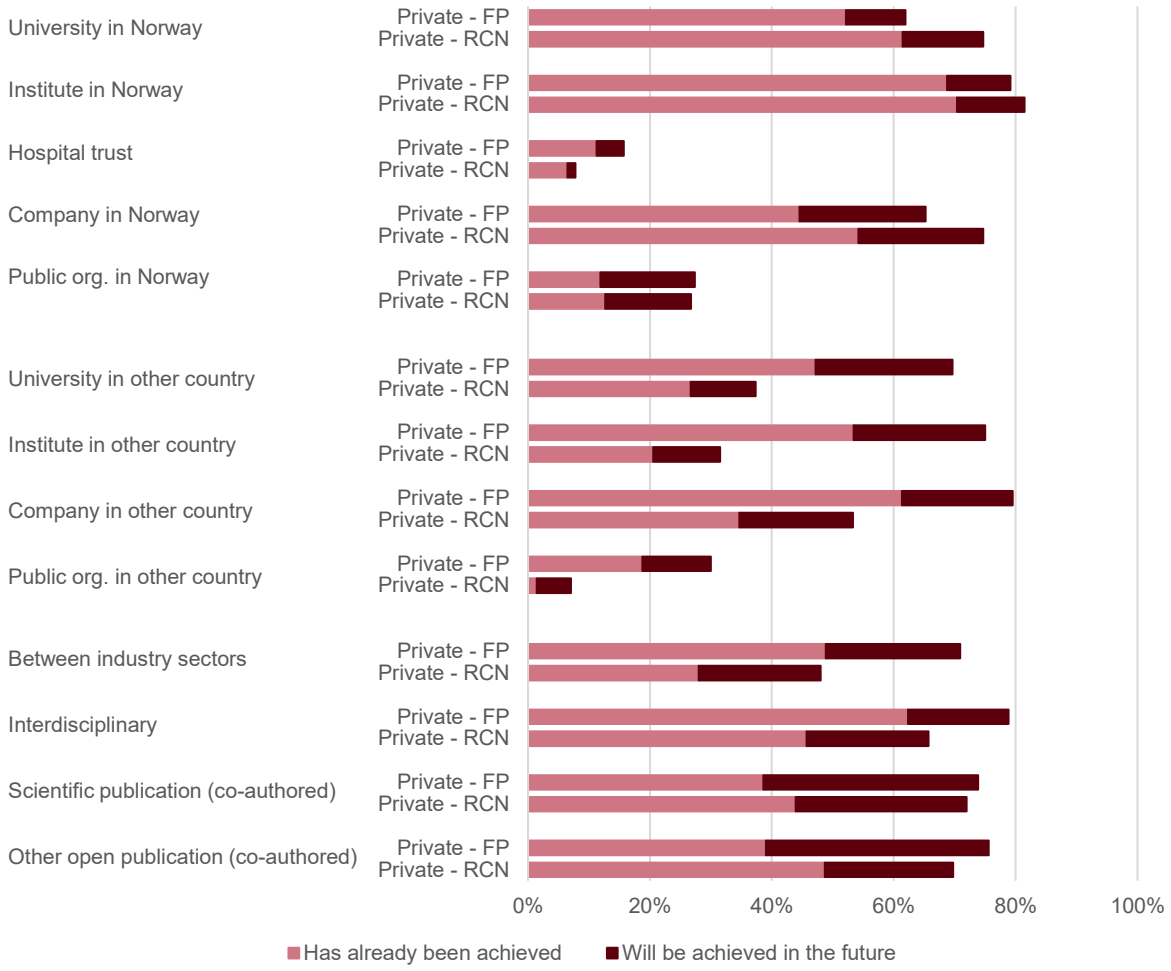
Figure 4.1 shows that private-sector participants in both FP and RCN projects mainly have engaged in R&I collaboration with Norwegian institutes, universities and companies, and this seems to be slightly more common in RCN projects. However, FP participants have engaged in R&I collaboration with the same categories of foreign organisations to a notably greater degree. In most cases, participants expect further collaboration in the future. These results largely correspond to the motives reported in Figure 3.13. In free-text responses, two respondents highlight the importance of “accessing European R&I excellence” and “cooperating with international partners, including researchers and potential customers”. Another respondent explains that “EU funding acts as a quality stamp on our R&D efforts.”

Compared to the results reported in the 2020 evaluation, private-sector participants have engaged in R&I collaboration with Norwegian institutes in FP projects to a notably greater extent (+28%), but to a much lesser extent with foreign universities (-20%).

Figure 4.1 further shows that FP participants to a notably greater extent than RCN participants have engaged in both intersectoral and interdisciplinary collaboration. RCN participants have so far co-authored publications to a slightly larger degree than FP participants, but the latter are more confident if we also consider expectations. One private-sector respondent argues for the importance of FP projects, but explains that national projects are complementary:

“Horizon Europe projects are essential for our success. RCN/Skattefunn/Innovation Norway projects are important for local networks.”

Figure 4.1. Collaboration- and publications-related results according to private-sector participants (n_{FP}=96, n_{RCN}=83).

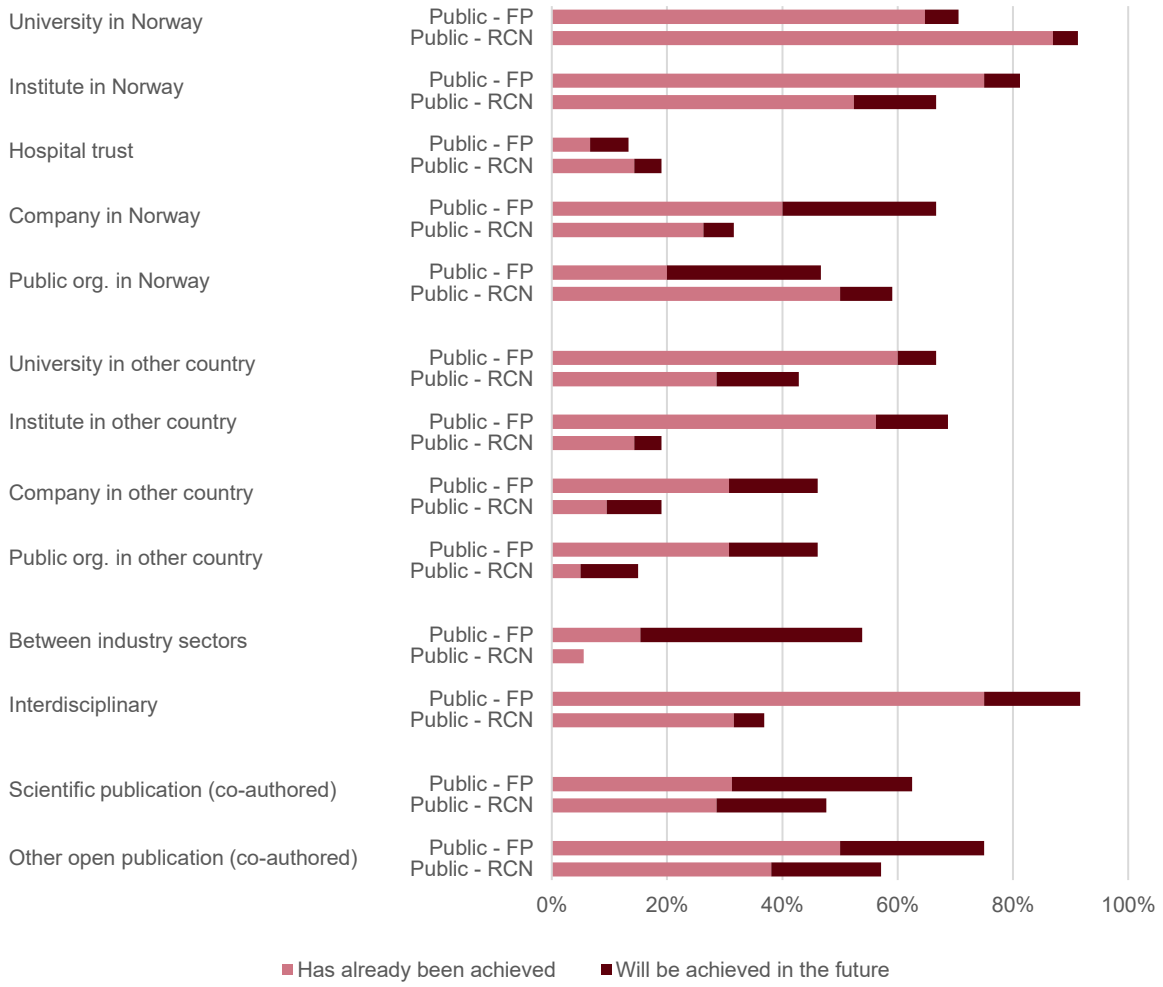


Source: Technopolis web surveys.

4.2 Results for public sector

Just like private-sector participants, the ones from the public sector have mostly engaged in R&I collaboration with Norwegian institutes, universities and companies, but to a slightly greater extent also with Norwegian public organisations, see Figure 4.2. On the international scene, public-sector FP participants have primarily collaborated with universities and institutes, and to a lesser degree with companies and public organisations. FP participants have already experienced a great deal of interdisciplinary collaboration, but not yet so much of the intersectoral variety. FP participants have so far co-authored publications to a slightly larger extent than RCN participants, and they are more confident that there is more to come. In a free-text response, one public-sector respondent explains that “FP participation allows R&I activities difficult to realise in a purely national context”.

Figure 4.2. Collaboration- and publications-related results according to public-sector participants (n_{FP}=17, n_{RCN}=23).



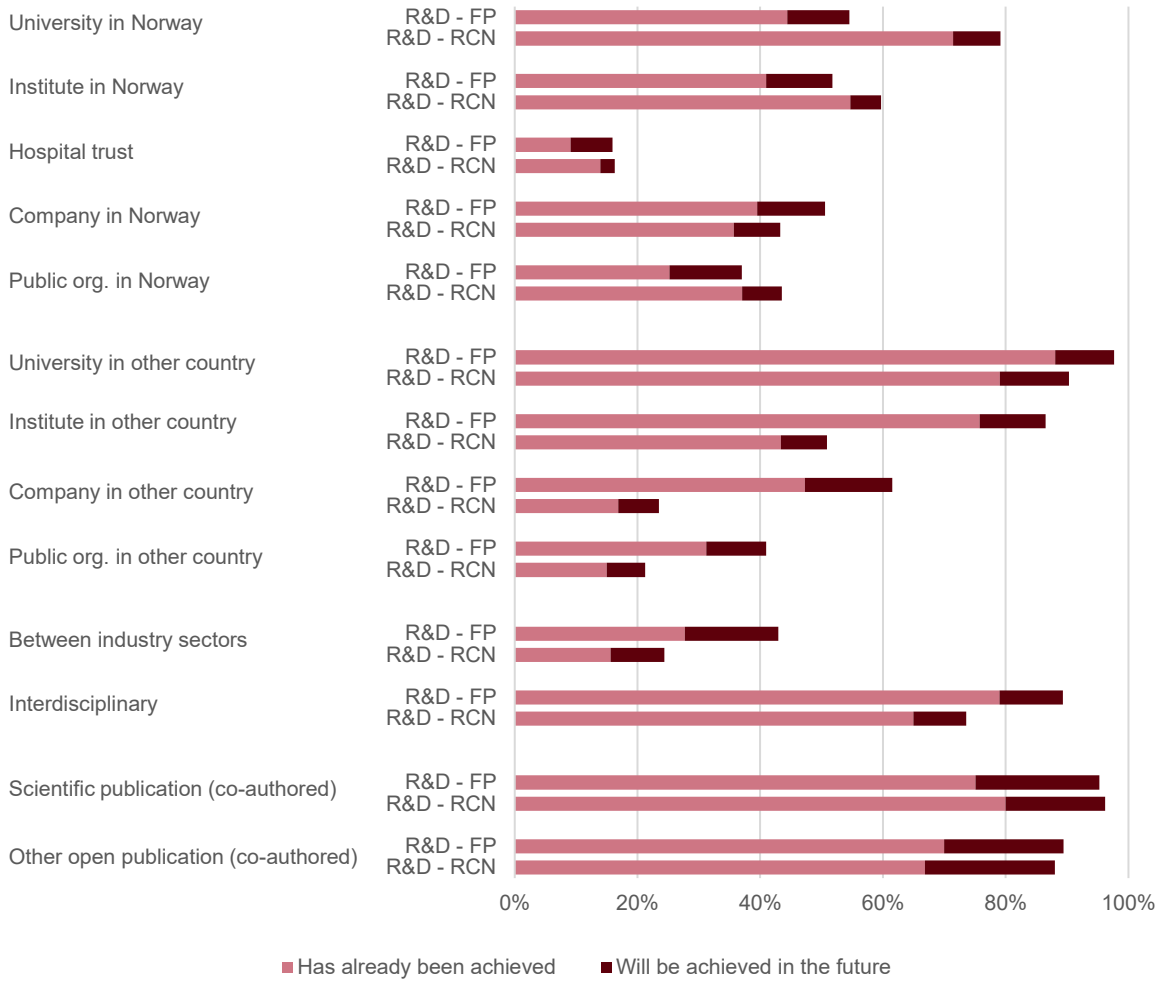
Source: Technopolis web surveys.

4.3 Results for R&D sector

Figure 4.3 illustrates that R&D-sector FP participants differ from the other two stakeholder categories in having established R&I collaboration with foreign actors – mainly universities and institutes – to a significantly greater extent than with Norwegian ones. FP participants have already experienced a great deal of interdisciplinary, but much less intersectoral, collaboration. Most FP participants have co-authored publications, and they expect more to come in both FP and RCN projects. Just like the company respondent quoted above, R&D-sector respondents argue that FP and national projects have different functions that make them complementary. Several respondents representing both HEIs and institutes use the free-text opportunity to argue for the necessity of international collaboration to ensure that Norwegian research remains at pace with the rest of Europe and thus maintains its international standing. An institute manager argues along similar lines:

"FP participation strengthens international collaboration and visibility, allowing Norwegian actors to build strategic relationships and influence European research agendas."

Figure 4.3. Collaboration- and publications-related results according to R&D-sector participants



(n_{FP}=302, n_{RCN}=186).

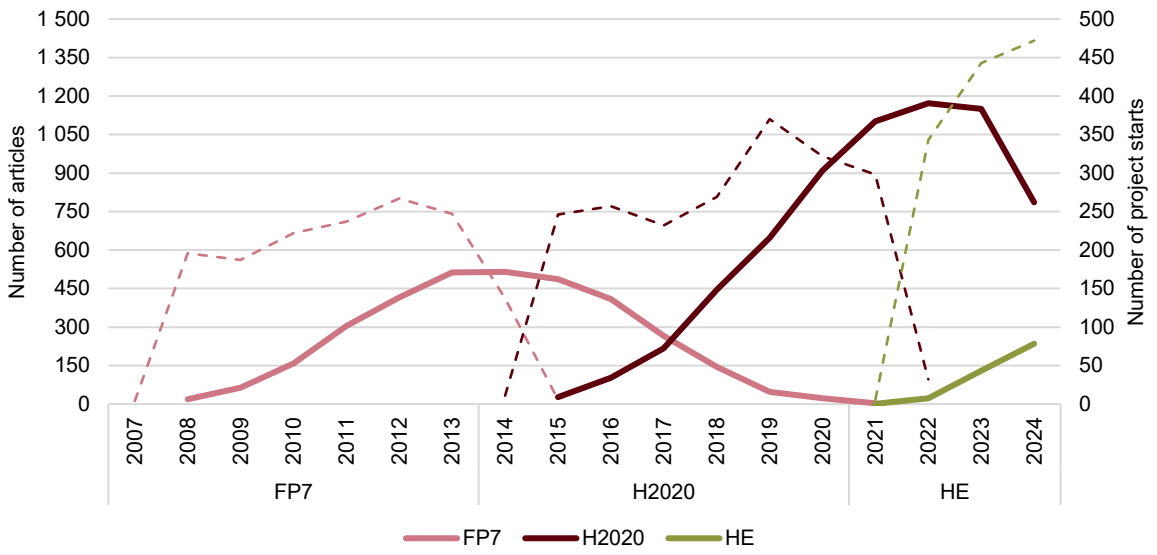
Source: Technopolis web surveys.

Publications are arguably the most common means for R&D-sector actors to document and communicate their research findings, as indicated in Figure 4.3. Private- and public-sector actors occasionally co-author publications, but it is far more common for R&D sector actors, particularly HEIs, to do so. The Commission publishes data on publications resulting from FP projects, meaning that we can quantify the number of scientific articles with at least one Norwegian author (hereinafter called "Norwegian articles") originating from Norwegian projects, i.e. FP projects with at least one Norwegian participant. Figure 4.4 shows the number of Norwegian articles resulting from Norwegian projects in FP7, H2020 and the first four years of HE (solid lines, left axis), in total 10,316 articles. While some of these articles may have co-authors from the private and public sectors, the vast majority of Norwegian co-authors originate in the R&D sector, in particular in HEIs.

The Figure illustrates that a majority of the articles from FP7 and H2020 projects have been published *after* the formal end of the respective programme (which are shown beneath the years). There is however good reason for this time lag: many projects start towards the end of an FP (and some even thereafter, as indicated by the dashed lines in the Figure, right axis), the average duration of Norwegian projects is 2.8 years[23], and it may very well take years to author an article and to have it

(successfully) peer reviewed and published. The lag between project start and publication is on average 2.7 years for Norwegian articles.

Figure 4.4. Number of articles with Norwegian authors (solid lines, left axis) and number of Norwegian projects started (dashed lines, right axis).



Source: eCorda and OpenAlex.

On average, Norwegian projects in FP7 resulted in 2.2 Norwegian articles. For H2020, the number of articles per project is so far 3.3, but this will likely increase somewhat with time (provided that the Commission updates H2020 publications data). It does not yet make sense to calculate the equivalent number for HE due to the aforementioned time lag. However, comparing the number of Norwegian articles published in the first four years of FP7, H2020 and HE, one finds that there is a continuous increase, thus suggesting that many Norwegian articles will result also from Norwegian HE projects.[24]

In terms of domain, Norwegian articles in FP7, H2020 and HE mainly concern Physical sciences (60% of articles), followed by Life sciences (16%), Health sciences (13%), and Social sciences (11%). In the Physical sciences domain, Environmental science is the dominating field (18% of all articles), followed by Earth and planetary sciences (12%), Engineering (11%), Physics and astronomy (7%), and Computer science (5%). In Health sciences, the field of Medicine dominates (11%), while the field of Biochemistry, genetics and molecular biology dominates in Life sciences (7%). The Social sciences domain is dominated by the Social sciences field. In all fields mentioned, there are more than 500 articles and together these fields account for almost four out of five Norwegian articles (78%) in FP7, H2020 and HE.

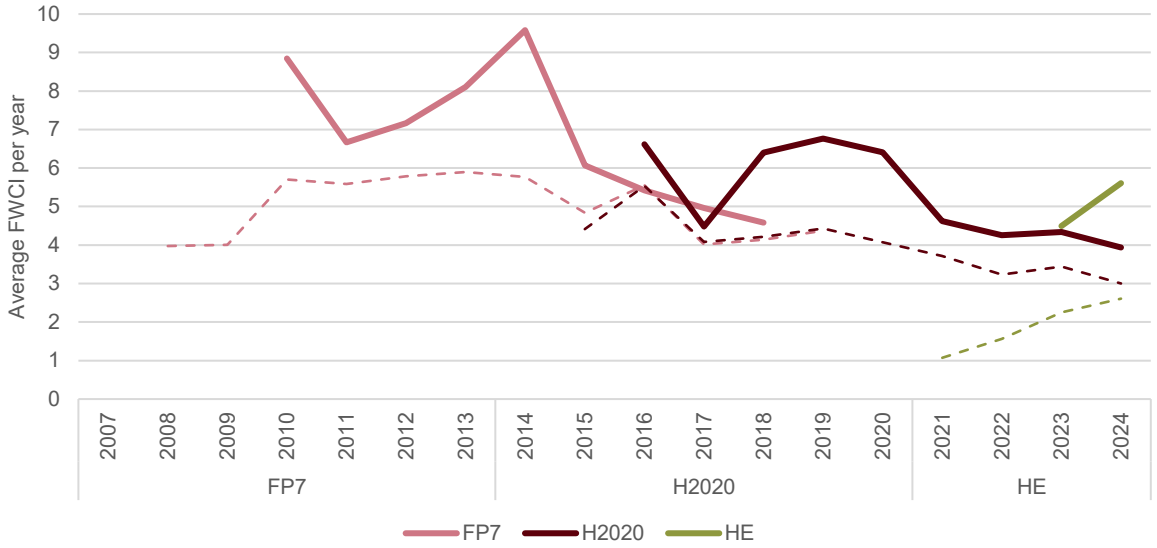
Around two-thirds of Norwegian articles in FP7, H2020 and HE (68%) are associated with a sustainable development goal (SDG) (1% of them with two SDGs). By far the most commonly addressed SDG is Life below water (SDG14: 26%), followed by Good health and well-being (SDG3: 14%), and Climate action (SDG13: 10%); one of these three SDGs are addressed in half of all Norwegian articles associated with an SDG. Another quarter of articles address Affordable and clean energy (SDG7: 10%), Industry, innovation, technology and infrastructure (SDG9: 6%), Life on land (SDG15: 6%), and Peace, justice and strong institutions (SDG16: 4%).

[23] Average duration of Norwegian projects in FP7: 2.7 years, H2020: 3.0 years, HE: 2.6 years (so far).

[24] Number of Norwegian articles published first four years of FP7: 242, H2020: 346, HE: 388 (so far).

The field-weighted citation impact (FWCI) is a measure of an article's field-weighted impact in the overall scientific literature, i.e. a proxy for the article's impact within its scientific field.[25] Figure 4.5 shows the average FWCI of all Norwegian articles published each year (solid lines) as well as all articles from Norwegian projects, i.e. also by authors from other countries than Norway (dashed lines). (Years with fewer than 100 articles have been omitted to avoid distortions resulting from small n's.)

Figure 4.5. Annual average FWCI of Norwegian articles (solid lines) and of all articles from Norwegian projects (dashed lines).



Source: eCorda and OpenAlex.

The Figure illustrates that both Norwegian articles and all articles from Norwegian projects have annual average FWCIs well above 1, meaning that they (on average) have far greater impact than the average article. However, given the small samples, it would be unwise to draw any conclusion on the differences between the solid and the dashed lines. Moreover, the apparent declining trends with time are a feature seen also for other OECD countries. They are not generally interpreted as signs of declining absolute article impact, but as an arithmetic effect of increased numbers and quality of publications in developing countries.

4.4 Results for R&I sector and society

4.4.1 Collaboration

As discussed in Section 3.6, a central rationale for participating in FP projects is to collaborate with organisations in other countries. We have analysed eCorda and bibliometric data to explore further the types of collaboration realised through the FPs. Most Norwegian projects have more than one participant (MP projects) and the share of single-partner projects has decreased from H2020 to HE (from 19% to 13%, thus far). Table 4.1 shows that Norwegian participants in H2020 MP projects mostly collaborated with German organisations, followed by French, Spanish, Italian, and British ones. Table 4.2 reveals that the international collaboration pattern generally remains in HE, but Spanish partners

[25] FWCI is the actual number of citations divided by the total number of citations that can be expected based on an average for similar publications. "Expected" refers to the average number of citations over the previous three years for all publications of the same age, document type and subfield. A value equal to 1 means that a publication has average global impact, while a value greater than 1 means that a publication has greater impact than average. For example, a value of 2 means that a publication has been cited twice as often as the expected global average.

have become more frequent and British ones less common[26], while Finland has displaced Austria in the top 10.

Table 4.1: International collaboration in H2020, top 10 countries.

Country	Participations in Norwegian projects	Share of country's all participations
Germany	3,507	17%
France	2,986	18%
Spain	2,911	16%
Italy	2,752	16%
United Kingdom	2,587	15%
Netherlands	1,975	18%
Belgium	1,575	19%
Sweden	1,095	21%
Greece	979	18%
Austria	895	18%

Source: eCorda.

Table 4.2: International collaboration in HE, top 10 countries.

Country	Participations in Norwegian projects	Share of country's all participations
Spain	2,123	19%
Germany	2,019	18%
France	1,738	19%
Italy	1,665	17%
Netherlands	1,213	19%
Belgium	1,209	22%
United Kingdom	1,015	24%
Greece	838	19%
Finland	694	29%
Sweden	633	23%

Source: eCorda.

The bibliometric analyses also provide information on collaboration, but then for article co-authors. Four out of five Norwegian articles (79%) have co-authors from at least one other country. When there are only Norwegian contributors, articles on average have four co-authors. When there is a co-author from another country, articles on average have 13 co-authors from, on average, 4.5 countries (including Norway). Although we argued above for caution in interpreting FWCI results, it is noteworthy that Norwegian articles with foreign co-authors on average have almost twice as high FWCI (188%) as articles with only Norwegian authors, thus confirming that international collaboration may be beneficial for article impact. Foreign co-authors are most often from the UK, followed (in order) by Germany, USA, France, the Netherlands, Spain, Italy, Sweden, Denmark and Switzerland. Although many countries in this list are present also in Table 4.1 and Table 4.2, they appear in different order, and several co-author countries do not appear in the Tables. This indicates that co-authorship of articles goes beyond project consortia.

[26] The UK was an EU Member State under H2020 but following Brexit the country did not become associated to HE until 1 January 2024.

Table 4.3 displays the share of all Norwegian MP projects in H2020 that contained combinations of stakeholder categories to indicate intersectoral collaboration. Note that this analysis includes partners in all countries. The Table shows that there is an obvious preference among HEIs (HES), institutes (REC) and companies (PRC) to collaborate with their own kin. In addition, HEIs often collaborate with institutes and with companies, institutes with companies, and companies with both HEIs and institutes. (The shares add up to more than 100% since a project consortium may include several stakeholder categories.) Table 4.4 illustrates that intersectoral collaboration follows the same pattern in HE.

Table 4.3: Intersectoral collaboration in H2020 (eCorda stakeholder categories).

	HES	OTH	PRC	PUB	REC
HES	**79%**	44%	**73%**	35%	**79%**
OTH		31%	42%	28%	47%
PRC			**72%**	33%	**75%**
PUB				26%	39%
REC					**76%**

Source: eCorda.
Note: HES (Higher or Secondary Education Organisation), PRC (Private for Profit Organisation – excl. education), REC (Research Organisation), PUB (Public Body – excl. research and education) and OTH (Other)

Table 4.4: Intersectoral collaboration in HE (eCorda stakeholder categories).

	HES	OTH	PRC	PUB	REC
HES	**82%**	51%	**74%**	35%	**82%**
OTH		31%	47%	26%	51%
PRC			**67%**	31%	**74%**
PUB				20%	34%
REC					**74%**

Source: eCorda.

Just over 60 percent of all Norwegian MP projects in both H2020 and HE have only one participant from Norway, but the remainder have more than one Norwegian participant. Table 4.5 illustrates that in such projects institutes and companies (Private) often collaborate with their own kin also within Norway, but institutes often also collaborate with companies – and vice versa. Moreover, institutes and HEIs often collaborate. (Recall that this analysis only includes Norwegian participants, in contrast to the previous two Tables).

Table 4.5: Intersectoral collaboration within Norway in H2020 (Norwegian stakeholder categories).

	Hospital trust	Institute	Private	Public	HEI	Other
Hospital trust	1%	1%	2%	1%	7%	1%
Institute		**32%**	**30%**	8%	**24%**	4%
Private			**21%**	5%	17%	3%
Public				2%	7%	3%
HEI					9%	4%
Other						1%

Source: eCorda augmented with Norwegian stakeholder categories.

Table 4.6 shows that in HE companies still prefer to collaborate with institutes but increasingly also with HEIs, while institutes tend to collaborate with both HEIs and their own kin. In Section 7.2 we further investigate the extent to which institutes collaborate with companies and public-sector organisations.

Table 4.6: Intersectoral collaboration within Norway in HE (Norwegian stakeholder categories).

	Hospital trust	Institute	Private	Public	HEI	Other
Hospital trust	1%	2%	2%	0.4%	5%	1%
Institute		**21%**	**31%**	8%	**28%**	5%
Private			18%	6%	**22%**	6%
Public				4%	8%	4%
HEI					9%	7%
Other						1%

Source: eCorda augmented with Norwegian stakeholder categories.

Table 4.7 shows that interdisciplinarity in Norwegian projects in H2020 was the most prevalent between Engineering and technology and Natural sciences, between Social and Natural sciences, as well as between Social sciences and Engineering and technology.

Table 4.7: Interdisciplinarity in Norwegian projects in H2020.

	Agricultural sciences	Engineering and technology	Humanities	Medical and health sciences	Natural sciences	Social sciences
Agricultural sciences		5%	0.2%	2%	8%	5%
Engineering and technology			1%	6%	**30%**	**19%**
Humanities				0.3%	3%	3%
Medical and health sciences					12%	7%
Natural sciences						**24%**
Social sciences						

Source: eCorda.

In HE, interdisciplinarity is so far still the most common between Engineering and technology and Natural sciences, and thereafter between Social and Natural sciences, see Table 4.8.

Table 4.8: Interdisciplinarity in Norwegian projects in HE.

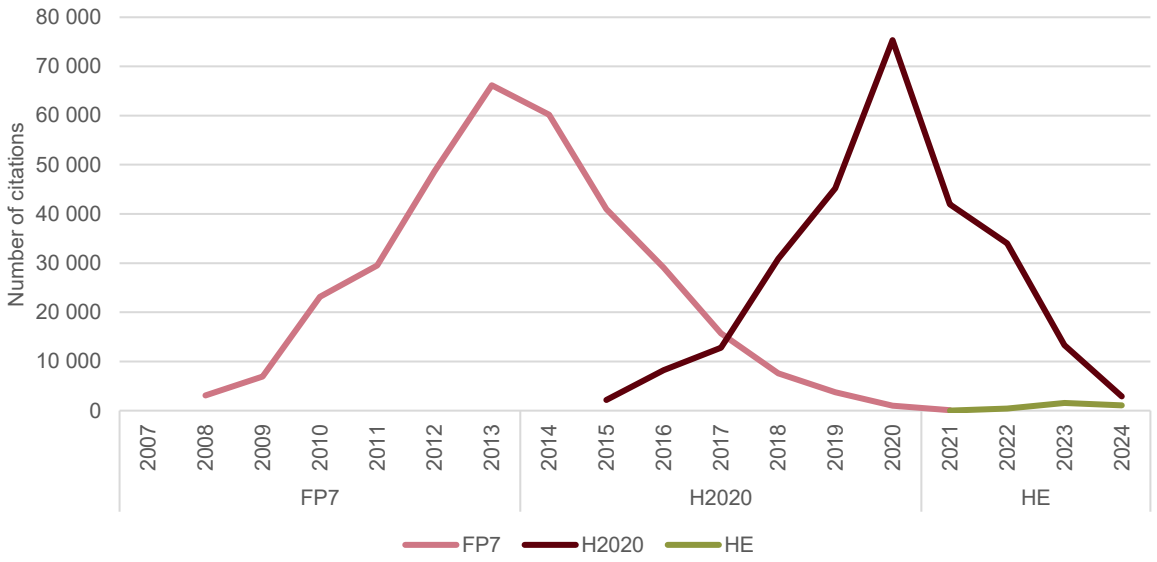
	Agricultural sciences	Engineering and technology	Humanities	Medical and health sciences	Natural sciences	Social sciences
Agricultural sciences		5%	1%	2%	8%	4%
Engineering and technology			1%	3%	**20%**	9%
Humanities				1%	2%	4%
Medical and health sciences					10%	5%
Natural sciences						**17%**
Social sciences						

Source: eCorda.

4.4.2 Results dissemination

Figure 4.6 shows the number of citations in scientific publications to Norwegian articles, indicating a large interest among in the international research community. The years in the figure refer to the date of publication of the Norwegian articles (not of the citing publications), meaning that over time more citations will accrue, particularly for the latter years in the Figure (thus explaining the low number of citations to HE articles so far – and probably also the rapidly declining trend for H2020 articles). On average, Norwegian articles are cited nearly a third more often (31%) than all articles from Norwegian projects in FP7 and H2020, thus suggesting that Norwegian articles may have somewhat greater impact – but again, numbers are small, so caution is warranted.

Figure 4.6. Number of citations in scientific publications to Norwegian articles worldwide.

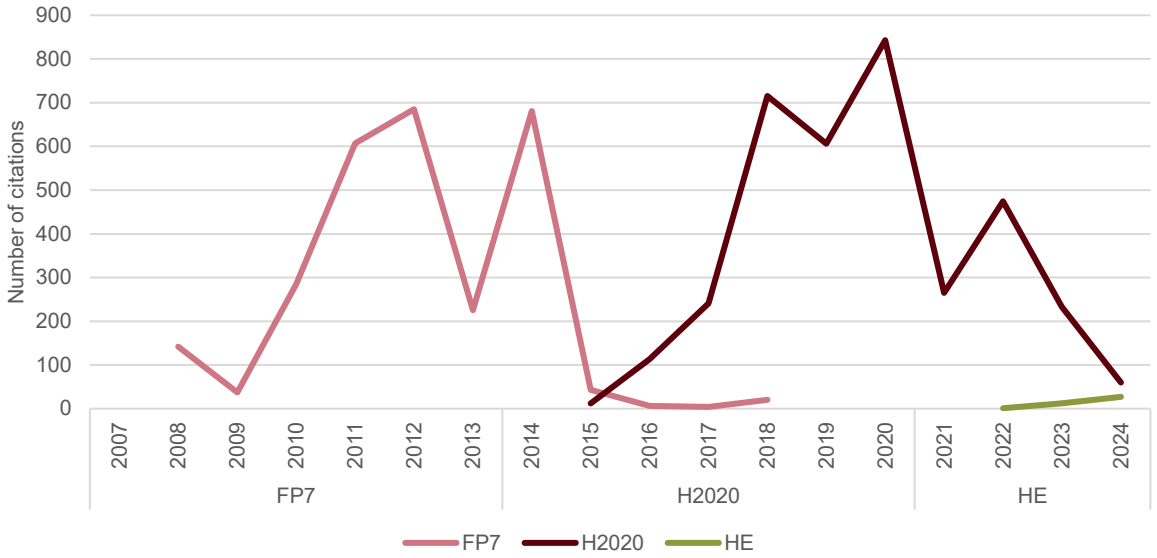


Source: eCorda and OpenAlex.

Scientific publications are of course also referenced, or cited, in contexts other than the scientific literature – although much less often. Norwegian articles are for example cited in Wikipedia entries

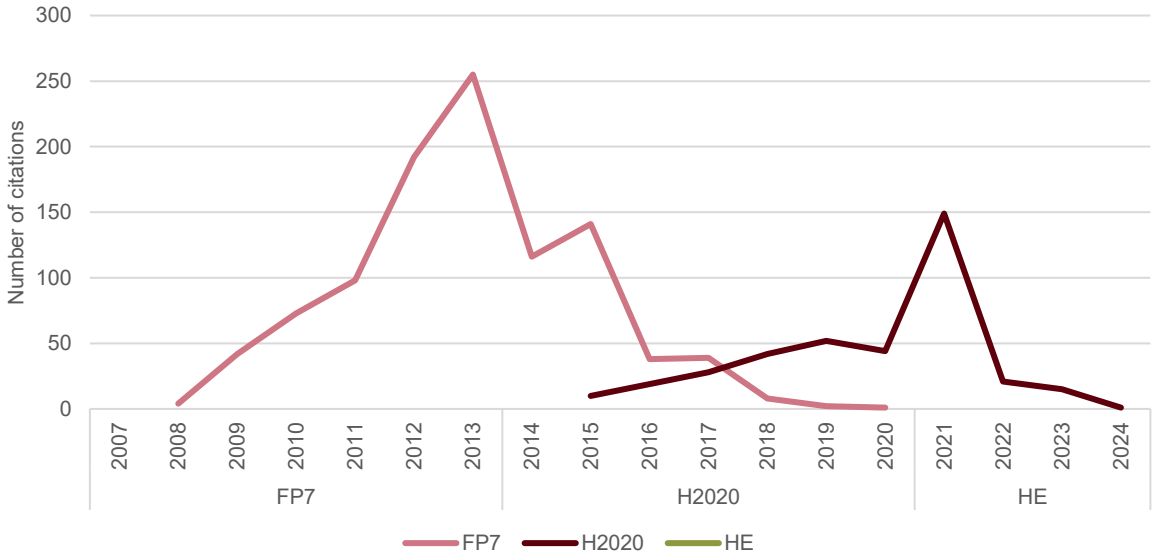
(Figure 4.7), in patents worldwide (Figure 4.8) and in the grey literature[27] worldwide (Figure 4.9). Just as for citations in the scientific literature, there is a time lag in these cases (particularly for citations in patents), meaning that additional citations will amass over time. In summary, Norwegian articles apparently seem well worth citing.

Figure 4.7. Number of citations in Wikipedia.



Source: eCorda and OpenAlex.

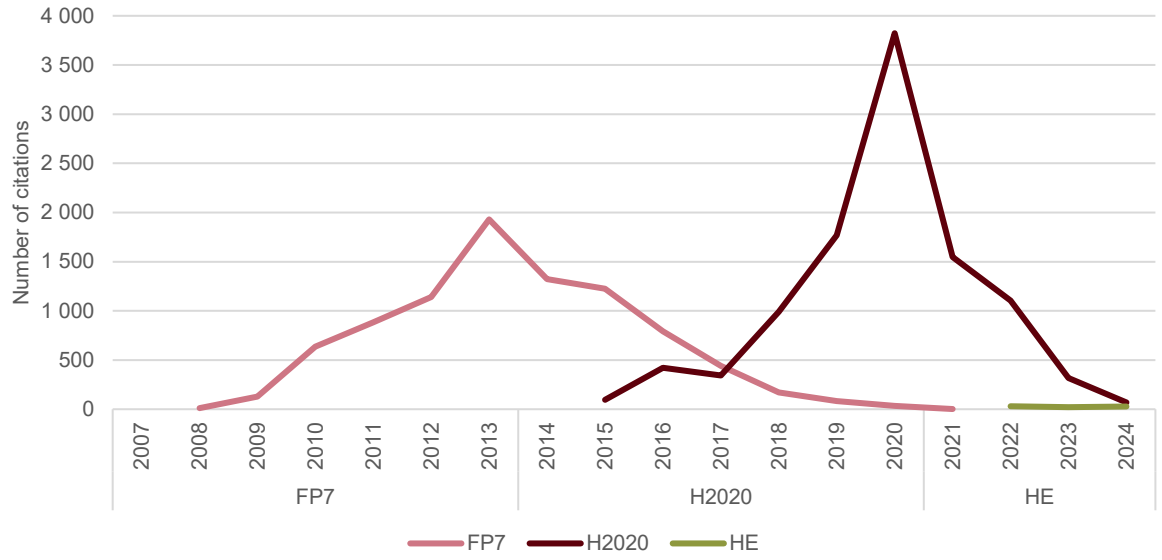
Figure 4.8. Number of citations in patents worldwide.



Source: eCorda and OpenAlex.

[27] The grey literature refers to publications published outside of the traditional academic publishing channels, meaning that publications are not formally peer-reviewed, published, and indexed in conventional academic databases. Publications in the grey literature include reports (annual, research, technical, project, etc.), working papers, government documents, white papers, and evaluations. Organisations producing such publications include government departments and agencies, civil society and non-governmental organisations (NGOs), research organisation, private companies, and consultancies.

Figure 4.9. Number of citations in the grey literature worldwide.



Source: eCorda and Overton.

While Figure 4.9 shows the number of citations in documents in the grey literature to Norwegian articles, Table 4.9 summarises the number of such documents citing Norwegian articles by document source (regardless of the number of citations to the same Norwegian article). Around four in five of the intergovernmental organisations (IGOs) are the United Nations and its agencies, while other IGOs include the World Bank, the OECD, the Arctic Council, the International Monetary Fund and the Nordic Council. The EU category is heavily dominated by the Publications Office of the European Union, followed by the Joint Research Centre and Cordis.

Table 4.9: Number and share of documents in the grey literature citing Norwegian articles.

Source	Number of documents	Share of documents
IGOs	6,128	34%
EU	2,333	13%
USA	1,577	9%
Germany	1,234	7%
UK	1,029	6%
Norway	941	5%
Canada	478	3%
Sweden	456	3%
France	443	2%
Spain	365	2%
Other countries	2,928	16%
Sum	17,912	100%

Source: eCorda and Overton.

The 941 Norwegian documents in the grey literature refer to 443 Norwegian articles, meaning that on average these 443 articles are cited more than twice. Since there are 10,316 Norwegian articles in our sample, this also means that 4.2 percent of the articles have been cited in Norwegian documents in

the grey literature. 352 of these 941 documents (37%) have been published by the Norwegian government and its agencies, while the remainder (589; 63%) have been published by a category called think tanks, which in this case is entirely synonymous with Norwegian institutes.

The Norwegian documents in the grey literature are dominated by the fields of Science and technology, Environment, and Economy, business and finance, which together characterise almost three documents in four, see Table 4.10.

Table 4.10: Main field of Norwegian publications in the grey literature citing Norwegian articles.

Domain	Number of documents	Share of documents
Science and technology	249	26%
Environment	235	25%
Economy, business and finance	202	21%
Conflicts, war and peace	67	7%
Health	50	5%
Education	45	5%
Weather	41	4%
Politics	17	2%
Crime, law and justice	10	1%
Lifestyle and leisure	8	1%
Labour	6	1%
Disaster, accident and emergency incident	5	1%
Society	5	1%
Religion and belief	1	0%
Sum	941	100%

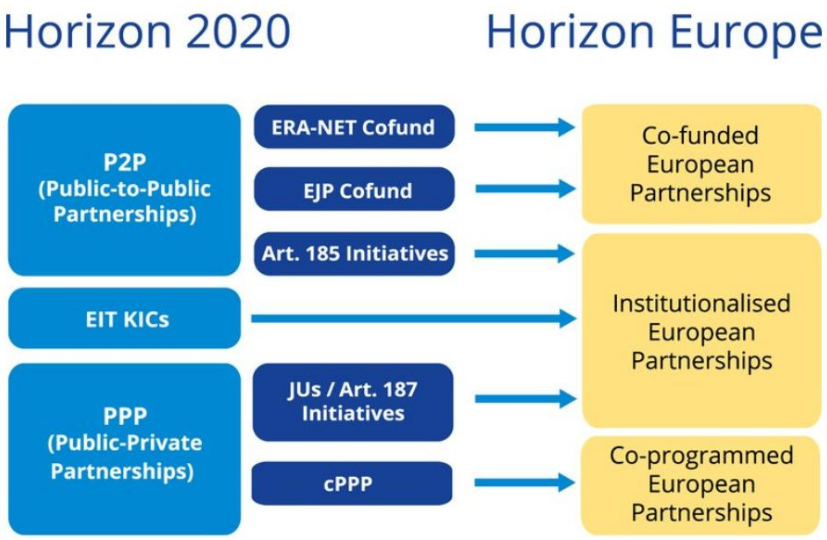
Source: eCorda and Overton.

4.4.3 European Partnerships and Missions

European Partnerships are strategic instruments where the Commission and private and/or public partners commit to join forces to develop and implement R&I programmes to make significant contributions to achieving EU political priorities, such as the Green Deal, Europe's digital strategy or pandemic preparedness. European Partnerships aim to develop the ERA, overcome fragmentation of EU's R&I landscape, avoid duplication with national or regional R&I activities, and promote competitiveness and innovation.

European Partnerships were introduced under FP6 (and were until H2020 called Partnership Programmes). In H2020 there were close to 120 Partnership Programmes, and in HE the number of European Partnerships was originally reduced to 49, but another nine have been launched or are planned for the 2025–2027 period. Although the number of Partnerships has been reduced compared to HE, many of them build on initiatives from H2020, see Figure 4.10.

Figure 4.10. European Partnership types under HE and their relation to Partnership Programmes under H2020.



Source: ERA-LEARN.

In principle, there are three main types of European Partnerships under HE:

- Co-funded Partnerships between the Commission and R&I funders and other public actors in participating states (EU Member States and Associated Countries)
- Co-programmed Partnerships between the Commission and mostly private (and sometimes public) actors
- Institutionalised Partnerships between the Commission and mostly private actors, and in two partnerships, participating states (EU Member States and Associated Countries)

Co-funded Partnerships

Co-funded Partnerships are intended to contribute to realising synergies between European and national efforts to address major societal challenges. The activities of Co-funded Partnerships consist of funding R&I projects, networking and dissemination activities (for exploitation) and policy and strategy development. A Co-funded Partnership is based on a grant agreement between the Commission and the partners of the Partnership (mainly public R&I funders at national or regional level), in which the partners undertake to co-fund the Partnership's calls for R&I proposals and other activities. The grant agreement provides flexibility regarding the partners' commitment by allowing them to choose, year by year, which calls and activities they intend to co-fund in the upcoming year. A Co-funded Partnership implements a Strategic Research and Innovation Agenda (SRIA) or roadmap that describes the needs, conditions, objectives and overall direction for R&I within its field. Coordination with national initiatives is achieved partly by national representatives being included in the Partnership's general meeting and board, and partly through national groups (such as mirror groups, stakeholder platforms and reference groups) where actors discuss strategic issues and other issues of scientific, societal and/or policy relevance.

The funding model of Co-funded Partnerships means that the partners together usually contribute 70 percent and the Commission 30 percent of the total public budget. Bi- and multilateral calls for proposals are organised by participating partners, not the Commission, meaning that projects where R&I activities are conducted are not included in eCorda, which therefore means that participation in R&I projects funded through Co-funded Partnerships are out of scope for this evaluation. Having said that, eCorda does include the projects (usually one per Partnership) where the Commission's part of the Partnerships' overall budget is allocated to participating national partners (in Norway usually RCN).

Co-programmed Partnerships

Co-programmed Partnerships account for the greater part of overall spending on European Partnerships. They are intended to contribute to international competitiveness, and involve a particularly prominent role for the private sector in programming, management and exploiting results than other parts of the FPs. This is the type of Partnership that is easiest to realise as they are based on Memoranda of Understanding (MoUs) about public-private collaboration between the Commission and other members organised in European industrial organisations (which may also have public members). These MoUs are explicitly not legally binding, but they establish a division of labour whereby the "other members" (meaning other than the Commission) assist the Commission with input and advice on R&I priorities and topics for future calls for proposals. Calls and projects are implemented entirely through HE Pillar 2 (except for the EOSC Partnership which is in Pillar 1). In return, the other members undertake to jointly co-fund projects. In most cases, this is at the same level as the Commission's funding, but there are also several Partnerships which provide co-funding at a higher level. Co-programmed Partnerships also develop and implement SRIAs whose overall objectives are set out in the MoUs. Co-programmed Partnerships require that the other members, as part of their co-funding and without any public funding, carry out In-Kind Additional Activities, in addition to participating in R&I projects. Such activities, which vary somewhat between Partnerships, mainly concern contributing to implementation and exploitation of R&I results, but also entail programme administration and, e.g. engaging actors outside the Partnership.

Institutionalised Partnerships

Institutionalised Partnerships are proposed by the Commission to realise political objectives of EU independence, excellence and competitiveness vis-à-vis the rest of the World. Decisions to establish Institutionalised Partnerships are taken jointly after negotiation between the Commission, Member States and the European Parliament, which means that such Partnerships are the most complicated to realise. The intention is that they should only be used when the other types of Partnerships are not appropriate.

As shown in Figure 4.10, there are three types of Institutionalised Partnerships depending on their legal basis, which may be:

- Article 187 of the Treaty on the Functioning of the European Union (TFEU)
- Article 185 of the TFEU
- Regulation of the European Institute of Innovation and Technology (EIT)

In contrast to Co-funded and Co-programmed Partnerships, all types of Institutionalised Partnerships are legal entities (although the legal form varies from case to case).

Institutionalised Partnerships based on Article 187 are implemented through a Joint Undertaking (JU), which involves public-private collaboration between the Commission and other members, mostly private. The private actors are in most cases organised in European industrial organisations (which also may have public members), but some Partnerships consist of a number of named founding members. Two of the Institutionalised Partnerships, KDT JU (which in 2023 morphed into Chips JU) and EuroHPC JU, also have Member States and Associated Countries as members, which commit to co-fund participants from their own country. Like the other types of Partnerships, Institutionalised Partnerships develop and implement SRIAs. The private actors draw up and update the SRIA on a recurring basis, but the Commission and – where applicable – participating states argue for their positions before the Partnership's board adopts the agenda.

From the private actors' side, the ambition is to build geopolitical and geoeconomic competitiveness. These Institutional Partnerships fund R&I through calls and projects within HE and are consequently (for the most part) included in eCorda.

Institutional Partnerships based on Article 185 also require national co-funding from Member States. Norway participates in the AAL2, EDCTP2, Eurostars and Metrology Partnerships, but proposals and projects in such Partnerships are not included in eCorda, meaning that they are out of scope for this evaluation.

The European Institute of Innovation and Technology (EIT) aims to strengthen Europe's ability to innovate by addressing global challenges and nurturing entrepreneurial talent. EIT organises companies, institutes, and HEIs in pan-European Partnerships, known as EIT Knowledge and Innovation Communities (KICs). EIT is an EU body that plays a key role in HE Pillar 3 to strengthen sustainable innovation ecosystems, support entrepreneurial education, and bring solutions to global challenges to market. While multi-year block funding from HE to KICs is included in eCorda, the KICs issue their own calls for proposals, and the proposals and projects that they result in are not included in eCorda, meaning that they are out of scope for this evaluation.

Missions

Missions are ambitious, mission-oriented efforts to tackle Europe's biggest societal and environmental challenges. A Mission aims to create a coordinated portfolio of R&I, policy and stakeholder actions with clear, measurable objectives, and its activities are specified in an Implementation Plan. The Commission, advised by a Mission Board, adopts mission Implementation Plans, issues calls for proposals through HE Pillar 2, so such proposals and projects are included in this evaluation.

Norway's participation in European Partnerships and Missions

Table 4.11 shows the distribution of Norwegian participation in projects resulting from calls by Joint Undertakings (JUs) and Contractual Public-Private-Partnerships (cPPPs) under H2020 (only those with more than 1% Norwegian participations are included). The final column shows the distribution of all participations (i.e. all countries) for comparison. The Partnerships where Norway had above-average participation are bold-faced in the NO column, including FCH2, SESAR2, EeB, SPIRE, and EuroHPC. In contrast, Norway's participation was particularly low in IMI2, 5G, Cybersecurity, CS2, and Photonics, which in part may be explained by these Partnerships not matching the country's industrial structure well. Note that this Table (and Table 4.12) are based on number of participations (not funding) and that not all Partnerships are included (only the ones with more than 1% Norwegian participations).

Table 4.11: Participation in projects in JUs and cPPPs under H2020.

Type	Partnership	Acronym	NO	All
JU	Fuel Cells and Hydrogen 2	FCH2	**13.7%**	4.3%
JU	Single European Sky ATM Research	SESAR2	**12.8%**	6.5%
cPPP	Energy-efficient Buildings	EeB	**12.3%**	8.6%
JU	Electronic Components and Systems	ECSEL	**10.4%**	9.7%
cPPP	Sustainable Process Industry	SPIRE	**10.0%**	6.8%
cPPP	Factories of the Future	FoF	6.3%	8.3%
JU	Bio-based Industries	BBI	**6.3%**	5.2%
cPPP	Big Data Value	BigData	**5.1%**	4.2%
JU	Innovative Medicines Initiative 2	IMI2	4.9%	8.7%
cPPP	Advanced 5G networks for the Future Internet	5G	4.4%	5.9%
cPPP	Robotics	Robotics	3.3%	3.9%
cPPP	Cybersecurity	Cybersecurity	2.8%	3.7%
cPPP	Unknown		1.8%	1.9%
JU	Clean Sky 2	CS2	1.8%	6.6%
cPPP	Photonics	Photonics	1.5%	4.9%
JU	European High-Performance Computing	EuroHPC	**1.5%**	1.2%
	Total participations		608	35,344

Source: eCorda.

Table 4.12 shows the distribution of Norwegian participations in projects resulting from calls by Institutionalised and Co-programmed Partnerships under HE (only those with more than 1% of participations are included).[28] Norway has particularly high participation in ZEWT, Processes4Planet, and BATT4EU. Norway's participation is so far particularly low in KDT (since 2023 morphed into Chips), SNS, SESAR3, 2ZERO, BFP, Photonics, Clean Aviation, and IHI. Again, the low participation may be due to these Partnerships not corresponding to Norwegian industry's needs, but the low participation in KDT may also be due to insufficient national co-funding from RCN.

[28] Note that in two cases Co-programmed Partnerships have had joint calls for proposals.

Table 4.12: Participation in projects in Institutionalised and Co-programmed Partnerships under HE.

Type	Partnership	Abbreviation	NO	All
Co-programmed	Zero-emission Waterborne Transport	ZEWT	**18.0%**	3.5%
Co-programmed	Processes4Planet	Processes4Planet	**14.2%**	6.6%
Co-programmed	Batteries	BATT4EU	**11.8%**	6.2%
Co-programmed	AI, Data and Robotics	ADR	8.1%	9.1%
Institutionalised	Clean Hydrogen	CleanH2	**7.8%**	7.1%
Institutionalised	Europe's Rail	EU-Rail	**5.5%**	3.9%
Institutionalised	Circular Bio-based Europe	CBE	**4.7%**	4.3%
Co-programmed	Made in Europe	MiE	4.5%	6.1%
Institutionalised	Key Digital Technologies (Chips)	KDT	3.6%	10.6%
Co-programmed	Connected, Cooperative & Automated Mobility	CCAM	**3.3%**	2.9%
Institutionalised	Smart Networks and Services	SNS	2.8%	6.6%
Institutionalised	Global Health EDCTP3	GH EDCTP3	2.4%	3.1%
Institutionalised	Integrated Air Traffic Management (ATM)	SESAR3	2.4%	4.5%
Co-programmed	Towards zero-emission road transport	2ZERO	1.9%	3.9%
Institutionalised	High Performance Computing	EuroHPC	**1.7%**	1.2%
Co-programmed	AI, Data and Robotics - Made in Europe	ADR - MiE	**1.2%**	0.8%
Co-programmed	Built4People	B4P	1.2%	3.6%
Co-programmed	Made in Europe - Photonics	MiE - Photonics	**1.2%**	0.7%
Co-programmed	Photonics	Photonics	1.2%	3.1%
Institutionalised	Clean Aviation	Clean Aviation	1.2%	3.4%
Institutionalised	Innovative Health Initiative	IHI	1.2%	5.4%
	Total participations		422	18,067

Source: eCorda.

Table 4.13 shows the Co-funded Partnerships in which Norway participates under HE so far.[29] As mentioned above, eCorda does not contain information on R&I projects in Co-funded Partnerships since they are funded bi- or multilaterally following calls of national/regional funding agencies, so we cannot directly assess how Norway's participation compares to that of all countries.

[29] According to information from RCN, Norway also participates in the Personalised Medicine (PerMed) and One Health Antimicrobial Resistance (OHAMR) Co-funded Partnerships, as well as in five new Co-funded Partnerships starting in 2025 and 2026.

Table 4.13: Participation in Co-funded Partnerships under HE.

Partnership	Abbreviation
European Research Area for Health Research	ERA4Health
European Partnership for Pandemic Preparedness	Pandemic
Partnership for the Assessment of Risk from Chemicals	PARC
European Partnership on Rare Diseases	RARE
European Partnership on Transforming Health and Care Systems	THCS
Clean Energy Transition Partnership	CETP
Driving Urban Transitions Partnership	DUT
Agroecology Partnership	AGROECOLOGY
European Biodiversity Partnership	Biodiversa+
European Partnership on Animal Health and Welfare	EUPAHW
Sustainable Blue Economy Partnership	SBEP
European Partnership for Sustainable Food Systems	SFS
Water4All Partnership	Water4All
European Partnership on Innovative SMEs	Eurostars 3

Source: eCorda.

Table 4.14 shows the distribution of Norwegian participations in Missions under HE (only those with more than 1% of participations are included). Norway has above-average participation particularly in the Oceans Mission. (Note that two Missions have had joint calls for proposals.)

Table 4.14: Participation in projects in Missions under HE.

Mission	Abbreviation	NO	All
Restore our Ocean and Waters	Ocean	**41,5%**	23,0%
Adaptation to Climate Change	Climate	16,2%	18,2%
Cancer	Cancer	11,3%	18,1%
Climate-neutral and Smart Cities	Cities	9,9%	13,6%
A Soil Deal for Europe	Soil	7,0%	19,1%
Adaptation to Climate Change - Climate-neutral and Smart Cities	Climate - Cities	**4,2%**	3,1%
Other		**9,2%**	3,3%
Total participations		142	4982

Source: eCorda.

Finally, Table 4.15 shows the distribution of funding (that are included in eCorda) through Partnerships and Missions under HE, and specifically in its Pillar 2. The All columns show the distribution of all funding (i.e. to all countries) for comparison. Norway's funding through Co-programmed Partnerships obviously well exceeds funding to all countries, mainly driven by the country's extensive participation in ZEWT, Processes4Planet, and BATT4EU (cf. Table 4.12). In contrast, the funding to Norway is way below average in Institutionalised Partnerships, likely in part due to low participation in KDT, SNS, SESAR3, Clean Aviation, and IHI.

Table 4.15: Funding through Partnerships and Missions under HE.

	HE		HE Pillar 2	
	NO	All	NO	All
Institutionalised Partnerships	5.4%	13.6%	7.7%	18.9%
Co-programmed Partnerships	**14.1%**	8.7%	**20.0%**	14.9%
Co-funded Partnerships	**3.5%**	2.3%	**4.1%**	3.4%
Missions	4.2%	4.3%	6.0%	7.3%
Total funding	1,400	42,993	984	25,245

Source: eCorda.

It should be emphasised that the participations and the funding summarised in Table 4.11–Table 4.12 and in Table 4.14–Table 4.15 refer to participation in individual projects resulting from Partnerships' calls for proposals. However, as briefly mentioned above, Partnerships are also open to participation in governance in drafting SRIAs and arguing for priorities in upcoming calls for proposals. In a Co-funded Partnership, national representatives – typically from funding agencies – participate in the Partnership's general meeting and board, while R&I actors may contribute through national mirror groups, stakeholder platforms, reference groups etc. In Co-programmed and Institutionalised Partnerships, R&I actors – mostly companies – may exert influence as members of European industrial organisations that advise the Commission on R&I priorities and topics for future calls. In Institutionalised Partnerships national representatives – generally from ministries and funding agencies – have crucial roles in the governance structure and they often rely on input from national mirror groups etc.

Some Norwegian organisations are members of the European industrial organisations that represent the interested R&I actors in Co-programmed and Institutionalised Partnerships, and such a membership may influence SRIAs and calls for proposals. However, to really make an impact on governance tends to require a substantial investment in time for the individuals engaged. For Co-funded Partnerships, it is generally RCN personnel who participate in governance, contribute to drafting of SRIAs, and not least implement the agenda through bi- and multilateral calls for proposals. In such calls for proposals RCN also allocates resources to co-fund successful Norwegian proposers, with particularly large investments in Eurostars 3 and CETP. For Co-programmed and Institutionalised Partnerships it is generally individual R&I actors that can engage in Partnership management, but given the substantial time investment requirement, few seem prepared to make such a commitment. SINTEF nevertheless contributes to management of the ZEWT, BATT4EU, and Processes4Planet Co-programmed Partnerships. When it comes to management of Institutionalised Partnerships, RCN contributes to GH EDCTP3, the Norwegian Railway Directorate to EU-Rail, and Telenor to SNS. As mentioned above, states participating in KDT/Chips and EuroHPC must allocate resources to co-fund successful proposers from their own country, which is the responsibility of RCN. The relatively modest Norwegian engagement in management of Co-programmed and Institutionalised Partnerships is confirmed by interviews with management of key FP participants; few Norwegian HEIs and institutes are prepared to make such a commitment – possibly for lack of resources –meaning that Norway may be missing out on opportunities to influence the direction of Partnerships.[30]

The distinction between participation in management of Partnerships and participation in projects resulting from Partnerships' calls for proposals is fundamental. R&I actors involved in Partnership management can ensure that calls for proposals reflect their own (and their nation's) needs, that they

[30] Realising the strategic importance of engagement in Partnerships, RCN launched a call for proposals in 2024 within the PES measure for positioning of national priorities. The call resulted in eight projects that target the Pandemic and PARC Co-funded Partnerships, the ZEWT, Processes4Planet, BATT4EU and ADR Co-programmed Partnerships, and the CleanH2, CBE, SESAR3 and Clean Aviation Institutionalised Partnerships.

are aware of upcoming calls and therefore have a headstart when a call is launched. They are consequently much more likely to submit successful proposals. Previous studies show that many, perhaps most, individual project participants are unaware of their project being part of a Partnership. Even many R&D directors of large R&D-intensive Swedish companies tended to have inadequate insight into the world of Partnerships, including whether their FP projects belonged to a Partnership. The exceptions were R&D directors who are genuinely engaged in Partnership management, and whose companies tend to be frequent participants in Partnership projects (Åström T. A., 2024). The chances are that the situation is no different in the Norwegian private sector.

4.4.4 Research infrastructure

An important aspect of the FPs is that they fund development and hosting of joint European research infrastructure. Norway's participation in research infrastructure projects has increased substantially from H2020 to HE (so far), and the share of funding to Norwegian participants has more than doubled (from 1.9% to 4.0%), see Table 4.16. While average funding per participation overall has remained the same in H2020 and HE, funding to Norwegian participants has increased by almost 50 percent, thus indicating a considerable increase in engagement.

Table 4.16: Participation in Research Infrastructure projects under HE (ES-RI).

	Participations			Funding (EUR million)			Funding per participation (EUR million)	
	NO	All	Share NO	NO	All	Share NO	NO	All
H2020	216	7,771	2.8%	46	2,430	1.9%	0.21	0.31
HE	134	3,764	3.6%	48	1,209	4.0%	0.36	0.32

Source: eCorda.

4.4.5 Policy development

In this section, we examine how Norway's FP association enables Norway to influence EU policy and, conversely, how FP participation influences Norwegian policy. Most of the Section is based on interviews with representatives of ministries, agencies, and key FP participants.

(1) Norway's influence on EU R&I policy

Through the EEA Agreement, Norway participates in the ERA Forum and related working groups. Through these arenas, Norway promotes values and policy priorities that are important for Norwegian policymakers, such as academic freedom, shared research infrastructure, open access and gender equality. In some cases, Norway takes an active role and contributes to shaping ERA and FP priorities, for example, interviewees highlight Norway's involvement in the EU's work on open access[31]. In other cases, interviewees note that it is difficult to identify who is the "first mover." In either situation, the ERA provides a shared framework for working on issues of strategic importance to Norway.

As an Associated Country, Norway also very actively participates in FP programme committees and expert groups through its ministries, RCN and IN. These actors invest considerable resources in safeguarding Norwegian interests, for example by seeking to ensure that national priorities are reflected in work programmes and calls. Norwegian actors also influence the SRIAs and calls for proposals of European Partnerships. RCN certainly does so in Co-funded Partnerships, but this opportunity seems somewhat underutilised when it comes to Co-programmed and Institutionalised Partnerships (cf. Section 4.4.3).

[31] RCN has committed to contributing to the expansion of ORE (Open Research Europe) from 2026, together with funding organisations from Austria, France, Germany, Portugal, Slovenia, Spain and Sweden, in addition to support from the European Commission. https://www.forskningsradet.no/nyheter/2025/norge-gar-inn-i-publiseringsplattform/

Several interviewees further emphasise the growing importance of ensuring that Norway may participate on equal terms with EU Member States. Views differ as to why this has become more salient: some interpret it in light of the FPs being used more strategically by the EU, while others point to European counterparts having limited knowledge of the EEA agreement.

The efforts may be viewed as a cost of participation, but they also provide arenas for international policy coordination at the strategic level and within sectoral policy domains.

(2) Shared R&I priorities and EU influence on Norwegian R&I policy

With regards to R&I policies, interviewees point to a close alignment between Norwegian and European R&I policies at both overall and strategic levels. Norway's Long-Term Plan for Research and Higher Education reflects priorities similar to those of the FPs, including high-quality research, innovation, climate action, and broader societal objectives. Moreover, the FPs are increasingly used as tools to support the EU's growing emphasis on innovation capacity, competitiveness, and value creation.[32] A survey respondent representing an institute described this trend as part of a broader "strategic alignment of organisations with EU Green Deal, Digital Europe and Net-Zero goals." Some also highlight an increasing recognition that Europe must act collectively to address common challenges in a changing geopolitical landscape. Ministry representatives emphasise that this alignment stems from shared societal challenges rather than Norway simply copying the EU.

At the same time, several interviewees point to specific examples of EU influence. In our 2020 evaluation, many interviewees highlighted the FPs' growing emphasis on impact. In the current evaluation, interviewees frequently point to the influence of EU Missions. Previous studies have argued for raising the Norwegian ambition level[33] and Norway has subsequently defined three national missions (*målrettede samfunnsoppdrag*) in addition to those in HE.[34]

Further, FP participation has a more direct influence on national R&I instruments, on how funding agencies operate and on national R&I funding. Two obvious examples are PES and Retur-EU. However, over the past decade, RCN and IN have increasingly aligned their processes, proposal selection criteria, and terminology with FP practice,[35] and RCN is currently further adjusting its selection criteria to even more closely mirror the Commission's criteria.[36]

Many Norwegian R&I instruments explicitly incentivise FP participation. Interviewees note, for example, that beneficiaries of SFI and FRIPRO grants are expected to be active in the FPs. Moreover, RCN's Portfolio Boards are expected to consider how their instruments can complement the FPs.[37]

Participants in national R&I instruments also point to a closer alignment with the FPs, both at the strategic and operational level. As one interviewee from a research institute explained:

"It's obvious that Norway now has a more open mindset, also in the ministries. We've seen a closer connection between national and EU projects."

[32] i.e. Draghi-report. See the most recent report to the Storting, Meld. St. 14 (2024–2025) *Sikker kunnskap i en usikker Verden* for a more elaborate presentation and their relevance for Norwegian R&I policy.

[33] See for example "Målrettede samfunnsoppdrag i Norge" (Normann, Koch, & Thune, 2022) and "Raising the ambition level in Norwegian innovation policy" (Arnold, et al., 2019).

[34] Two missions (Sustainable Feed and Inclusion) were included in the LTP (Ministry of Research and Higher Education, 2022) and a third on (Green Transition and Circular Economy) in the most recent report to Stortinget on the research system Sikker kunnskap i en usikker tid (Ministry of Research and Higher Education, 2025)

[35] For example, RCN is adjusting its scoring scale to align more closely with the FP https://www.forskningsradet.no/nyheter/2025/karakterskala-relevansvurdering/

[36] RCN are to adjust their criteria to be more aligned with the EU, press release November 2025 (Research Council of Norway, 2025) https://www.forskningsradet.no/nyheter/2025/nytt-soknadsskjema-2026/

[37] See RCN international strategy for more details (Research Council of Norway, 2020)

A key feature of the FPs is international R&I collaboration as extensively covered in previous sections. With regards to R&I policy development, interviewees highlight new opportunities arising from the Commission opening up for more countries becoming associated with HE, including Canada and New Zealand.

At the same time, interviewees stress that Norway has additional needs that are less well covered by the FPs, such as the petroleum sector, parts of aquaculture, Arctic research and selected welfare and social policy areas.

Many interviews also point to the increasing trend that the cost of FP participation extends beyond Norway's financial contribution. Requirements for additional national funding, for example in Co-funded Partnerships and some Institutional Partnerships (and the Retur-EU scheme[38] as further addressed in Chapter 7), can also, all things equal, result in less resources to domestic funding instruments.

(3) EU influence in other policy domains

FP participation can directly or indirectly influence also in other policy domains. As one institute interviewee explains:

"Legislation takes place at EU level, so you have to be there if you want to influence. Through FP project participation we can bring this knowledge back to Norway.

Participation in FP committees, Partnerships, and expert groups provides Norwegian ministries and agencies with early insight into emerging EU priorities and sectoral policy developments. These arenas function as important channels for understanding how the EU frames challenges and opportunities within areas such as climate, energy, health, digitalisation, and security.

Interviewees highlight that FP projects also generate new knowledge that may eventually shape EU policy and regulation in other policy domains, which in turn is likely to affect Norway.

Interviewees emphasise the FP's importance in supporting the EU's work on climate and energy policy. The Commission's decision to earmark 35 percent of HE resources to climate action and 10 percent for 2025–2027 on biodiversity (European Commission, 2025), as well as several Missions with this focus, further illustrates the central role of the FPs in generating knowledge with European and global relevance. One ministry interviewee also noted that FP calls often respond to global evidence gaps identified by bodies such as the Intergovernmental Panel on Climate Change (IPCC). Actual impacts, in terms of emissions reductions or other societal outcomes, however, depend on the extent to which research findings are translated into policy development and regulation.

However, one interviewee noted that the FPs fund a wide range of projects on the circular economy, and that resulting EU regulations therefore are likely to influence Norway as well. In many cases it is difficult to link a specific regulation directly to a single FP project, as policymaking typically relies on a broad evidence base, in which FP-funded research is but one piece of the puzzle.

An interviewee representing an institute explained that FP-funded research has resulted in speed limits in Oslo and fees for driving with studded tyres. Another interviewee noted that participation in an FP project marked the starting point for City of Oslo's work on reducing emissions from construction sites. These examples thus illustrate how FP-generated knowledge can have concrete regulatory consequences at national or local level.

[38] The national funding provided by RCN through Retur-EU (and its predecessor STIM-EU) is not an EC requirement, but a voluntary contribution in practice made necessary by the very low base funding of Norwegian institutes.

The EU has taken on a similar role in the field of health, for example related to cancer (also a Mission), Covid-19, and clinical trials in Europe. This work has directly impacted Norwegian policies on cancer and on the organisation of clinical trials.[39] Representatives of an institute underline it broader advisory role in matters of public health:

"To improve the quality of health services, we work with all municipalities. We also provide advice to local authorities when there are outbreaks of infectious diseases. All of this is based on our FP projects."

To supplement the interview evidence summarised above, we may examine the extent to which Norwegian FP projects have influenced publications in the grey literature. In Section 4.3 we noted that over two-thirds of Norwegian articles are associated with an SDG, most often Life below water (SDG14), Good health and well-being (SDG3), and Climate action (SDG13). These Norwegian articles are then cited in Norwegian publications in the grey literature that in turn are associated with SDGs (but not necessarily the same ones), see Table 4.17. The SDG by far most frequently addressed in Norwegian publications in the grey literature is Climate action (SDG13), followed by Life on land (SDG15), Peace, justice and strong institutions (SDG16), and Good health and well-being (SDG3).[40] Since well over a third of Norwegian documents in the grey literature have been published by the Norwegian government and its agencies, this further indicates that Norwegian articles resulting from Norwegian FP projects influence national policies in many domains.

[39] See for examples Norway's strategy on clinical trials (Ministry of Health and Care Services, 2021) and on cancer treatment (Ministry of Health and Care Services, 2025)

[40] The Norwegian publications addressing Climate action and Peace, justice and strong institutions cite articles from Norwegian H2020 projects to a much greater degree than articles from Norwegian FP7 projects, while the opposite applies to Life on land and Good health and well-being. It is unclear whether these changes are due to a real shift in research focus of Norwegian project participants or whether it just reflects differences in the focus of calls for proposals between FP7 and H2020. The Norwegian publications citing articles from HE projects are so far too few for a meaningful comparison with H2020 and FP7.

Table 4.17: SDGs addressed in Norwegian publications in the grey literature citing Norwegian articles.

SDG	Share of documents
SDG13: Climate action	34%
SDG15: Life on land	12%
SDG16: Peace, justice and strong institutions	10%
SDG3: Good health and well-being	8%
SDG14: Life below water	8%
SDG10: Reduced inequality	6%
SDG11: Sustainable cities and communities	5%
SDG8: Decent work and economic growth	4%
SDG1: No Poverty	3%
SDG12: Responsible consumption and production	3%
SDG6: Clean water and sanitation	3%
SDG17: Partnerships for the goals	2%
SDG7: Affordable and clean energy	2%
SDG4: Quality education	1%
SDG9: Industry, Innovation, Technology and Infrastructure	1%
SDG5: Gender equality	1%
SDG2: Zero hunger	0%
Sum	100%

Source: eCorda and Overton.

4.5 Summary

In this Chapter, we have found that participants in all stakeholder categories have established national R&I collaboration in FP and RCN projects alike, but international collaboration is – of course – much more common in FP projects. Participants have also engaged in interdisciplinary and, to a lesser extent, intersectoral, collaboration, more often so in FP projects (cf. Figure 4.1–Figure 4.3). These web survey results are confirmed by registry analyses which show extensive national, international, intersectoral, and interdisciplinary R&I collaboration (cf. Section 4.4.1), which leads to knowledge transfer between partners. Registry analyses further show that institutes facilitate participation of private-sector, but also public-sector, actors in MP projects (see further Section 7.1). Many of the collaborations that are realised in MP projects are likely to be with new partners, but we have no way of determining the proportion. Engagement in international networks with partners (new and old) in other countries and sectors is arguably one of the most significant added values of FP projects.

Web survey results confirm that co-authored scientific publications and other open publications have resulted from both FP and RCN projects, while bibliometric analyses show that over 10,000 Norwegian articles so far have resulted from Norwegian projects in FP7, H2020 and the first four years of HE (cf. Figure 4.4). On average, these articles have far greater impact than the average article within their respective fields (cf. Figure 4.5), and they have led to dissemination of project results within the scientific literature, to the public, via patents, and within the grey literature (cf. Figure 4.6–Figure 4.9).

European Partnerships aim to make significant contributions to achieving EU political priorities, develop the ERA, overcome fragmentation, avoid duplication with national R&I activities, and promote competitiveness and innovation, while missions are ambitious efforts to tackle major societal and environmental challenges. Registry analyses disclose that Norwegian actors are most active in some Co-programmed and Institutionalised Partnerships (cf. Table 4.12) and that Norway is also quite active

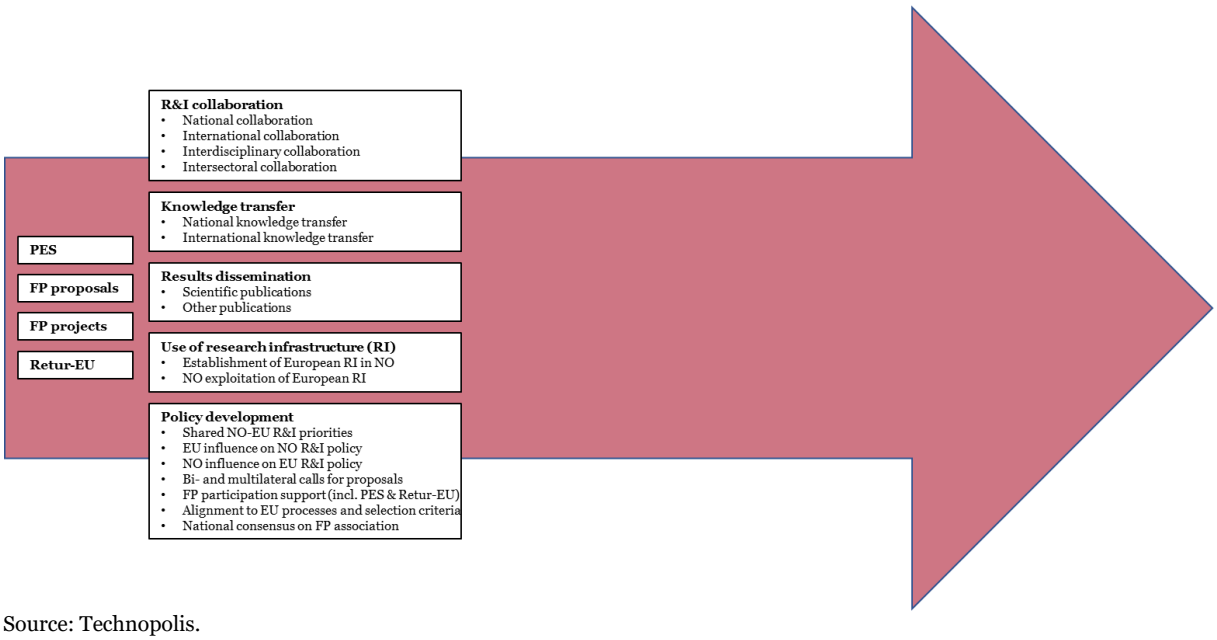
in several Co-funded Partnerships (cf. Table 4.13). Project participation in Co-funded Partnerships is beyond the scope of this evaluation (since it is not included in eCorda), but we can see that Norway, through RCN, participates in almost all such Partnerships. Norwegian actors are also active in selected Missions (cf. Table 4.14). Overall, funding to Norway through Co-programmed Partnerships well exceeds average funding to all countries, while funding through Institutionalised Partnerships is way below average (cf. Table 4.15). Funding to Norway through Co-funded Partnerships is above average, while funding through Missions is slightly below average.

Norway's participation in research infrastructure projects is extensive. Norwegian actors accounted for 2.8 percent of all participations in the Research Infrastructure sub-programme in H2020 and the corresponding share so far in HE is 3.6 percent, while the country's share of funding has more than doubled to 4.0 percent (cf. Table 4.16). Norwegian actors are obviously most active in using and hosting European research infrastructure.

Interviews illustrate that Norway's active participation in programme committees and expert groups is a well-invested effort to contribute to European R&I policy, as well as a means to ensure that Norway participates on equal terms with Member States. Overall, there is close alignment between Norwegian and European R&I policies, meaning that the country's FP participation largely is in line with national priorities, although Norway of course has some country-specific needs that are best dealt with through national R&I funding instruments. Both RCN and IN have adapted their processes and selection criteria of their R&I funding instruments to lower the threshold to FP participation. Interviews further illustrate that Norway's FP participation influences national policy also in other domains than R&I (cf. Section 4.4.5). The many documents published by the Norwegian government and its agencies that reference Norwegian articles resulting from Norwegian FP projects suggest that the projects influence national policies in many domains (cf. Table 4.17). Interviews and survey results provide overwhelming testimony of a national consensus on the importance of continued FP association.

We are now able to add a step to the impact logic for Norway's participation in H2020 and HE, see Figure 4.11.

Figure 4.11. Second step of impact logic.



Source: Technopolis.

5 Impacts

This Chapter explores what impacts the activities and results of the two previous Chapters have contributed, which allows us to complete the impact logic for Norway's participation in the Framework Programmes. We conclude that that the objectives of the Government's Strategy for Norway's participation in Horizon Europe indeed have been achieved, albeit to varying degrees.

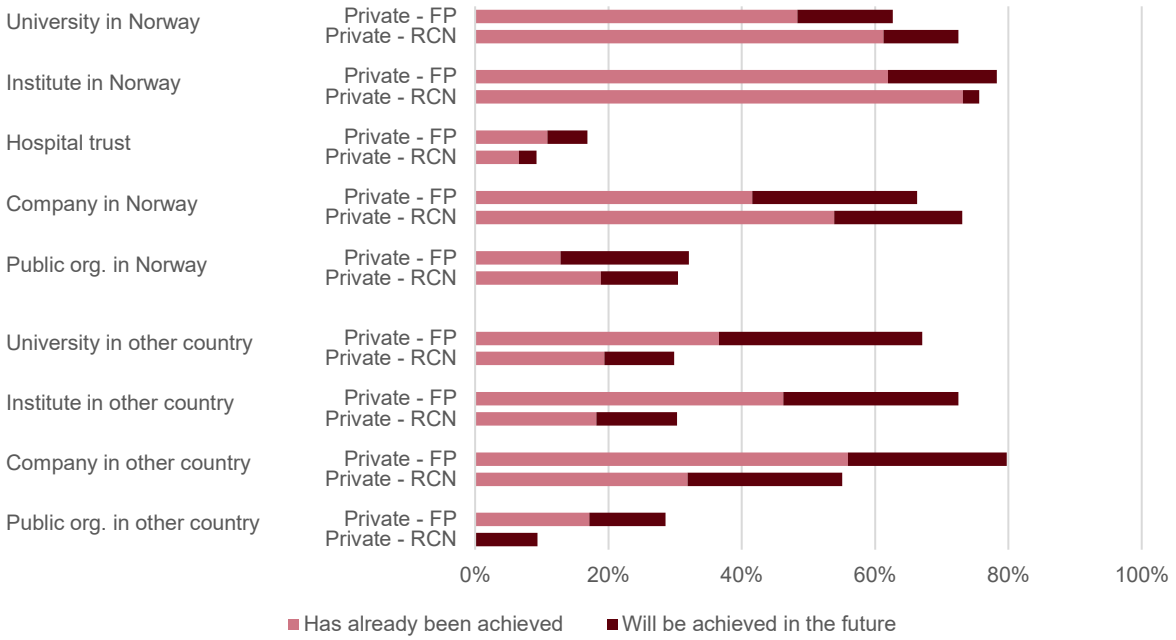
This Chapter relies on results from web surveys to participants in FP and RCN projects, registry analyses of eCorda data, bibliometric analyses, as well as information from interviews with management of key FP participants and R&I policymakers to explore impacts of Norway's FP participation.

5.1 Impacts for private sector

We begin exploring the impacts for private-sector actors through three survey questions on long-term R&I relationships, other impacts, and commercial impacts, respectively. Figure 5.1 illustrates that participants in both FP and RCN projects have established or maintained long-term R&I relationships with Norwegian institutes, universities, and other companies, and this seems to be more common among RCN participants. However, FP participants have nurtured long-term R&I relationships with the same types of foreign organisations to a notably greater extent, and they expect significant further relationships in the future. These results correlate well with the motives of Figure 3.13 and the (short-term) collaborations of Figure 4.1. Fostering long-term R&I relationships with Norwegian institutes in FP projects has become considerably more common since our 2020 evaluation (+31 percent).[41]

[41] We used the terminology "R&I partnership" in the surveys, but in this report we have changed it to "R&I relationship" in the report to avoid confusion with European Partnerships.

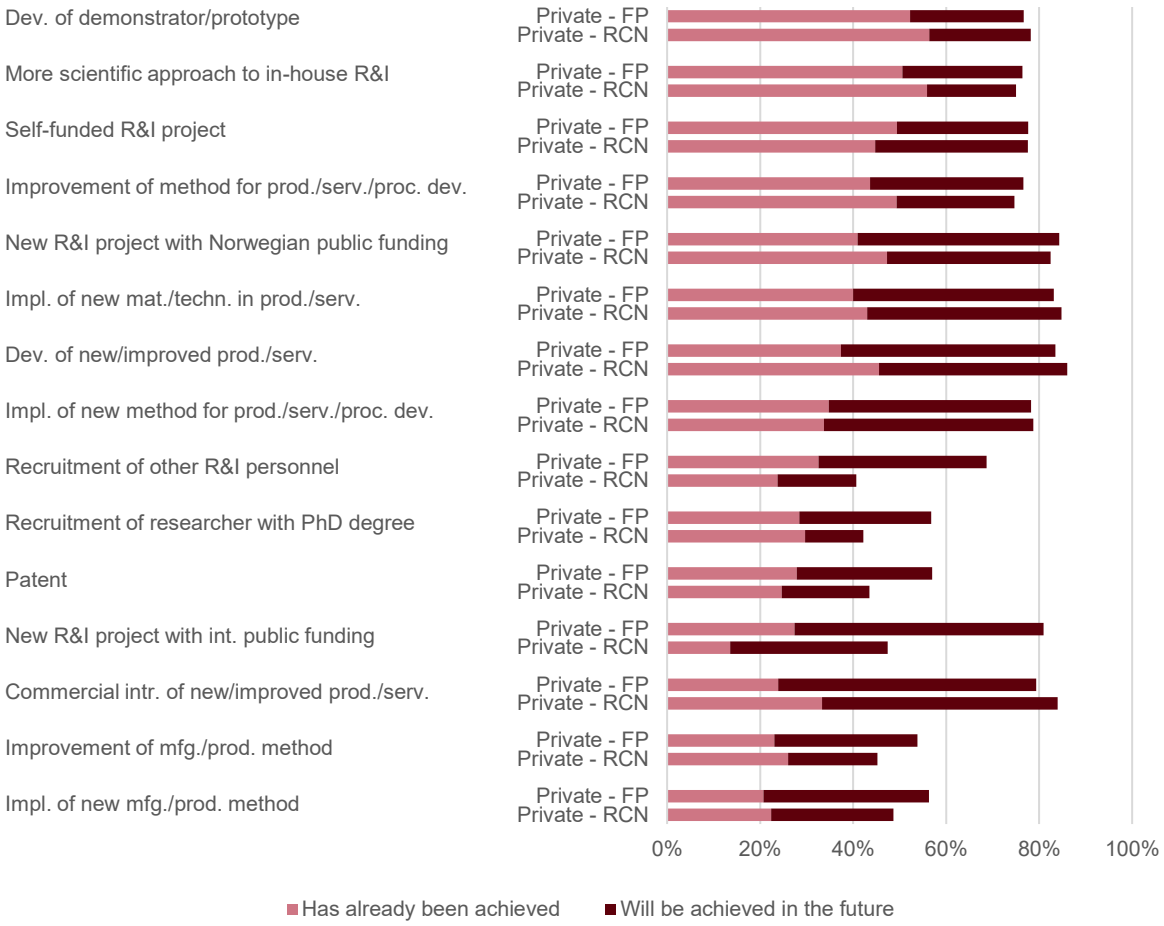
Figure 5.1. Impacts in terms of establishment/maintenance of long-term R&I relationships according to private-sector participants (n_{FP}=92, n_{RCN}=82).



Source: Technopolis web surveys.

Figure 5.2 shows additional impacts experienced by private-sector participants, sorted by impacts already achieved by FP project participants. Perhaps the most obvious conclusions to be drawn from this Figure are that the differences in experiences between FP and RCN participants are mostly subtle, and that expectations for the future are significant throughout. More than half of both respondent categories have already developed demonstrators or prototypes and a more scientific approach for in-house R&I. Nearly as many respondents have already experienced follow-on projects, either entirely self-funded or with Norwegian public co-funding. One in four FP participants has also secured follow-on projects with international or foreign public co-funding, which is double as common as for RCN participants. Many respondents have improved or implemented new methods for product, service or process development, have implemented new materials or technologies. Four in five respondents have developed products or services that either already have been commercialised or are expect to be commercialised.

Figure 5.2. Additional impacts according to private-sector participants (n_{FP}=95, n_{RCN}=80).

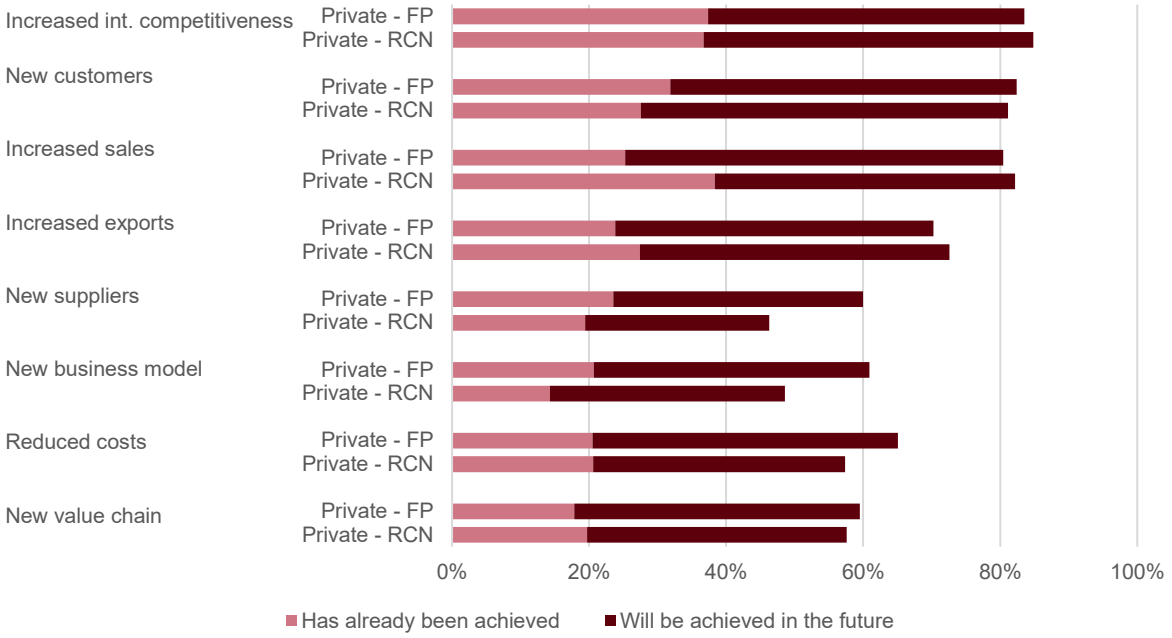


Source: Technopolis web surveys.

One respondent summarised their company's experience of its FP project by saying *"Thanks to our FP participation, we got access to R&D facilities and pilot production in Europe. We worked with partners whom we did not need to pay. We reduced technological risks and gained knowledge that was not available in Norway.'*

Figure 5.3 shows commercial impacts experienced by private-sector participants, sorted on impacts already achieved by FP project participants. Since such impacts take a long time to materialise, it seems warranted to consider both achieved and expected impacts. More than four in five FP and RCN project participants eventually expect increased international competitiveness, new customers and increased sales, and three in five FP participants in the web survey expect all impacts.

Figure 5.3. Commercial impacts according to private-sector participants (n_{FP}=91, n_{RCN}=79).



Source: Technopolis web surveys.

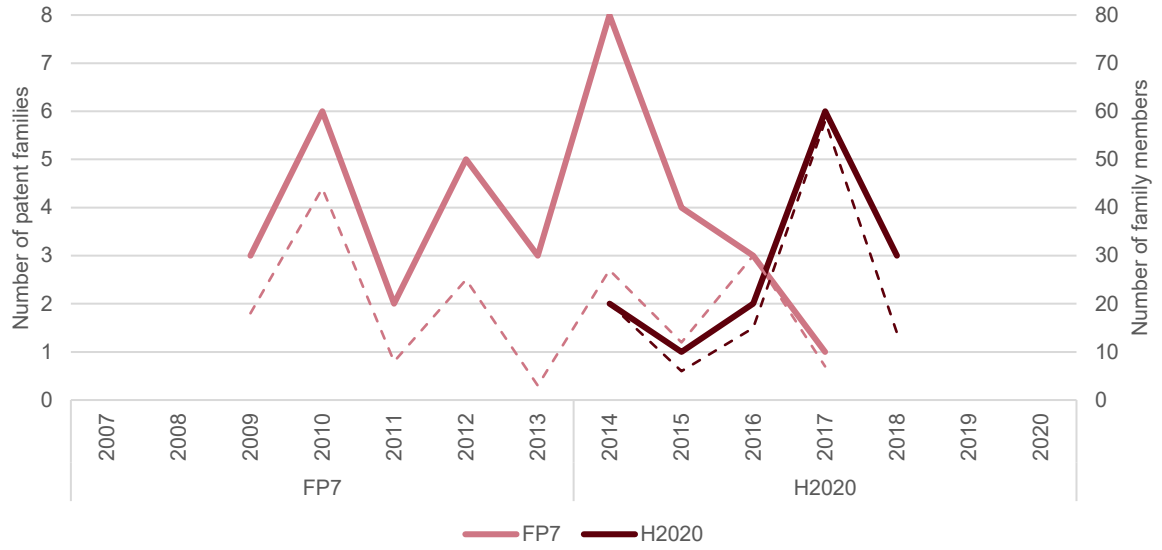
According to Figure 5.2, more than one in four FP participants has submitted patent applications, but we have no way of knowing when these were submitted and when the FP projects were done. Since the Commission now publishes data on patents resulting from FP projects, we may nonetheless quantify the number of patent families with Norwegian applicants (hereinafter "Norwegian patent families").[42] Figure 5.4 shows the number of Norwegian patent families (solid lines, left axis) resulting from Norwegian projects in FP7 and H2020, by priority year (as proxy for the time of the invention).[43] The Figure also shows the number of family members (dashed lines, right axis). In total, there are 50 Norwegian patent families with 291 family members. Most patent family applicants are companies (38 percent), followed by HEIs (32 percent), institutes (28 percent), and hospital trusts (2 percent). Patents are mostly registered with the World Intellectual Property Organisation (WIPO; 45 percent) and the European Patent Office (EPO; 29 percent), whereas the rest are registered with individual countries (including 7 percent in Norway). There are no Norwegian patent applications from H2020 projects after 2018, so it seems likely that the eCorda patent database lacks data for latter years, either because an update of the database is still in the works or due to some error.[44]

[42] A patent family is a collection of patent applications and granted patents filed in different countries that protect the same or a similar invention, or innovation.

[43] The Commission has not yet published any patent data resulting from HE projects.

[44] The data for all patent applications from Norwegian projects in H2020 (i.e. also with foreign applicants) exhibits a similar pattern, thus suggesting that the absence of Norwegian patent applications for latter years does not reflect the actual situation.

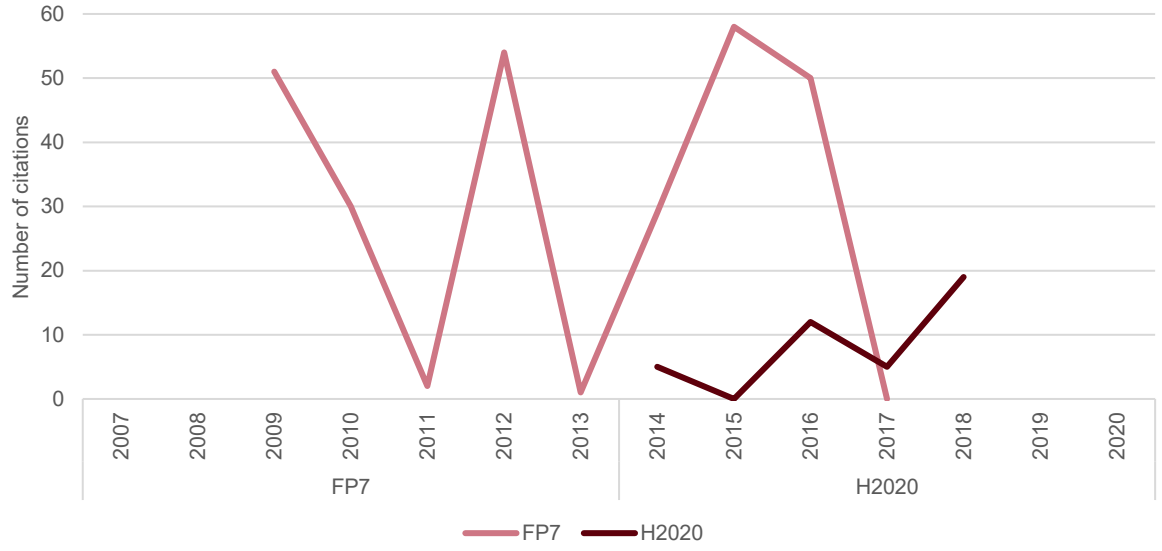
Figure 5.4. Number of Norwegian patent families (solid lines, left axis) and number of family members (dashed lines, right axis) by priority year.



Source: eCorda and Orbis IP.

Figure 5.5 illustrates that other patent applicants have found reason to quote Norwegian patents.

Figure 5.5. Number of citations to Norwegian patents in patents worldwide by priority year.



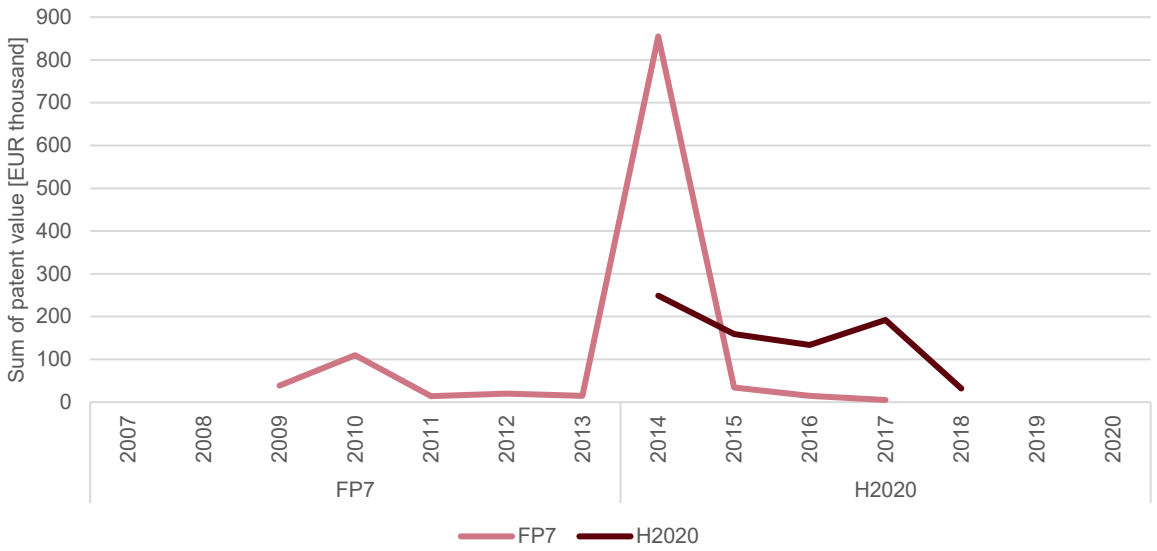
Source: eCorda and Orbis IP.

Figure 5.6 shows the total estimated value of the Norwegian patent families in thousand euros per priority year.[45] The FP7 peak for 2014 is explained by a single particularly valuable patent family (of eight patent families filed that year).[46]

[45] The estimates are made by a machine learning application that predicts the value of a patent based on patents with similar characteristics for which the data provider (Orbis IP) has valuation data.

[46] Most patent families in our sample are awarded a default value of EUR 5,000, but four are valued in excess of EUR 100,000.

Figure 5.6. Estimated value of Norwegian patent families (EUR thousand) by priority year.

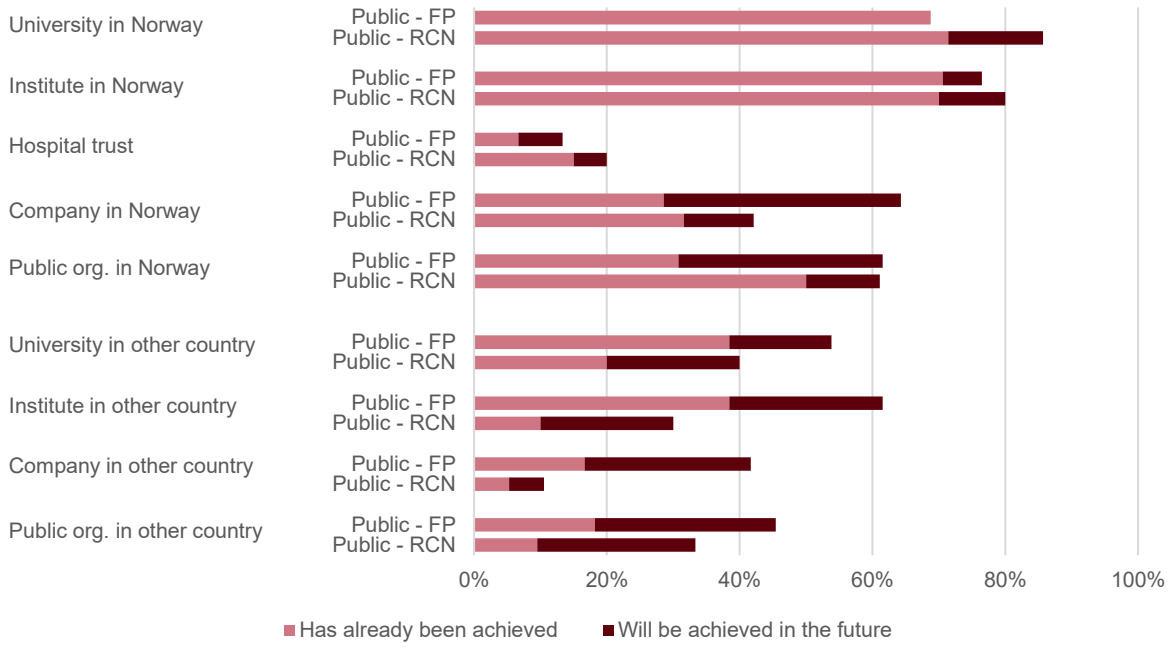


Source: eCorda and Orbis IP.

5.2 Impacts for public sector

Figure 5.7 shows that public-sector FP participants have established or maintained long-term R&I relationships with Norwegian institutes and universities, and to a lesser extent with Norwegian public organisations and companies. Internationally, public-sector FP participants have mainly fostered relationships with universities and institutes, but they expect significantly more of the same in the future, particularly with public organisations and companies.

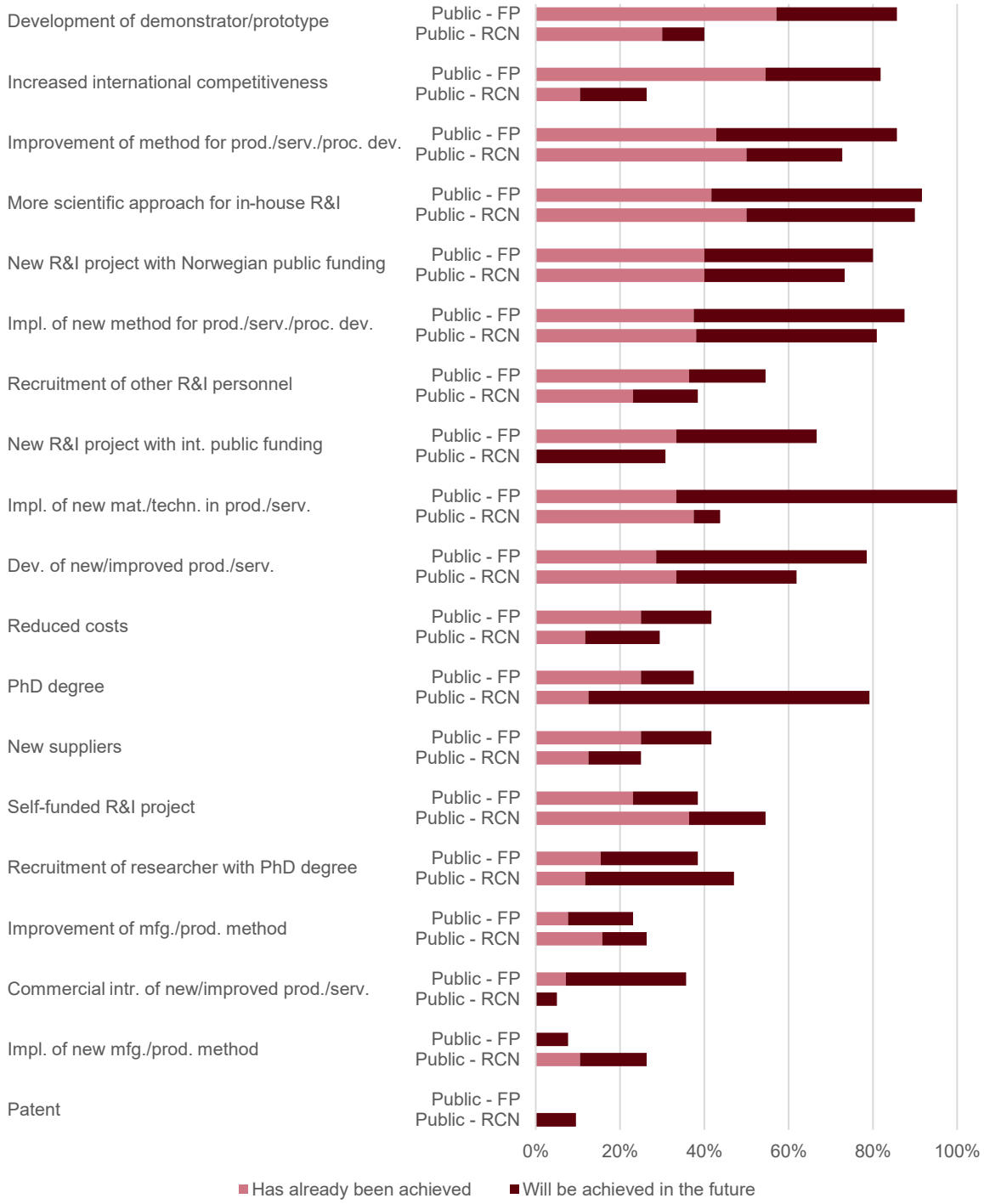
Figure 5.7. Impacts in terms of establishment/maintenance of long-term R&I relationships according to public-sector participants (n_{FP}=17, n_{RCN}=21).



Source: Technopolis web surveys.

Figure 5.8 shows additional impacts experienced by public-sector participants. In contrast to Figure 5.2 – the corresponding Figure for private-sector participants – this Figure reveals some obvious differences between FP and RCN participants; more than half of FP participants have developed demonstrators or prototypes and increased international competitiveness. FP participants have also to a notably greater extent recruited R&D personnel (both with and without PhD degree) and secured follow-on projects with international or foreign public co-funding. All FP participants sooner or later expect to implement new materials or new technologies in existing products or services.

Figure 5.8. Additional impacts according to public-sector participants (n_{FP}=16, n_{RCN}=24).



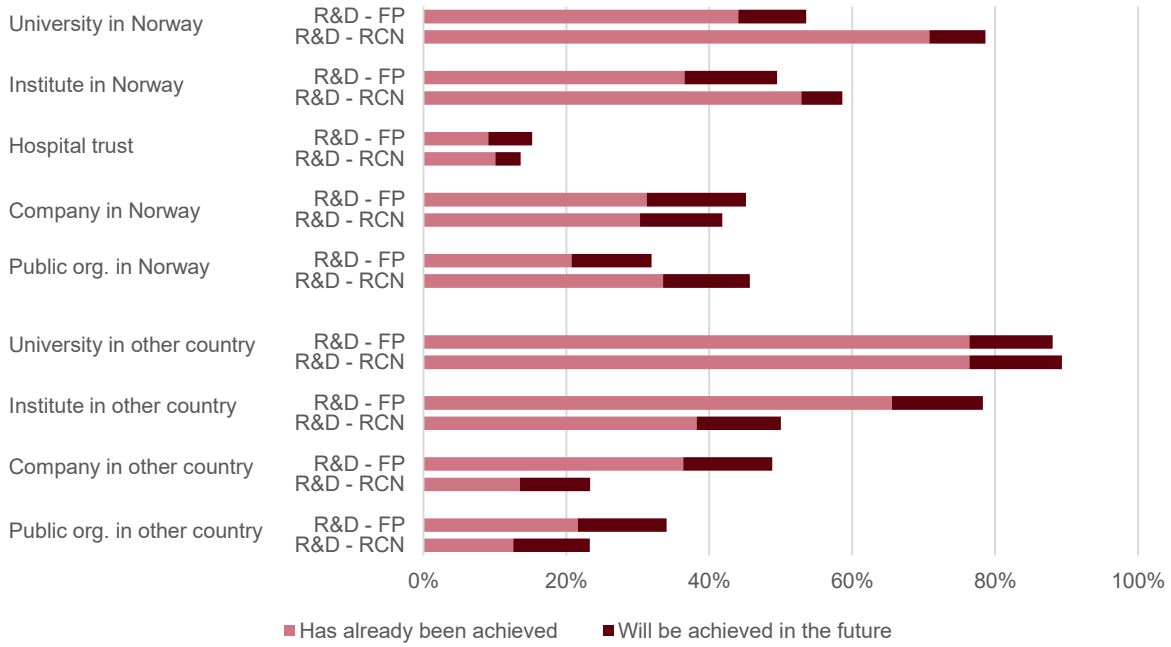
Source: Technopolis web surveys.

5.3 Impacts for R&D sector

Figure 5.9 shows that R&D-sector FP participants have cultivated long-term R&I relationships with foreign actors – mainly universities and institutes – to a significantly greater extent than with Norwegian ones. The reverse largely seems to apply to RCN participants, except for relationships with foreign universities and Norwegian companies where there is no difference. These results correlate

reasonably well with the motives of Figure 3.17 and well with the (short-term) collaborations of Figure 4.3. Since 2020, nurturing long-term R&I relationships with Norwegian universities in FP projects has become more common (+22%).

Figure 5.9. Impacts in terms of establishment/maintenance of long-term R&I relationships according to R&D-sector participants (n_{FP}=301, n_{RCN}=178).

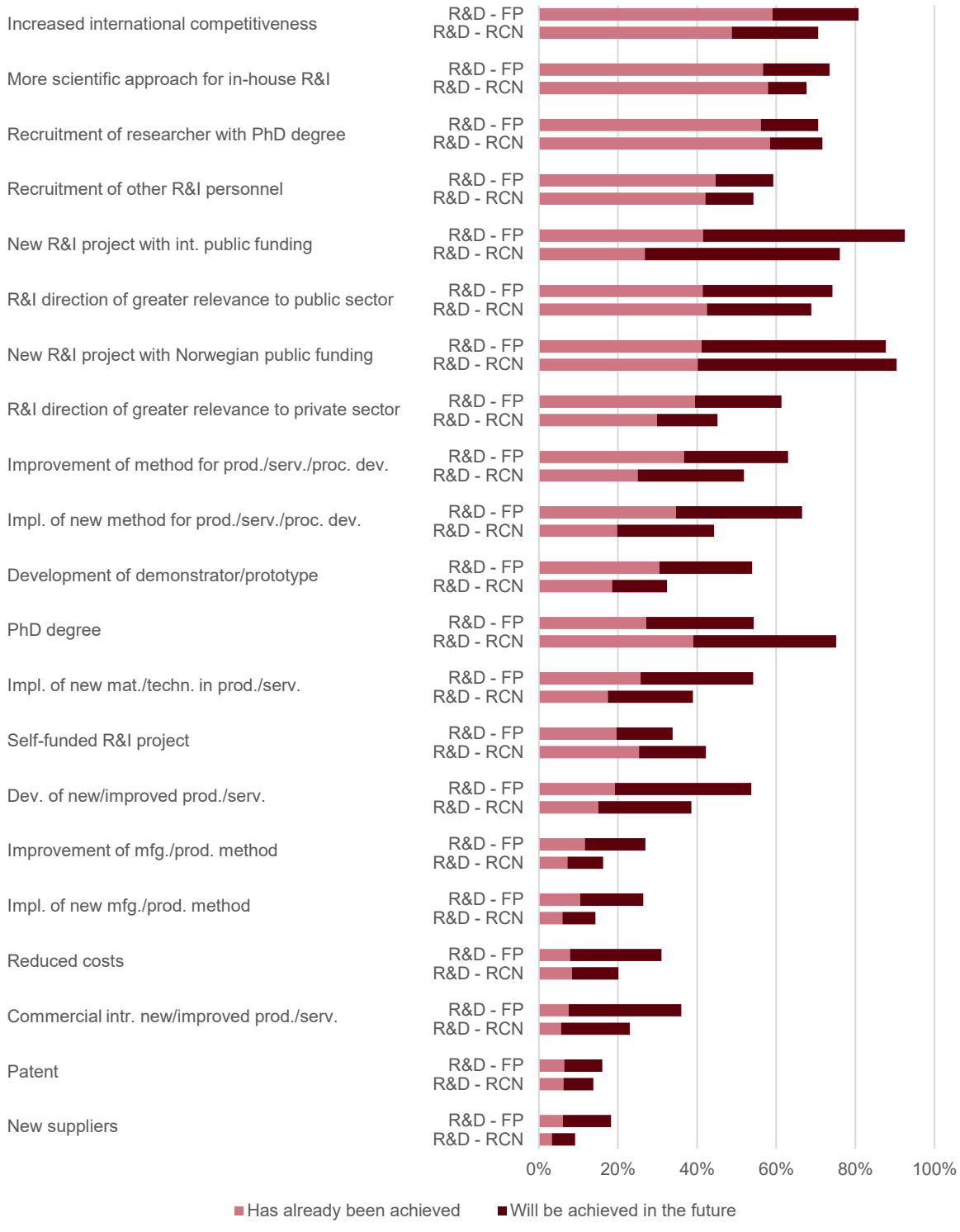


Source: Technopolis web surveys.

Half or more of FP participants have developed increased international competitiveness and a more scientific approach to R&I, and have recruited researchers with PhD degrees, but RCN participants have experienced these impacts to approximately the same extent, see Figure 5.10. FP participants have additionally to a greater degree secured follow-on projects with international or foreign public co-funding, developed an R&I direction of greater relevance to the private sector, have improved or implemented methods for product, service or process development, and have developed demonstrators or prototypes. R&D sector participants have also developed an R&I direction of greater relevance to the public sector, though to the same degree in both FP and RCN projects. In a survey free-text response, an institute manager explains that there are efficiency-related impacts from coordinating FP projects:

> *Coordinating projects contributes to the development of a delivery-oriented culture within the institute.*

Figure 5.10. Additional impacts according to R&D-sector participants (n_{FP}=269, n_{RCN}=177).



Source: Technopolis web surveys.

Both HEI and institute respondents explain that FP projects have contributed to greater visibility in the research community which is tantamount to recognition of competitiveness at European level. Respondents of both categories also argue that the prestige that FP projects award facilitates recruiting top international talent. An HEI representative explains:

> *EU projects attract talented scientists and researchers from other countries, many of whom stay and contribute to Norway's scientific innovation, competitiveness, and university research ranking.*

SSB data show that the share of researchers in HEIs, institutes and hospital trusts that themselves and their parents are born outside Norway has increased from 18 percent in 2007 to 31 percent in 2024.[47] This observation of course does not prove that there is causality between FP projects and immigration, but there is at least correlation between them.

Similar impacts are mentioned in interviews with both HEI and institute representatives, who convincingly argue that that the competition for funding and the resulting international collaboration in FP projects clearly is beneficial to research quality and competitiveness. In the words of an HEI interviewee:

> *I am convinced that there are quality effects. We would have been on a completely different level without the FPs.*

An institute manager argues along similar lines in a survey free-text response:

> *Participation in FP projects can enhance institutional capacity and competitiveness through exposure to high standards, peer review, and innovation ecosystems.*

Interviewed HEI representatives state that having many ERC grants adds to universities' international reputation, which attracts not only very qualified researchers but also undergraduate students, and they note that many ERC grant holders are not Norwegian citizens. HEI representatives go on to explain that the need for relevance and innovation has become more accepted even among more theoretically inclined researchers; this development is driven by the FPs' focus on impact, particularly in the subprogrammes of pillar 2.

Just like HEI representatives, interviewed institute representatives note that being active in the FPs makes recruitment easier. They also argue that FP projects improve institutes' ability to fulfil their mission to serve companies. One interviewee explains:

> *We assist our customers in accessing markets. We are ready for the challenges of tomorrow in order to support the industry of tomorrow.*

Another institute serves society by other means:

> *EU environmental ambitions are extremely high, and this translates into an important driving force that Norway must understand and relate to. FP projects gather leading expertise to address major environmental challenges that you can't solve by working in Norway, but you can do a lot in the EU. FP projects may have societal impact in a completely different way than Norwegian projects, especially when we coordinate them. FP projects provide access that we don't have otherwise.*

Interviews with the most frequent FP participants among institutes reveals that they have made a strategic choice to coordinate large collaborative FP projects, both to influence their research direction and to get substantial budgets, and they appear to have become very good at it. One interviewee relates that large French and German institutes have asked the Norwegian institute to take on the role

[47] "13920: R&D personnel, by immigration category, contents, year and sector", Statistics Norway.

as coordinator, while another one argues that being coordinator gives access to the Commission that provides opportunities to influence upcoming calls.

Institute interviewees provide examples of their research being implemented in industry and society, including in aquaculture, fisheries, pilot energy systems, monitoring of microplastics, risk assessment of nanoparticles, and traffic management measures to improve air quality.

There are also examples of structural impacts on both HEIs and institutes due to FP participation, including increased research volume, financial predictability and "damage tolerance", internal functions to support FP proposers and local project leaders in on-going projects, and representation offices in Brussels. One interviewee relates that the institute due to a series of FP projects now works in new, but complementary fields and concludes that "there isn't much we do now that we did ten years ago".

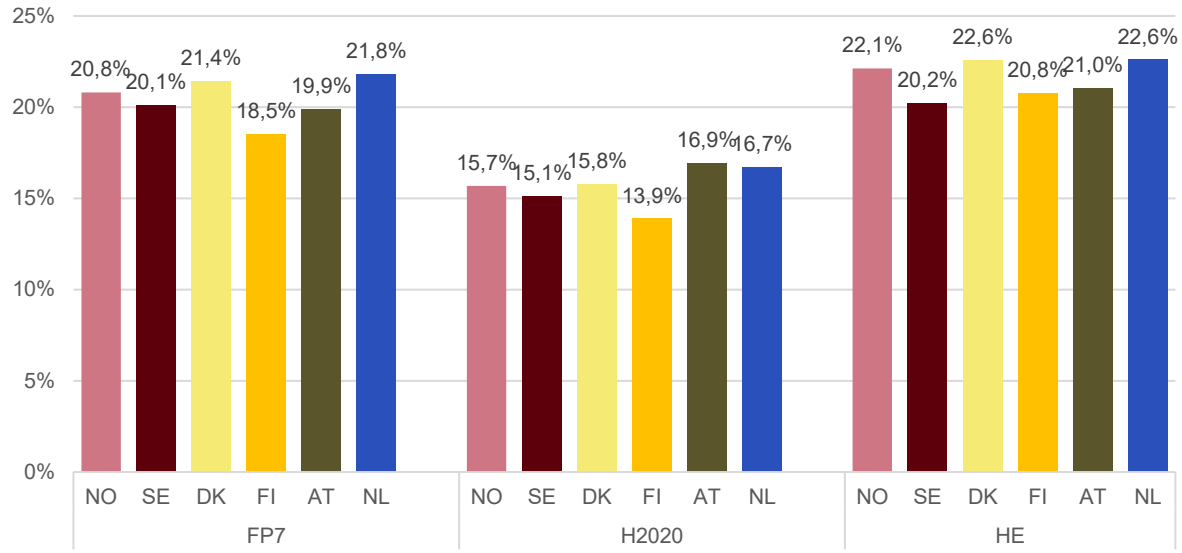
5.4 Impact for R&I sector and society

5.4.1 R&I competitiveness

To quantitatively assess Norwegian competitiveness, we compare the FP performance of Norway (NO) to that of its conventional comparator countries (*barometerland*): Sweden (SE), Denmark (DK), Finland (FI), Austria (AT), and the Netherlands (NL).

Figure 5.11 summarises the success rates for proposals with partners from each of the six countries. A first observation is that success rates decreased dramatically in H2020 but that they have so far in HE been higher than in both the preceding FPs. Norway was in third place among the six countries in FP7, dropped to fourth place in H2020, but has recovered to third place in HE.

Figure 5.11. Success rates of proposals to FP7, H2020, and HE with partners from country.

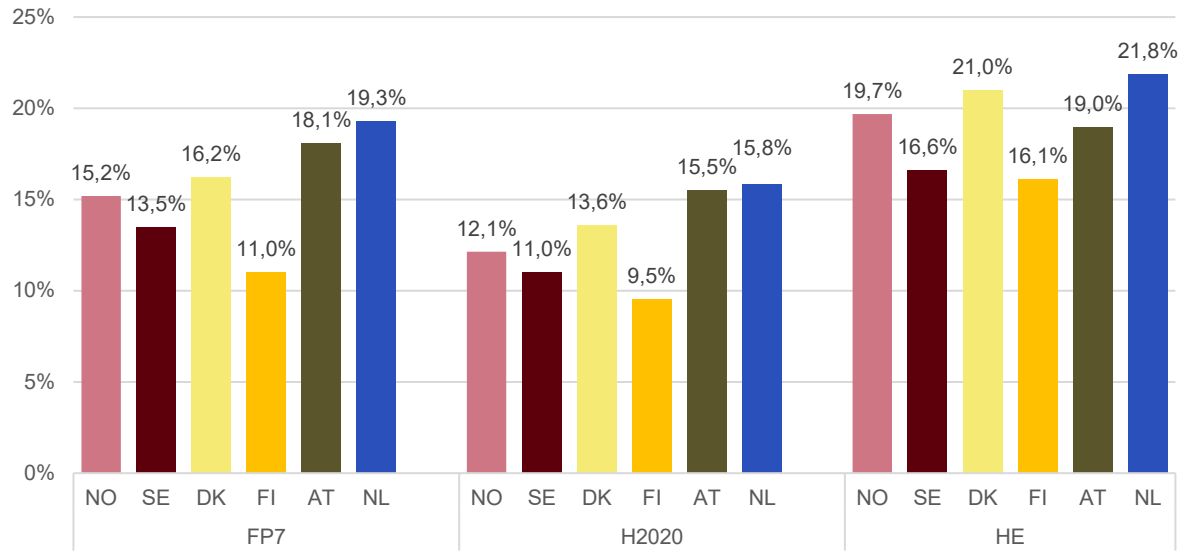


Source: eCorda.

Figure 5.12 makes the same comparison for proposals coordinated by an organisation from each of the countries, which may be a better measure of competitiveness since a coordinator has considerably more influence over the quality of the proposal than a regular partner. H2020 was a low-water mark also according to this measure and success rates have increased dramatically in HE. The most skilled coordinators (among these countries) have in the past clearly come from the Netherlands and Austria, but in HE Danish and Norwegian coordinators have honed their skills considerably. Norway was in

fourth place in both FP7 and H2020 but has moved up to third place in HE. The high Norwegian success rates are to a significant extent due to coordinators from institutes, who have a success rate of 30 percent so far in HE, compared to 19 percent for coordinators from HEIs, 17 percent for others, 11 percent for companies and 0 percent for public organisations, see Table B.0.11 in Appendix B. To be fair, it should be noted that HEIs and companies tend more frequently to submit proposals to sub-programmes with lower overall success rates than institutes (this is not specific to Norwegian participants).

Figure 5.12. Success rates of proposals to FP7, H2020, and HE coordinated by country.

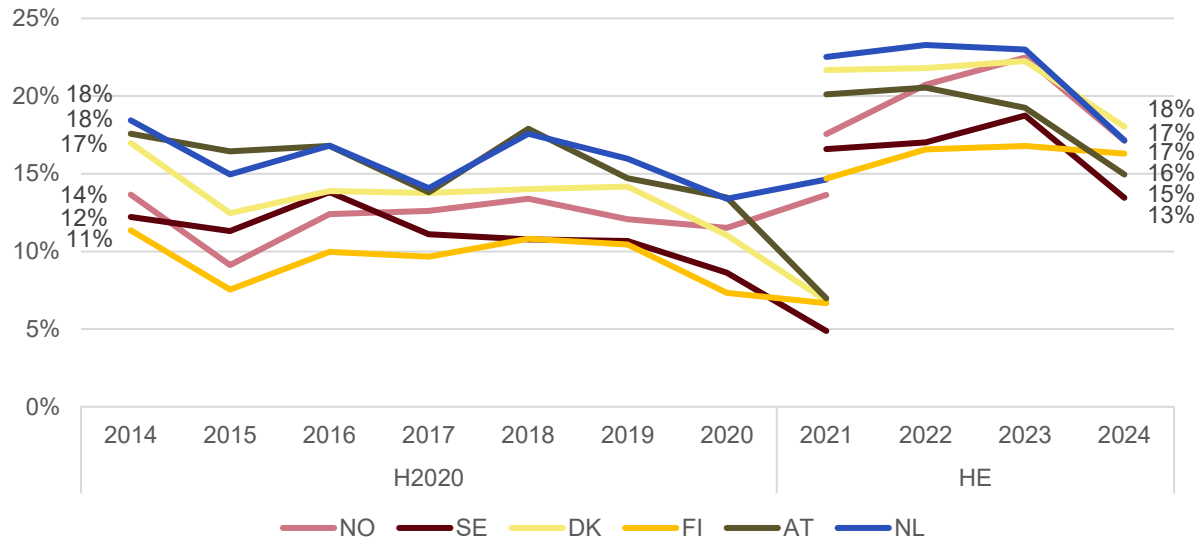


Source: eCorda.

A comparison of the previous two figures might suggest that Norway (and indeed all the other countries) do not perform as well when they coordinate a proposal, compared to when they are just partners. However, the figures are not directly comparable, so such conclusions should not be drawn. Success rates tend to be higher for proposals with more partners on average. This is likely due to differences between the sub-programmes in terms of allowable/suitable consortia sizes and levels of competition (i.e. success rates). For example, proposals to ERC and the SME Instrument in H2020 most often have only a single proposer and these sub-programmes are also among the most competitive. In Figure 5.11 the larger proposals (those that are also, on average, more often successful) are counted multiple times, once for each country involved – while in Figure 5.12 they are only counted once and for just one country. Therefore, the larger (and, on average, more successful) proposals are given greater weight in the calculation of rates in Figure 5.11 than in Figure 5.12.

Figure 5.13, which shows the variations in success rates of coordinated proposals to H2020 and HE with time, illustrates that success rates tend to exhibit similar trends for all countries suggesting that variations have more to do with the calls issued than with the proposals submitted. Norway tended to be in the middle of the pack in H2020 but seems to have established itself near the top since 2023.

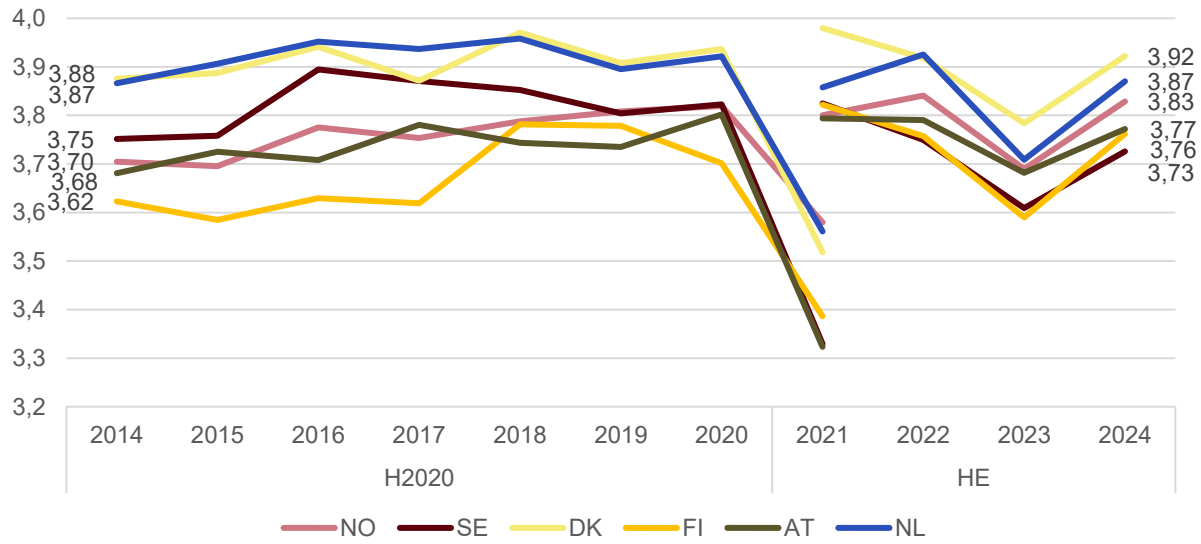
Figure 5.13. Success rates of H2020 and HE proposals coordinated by country.



Source: eCorda.

Another way of assessing competitiveness is to consider the excellence score that proposal evaluators award to proposals, where the maximum is 5. Figure 5.14 shows the variations in average excellence scores of coordinated proposals to H2020 and HE over time.[48] In this respect, Danish and Dutch coordinators have outshone the other countries throughout the period, but Norwegian coordinators have apparently improved so far in HE.

Figure 5.14. Excellence scores for H2020 and HE proposals coordinated by country.



Source: eCorda.

A third way to assess competitiveness is to consider funding. Table 5.1 shows that all countries except Sweden have increased their financial return over the three FPs, and Norway has seen the fastest increase. All countries have experienced an increase in absolute funding per 1,000 FTE researchers

[48] Excellence score is not available for all proposals.

between FP7 and H2020. A meaningful comparison between H2020 and HE cannot be made until the present programme has been completed, but to date Norway's figure is by far the largest.

Table 5.1: Funding to participants in FP7, H2020 and HE from Norway and its comparator countries. Current prices.

	NO	SE	DK	FI	AT	NL
FP funding FP7 (EUR million)	754	1 708	1 061	876	1 184	3 330
FP funding H2020 (EUR million)	1,667	2,281	1,690	1,509	1,942	5,328
FP funding HE (EUR million)	1,400	1,424	1,225	1,226	1,369	3,695
Financial return FP7	1.7%	3.8%	2.4%	2.0%	2.6%	7.4%
Financial return H2020	2.5%	3.4%	2.5%	2.2%	2.9%	7.9%
Financial return HE	3.3%	3.3%	2.9%	2.9%	3.2%	8.6%
FP funding FP7 per 1,000 FTE (EUR million)	21	22	19	16	20	32
FP funding H2020 per 1,000 FTE (EUR million)	37	25	28	30	25	35
FP funding HE per 1,000 FTE (EUR million)	26	12	18	21	15	20

Source: eCorda.

An analysis by RCN concludes that the increase in funding shown in Table 5.1 likely, and to a significant extent, is due to lower competition, mainly due to changes to the FP participation status of the UK and Switzerland. The UK, which was an EU Member State under H2020, was not associated to HE in its initial years following Brexit but became associated on 1 January 2024 (with the exception of access to the EIC Fund). Switzerland, which was also associated to H2020, was not associated in the early years of HE (from the beginning only to Pillar 1) but regained Associated Country status on 1 January 2025. The FP participation of both countries consequently decreased markedly and since both were big recipients of H2020 funding, this likely goes a long way to explain the increasing success rates in HE illustrated by Figure 5.11–Figure 5.13. Moreover, decreasing participation by Hungary, Israel and Sweden has likely also contributed to this development.[49]

5.4.2 Private-sector competitiveness and value added

Identifying and isolating the direct impacts of a single policy instrument or programme on firms' performance is inherently difficult. Firm-level economic outcomes are shaped by a wide range of external factors, and econometric analysis requires a large number of observations.

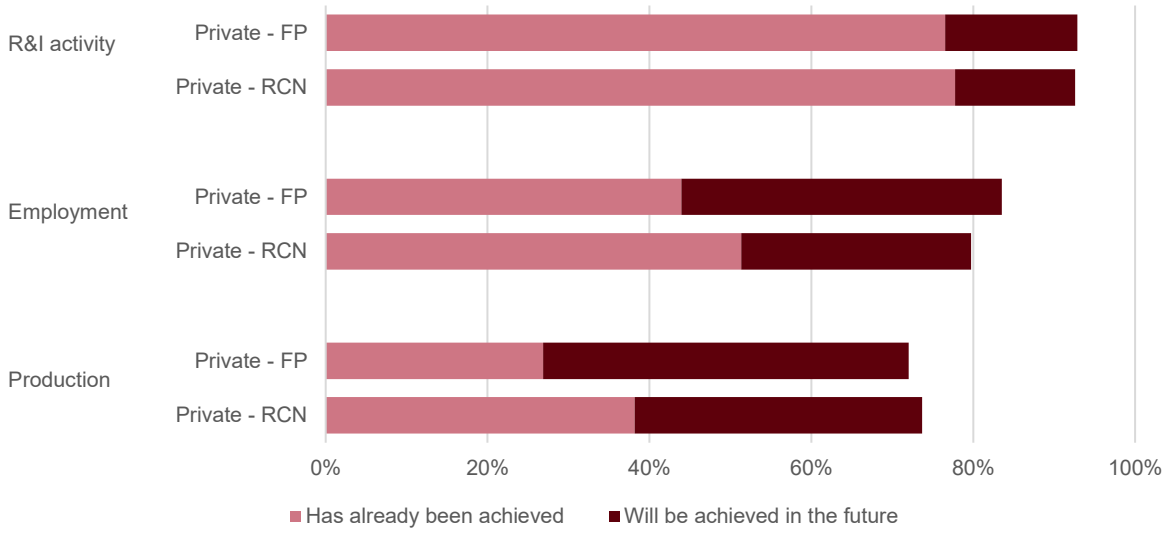
The web survey suggests that companies' FP participation contributes to international collaboration and innovation in various ways, such as new prototypes, products and processes and sales (cf. Section 5.1). Web survey data also suggests that FP participation brings economic impacts in terms of increased employment and production in Norway, see Figure 5.15. Four in ten company respondents report that they have already increased employment, and a further four in ten expect such impacts in the future. Nearly three respondents in ten report increased production, and a further four in ten expect increased production in the future.

Some private-sector respondents obviously do not report such impacts. The absence of reported impacts may be due to a variety of factors, such as innovation not being a goal, technological barriers, or challenging market conditions. Some companies may need further to develop their results or realise

[49] "Endringer i landenes deltakelse fra Horisont 2020 til Horisont Europa", Indikatorrapporten, RCN, 2025 (https://www.forskningsradet.no/indikatorrapporten/fokusartikler-og-dypdykk/2025/endringer-i-landenes-deltakelse-fra-horisont-2020-til-horisont-europa/ viewed 8 December 2025)

their commercial potential. Overall, the differences in the proportion of respondents reporting impacts between FP and RCN projects is modest. The findings are consistent with other survey-based studies on RCN measures[50].

Figure 5.15. Impacts in terms of maintained or increased R&I activity, employment and production in Norway according to private-sector participants (n_{FP}=98, n_{RCN}=81).



Source: Technopolis web surveys.

Web survey data are based on respondents' perceptions and on the subset of companies that choose to reply to the survey. To further investigate impacts of FP participation on private-sector competitiveness and value added, we have conducted an econometric assessment, as well as looked at findings from other studies on economic impacts of R&I.

In an econometric assessment we use statistical techniques to estimate the impacts of a given policy, programme, or intervention based on observed data. A crucial design choice in an econometric study is the definition of the variables and treatment and control group, which is important in interpreting the results.

We are particularly interested in impacts of FP participation compared to national R&I measures. We thus compare the economic outcome for companies with FP funding and national funding to companies only receiving funding from RCN, Skattefunn, or Innovation Norway[51]. We use matching procedures to compare similar companies, by matching companies on number of employees, fixed assets, industry affiliation and age the year before project funding.

In the previous evaluation (Tofteng, et al., 2020) we found no significant difference in economic outcomes in terms of sales, employment, value added[52], labour productivity[53], and profitability[54] for

[50] I.e. Assessment of RCN measures (Samfunnsøkonomisk Analyse AS, 2025)

[51] Only funding under the "innovasjonsoppdrag" thus covering «Innovasjonskontrakter» and «Miljøteknologiordningen»

[52] Value added is calculated by SØA as the sum of compensation of employees and operating surplus. This is an indicator of value creation, which is we are asked to evaluate as part of part 1 of the evaluation.

[53] Our measure of productivity is value added per man-years, which differs from the measure used in the evaluation of Skattefunn, where value added per hours worked was used. Our definition of productivity is due to a lack of data and our measure is therefore somewhat less precise, but still a good measure of productivity. Productivity is a relevant measure since one the objectives of R&D (in economic theory) is to increase productivity, and much of the international literature on effects of R&D focus on the effect on productivity.

[54] Return on assets ("totalkapitalrentabilitet" in Norwegian)

companies that had received FP funding compared to those that had only received funding from RCN, Innovation Norway or Skattefunn.[55]

One interpretation was that FP funding contributes to the same impacts as national instruments, at least in the short term. Another possible explanation was that the investigation period (2007–2017) was too short, since many projects were still on-going or recently completed at the time, and the benefits of FP participation may take longer to materialise.

Our treatment group consists of both coordinators and participants, whereas our control group only includes project leaders. It would seem reasonable to expect a more pronounced average economic outcome for project leaders of RCN projects than for project participants of FP-funded projects. However, FP projects are highly competitive and larger and can thus lead to different market access and networks that lead to economic outcomes for companies.

This time we tested for impacts using the current evaluation period (2018-2024)[56] as well as projects covered in the previous evaluation (2007-2017) but with company accounts until 2024. The latter is done in order to investigate whether there are "long-term" impacts of FP participation compared to national funding. As in the previous evaluation, we compare companies with FP funding to companies with funding from national R&D funding schemes, covering RCN, Skattefunn and Innovation Norway. The characteristics we match on are company size, fixed assets[57], industry affiliation and age.

In the data from the previous evaluation period, we estimate impacts for about 200 companies, after losing about 200 FP-funded companies in the matching procedure[58], while the control group consists of almost 800 companies with funding from national schemes. In the present evaluation period, we estimate impacts for about 150 companies, after losing around 250 companies in the matching procedure.

With regards to projects in the present evaluation period (2018–2024), we find no statistically significant difference for any economic outcome between companies that received FP funding and those that received funding from national schemes. We find no statistically significant difference for any outcome with regards to the older projects (2007–2017) either. However, about half the estimation sample in both the treatment and the control groups are companies with less than five employees (after the matching procedure). If we exclude these companies, we reduce the sample size, but we also restrict the analysis to more established companies. For the dataset of older projects, we then find statistically significant difference in turnover growth and man-years for companies with five or more employees compared to nationally funded companies.[59] However, we find no significant impact on productivity, value added or profitability. Note that this estimate is for a sample of just under 100 companies. The point estimates suggests a modest increase of 5 percentage points higher revenue and 2.5 percent higher man-years for companies with FP and national funding compared to those with only national funding over the period.

[56] Note that we include 2018 in the estimation for the recent period, both because 2018 was not included in the estimation in the previous evaluation (Samfunnsøkonomisk Analyse, 2020). This way allows us to include all H2020 private sector participants and as many companies as possible to increase the sample size and thus make the results more robust.

[57] «Aktiva» in Norwegian

[58] Big companies like Borregaard, Yara, Hydro, Rolls-Royce Marine and Kværner are dropped due to a lack of matches

[59] The reason for doing this is merely to split the sample in two, to check whether half the sample has statistically significant effects. Another check we did on the original sample was to exclude companies in the control group with only Skattefunn-funding, since tax credit financing can be argued to differ from direct grants. However, these regressions resulted in no statistically significant results.

The econometric assessment suggests that the source of R&I funding may be less important than participation in R&I activities as such. This observation also applies to the web survey results presented above.

Other empirical studies comparing funded and non-funded firms can provide insight into the impact of public R&I funding. We make a distinction between studies which compare companies that received R&I funding with those who applied but did not get funding[60], and studies which compare companies that received FP funding to those that received funding from national funding schemes[61]. Both types of studies typically assess impacts by comparing economic outcomes on for example sales, employment, value added, productivity before and after receiving R&I funding (difference-in-differences) and by constructing a control group using matching procedures. The matching procedure usually involves identifying firms with similar characteristics, in terms of number of employees and industrial affiliation.

Our findings are in line with study on Finnish FP funding (Piirainen, et al., 2018) and a more recent study of FP participation in the UK. Piirainen et al. (2018) compared companies with FP funding with companies with “only” national (Tekes) funding and estimated the performance of the groups of companies, using indicators such as employment, turnover, value added, labour productivity, profits and R&D expenditure. The main result of their analysis was that they found no statistically significant difference in the economic performance of FP-funded companies compared to Tekes-funded companies. However, when they included companies with both FP and Tekes funding in the treatment group, they found that turnover and value added had grown relatively more in the FP group than the Tekes group.

Mitra & Niakaros (2023) studied the impacts of H2020 grants on companies' financial outcomes.[62] The study covered data from 2010 to 2022, involving around 40,000 private companies, and comparing firms that received H2020 grants with those that applied for, but did not receive such funding. However, companies in both groups may have received R&D funding from national schemes, as this is not controlled for. The findings revealed that recipient companies experienced a 20 percent increase in employment and a 30 percent increase in total assets and revenues compared to ones that were unsuccessful despite high quality applications (European Commission, 2024). Impacts are present beyond the average duration of projects in the sample (2.5 years) (DG for Research and Innovation, 2023). Technopolis’ (2025) evaluated UK participation in H2020 and compared firms with FP funding with those that applied for, but did not receive such funding. They found no statistically significant differences in turnover and number of employees in an econometric analysis.

Fjærli and Rybalka (2026) studied the impacts of RCN funding on companies, comparing those that had received funding to those with failed proposals, despite good evaluation scores. However, companies in both groups may have received R&D funding from Skattefunn and other funding agencies. They found that companies with RCN funding had higher growth in R&D intensity, turnover, and number of employees the years after their proposal succeeded, compared to companies with failed proposals. These findings support those of the aforementioned H2020 study in that public R&I funding seems to have an immediate impact on activity. The estimated impacts are larger and more distinct for young and small companies. Fjærli and Rybalka (2026) found no significant impact on productivity, except for the group of the youngest companies.

The studies suggest that being awarded public R&I funding is better than not at company level, but that the source of funding does not seem to have an impact. In the H2020 study, companies in both the treatment group and the control group may also have received national funding, while in the RCN

[60] For example Cappelen et al. (2015), Mitra & Niakaros (2023), Fjærli & Rybalka (2026) and Technopolis (Evaluation of UK participation in H2020, 2025)

[61] For example Piirainen et al. (2018) and Samfunnsøkonomisk Analyse (2020)

[62] See study The Horizon effect: A counterfactual analysis of EU research & innovation grants (DG for Research and Innovation, 2023) and press release by the European Commission (European Commission, 2024)

study, companies in both the treatment group and the control group may also have received other national or EU funding. It seems likely that the majority of the companies in both datasets have received other R&I funding, which means the studies are more similar to the econometric analysis in this evaluation than they appear at first glance.

Other studies have investigated the long-term effect of investments in R&D. Cappelen et al. (2023) found a private net return on investments in R&D in the region of 5–10 percent per year. Møen (2019) looked at impact across sources of funding and found that the private return was higher for Skattefunn (19 percent) than for RCN funding (IPN) was +/- 0. Note that Cappelen et al. (2023) estimates the effect of R&D on value added, while Møen (2019) estimates the impact on productivity.

The varying, but modest results are in line with a meta-study on the economic impact investments in R&I. Frontier Economics (2023) found that the economic return varied widely (0-30 percent) between studies, partly due to the different methodologies, but also because there is no universal economic return. However, they found that the private return is typically higher for purely private investments in R&I than for those supported by public instruments, which is in line with Møen (2019), reflecting that public investment tend to serve broader policy objectives than commercial ones.

This is particularly relevant with regards to the FPs. By the end of 2024, more than eight out of every 10 euro went to collaborative projects (European Commission, 2025). Also, Norwegian private-sector participation was dominated by collaborative projects, and most companies participate as partners. This means that FP funded companies in the econometric analysis covering the present evaluation period is dominated by participants in projects under Pillar 2 of and Pillar 3 of H2020. Although the ultimate objective of companies is commercial, immediate innovation or economic impacts may not be the primary motivation, or even the objective, in collaborative projects.

We expect that participation in SME and scale-up instruments are more commercially motivated, in the short run. Santoleri et al. (2022) have studied the H2020 SME instrument under Pillar 3 which accounted for around 3.75 percent of the H2020 budget. They found positive impacts on investment, and company growth, when comparing companies that were awarded funding with those who were not. The mid-term evaluation of HE also found that every euro invested in innovative start-ups through the EIC Fund had attracted more than three euros from private investors (European Commission, 2025).

During the period 2019–2024, there were approximately 80 Norwegian participations in the SME instruments[63]. We cannot restrict the econometric analysis to single-beneficiary projects or specific instruments as it would reduce the sample size too much, but we did not find any additional impacts for companies with less than five employees.

Our interpretation of the web survey, econometric analysis, and other empirical studies is that receiving FP funding increases R&I activity, and it may also increase sales, and employment. Some may benefit, others not. We cannot document impact on long-term productivity, profitability or value added. It is, however, important to bear in mind that a lack of observed effect does not imply that no effect exists.

Companies apply for FP funding despite the uncertainty regarding commercial impact. This indicates that companies perceive participation as worthwhile. It is also important to bear in mind that the benefits of FP participation extend beyond R&I- and private-sector competitiveness.

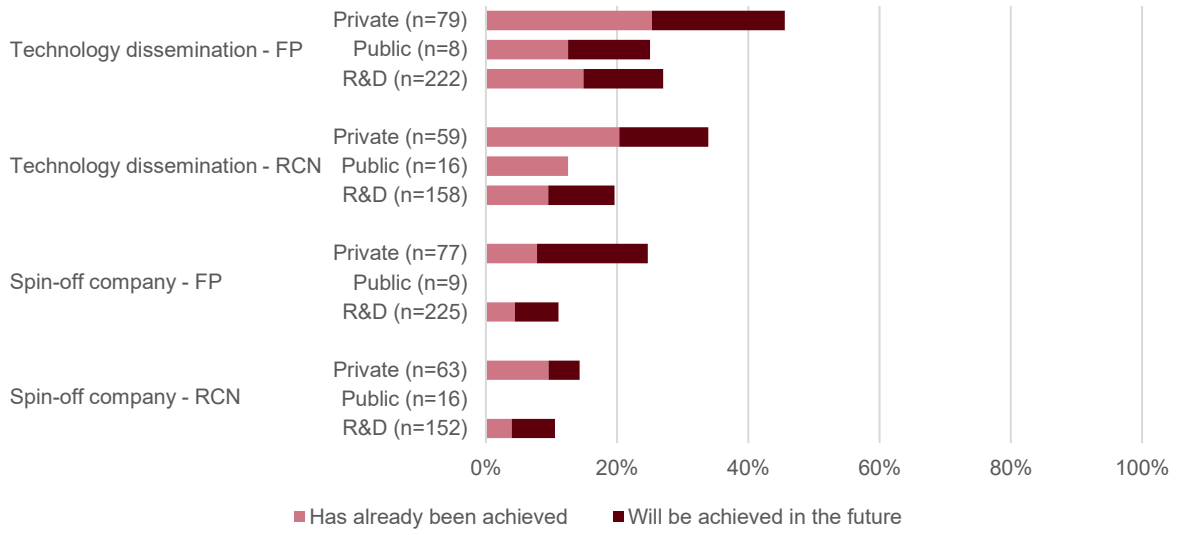
[63] Covering: SME Instrument (H2020), EIC accelerator and EIC pathfinder (HE)

5.4.3 Wider effect on private and public sector

Participation can generate spillover effects through various channels, which are a key rationale for public investment in R&I. Such external effects may arise, for example, through the establishment of new firms and the dissemination of technology.

Figure 5.16 includes respondents view on impacts related to technology dissemination and the creation of spin-off companies. The Figure illustrates that, according to participants from the private and R&D sectors, technology dissemination between industry sectors in Norway has been achieved to a greater extent through FP projects. Moreover, FP projects come out ahead when it comes to spin-off companies, according to private-sector participants. Six private-sector respondents say that spin-off companies have resulted from FP projects, and they name seven of them. On the same note, ten R&D-sector respondents answer that spin-off companies have resulted and name six of them.

Figure 5.16. Impacts in terms of technology dissemination and spin-off companies.



Source: Technopolis web surveys.

Norway can also benefit from competence building and the development of an innovation culture. Interviewees from industry organisations and EU advisers suggest that companies participating in the FPs are typically internationally oriented, innovative, and ambitious. Participation in FP projects, where firms are exposed to competition and the R&D frontier, can further strengthen innovation capabilities and contribute to the development of an even stronger culture of innovation.

To investigate this, we have investigated data from national innovation survey[64]. By combining CIS data for the years 2020–2024 with information about R&D project funding, we can compare the responses of FP-funded companies with companies with funding from RCN and other national R&I measures to unveil any potential differences. We construct our groups such that a company is included in a group only when it has received RCN or FP funding before or in a given year. We only include companies with funding from 2015 or later, meaning companies with project starts in 2014 or earlier (and not later) are not included. Many companies receive funding from various funding agencies. Both FP and RCN funded companies may have funding from Skattefunn and/or Innovation Norway in addition, and many FP funded companies have funding from RCN.

In the previous evaluation (Tofteng, et al., 2020), we found that a higher share of FP participating companies had introduced product innovations that were new to the global market, whereas a higher

[64] See Appendix E for more about the data and the tables containing the results.

share of companies that only had participated in RCN projects reported that their product innovations were new only to the company. We have replicated the assessment including new projects and more recent CIS data.

The most recent assessment supports that the findings from the previous evaluation (Tofteng et al., 2020) still hold. On average, over the 2018–2024 period, a higher share of the companies with FP funding (and in most cases also national R&I funding) report product and process innovations, that the novelty value of the innovations is higher (new to international markets, not just Norwegian ones), and that they are active in international markets compared to the average of RCN recipients. FP funded companies report product or service innovations and that the innovations were new to the market around 4 percentage points more often than RCN funded companies on average. However, this result does not hold when we compare with the group of companies with projects funded by all three of Skattefunn, Innovation Norway and RCN. That stands out as a group of innovative companies on a par with FP-funded companies. FP funding companies are nonetheless more internationally oriented, as reflected in the share of companies that report to view their market as international and collaborate with international universities.

We find that FP funded companies are more active in protecting their intellectual property, as well as in R&D collaboration with R&D institutions both nationally and abroad, and with private companies in EU or EFTA countries. A higher share of FP funded companies reports positive environmental effects of their innovations, both within the company and for their customers/end users. Another result is that companies which have not received any funding from any of the R&I funding schemes we included in the data (FP, RCN, Innovation Norway and Skattefunn) are considerably less innovative, according to the innovation survey. We find that the proportion that reports product innovations is twice as high in the group of FP funded companies compared to the rest.

Table 5.2 Innovation survey responses about product, service and novelty value of innovations by share of companies with positive response in group

	Introduced product innovation - goods		Introduced product innovation - services		Introduced product or service innovation new to market	
	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded
2020	61 %	59 %	50 %	40 %	48 %	42 %
2022	61 %	55 %	44 %	41 %	48 %	41 %
2024	57 %	58 %	44 %	45 %	50 %	52 %

Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Database for Industrial Policy Instruments

Table .5.3 Innovation survey responses about cooperation by share of companies with positive response in group

	Private sector in EU/EFTA country outside Nordics		University in Norway		University in EU/EFTA outside Nordics		Research institution in Norway		Research institution in EU/EFTA outside Nordics	
	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded
2020	20 %	9 %	37 %	18 %	20 %	6 %	37 %	22 %	18 %	4 %
2022	17 %	8 %	33 %	18 %	18 %	4 %	34 %	26 %	17 %	4 %
2024	18 %	8 %	31 %	17 %	18 %	5 %	32 %	21 %	17 %	5 %

Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Database for Industrial Policy Instruments

We cannot determine whether FP participation makes companies more innovative, or if it is the other way around, but it seems that a higher share of FP-funded companies are innovative and internationally oriented than non-participating companies. The highly competitive nature of FP funding also serves as a form of quality assurance of the proposers' innovation potential. When companies succeed in obtaining FP funding, this may strengthen their ability to attract investors, more R&I funding, and skilled employees. This is in line with our web survey data which show that FP participation can increase recruitment of R&D personnel and other personnel, and follow-on projects with international public co-funding (Figure 5.2).

Our interpretation is that, even if the immediate impact of an FP project on company performance is similar to that of an RCN project, FP participation may foster innovation, competitiveness and allocation of resources towards R&I intensive industries, which can translate into commercial value over time. Several studies using CIS data find a positive relationship between innovation output and productivity at the company level.[65]

FP-funded R&I can also lead to the development of knowledge and innovations with positive spillover effects, such as time savings, environmental improvements, and gains in welfare and health. The full magnitude of such spillover effects is difficult to isolate and measure empirically[66], as they take diverse forms and are not easily captured in a comprehensive way. The mid-term evaluation of HE found that 1 euro of EU contribution to projects is expected to generate up to 11 euro in GDP growth and 6 euro in benefits for EU citizens by 2045 (European Commission, 2025). The Commission's proposal for FP10 further points to impacts of FP-funded R&I, e.g. development of climate friendly technologies, zero-emission cities, clean water, cancer research, and the speedy development of Covid vaccines[67].

Norway can benefit from FP-funded R&I regardless of participation in FP projects and may even obtain spill-overs from FP-generated research without being associated. However, by being associated and engaging in projects, Partnerships, and Missions, Norwegian participants can contribute to the development of new knowledge, enhance Norway's absorptive capacity for R&I and facilitate faster knowledge diffusion to Norwegian private and public sector.

5.5 Summary

In this Chapter, we have found that participants of all stakeholder categories have established or maintained long-term national R&I relationships in both FP and RCN projects, but that international relationships are naturally considerably more common impacts of FP projects (cf. Figure 5.1, Figure 5.7, and Figure 5.9).

In terms of additional impacts, differences between FP and RCN projects are subtle for private-sector participants, but more than half of both respondent categories have developed demonstrators or prototypes and more scientific practices. Nearly as common are follow-on projects and specifically for FP participants ones with international public funding. Many participants in both FP and RCN projects have improved or implemented new methods for product, service or process development, have implemented new materials or technologies, and have developed products or services that four in five respondents either already have commercialised or expect to commercialise (cf. Figure 5.2). More

[65] See Griffith et al (2006), Lööf and Heshmati (2006), Klomp and Van Leeuwen (2010) and Hashi and Stojcic (2013)

[66] Estimates on external effects vary greatly across sectors and countries and are sensitive to datasets and methodological choices, indicating that there is no universal social rate of return. In a meta study, Frontier Economics (2023) estimates that the social return on business R&I investment is typically twice as much as private return. The report nevertheless describes this as a rule-of-thumb estimate, due to substantial estimation challenges.

[67] The EC proposal on FP10 (European Commission, 2025) refers to ex-post simulations showing that "without EU funding for research and infrastructures over decades, essential innovations, like mRNA-based COVID-19 vaccines, would have been delayed by months, hindering critical rapid market release and subsequently societal benefits".

than four in five FP and RCN project participants eventually expect increased international competitiveness, new customers and increased sales, and three in five FP participants also expect increased exports, new suppliers, new business models, reduced costs, and new value chains (cf. Figure 5.3).

More than half of public-sector participants in FP projects have developed demonstrators or prototypes and increased international competitiveness. They have to a notably greater extent than RCN project participants recruited R&D personnel and secured follow-on projects with international public funding. All FP participants sooner or later expect to implement new materials or new technologies in existing products or services (cf. Figure 5.8).

Half or more of R&D-sector participants in both FP and RCN projects have developed increased international competitiveness and more scientific practices and have recruited researchers. Participants in FP projects have additionally to a greater extent secured follow-on projects with international public funding, developed an R&I direction of greater relevance to the private sector, have improved or implemented methods for product, service or process development, and have developed demonstrators or prototypes. R&D-sector participants have also developed an R&I direction of greater relevance to the public sector, though to the same degree in both FP and RCN projects (cf. Figure 5.10).

Web survey results indicate that many patent applications have resulted from Norwegian FP projects (according to 28 percent of private-sector participants and 6 percent of R&D-sector participants). Bibliometric analyses indeed reveal that patents have resulted, but only 291 Norwegian patents belonging to 50 patent families have been found to result from Norwegian projects in FP7 and H2020 (cf. Figure 5.4). Having said that, the bibliometric analyses suggest that eCorda patent data for (at least) H2020 are incomplete.

That FP project participants have honed their international competitiveness is confirmed by registry analyses which show that proposal success rates, proposal excellence scores, and financial return all have developed most favourably relative to its comparator countries since FP7 and especially from H2020 to HE (cf. Section 5.4.1). Figure 3.7 and Figure 3.8 further emphasise Norway's international competitiveness; that this small country competes so successfully with 27 Member States and the 19 other Third Countries associated to HEis an astonishing feat.

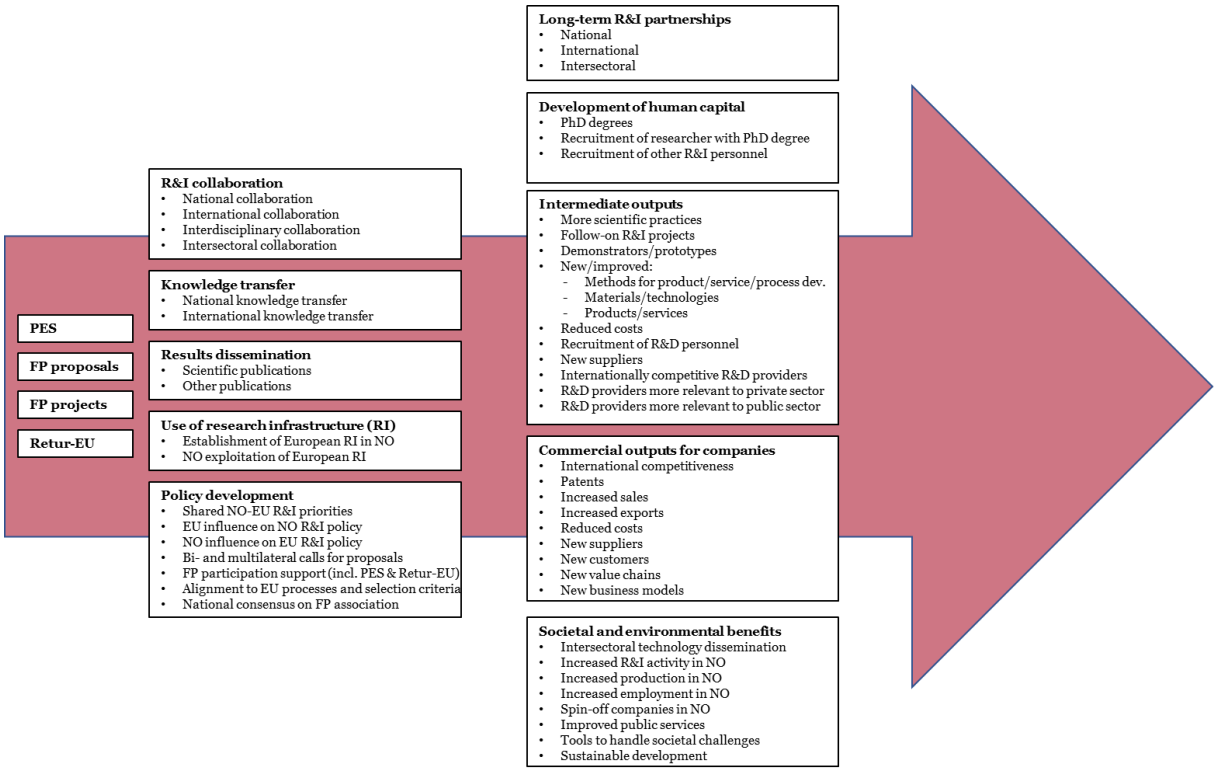
Investments in R&D are inherently risky, and it is therefore expected that while some private-sector participants experience direct economic returns, others do not, particularly in the short term. The econometric assessment indicates that the impact of FP participation on company productivity is broadly similar to that of participation in national funding instruments. Our interpretation of the web survey, econometric analysis, and previous empirical studies is that receiving public R&I funding is more beneficial than not receiving such funding, particularly in terms of R&I activity, sales, and employment. The same goes for funding from RCN. We find no additional impact of FP participation on company productivity. However, it is important to bear in mind that companies apply for FP funding despite the uncertainty regarding commercial impact, which indicates that they perceive participation as worthwhile.

Analysis of innovation data together with the competitive nature of the FPs suggest that companies participating in FP projects are more innovative and internationally oriented. More importantly, the benefits of FP participation extend beyond the FP projects and the participants. FP participation by all categories of stakeholders contribute to diffusion of knowledge, development of a culture of innovation, and strengthened absorptive capacity, which both the private and public sectors benefit from. FP-funded R&I can also lead to development of knowledge and innovations with positive spillover effects, such as time savings, environmental improvements, and gains in welfare and health. As concluded in Chapter 4, Norwegian articles resulting from Norwegian FP projects address important SDGs. These

articles are subsequently frequently cited by the Norwegian government and its agencies, which indicates that Norwegian FP projects provide tools to handle societal challenges and thus ought to contribute to a sustainable development. The full magnitude of such spillovers are difficult to isolate and measure empirically.

This summary provides the foundation to add another step to the impact logic for Norway's participation in H2020 and HE, see Figure 5.17.

Figure 5.17. Third step of impact logic.



Source: Technopolis.

5.6 Fulfilment of strategy objectives

The Government's four qualitative objectives in practice consist of at least ten sub-objectives, so assessing objective fulfilment inevitably becomes a circuitous exercise. However, the step-by-step development of our reasoning in Chapters 3–5 indicate that the Government's objectives indeed have been achieved, albeit to varying degrees.

1. Participation shall raise the quality of Norwegian research and generate more outstanding and innovative environments.

The notion of research quality can be contentious, since there is no unique or generally acceptable way to measure research quality. However, our data provide some clues. The closest we get to directly assessing research quality is through the bibliometric analyses, which shows that Norwegian articles on average have FWCIs well above 1 and that they are frequently cited by other researchers. Annual average FWCIs decrease (rather than increase) over time, but this is not necessarily a sign of declining article impact (or quality). We therefore lack bibliometric evidence on the quality of Norwegian research having risen, but we know that Norwegian articles (on average) have far greater impact than the average article.

Another way of approaching quality is the observation that proposals with Norwegian coordinators have achieved significantly higher proposal success rates in HE than in H2020. Norwegian coordinators' proposals to HE have also fared better than in H2020 in terms of both success rates and excellence scores than proposals coordinated from Norway's comparator countries. Proposal competitiveness is not necessarily directly related to research quality, but internationally successful researchers clearly have better preconditions to author competitive proposals, so there is at least correlation. On the same note, we may infer that Norway's remarkably increased financial return since FP7 would not have been possible without a parallel, iterative development of more outstanding and innovative researchers and research groups.

Such environments are present in all stakeholder categories, although participation continues to be dominated by HEIs and institutes. Participation in Pillar 1, Excellent Science, has increased notably from H2020 to HE, while the highest return is achieved within Pillar 2, Global Challenges and European Industrial Competitiveness, wherein Norway performs particularly well in Cluster 5 (Climate, Energy and Mobility) and Cluster 6 (Food, Bioeconomy, Natural Resources, Agriculture and Environment).

2. Participation shall increase value creation, strengthen Norway's competitiveness and capacity for innovation and contribute to transition in the private and public sector.

Participation in collaborative FP projects allows participants to build and expand international networks and to contribute to and gain access to the research frontier. For private-sector participants, participation can also support the development of new markets and access to funding, investors, and advisory services.

The web survey, the econometric analysis, and previous empirical studies indicate that FP projects are beneficial for companies' R&I activity, sales, and employment, but the impact on their long-term productivity is uncertain. Even though the immediate impacts of an FP project on company performance is similar to that of an RCN project, the former fosters innovation, competitiveness, and allocation of resources towards R&I intensive industries, which likely translates into commercial value over time.

Benefits in terms of increased competitiveness, innovation, and value creation may extend beyond the FP projects and the participants. FP participation by all categories of stakeholders can contribute to diffusion of knowledge, development of a culture of innovation, and strengthened absorptive capacity, which both the private and public sectors benefit from. The full magnitude of such spillovers is difficult to isolate and measure empirically.

Moreover, European Partnerships are key instruments to foster and realise the EU's ambitious competitiveness and environmental policies relevant for transition in both the private and the public sectors. Norwegian actors' active participation in European Partnerships, particularly in the Co-programmed ones, ought to contribute to transition in the private and public sectors in Norway and abroad, but the timelines are long and the attribution often so opaque that a definitive assessment of the impact on transition and welfare cannot be made.

3. Participation shall enable us to handle major societal challenges, help us achieve the Sustainable Development Goals and contribute to the sustainable development of society.

Many of the European Partnerships are highly relevant also to generate knowledge and tools to deal with selected societal challenges, reach SDGs and contribute to sustainable development. EU Missions and Partnerships are other instruments to realise EU's competitiveness and environmental policies. Norway participates in all EU Missions and punches well above its weight in the Ocean Mission. Norway has an ambitious engagement in many Partnerships. Such extensive Norwegian

engagement should contribute to addressing the SDGs and contribute to sustainable development of society.

Moreover, Norwegian articles resulting from Norwegian FP projects commonly address Life below water (SDG14), Good health and well-being (SDG3), and Climate action (SDG13). Norwegian publications in the grey literature citing Norwegian articles most frequently address Climate action (SDG13), Life on land (SDG15), Peace, justice and strong institutions (SDG16), and Good health and well-being (SDG3). Since well over a third of Norwegian documents in the grey literature have been published by the Norwegian government and its agencies, there is evidence to suggest that Norwegian articles resulting from Norwegian projects influence development of national policies related to societal challenges and sustainable development of society.

The FPs also address societal challenges irrespective of Norwegian participation. With 35 percent of funding earmarked for climate-related R&I, and calls often responding to global evidence gaps identified by bodies such as the IPCC, HE is a generator of climate-relevant knowledge that also benefits Norway. However, impacts in terms of for example emission reductions require that research findings are translated into policy and regulations. In any case, it is rarely possible to attribute a specific regulation to a single FP project, since policymaking relies on diverse evidence where research findings typically only provide one piece of a larger puzzle.

4. Participation shall contribute to the development of research and innovation policy and to new patterns of collaboration across national borders, sectors and fields.

Interviewees report strong alignment between Norwegian and European R&I priorities, reflected in Norway’s Long-Term Plan and the FP’s emphasis on high-quality R&I, climate action, and broader societal goals. This convergence is considered a result of shared societal challenges.

Interviewees point to concrete examples of EU influence, such as the introduction of EU Missions, which have inspired Norwegian policymakers to launch three unique Norwegian Missions. Moreover, RCN and IN have increasingly aligned procedures, criteria and terminology with FP practice, and several national instruments now explicitly incentivise FP participation.

Norway's FP participation also influences national policy on other policy domains, as evidenced by interviews and by the frequent citation of the above-mentioned grey literature in Norwegian policy documents.

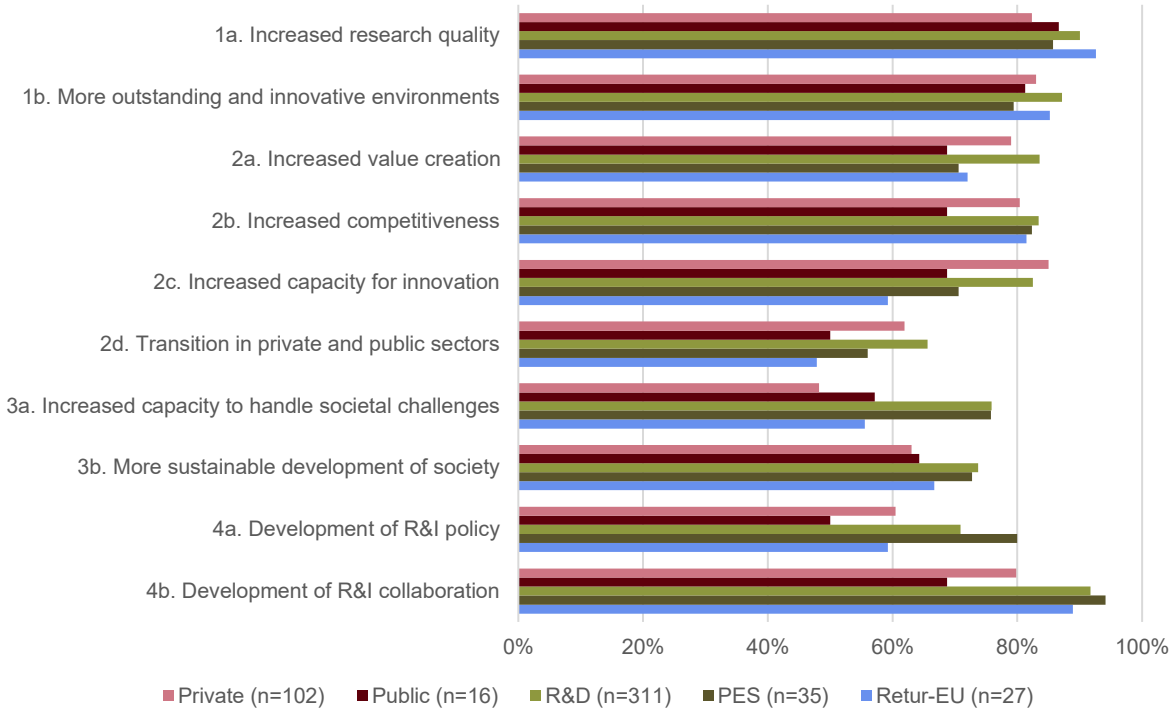
Both registry analyses and web surveys show that FP projects have led to extensive national, international, intersectoral, and interdisciplinary collaboration. Many of these collaborations are no doubt with new partners, but we have no way of determining what proportion. The institutes are most important actors in realising collaboration through MP projects, often as coordinators.

5. Norwegian actors shall receive 2.8 percent of the competition-based funding

By end of 2024, Norway’s accumulated return in HE excluding funding to CEPI was 2.9 percent and 3.3 percent including CEPI.

In the web surveys, we took the opportunity to ask respondents about the extent to which they believe that Norway’s overall FP participation (i.e. not only their own projects) had contributed to the qualitative objectives of Norway’s strategy for HE (without mentioning that the alternatives to be assessed were indeed the national objectives). To spare respondents the difficulty of having to assess compound objectives, we operationalised the four objectives into ten sub-objectives. Figure 5.18 shows that more than half of all respondent categories together (the same five categories as in Figure 5.8) agreed to a very large or large extent that Norway’s overall FP participation has contributed to all sub-objectives.

Figure 5.18. Impacts of Norway's overall FP participation.



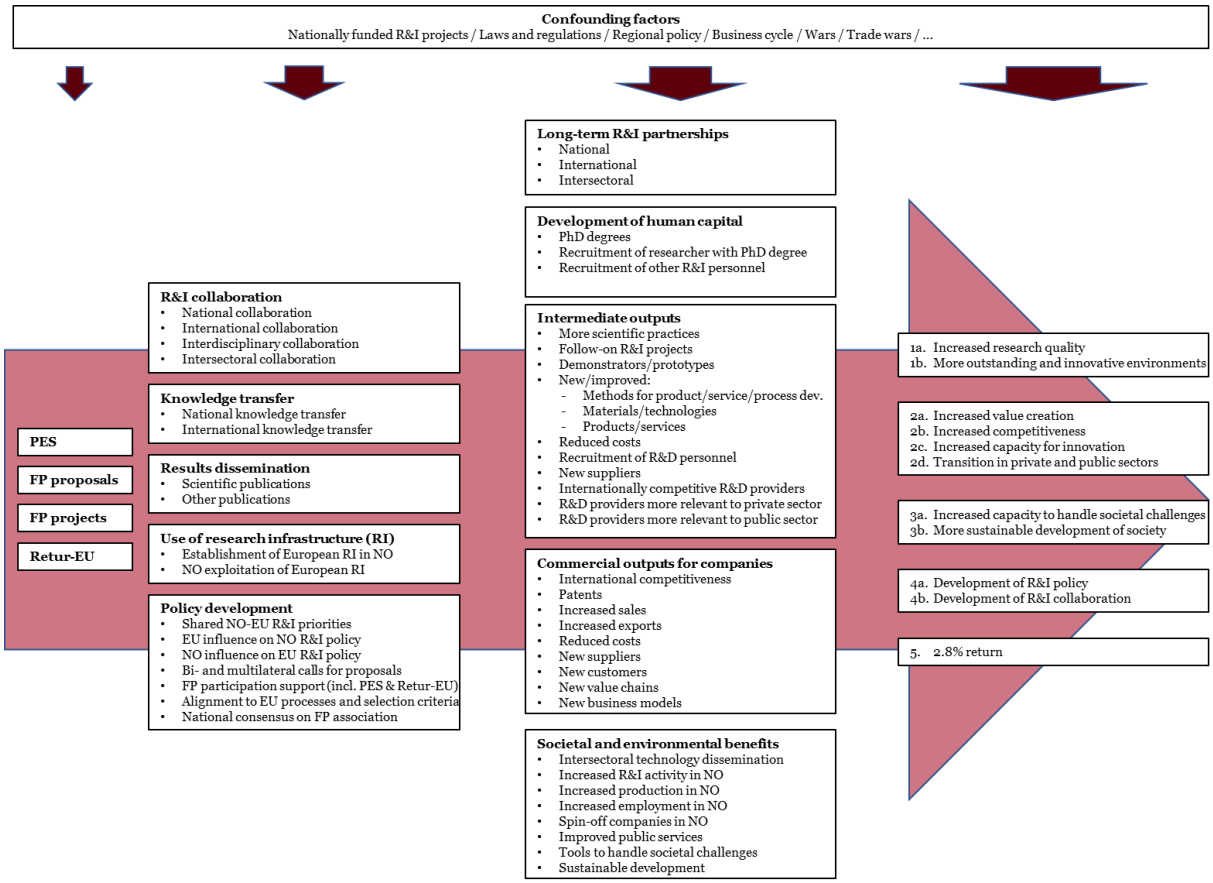
Source: Technopolis web surveys.

Compared to the results in the 2020 evaluation, both private- and R&D-sector participants agreed to a notably greater extent that Norway's overall FP participation has contributed to more sustainable social development (+43% and +46%, respectively). R&D-sector participants further agreed to a notably greater extent to impacts in terms of increased value creation (+30%) and innovation capacity (+24%). There is a positive development (≥+10%) for all six impacts where results are comparable with the 2020 evaluation, which possibly may indicate that H2020 and HE together contribute to more tangible impacts in line with the government's strategies than FP7 and H2020 were judged to contribute to six years ago.[68]

We are now at last able to finalise the impact logic for Norway's participation in H2020 and HE, see Figure 5.19. While the Government's objectives to varying degrees have been achieved and can be inferred from the results and impacts of the impact logic, the impact logic needs to be complemented with other aspects that one way or another clearly influence developments leading up to the objectives. In evaluation jargon, such aspects are known as confounding factors and the ones added are by no means a complete listing of relevant factors. Perhaps we should have introduced confounding factors from the onset since they influence the emergence of results and impacts as well; however, there is no doubt that they become more important with time (as indicted by the wider arrows to the right). For example, it is straightforward to argue for a direct cause–effect relationship between most FP projects and international collaboration, whereas the relationship between the same FP projects and improved innovation capability is considerably more complex and clearly influenced by a number of confounding factors, including RCN and IN projects, market demand, competition etc. We can therefore only conclude that Norway's FP participation has contributed to fulfilment of the Government's objectives, but we cannot quantify to what extent it has contributed.

[68] The qualitative objectives have evolved somewhat between the government's two FP strategies, meaning that not all deconstructed objectives posed in the surveys are comparable.

Figure 5.19. Final impact logic.



Source: Technopolis.

6 Project Establishment Support

This Chapter analyses the importance and impacts of Project Establishment Support. This funding instrument is meeting its objectives of raising the number and quality of Norwegian applications to the FP, although the absolute number of proposers appears to have decreased in Horizon Europe so far.

This Chapter sets out to analyse the importance and impacts of Project Establishment Support on the quality of Norwegian FP proposals, the number of proposals, and the number of proposers. The Chapter commences with a brief summary of the measure's background and evolution, followed by registry analyses of PES beneficiaries based on RCN data, and results of web surveys of participants in FP projects and of management of block grant recipients, as well as interviews with management of key block grant recipients.

6.1 Background and evolution

Project Establishment Support (*Prosjektetableringsstøtte*, PES) was introduced in 2004 (under FP6) with the overall objectives of improving the quality of Norwegian FP proposals, increasing the number of such proposals, and increasing the number of Norwegian proposers. The objectives have essentially remained the same since then.

PES funding is not awarded automatically to organisations that produce FP proposals. Rather, they have to apply to RCN ahead of time. Infrequent FP proposers may receive single grants to support preparation of specific FP proposals. However, early on RCN started awarding annual block grants to frequent FP proposers to reduce its own bureaucracy. Block grants are generally re-distributed within the recipient's organisation according to similar principles as single grants from RCN, but practices and grant amounts vary among organisations. From time to time there have also been specific calls for proposals for positioning and mobilisation[69] activities. Such activities, as well as capacity-building measures, have also generally (but not always) been allowed within block grants. We return to the use of block grants in Section 6.2.

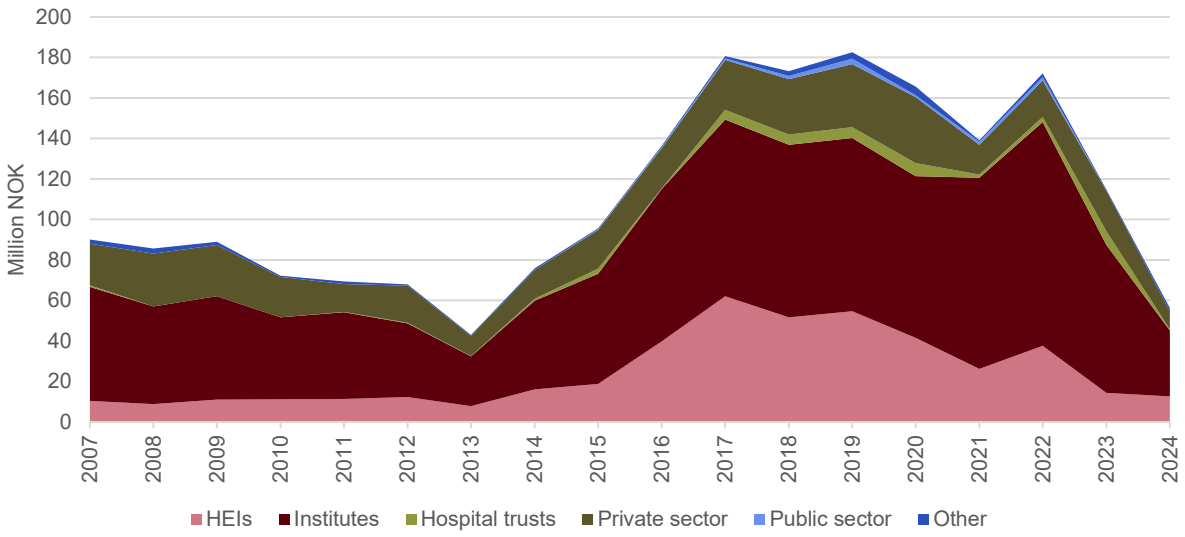
In general, stakeholders of all categories may use the PES grant for explicit external costs, such as travel and consultancy services. HEIs and hospital trusts may indirectly charge personnel costs by enlisting someone else – often another researcher and often from within the same department – to take over regular duties, such as teaching, from the researcher working on a proposal (*frikjøp*).

[69] Mobilisation means engaging additional organisations and individuals in activities ultimately aiming to result in FP proposals (and projects).

However, HEIs and hospital trusts may not charge for the time invested by employees, whereas institutes and companies may do so.

PES funding by stakeholder category is shown in Figure 6.1, where the areas lie on top of one another. While total PES funding per year decreased under FP7 (average: NOK 47 million/year in 2025-prices), it rapidly increased under H2020 (to NOK 144 million/year in 2025-prices), and has remained at the same level during the first four years of HE (NOK 121 million/year in 2025-prices).

Figure 6.1. PES funding by stakeholder category. 2025-prices.



Source: RCN data. Amounts converted to 2025-prices using public consumption deflator from SSB's national accounts.

Over the years, the rules of PES have changed many times in terms of what EU programmes and sub-programmes that are covered, eligible organisations, maximum grant per FP application, permitted activities, eligible costs, and more. Some of the more important changes under H2020 and HE are described in the following two paragraphs.

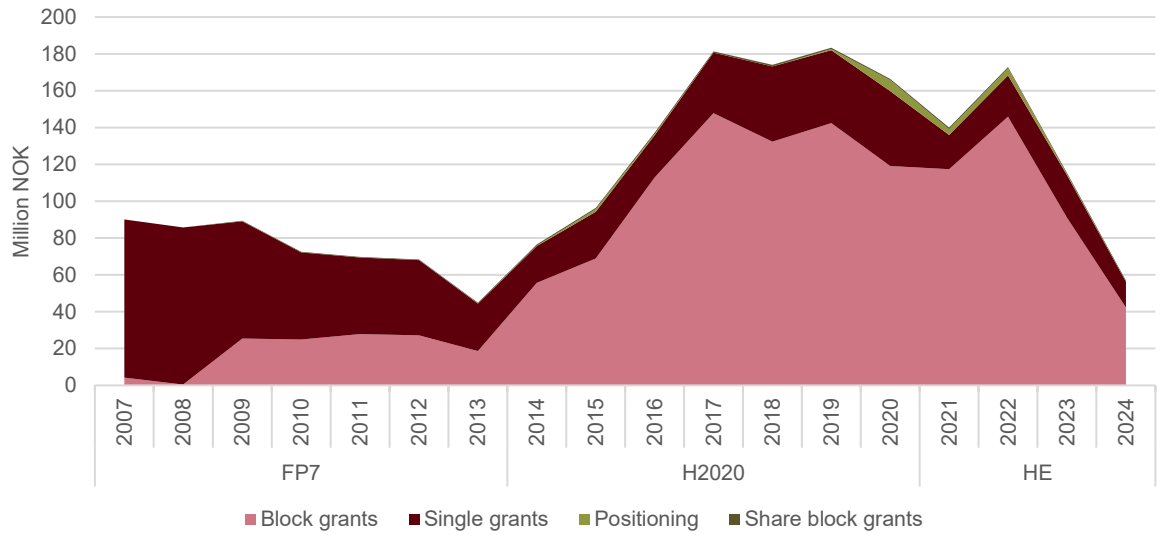
Total PES funding increased rapidly in the first four years of H2020 and the overall budget for PES nearly doubled in 2016, while the maximum grant per application (which, among other things, varied by partner role) increased in 2017. The same year, reporting requirements for grant recipients were greatly simplified. An extra bonus was introduced for single PES grant recipients whose FP proposals reached (or exceeded) the Commission's threshold for being fundable. Originally, there was another bonus for FP proposals that were retained for funding, thus leading to contract negotiations with the Commission, but this bonus was discontinued in 2017. Block grants were awarded annually under H2020. The rapidly increasing funding profile until 2017 was thus partly due to the measure gradually becoming more generous, but it also reflected demand and the fact that it took stakeholders some time to figure out what was required to be successful in H2020 with its increased focus on innovation compared to FP7.

PES funding during the first two years of HE remained at about the same level as in the final years of H2020 since RCN wanted to ensure extensive participation from the start. Block grants were initially awarded for two years at a time (2021–2022 and 2023–2024) and the large grants during the first four years were in part meant to encourage strategic positioning, while block grants for the final three years (2025–2027) could only be used for proposal production. In 2023, single PES grants became conditional on the FP proposals reaching (or exceeding) the threshold for being fundable and a maximum of a fifth of grants could be used to buy consultancy services. According to RCN, this change was introduced to counter a tendency among certain actors to submit poor FP proposals with

no reasonable chance of success. The same year, grant amounts were reduced and proposals to RCN had to be submitted at least four weeks prior to the FP call deadline. Proposals to the European Defence Fund (EDF) were eligible for PES-like single grants from the start of HE, with the Ministry of Defence (MoD) in charge of evaluations; in 2022 EDF proposals became fully eligible for PES single grants. In 2024, there was a call dedicated to positioning in European Partnerships (see further Section 4.4.3).

Figure 6.2 shows that most of PES funding has been awarded as block grants under H2020 and HE. The decrease in block grants in 2023 and 2024 is in large part due to RCN having awarded more funding in the first years to support mobilisation, whereupon funding was reduced once actors were mobilised. However, the decrease is also due to block grants being awarded for multiple years, but they obviously are not necessarily evenly distributed between years; indeed, total block grants rebound to almost NOK 100 million in 2025.[70]

Figure 6.2. PES funding by grant type. 2025-prices.

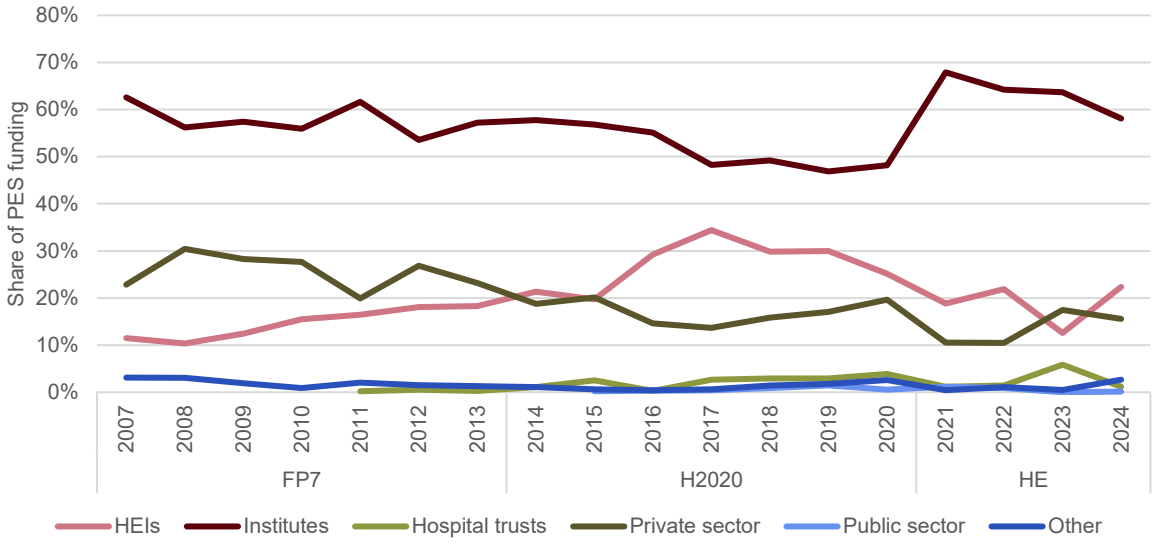


Source: RCN data. Amounts converted to 2025-prices using public consumption deflator from SSB's national accounts.

Figure 6.3 illustrates that the rapid increase in PES funding under H2020 in relative terms mainly benefitted HEIs, while institutes so far have seen the greatest relative increase under HE. Overall, when HEIs have gained in relative terms, institutes have seen the opposite development, and vice versa. The long-term trend for the private sector is distinctly negative in relative terms (FP7: 26%, H2020: 17%, HE (so far): 14%), but this is in large part due to HEIs and institutes having increased their combined share. However, PES funding to the private sector has decreased under HE also in absolute terms (FP7: NOK 11 million/year on average, H2020: NOK 19 million/year, HE (so far): NOK 14 million/year in current prices).

[70] The data file received from RCN includes block grants also for the last three years of HE (2025–2027), but we have chosen not to include them in the Figure for consistency with other registry analyses and since most single grants for the years 2025–2027 obviously are missing (and there possibly also may be the odd additional block grant). If we assume that total grants to single proposals for the remainder of HE remain at the same level as in previous years, total PES funding should sum up to around 90% of total PES funding under H2020 (in current prices).

Figure 6.3. Share of PES funding by stakeholder category.



Source: RCN data.

As illustrated by Figure 6.2, funding data are heavily dominated by block grants to institutes, HEIs and hospital trusts (where funding to the latter category is marginal beside the first two; cf. Figure 6.3). Since Norwegian FP proposal activity is strongly dominated by a few very active organisations (cf. Appendix F), so is PES funding. Half of all PES funding under H2020 and HE (thus far) has been awarded to ten organisations, seven institutes (SINTEF Group, NORCE Group, IFE, NIBIO, NIVA, NOFIMA, NILU; NOK 3.2–14 million/year on average during 2021–2024) and three HEIs (NTNU, UiO, UiB; NOK 2.8–3.8 million/year during 2021–2024). The SINTEF Group clearly stands out, having received 18 percent of total PES grants, which is explained by both the level of its FP activities and its dominant role in the Norwegian innovation system.

Table 6.1 shows that the number of block grant recipients has decreased somewhat in HE (so far) compared to H2020. In general, it is frequent FP proposers that may apply for block grants and they tend to be large organisations (in their respective category). Many of the organisations that have received block grants in only one of the two FPs are medium-sized organisations that may have decreased (or increased) their FP participation ambitions, but there are also examples of large organisations for whom FP participation perhaps is not a core activity. (Four of the institutes that received block grants only in H2020 have received single grants in HE, but none in the other two stakeholder categories.)

Table 6.1: Number of unique recipients of PES block grants in H2020 and HE (until 2024).

Stakeholder category	In H2020	In HE	In H2020 and HE	Only in H2020	Only in HE
HEIs	24	21	18	6	3
Institutes	45	39	32	13	7
Hospital trusts	6	4	4	2	0
Sum	**75**	**64**	**54**	**21**	**10**

Source: RCN data.

Table 6.2, which shows the equivalent data for single grants, illustrates the dominance of the private sector in terms of number of recipients; the other categories obviously pale by comparison. The Table also shows that significant numbers of HEIs, institutes and hospital trusts have received single grants;

most of these are small organisations (in their respective category) with irregular FP activity. The Table illustrates that most PES single grant recipients under H2020 have not received any grant under HE (so far) (830/970 = 86%), but also that a majority of PES recipients under HE did not receive a PES grant under H2020 (191/331 = 58%), so they appear to be new FP participants (but they may of course have participated in H2020 without receiving PES grants, or received PES grants under FP7 or FP6)).

Table 6.2: Number of unique recipients of PES single grants in H2020 and HE (until 2024).

Stakeholder category	In H2020	In HE	In H2020 and HE	Only in H2020	Only in HE
HEIs	12	3	8	11	2
Institutes	48	14	13	38	4
Hospital trusts	7	3	3	5	1
Public sector	22	8	4	19	5
Private sector	857	289	166	742	174
Other	24	14	11	15	5
Sum	**970**	**331**	**205**	**830**	**191**
Share private sector	88%	87%	81%	89%	91%

Source: RCN data.

It is obviously difficult to draw conclusions from the decreasing number of PES recipients in HE since data for H2020 cover seven years and those for HE only four years. Table 6.3 therefore shows the number of single grant recipients per year, as well as the ratio of the number of recipients in HE over that in H2020. The Table thus illustrates that the number of single grant recipients per year has decreased significantly under HE for all stakeholder categories except the 'Other' category.

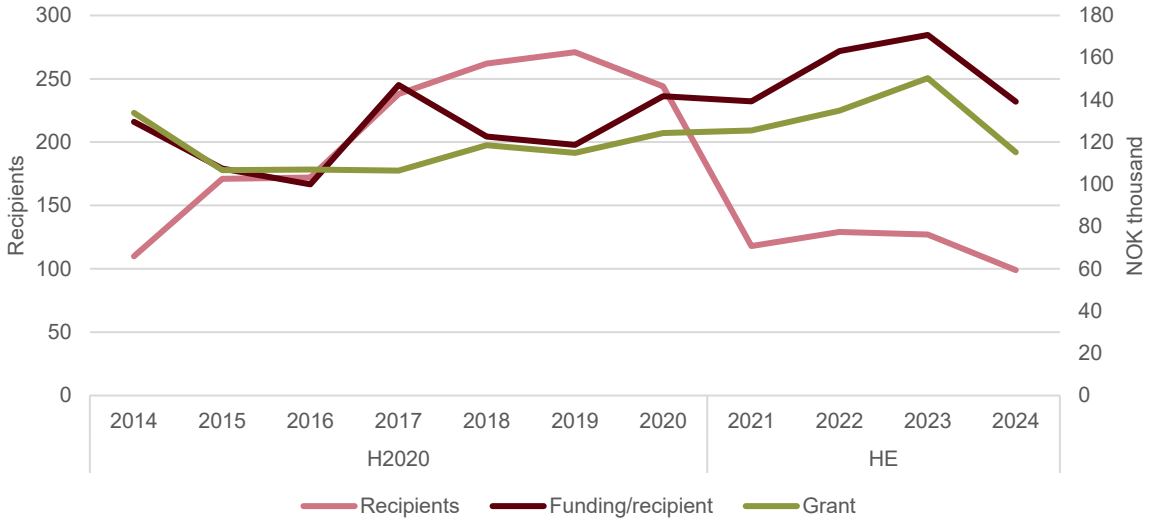
Table 6.3: Number of unique recipients of PES single grants in H2020 and HE (until 2024) per year.

Stakeholder category	In H2020	In HE	Ratio HE/H2020
HEIs	1.71	0.75	44%
Institutes	6.86	3.50	51%
Hospital trusts	1.00	0.75	75%
Public sector	3.14	2.00	64%
Private sector	122.43	72.25	59%
Other	3.43	3.50	102%
All categories	**138.57**	**82.75**	**60%**

Source: RCN data.

Figure 6.4 shows that the number of unique recipients of PES single grants per year (pink line) increased rapidly under H2020 and then abruptly dropped in HE. According to RCN, the significantly lower number of recipients was initially due to low demand (in 2021 due to relatively few calls for proposals in the first year of the new FP) and from 2023 onwards also due to stricter rules (as outlined above). The Figure also shows that the average PES grant (green line) increased from the beginning of H2020 and so did the total PES funding per recipient (burgundy line), where the difference lies in some recipients receiving more than one grant per year. The sharp decrease for both lines in 2024 is explained by RCN reducing maximum grant amounts.

Figure 6.4. Number of unique recipients of PES single grants (left axis) as well as average grant and average funding per recipient (right axis). 2025- prices.



Source: RCN data. Amounts converted to 2025-prices using public consumption deflator from SSB's national accounts.

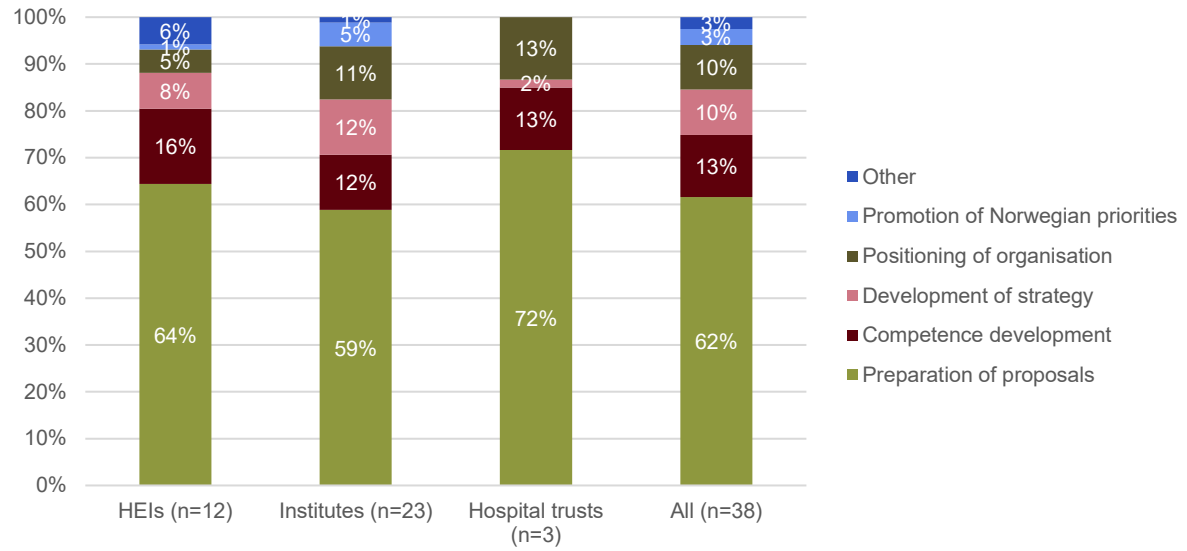
6.2 Use of PES block grants

Until 2024, PES block grants could be used for:

- Development of strategy and action plan for HE participation
- Positioning of organisation in HE networks and consortia
- Promotion of Norwegian priorities and agendas in HE forums, networks and European Partnerships
- Competence development to further HE participation
- Preparation of HE proposals

In a web survey, we asked PES block grant administrators how the organisation used the grants during the years 2021–2024, i.e. under HE. Figure 6.5 illustrates that, for all stakeholders together, more than 60 percent of grants went to preparation of proposals, followed by competence development, development of strategy, and (international) positioning of the organisation. It is noteworthy that it is basically only institutes that say that they have used the grant to promote overarching Norwegian priorities in EU forums. Also note that the number of recipients is low, particularly for hospital trusts, although the overall survey response rate was 58 percent.

Figure 6.5. Use of PES block grants 2021–2024.



Source: Technopolis web survey.

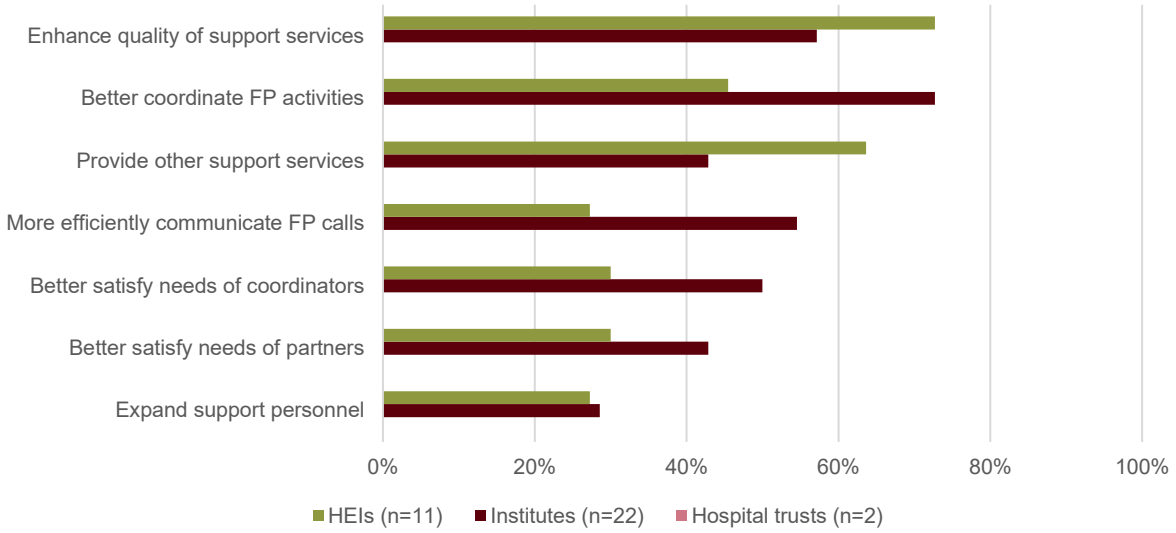
In an open question, respondents were asked how they expect their organisation will be affected by RCN restricting the use of PES grants to proposal preparation for the 2025–2027 period. Most respondents believe that it will have limited effect since proposal preparation is what they have used most of the grant for anyway, and some even venture to say that it is a wise and welcomed change. Some institute interviewees lament the fact that PES grants no longer may be used for positioning activities, which means that they will need to cut back on such activities – even though interviewees say they do a lot of positioning with other resources than the PES block grant. Other institute interviewees argue that PES was more important in the beginning of HE when they built capacity and networks.

6.3 Results and impacts of PES block grants

We went on to inquire what all PES block grants that the organisation has received over the years have meant for the organisation's FP support function ("grants office", "EU office" etc.). Figure 6.6, where alternatives are sorted by the average of responses, shows that HEIs and institutes tend to experience different types of results.[71] HEIs rate improvements in terms of quality and range of support services the highest, followed by improvements in coordination of the organisation's FP activities. Institutes rate improvements to internal coordination, quality of support services, monitoring and communication of FP calls, and satisfying the administration and reporting needs of coordinators of, and regular partners in, FP projects the highest.

[71] Results are not shown for hospital trusts due to too few responses.

Figure 6.6. Results of PES block grants in terms of capacities of internal FP support function according to block grant administrators.

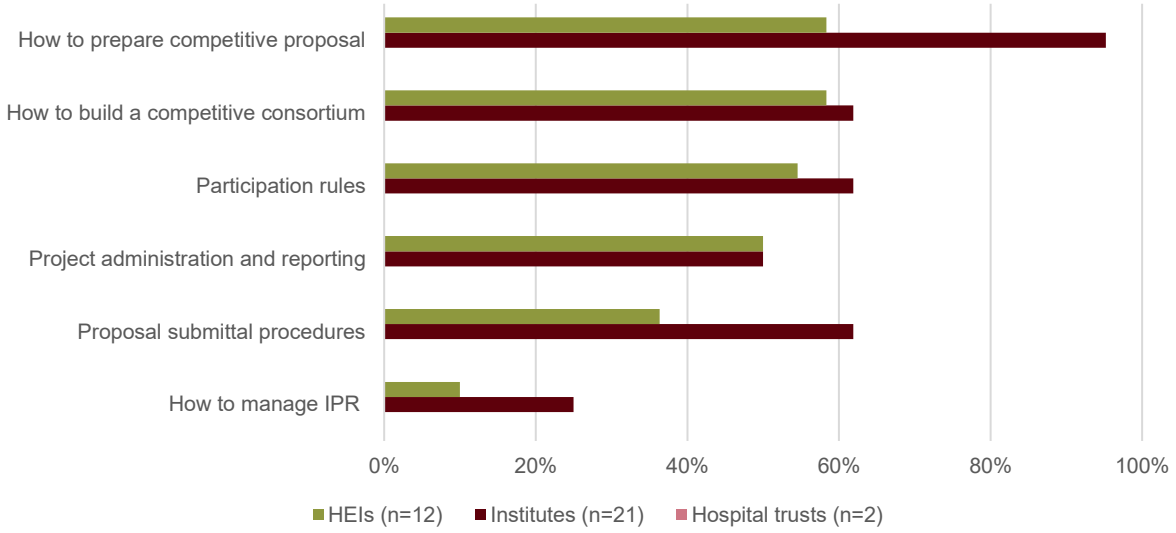


Source: Technopolis web survey.

Figure 6.7 illustrates that the block grants received over the years have contributed to making the internal FP support functions of institutes more knowledgeable in terms of how to prepare a competitive proposal, how to build a competitive consortium, participation rules, and proposal submittal procedures. The FP support functions of HEIs have experienced the same results, but to lesser degrees. An HEI survey respondent summarises the importance of PES grants over the years:

"PES grants during H2020 provided the necessary flexibility to adapt measures to the needs of individual research environments, and was essential in developing a robust, professional support system and institutional capacity. During Horizon Europe the PES grants have been crucial to uphold competence and capacity among support staff."

Figure 6.7. Results of PES block grants in terms of knowledge of internal FP support function according to block grant administrators.



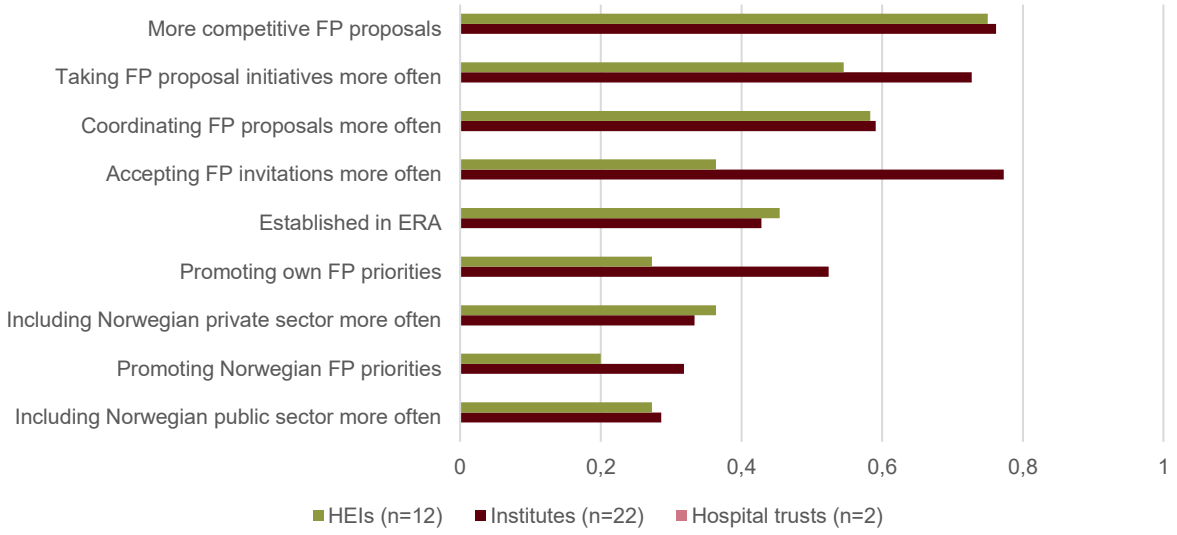
Source: Technopolis web survey.

Most interviewees from both institutes and HEIs point out that PES grants only cover a fraction of the real cost of preparing a proposal but go on to note that the signal value of PES is more important than the money, particularly for individuals that have no FP experience. HEI interviewees contend that PES has a strong mobilising effect for beginners, particularly since the block grant is matched with internal funds that also signal that FP participation is prioritised. HEI interviewees go on to explain that although the PES support to a proposer may be relatively small – often smaller than RCN's guidelines for single grants – it still can make a difference in a dire financial situation, since it may allow enlisting a consultancy or a colleague to take over teaching duties to focus on a proposal.

In contrast, EU advisors in clusters argue that PES no longer mobilises new proposers from the private sector due to the uncertainty created by the requirement introduced in 2023 that proposals must reach the funding threshold for PES single grants to be paid out. The uncertainty argument is used also by an interviewee from the public sector to explain why the organisation no longer applies for PES single grants. In practice, some stakeholders consider the threshold requirement to be a disincentive, rather than the incentive PES was supposed to be.

Figure 6.8 shows that block grant administrators judge that the PES grants received over the years have contributed to their organisation producing more competitive proposals, initiating proposals more often, coordinating proposals more often, accepting invitations to participate in others' proposals more often, and being established in the ERA. Institutes tend to see considerably more pronounced impacts than HEIs when it comes to accepting invitations to others' proposals, initiating proposals, and promoting own FP priorities, especially in European Partnerships. Although less common, around a third of respondents of both respondent categories judge that block grants have contributed to more frequent participation of the Norwegian private sector in the organisation's proposals, and a quarter to more frequent participation of the public sector.

Figure 6.8. Impacts of PES block grants on overall organisation according to block grant administrators.



Source: Technopolis web survey.

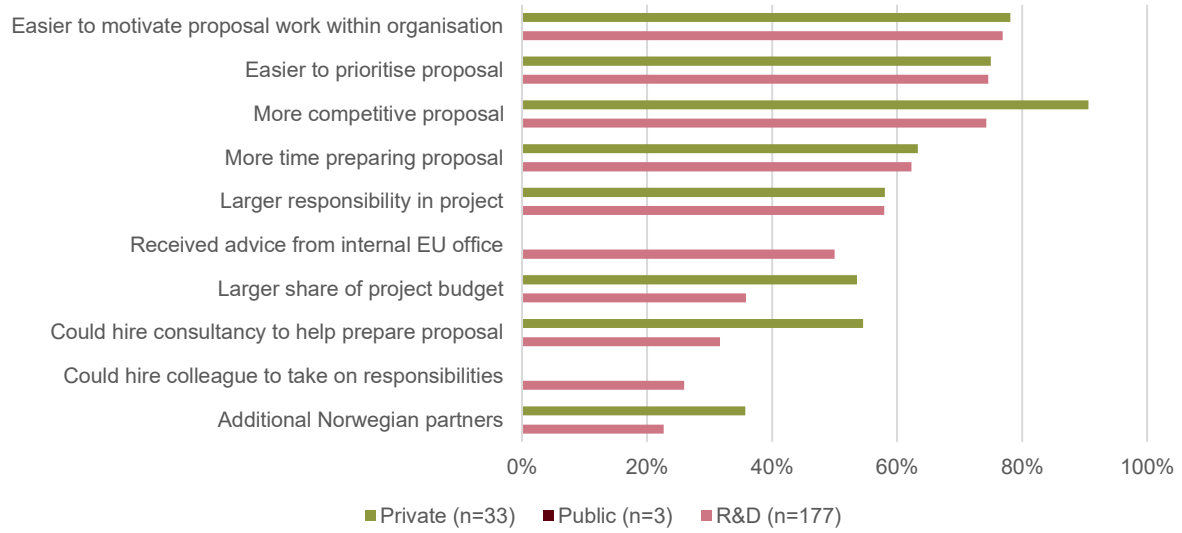
6.4 Results of PES experienced by FP project participants

In the web surveys of participants in FP projects, we asked whether they had received PES support when preparing their proposal. Almost three in five respondents from the R&D sector responded that they had, while only a third from the private sector and a fifth from the public sector agreed (the

remainder had not received PES support or did not know/remember). The respondents answering that they had received PES support were then asked what the PES support had contributed to. All private- and public-sector respondents were recipients of single grants, whereas almost all R&D sector respondents must have received the PES support from a block grant (although the category of course also may include the odd single grant recipient).

Figure 6.9 illustrates that respondents believe that PES support made it easier to motivate working on the FP proposal, both within the organisation and to oneself, which ultimately helped make the proposal more competitive. It is noteworthy that private-sector representatives tended to see more significant results in terms of proposal competitiveness, getting a larger share of the budget, and including additional Norwegian partners, presumably in part because PES support made it possible to hire a consultancy to assist with the proposal.[72] In free-text responses, R&D sector respondents explain that the signal effect of PES is quite important and that it indeed does influence internal policies, but several respondents also point out that grants are too small – a fraction of the real cost of preparing a proposal – to make much difference in its own right.

Figure 6.9. Results of PES experienced by FP project participants.

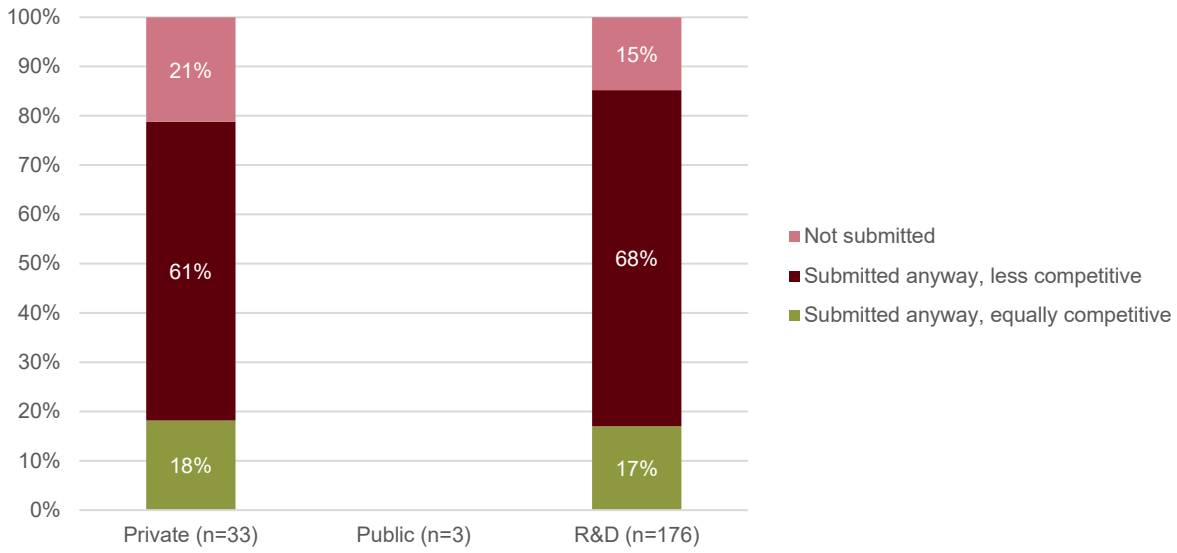


Source: Technopolis web surveys.

The respondents that had received PES support were then asked what they believe would have happened if they had not received PES support. Figure 6.10 suggests that more than four in five FP proposals would have been submitted anyway, but that a large majority of them would have been less competitive – meaning that some of them probably would not have resulted in FP projects. A fifth of private-sector proposals would not have been submitted had the PES single grant not been awarded, and almost as many respondents judge that the grant made no difference since an equally competitive proposal would have been submitted anyway. The equivalent shares for R&D-sector respondents are a bit lower.

[72] Results are not shown for the public sector due to too few responses. The alternatives on receiving advice from internal support function and hiring a colleague were not posed to private-sector participants.

Figure 6.10. Likely effect of absence of PES on FP proposal according to FP project participants.

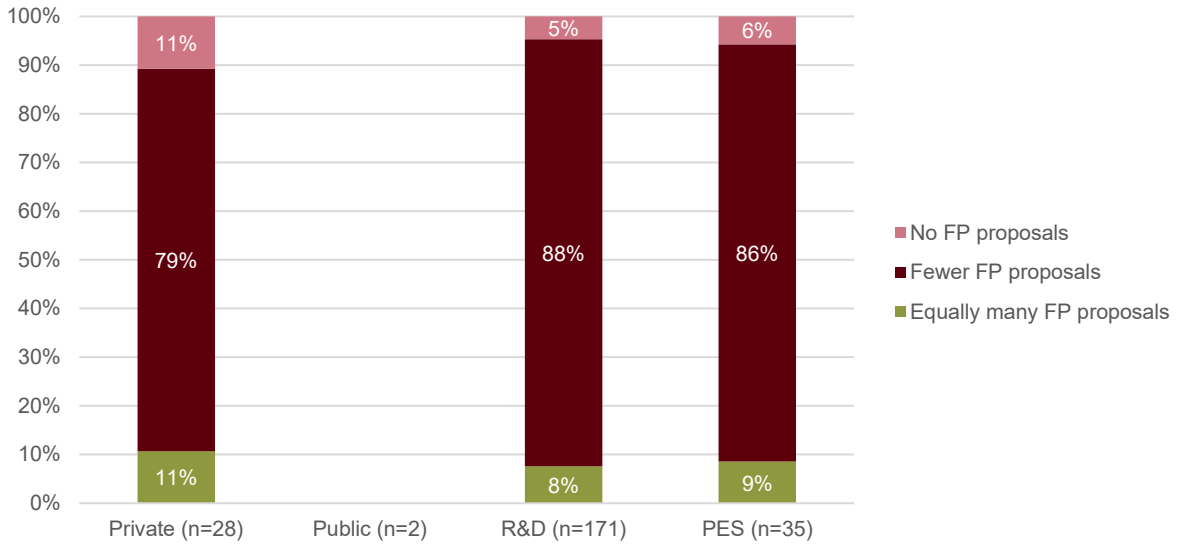


Source: Technopolis web surveys.

6.5 Future of PES

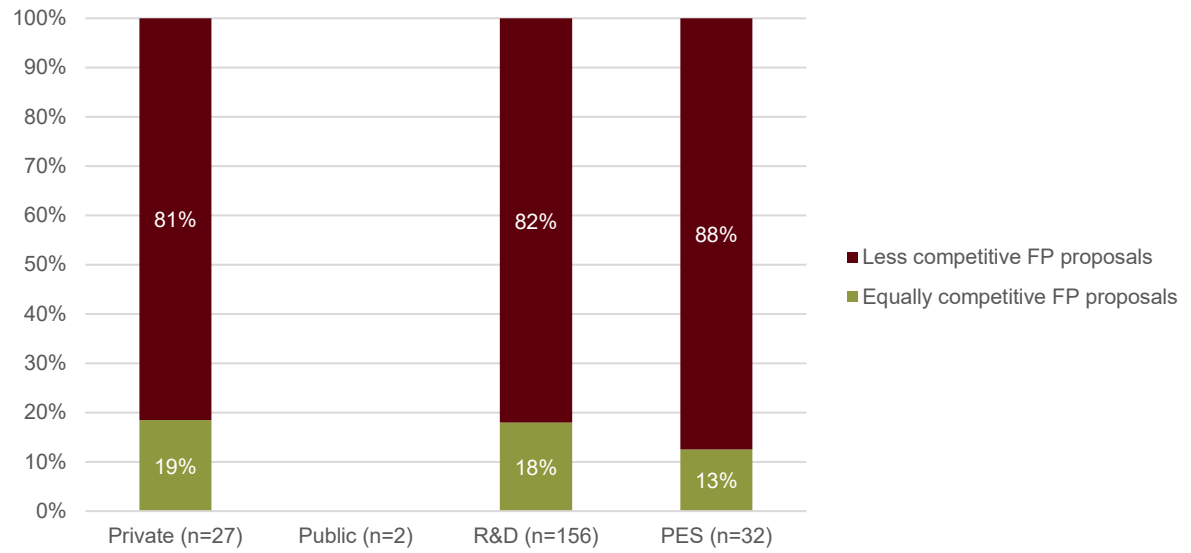
The surveys of both FP project participants that had received PES support and of PES block grant administrators ("PES" in the following two Figures) ended with two hypothetical questions on what would happen if PES grants were not available in the future. Figure 6.11 shows that less than one respondent in ten believe that they (or their organisation, for PES block grant administrators) would submit equally many proposals, while the remainder believe that they would submit fewer or even no proposals. Figure 6.12 shows that more than four respondents in five believe the absence of PES would result in less competitive proposals.

Figure 6.11. Likely effect of absence of PES on number of FP proposals according to FP project participants and PES block grant administrators.



Source: Technopolis web surveys.

Figure 6.12. Likely effect of absence of PES on FP proposal competitiveness according to FP project participants and PES block grant administrators.



Source: Technopolis web surveys.

In free-text responses, many R&D-sector respondents explain that without PES there would be fewer FP proposals and specifically fewer coordinated ones. Several respondents nevertheless reason that proposals would be equally competitive, since "one must go 'all in' to have a chance to succeed". HEI block grant administrators interviewed maintain that the signal value of PES is quite important and argue that it would send a strange and illogical political message to terminate the measure, even if HEIs were to find ways to maintain similar systems of their own – for which interviewees claim HEIs lack the resources. They go on to explain that the effect clearly would be fewer proposals, which would be at odds with the government's strategy.

A few institute survey respondents point out that how to deal with a reality without PES would be a management decision. Most institute management interviewees agree but argue that PES grants only cover a fraction of the full cost of proposal production, meaning that the effect would be manageable. One interviewee sums up the sentiments of several other institute interviewees:

We can't live on PES and we can't live without Retur-EU.

6.6 Conclusions

To be able to analyse the extent to which PES has fulfilled its objectives, we would ideally want to know which FP proposals benefitted from PES support, whether received directly from RCN as single grants or indirectly through block grants. However, even if we had this information, it would not be possible to construct a meaningful control group of proposals that had not benefitted from PES support. Regrettably (but understandably), RCN no longer follows up which FP proposals have benefitted from PES support in the vast majority of cases, so we must base our assessments on more indirect evidence.

Figure 5.12 and Figure 5.13 showed that FP proposals with Norwegian coordinators have become more competitive relative to the comparator countries in terms of success rates so far in HE, and we noted that the high success rates to a significant extent are due to coordinators from institutes, which coincides with institutes receiving a majority of total PES funding (cf. Figure 6.3). Moreover, Figure

5.14 showed that excellence scores awarded to proposals with Norwegian coordinators have improved relative to other countries. These analyses suggest that the quality of Norwegian-coordinated proposals is developing in line with the PES objective to improve proposal quality.

We learned from Figure 3.1 that the number of Norwegian proposals per 1,000 FTE researchers increased rapidly under H2020 after a gradual decline under FP7. The number of proposals under HE exhibits a trend similar to that of the first four years of H2020. (Figure 3.2 shows that the trends are the same for Norwegian applications.) The development of Norwegian proposal production is thus in line with the PES objective to increase the number of proposals.

The number of Norwegian proposers is, for several reasons, difficult to assess unequivocally. One reason is how to define a proposer considering that most PES funding is awarded through block grants and there is no reasonable way to determine which FP proposals, and thus individual applicants (individuals), from the organisation that benefitted from the grant (and to what extent). The analysis presented in Table 6.1 therefore tells us nothing about the number of individual applicants. The assessment is more straightforward for single grants since a single-grant recipient (in most cases) is synonymous with an organisation. Table 6.3 illustrates that the number of unique recipients of single grants has decreased significantly under HE. However, Figure 3.1 showed that the number of Norwegian proposals increased rapidly under H2020, and a similar increase may yet take place during the remaining years of HE (there was no such increase with time under FP7). Moreover, Table 6.2 revealed that most PES recipients under HE (so far) did not receive a PES grant under H2020, which suggests that PES may contribute to some new proposers, at least from the private sector. These analysis results makes it difficult to conclude whether or not the number of proposers is developing in line with the PES objective to increase the number of Norwegian proposers. In absolute terms, it nonetheless seems that the number of Norwegian proposers with PES support has decreased so far in HE.

In Technopolis' 2018 evaluation of PES, the preconditions were more favourable to assess PES objective fulfilment through registry analyses. At the time, RCN did keep records of what FP proposals had benefitted from PES support for most Norwegian proposals (also through block grants), thus enabling linking eCorda proposal information to recipients of PES funding. However, it was not possible to construct a meaningful control group then either, so the analyses set out to compare performance under FP7 (when PES support was relatively low) to performance under H2020 (when PES support was high, cf. Figure 6.1), with the associated complication of multiple changes to the PES rules over the two FPs. By coupling PES support directly to FP proposals, the evaluation concluded that PES under H2020 was associated with increased proposal activity, with some additional proposers, and with slight quality improvements (Åström, et al., 2018). The 2018 evaluation – with direct coupling between PES support and FP proposal – thus came to the same overall conclusion in terms of number of proposals and proposal quality as the present one (without such coupling), but the former reached a positive conclusion in terms of number of proposers.

We may thus conclude that developments are in line with the PES objectives in terms of number of proposals and quality of proposals, whereas we lack conclusive evidence in terms of number of proposers. However, an obvious weakness is that it does not say whether there is causality or merely correlation.

The implications for policy fall into two parts.

First, PES grants appear to play a useful role in encouraging individuals and organisations with limited experience to apply to the FPs and helping them develop the needed skills. The population of "beginners" will constantly be refreshed, so there is a policy argument constantly to combat what we might think of as an "institutional capability" failure.

Second, the bulk of the PES measure is based on block grants, which allows frequent FP participants to build proposal-writing capacity and – as the evidence presented here shows – contribute to a growing Norwegian success in the FPs. Quite a number of European countries that have run similar measures in the past have implicitly concluded that there has been behavioural additionality among frequent participants, which is to say that they have spent their grants on learning, and having learnt they have changed their behaviour. They now recognize the importance of the FP and have developed their own tools to address the challenges of participating in the FPs. Having eliminated the institutional capacity failure, policymakers in many countries have withdrawn such funding. The interview evidence in this evaluation points partly in a similar direction; we are told that there has indeed been organisational learning, and this claim is consistent with the improving performance. This implies that it may be time to gradually scale down PES funding for frequent FP participants. However, we also heard testimony that the signal value of both kinds of PES support is important in encouraging researchers to apply to the FP.

The bigger context is that Norwegian governments have financial return ambitions that ask Norwegian applicants to bring home a share of FP funding that is greater than the country's contribution. The need for a super-normal performance to obtain a super-normal return will become increasingly onerous now that the UK and Switzerland, past masters in competition for FP funding, are once more fully associated to the FPs. This evaluation cannot provide clear evidence about whether Norway can continue to succeed in this increasingly demanding environment.

7 Retur-EU

This Chapter analyses the importance and impacts of Retur-EU. We conclude that the measure has made it financially realistic for institutes to participate in – and often coordinate – additional FP projects, and that they are successful in partnering with the private sector but less so with the public sector.

This Chapter sets out to analyse the importance and impacts of Retur-EU (and its predecessor STIM-EU) on the FP participation of Norwegian institutes, and in particular their propensity to coordinate proposals and to include participants from the Norwegian private and public sectors. The Chapter starts with a brief summary of the measure's background and evolution, which is then followed by registry analyses of Norwegian institutes' FP participation patterns based on eCorda data, as well as the findings of a web survey of institute managing directors and interviews with representatives of institute management.

7.1 Background and evolution

STIM-EU was introduced in 2012 (during FP7) as a trial measure with the twofold objective of increasing research institutes' FP participation and fostering their collaboration with industry to increase private sector's research intensity. Under FP7, the measure only applied to institutes receiving their government base funding from RCN, plus five additional institutes. At the time, STIM-EU provided extra funding from RCN to institutes based on FP funding granted and there was a bonus to institutes that had a Norwegian company as partner in the project. The overall rationale for the measure was – and is – that Norwegian institutes receive much lower government base funding than institutes in almost all other European countries.

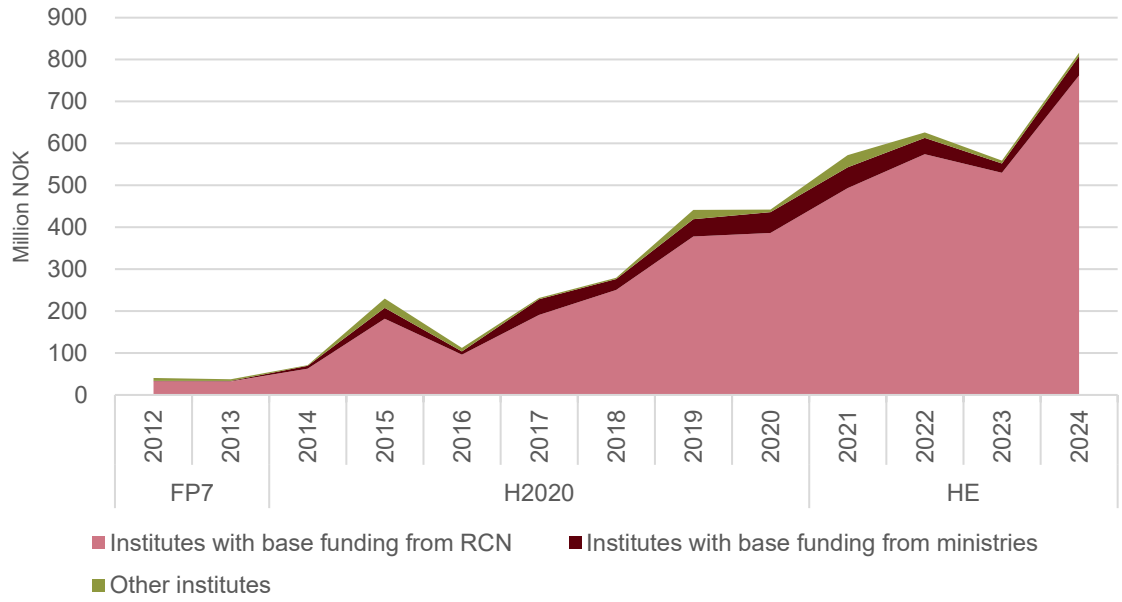
At the start of H2020, STIM-EU was extended to include all institutes eligible for RCN project funding (although 90% of the budget was earmarked for the originally eligible institutes), and a bonus for institutes coordinating FP projects was introduced. RCN started calculating STIM-EU funding based on eCorda data, meaning that institutes no longer had to submit proposals.

In H2020, the financial rules for participation were simplified compared to previous FPs, but in the process eligible overhead (indirect) costs were fixed at 25 percent for all stakeholder types. For institutes with expensive infrastructure this resulted in significantly reduced cost coverage. While this affected institutes in all countries, the impact was more severe for Norwegian institutes given their very low base funding. After lobbying by the institute sector, the STIM-EU funding percentage was increased in 2015 to 33.3 percent of FP funding granted. Moreover, all institutes eligible for RCN project funding were treated as equals. The same year, an amount equal to 8 percent of the annual STIM-EU budget was set aside for a new bonus system disbursed in proportion to FP funding granted:

- 4 percent for collaboration with a Norwegian company
- 2 percent for collaboration with a Norwegian public organisation
- 2 percent for coordination

Figure 7.1 shows that these changes resulted in rapidly increasing STIM-EU funding under H2020.[73]

Figure 7.1. STIM-EU and Retur-EU base funding granted based on FP projects starting each year by institute category. 2025-prices



Source: RCN. Amounts converted to 2025-prices using public consumption deflator from SSB's national accounts.

Technopolis' 2018 evaluation of STIM-EU recommended that the funding level should be increased above 33.3 percent for institutes that are part of RCN's base funding system and that the percentage should be individually adapted to each institute's actual overhead costs (Åström, et al., 2018). The recommendation was to wait until HE to do so, but already in 2019 MER instructed RCN to implement such a change as a trial starting in 2020.[74] In practice, the new system weights each institute's hourly rates and its level of base funding, resulting in a funding percentage between 33.3 and 50 percent (the entire range is used), but there is a check to ensure that the compound funding (FP + STIM-EU) does not exceed actual costs. As a caveat, RCN pointed out that funding percentages are conditional on RCN's budget for the measure not being exceeded.

Ahead of HE, the measure was renamed Retur-EU to emphasise that it is a compensation for institutes' inadequate cost coverage. No changes were made to the funding percentages or the bonus system. However, in 2022 RCN started distributing Retur-EU funding in equal tranches over the three years following the start of FP projects to even out the disbursement profile. From 2022 onwards Figure 7.1 thus shows Retur-EU funding decisions, not disbursements.[75]

[73] The dip in 2016 is explained by RCN starting to grant STIM-EU based on signed contracts (rather than funding decisions in eCorda), which resulted in a one-time lag.

[74] The new system, which was proposed by RCN and approved by MER, was based also on other background reports than Technopolis' 2018 evaluation.

[75] This change resulted in no disbursements at all in 2022, NOK 189 million in 2023 (for projects started in 2022), NOK 363 million in 2024 (for projects started in 2022–2023), and NOK 626 million in 2025 (for projects started in 2022–2024).

Figure 7.1 illustrates that RCN received gradually increasing annual appropriations for the measure. Until 2021, RCN was allowed to reallocate budgeted amounts between years to match demand (which from a budgeting perspective clearly is challenging to predict), but new stricter rules introduced by the government in 2022 set limits to such reallocations. In 2023, the Retur-EU budget was set to NOK 500 million (Prop. 1 S, 2022), but in 2024 this cap was removed to give RCN more flexibility to maintain FP proposal activity (Prop. 104 S, 2023).

7.2 Use of Retur-EU base funding

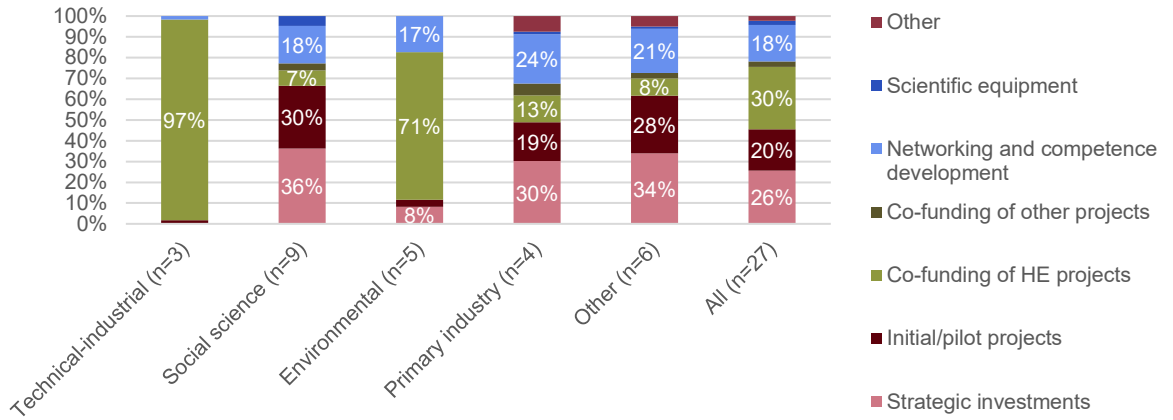
According to MER's guidelines for institutes that receive their government base funding from RCN, an institute is free to use its base funding for long-term knowledge and competence development in accordance with the institute's purpose and strategy, provided it only includes activities of a non-financial and open nature, including:[76]

- Long-term research projects of importance to the institute's current and future users, including contributions to doctoral education
- Publishing and other forms of research dissemination

While these guidelines apply only to the institutes receiving their base funding from RCN, the same aspects also tend to apply to other Norwegian institutes. Since Retur-EU (and STIM-EU) funding explicitly constitutes base funding, there are no additional restrictions on its use.

In a survey, we asked institute managing directors how their institute used its Retur-EU base funding in 2021–2024, i.e. under HE. The first four categories in Figure 7.2 are sub-sets of "Institutes with base funding from RCN" of Figure 7.1, while the Other category includes institutes from the two remaining categories of Figure 7.1. Figure 7.2 illustrates that for all institutes together, co-funding of the FP projects that released the Retur-EU funding is the most common, followed by strategic investments, pilot projects, and networking and competence development. There seem to be large differences between the four categories of institutes receiving their base funding from RCN, but there are few respondents per category, so caution is warranted (the overall survey response rate was 59%).

Figure 7.2. Use of Retur-EU base funding 2021–2024.



Source: Technopolis web survey.

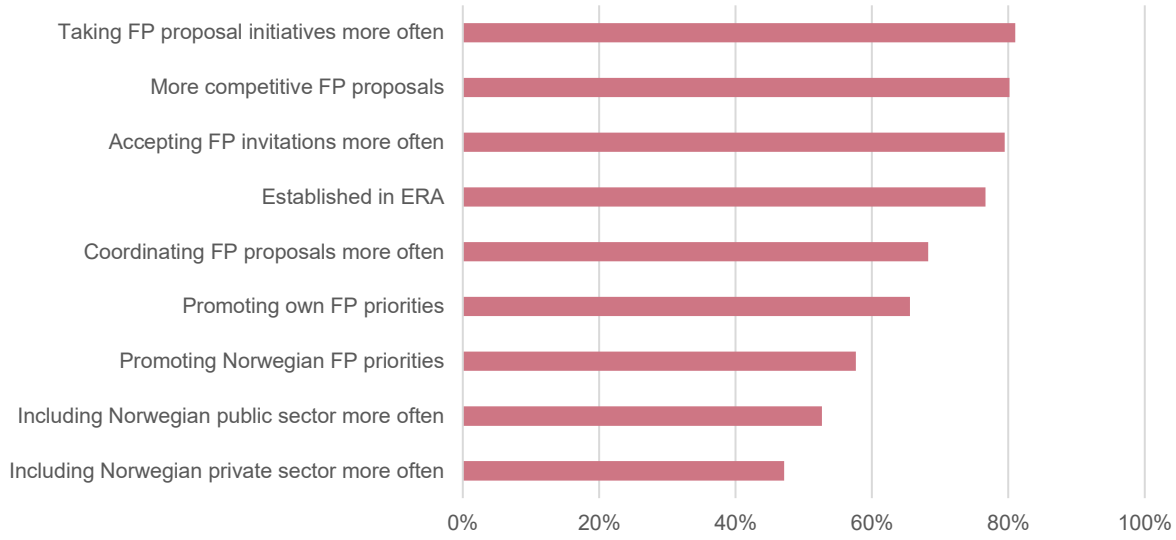
[76] «Retningslinjer for statlig grunnbevilgning til forskningsinstitutter og forskningskonsern», 2022 (https://www.regjeringen.no/no/dokumenter/retningslinjer-for-statlig-grunnbevilgning-til-forskningsinstitutter-og-forskningskonsern/id2895296/).

7.3 Impacts of Retur-EU base funding

We went on to inquire what the effect of STIM-EU and Retur-EU base funding over the years had been for organisations' FP participation. Figure 7.3 shows that managing directors judge that the additional base funding has contributed to their institute initiating proposals more often, producing more competitive proposals, accepting invitations to others' proposals more often, and having established itself in the ERA. The institute also promotes its own interests and joint Norwegian interests, especially in European Partnerships, more than they otherwise would have. Two respondents in three believe that the institute coordinates more proposals, and around every other respondent assesses that the institute includes partners from the public and private sectors more often.[77]

Without exception, institute interviewees emphasise that Retur-EU is an absolute necessity for extensive FP participation given the institutes' low base funding. They plainly do not have sufficient profit margin on their commercial assignments to co-fund FP projects that generally provide far from full cost coverage.

Figure 7.3. Impacts of STIM-EU and Retur-EU base funding on overall organisation according to institute directors.



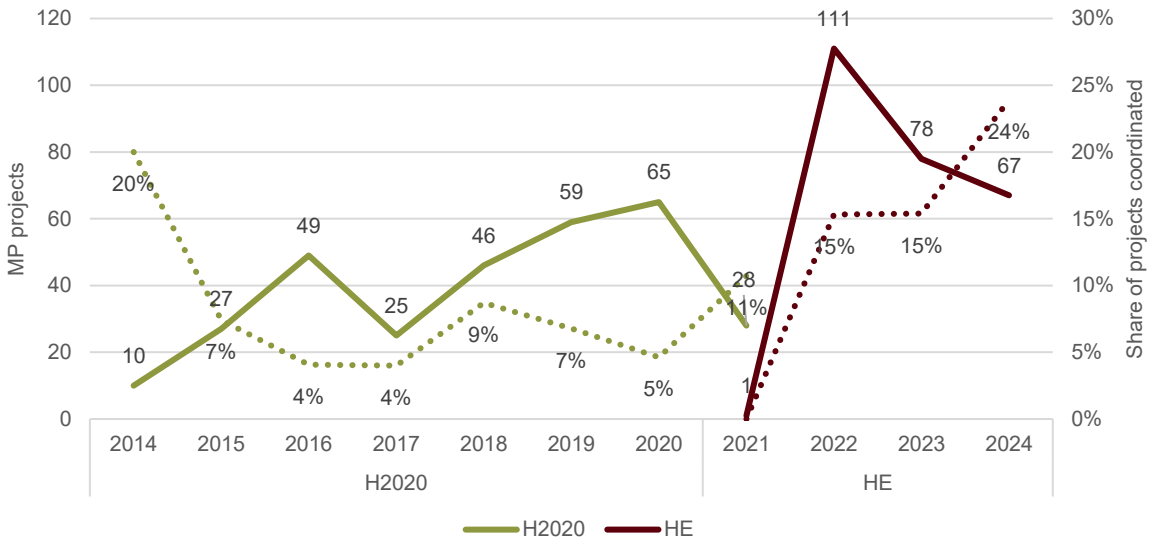
Source: Technopolis web survey.

Figure 7.1 shows that the FP participation of institutes has increased very rapidly under H2020 and HE (although part of the increase of course is due to changes in funding levels and number of eligible institutes). This has made the measure considerably more expensive than originally foreseen and raises the issue of whether the measure is a good investment for Norway or – possibly – more a sign of some institutes having embraced a business opportunity that serves themselves well. Whether institutes' FP participation brings broader value to the country may be approached from several viewpoints. We start by analysing Norwegian FP participation through the lens of the bonus system introduced in 2015, where project coordination and partnering with Norwegian companies and public organisations are rewarded. In this context it is important to realise that a proposal coordinator has great sway over the topic and scope of the planned project, including over consortium composition and division of labour, while the opinions and desires of ordinary partners normally carry less weight.

[77] For most statements, there are large differences in responses between the five institute categories, but since the number of responses per category are so low we refrain from reporting responses broken down by category.

To investigate the role and importance of institutes to FP participation by other Norwegian organisations, we have analysed collaboration patterns focusing on MP projects under H2020 and HE. Figure 7.4 illustrates that there has been an increasing number of MP projects with a Norwegian institute as the only participant from Norway (solid lines, left axis). This is not surprising since the institute in many cases probably was invited to the consortium as a partner because it had a unique skill or capability to contribute. However, some of these projects were coordinated by the Norwegian institute and this share increased towards the end of H2020 when the STIM-EU funding percentage was increased, and the share has continued to increase rapidly under HE (dotted lines, right axis; on average 7% in H2020, 18% so far in HE[78]). These coordinated projects could possibly be missed opportunities to include other Norwegian organisations.

Figure 7.4. Number of Norwegian MP projects in H2020 and HE with a Norwegian institute as the only participant from Norway (solid lines, left axis) and share coordinated by the institute (dotted lines, right axis) (Norwegian stakeholder categories).

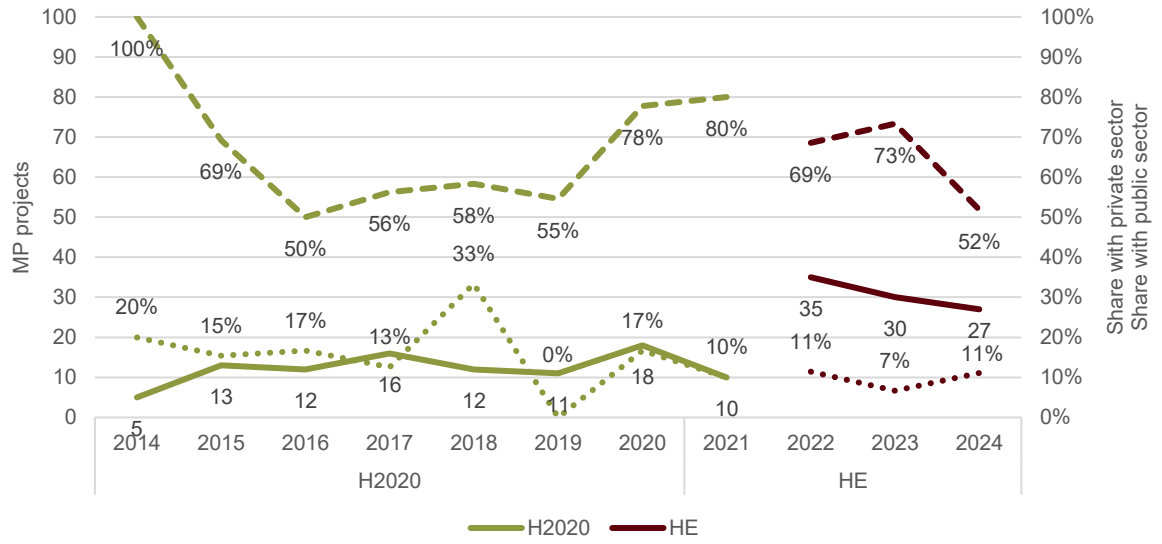


Source: eCorda augmented with Norwegian stakeholder categories.

Figure 7.5 shows that the number of MP projects with a Norwegian institute as coordinator and at least one other Norwegian participant (solid lines, left axis) was relatively flat in H2020 but has more than doubled so far in HE (on average 12 projects per year in H2020, 31 in HE). The trend for the share of these projects that had at least one private-sector participant (dashed lines, right axis) is a bit erratic but the average per FP is basically unchanged (on average 66% in H2020, 65% in HE). However, the number of projects has more than doubled (on average 8.0 projects per year in H2020, 20 in HE). The share with public-sector participants (dotted lines, right axis) has decreased (from 15% to 10%), but the number of projects nevertheless has increased (from 1.9 to 3.0 per year). With private-sector participants in two-thirds of coordinated projects, it seems as if these institutes have gone to great lengths to include private-sector participants from Norway, but they have been less successful in engaging public-sector participants in their projects.

[78] These shares have been calculated based on all relevant MP projects in each FP (and are thus not averages of the annual percentages shown in the Figure).

Figure 7.5. Number of Norwegian MP projects in H2020 and HE with a Norwegian institute as coordinator and at least one more Norwegian participant (solid lines, left axis), share with private-sector participant (dashed lines, right axis), and share with public-sector participant (dotted lines, right axis) (Norwegian stakeholder categories).

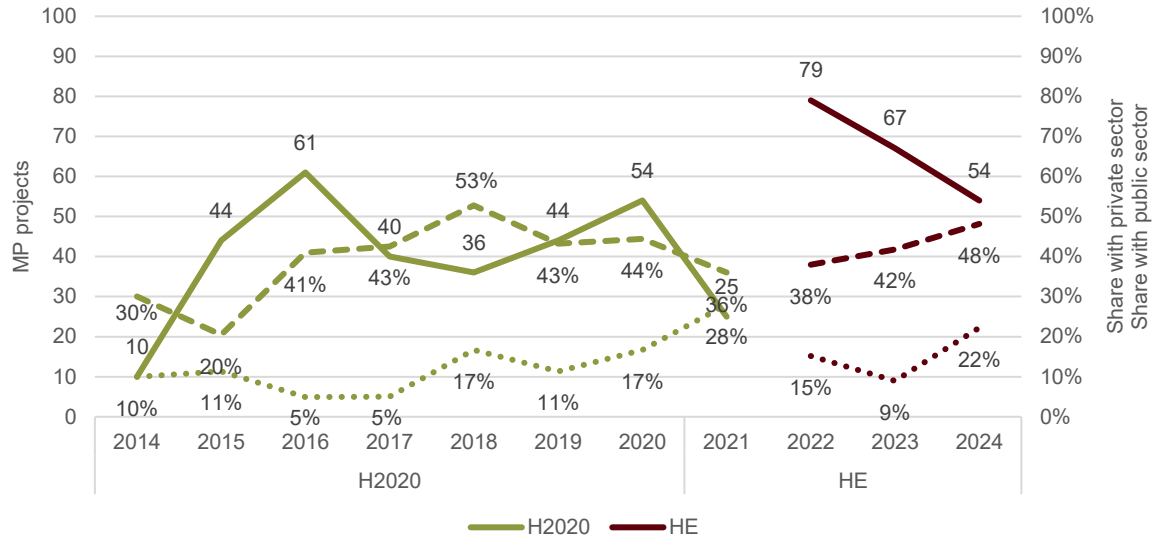


Source: eCorda augmented with Norwegian stakeholder categories.

Figure 7.6 shows the equivalent analysis for projects with a Norwegian institute as an ordinary participant. On average, the number of such projects (solid lines, left axis) has increased by 70 percent (on average 39 per year in H2020, 67 in HE), while the shares of these projects that had at least one private-sector participant (dashed lines, right axis) or at least one public-sector participant (dotted lines, right axis) have not changed very much (from 40% to 42% for private-sector participants, from 12% to 15% for public-sector participants). However, the numbers of such projects have roughly doubled (from 16 to 28 per year for private-sector participants, from 4.8 to 10 per year for public-sector participants).

A comparison of Figure 7.5 and Figure 7.6 reveals that MP proposals are more likely to include Norwegian private-sector participants when a Norwegian institute coordinates the proposal than when the institute is an ordinary partner, which suggests that institutes indeed use their position of power in establishing consortium. However, they appear successful in influencing consortium composition also when they are not coordinators. We cannot see the same tendency for public-sector participants, which probably is because they reportedly are significantly less interested in participating in FP projects and the position of power of the Norwegian institutes thus makes little or no difference.

Figure 7.6. Number of Norwegian MP projects in H2020 and HE with a Norwegian institute as regular participant and at least one more Norwegian participant (solid lines, left axis), share with private-sector participant (dashed lines, right axis), and share with public-sector participant (dotted lines, right axis). (Norwegian stakeholder categories).

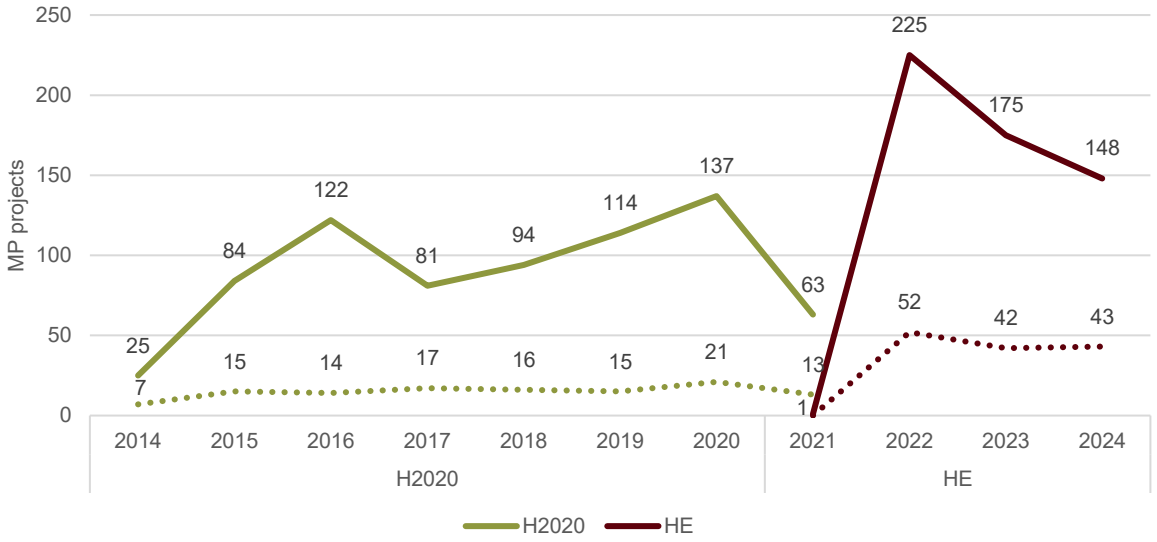


Source: eCorda augmented with Norwegian stakeholder categories.

We continue to investigate the effect of the increase in STIM-EU funding levels in 2015 and 2020.[79] Figure 7.7 shows that the number of MP projects with a Norwegian institute in any role, i.e. coordinator or regular participant (solid lines), exhibits an upwards trend and went through a step change in 2015–2016 and other one at the (effective) start of HE in 2022. The number of these projects that were coordinated by a Norwegian institute (dotted lines) exhibits similar step changes in 2015 and 2022 (but also a substantial increase already in 2020). The Figure suggests that Norwegian institutes responded favourably to the increase in STIM-EU funding levels in both 2015 and 2020, but that it appears to have taken a few years before they really got around to coordinating significantly more MP proposals following the 2020 change. Figure 7.8 suggests that the immediate effect of the 2015 change mainly was to participate more often as partner rather than to coordinate. In contrast, the 2020 change seems to have had a significant, albeit somewhat delayed, effect; the share of MP proposals coordinated by institutes had more than doubled by 2024 from a low point in 2019. Norwegian institutes clearly become more assertive once their economic preconditions significantly improve.

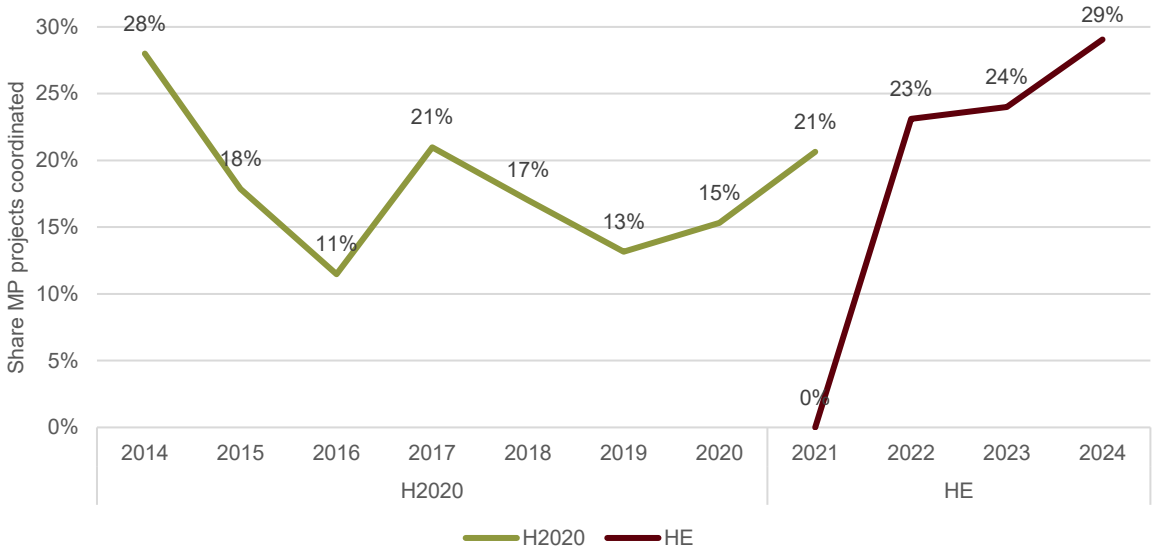
[79] The analyses presented in the following two Figures are for all Norwegian institutes, which all benefitted from the 2015 change. The 2020 change only affected institutes that are part of RCN's base funding system, but they clearly dominate institute participation (cf. Figure 7.1) so the fact that other institutes also are included will not materially influence trends or conclusions.

Figure 7.7. Number of MP projects in H2020 and HE with a Norwegian institute (solid lines) and number of which coordinated by a Norwegian institute (dotted lines).



Source: eCorda augmented with Norwegian stakeholder categories.

Figure 7.8. Share of MP projects in H2020 and HE with a Norwegian institute coordinated by the institute.



Source: eCorda augmented with Norwegian stakeholder categories.

Institute interviewees explain that the increased and differentiated funding percentages introduced in 2020 led to significantly increased FP participation, particularly for the technical-industrial institutes that have the lowest base funding (among the institutes receiving it from RCN) and typically also have the highest overheads; they consequently tend to receive the highest Retur-EU funding percentages. As mentioned above, the Retur-EU budget was set to NOK 500 million in 2023 and the cap removed in 2024. Institute interviewees explain that as long as the message was that there was a budget cap, they did not submit as many FP proposals as they could have (for fear of not receiving the expected Retur-EU funding percentage), but when the cap was removed, they ceased holding back. Several interviewees describe that they have taken the strategic decision to coordinate proposals and have become so good at it that success rates have become quite high, which likely explains developments

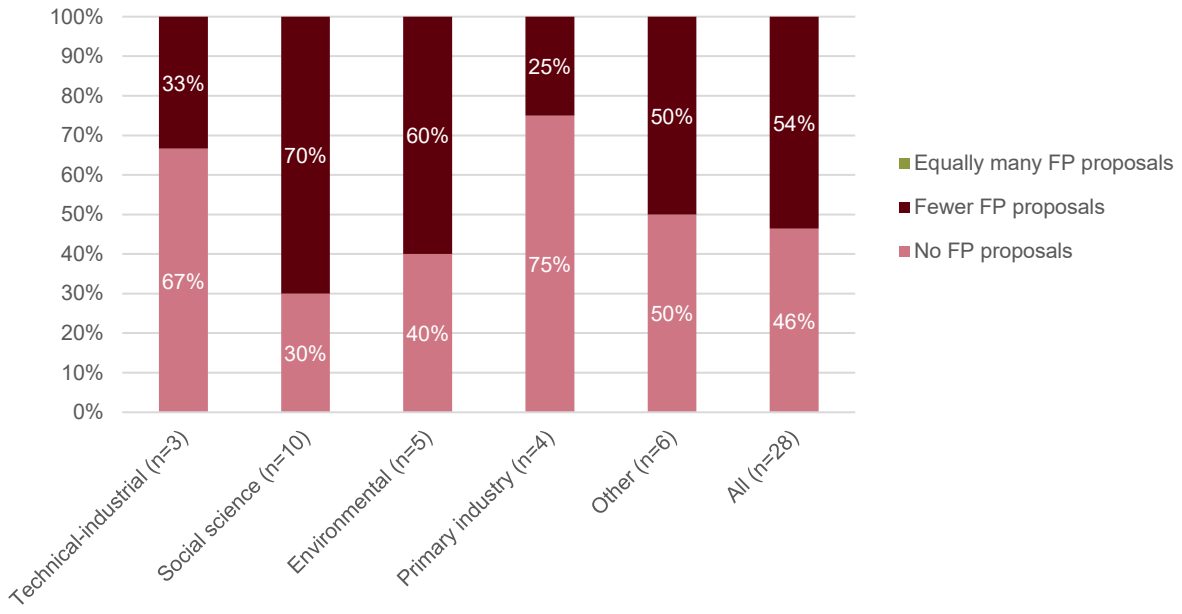
in Figure 7.7 and Figure 7.8. However, interviewees are quick to point out that the increased funding percentages do not mean that institutes (among the ones receiving their base funding from RCN) get full cost coverage, but rather around 90 percent.

We noted above that institutes appear quite successful in partnering with Norwegian private-sector actors, particularly when they coordinate proposals, but that they are less successful in engaging public-sector organisations. Without exception, all institute interviewees stress that none of the three bonus components influences their behaviour. They coordinate proposals and partner with other Norwegian organisations to contribute to impacts, not to get a bonus that is so small that it makes no difference. Interviewees go on to explain that they include other Norwegian organisations when it makes sense given the focus of the call for proposals and the scope of the planned project – and provided the budding consortium agrees. A most significant effort is usually required to get another Norwegian organisation from the private or public sectors on board, particularly public ones since they tend to lack practice of participating in R&I projects and because participation may require a political decision: “it’s an incredible uphill battle to get public organisations to join”, according to one interviewee. An interviewee from the public sector counters that institutes often pose the question at a late stage which may not match the public-sector’s budgeting cycle. Institute interviewees explain that it is generally easier to get companies onboard, provided they see a commercial potential.

7.4 Future of Retur-EU

The survey ended with two hypothetical questions on what would happen if Retur-EU were not available in the future. Figure 7.9 illustrates that close to half of institute managing directors assess that the institute would not submit any FP proposals at all and the remainder that it would submit fewer ones. Some institute interviewees concur that perhaps they would be able to participate in the odd project without Retur-EU if it were strategically very important, but the number of projects would be very much lower than now. Moreover, coordinating projects would be entirely out of the question since it is so time-consuming and financially risky.

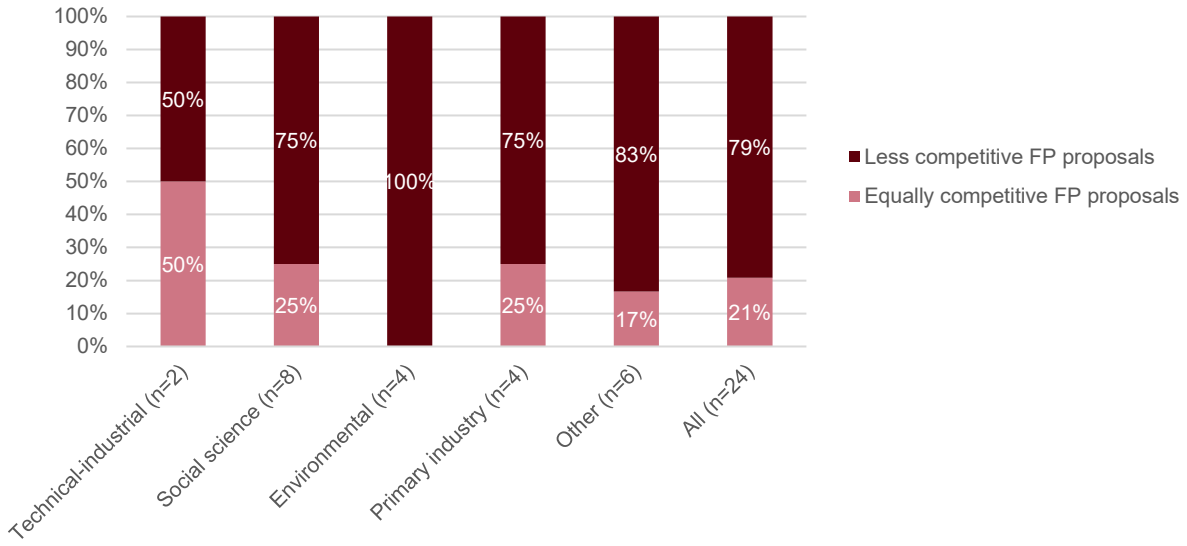
Figure 7.9. Likely effect of hypothetical absence of Retur-EU on number of FP proposals according to institute directors.



Source: Technopolis web survey.

Figure 7.10 shows that only one respondent in five believes that the proposals that nonetheless would be submitted would be equally competitive, probably because the institute would not be able to invest as much time in preparing proposals.

Figure 7.10. Likely effect of hypothetical absence of Retur-EU on FP proposal competitiveness according to institute directors.



Source: Technopolis web survey.

7.5 Conclusions

STIM-EU was originally introduced to encourage collaboration between research institutes and companies in FP projects. Later, the STIM-EU/Retur-EU measure was modified to also encourage institutes' project coordination and collaboration with the public sector.

The rationale for the measure is that Norwegian institutes have very low base funding compared to their colleagues in most other countries and therefore lack the financial muscle to co-fund FP projects. There is consequently no doubt that the 2015 and 2020 increases to the STIM-EU funding percentage are the reason for the institutes' increasing FP participation (cf. Figure 7.7) and their increasing propensity to coordinate proposals and thus projects (cf. Figure 7.8). The extra base funding provided through these changes clearly has made it financially realistic to participate in and coordinate additional FP projects. The importance of Retur-EU is further demonstrated by Norwegian institutes' marginal engagement in EU's DIGITAL programme, participation in which is not eligible for Retur-EU funding (Samfunnsøkonomisk Analyse, 2026).

Our analyses show that the institutes are successful in partnering with the private sector but less so with the public sector, which mainly is explained by the latter category overall being much less keen on FP participation. There has not been any increase in the *shares* of such partnering from H2020 to HE for either stakeholder category, but the *numbers* of projects with private- and public-sector participants have increased significantly. In the absence of a control group, we can only argue that the increasingly benign financial circumstances provided by Retur-EU on the one hand have made it possible to take the substantial financial risk of coordinating FP proposals, and on the other hand gives sufficient leeway to also engage with potential partners from the public and private sectors. However, interviewees clearly state that the bonus system for coordination and partnering does not influence behaviour. The fact that institutes increasingly coordinate proposals and partner with others is because

it makes sense, not because of a bonus system providing amounts that are minute compared to the costs.

It was not possible to construct a control group for the 2018 evaluation of STIM-EU either, so it set out to compare performance during the last two years of FP7 (when STIM-EU support was quite low) to performance under H2020 (when the funding percentage was increased). The evaluation concluded that STIM-EU probably had contributed to the increased proposal activity seen under H2020 and noted that the increase was easily explained by financial realities (Åström, et al., 2018). However, the empirical evidence was not sufficient for a clear assessment on the effectiveness of the bonus system, which basically is the same conclusion reached in this evaluation.

8 Cost and benefits FP10 participation

This chapter assesses the costs and benefits of participation in the tenth Framework Programme. The merits of association are evaluated by comparing FP10 against the alternative of channelling equivalent funds towards national measures. We conclude that the benefits of association substantially outweigh the costs

The FP budget is determined through political negotiations at European level. For Associated Countries, which are not formally represented in these negotiations, the key decision is whether to be associated or not. Once association is confirmed, Norway commits to financing its share of the Programme.

States may participate in the FPs in one of three ways;

- EU **Member States** obtain unfettered access to the entire FP. There is no specific membership "fee". Rather, the FP is funded out of the overall EU budget, to which Member States contribute based on their respective GDPs. While Member States like to compare their shares of the funding returns from the FP with their share of EU GDP, the FP is competitive by design. There is explicitly no *juste retour* principle. EU membership is a package deal, so what Member States 'win' in the FP they may 'lose' in Structural Funds or the Common Agricultural Policy.
- As **Associated States**. These comprise a spectrum. As an EEA member, Norway is fully associated, automatically getting the full benefits of the FP but must pay a financial contribution, while being formally excluded from decision-making. Other Associated States negotiate participation FP-by-FP, and the delays involved means the countries are not necessarily allowed to join at the start of each FP. In the case of political disagreements, their associated status can also be withdrawn. Both Switzerland and the UK have been affected by these issues. We discuss Swiss and UK experience in Chapter 9.
- As **Third Countries**, which participate on a project-by-project basis. Broadly, FP project participants from high-income Third Countries are funded by their home countries, many of which have established routine mechanisms for doing so via a national funding agency. However, a long list of low- and middle-income countries' participants can be funded from the FP budget. Third Country participants are not allowed to coordinate projects.

FP10 has a four-pillar framework, covering many of the same instruments as the current Horizon Europe. However, the proposed budget involves a relative increase in budget for pillar-3 instruments, in response to the need to foster European innovation and value creation. FP10 aims to strengthen R&D quality and collaboration, with core values such as gender equality, academic freedom, and openness, and should address strategic EU priorities such as decarbonisation, digitalisation, security, resilience, and social cohesion (cf. Section 2.2.3). The Commission further aims to reduce red tape and the time to grant, and to simplify funding structures (European Commission, 2025). Two important proposed changes compared to HE are the interaction with the European Competitiveness Fund (ECF) and the inclusion of R&I for dual-use civil and defence technologies. Further, the proposed budget involves a relative increase in business innovation-oriented measures relative to basic

research and societal challenges. An important backdrop to the proposal is that FP10 aims to address the barriers to increasing innovation and value creation in Europe in the context of a changing geopolitical landscape.

The following sections assess the costs and benefits for Norway of participating in FP10 as an associated state. We then reflect on the implications of participation in FP10 as a third country and draw conclusions. The subsequent chapter examines the impacts of FP participation by drawing on the Swiss and UK experience, and reflects on the FPs as a long-term intervention. These findings additionally offer perspectives on the benefits of Norway's association with the FPs.

8.1 Assessing costs and benefits of association

Assessing costs and benefits of participation in FP10 is inherently complex. First, the proposed FP is multifaceted and comprises a broad portfolio of instruments with different eligibility criteria, objectives and funding mechanisms. Second, as an ex-ante assessment conducted prior to the launch of FP10. Much is yet unknown, particularly with regards to its budget, governance structure and linkage to ECF. Thus, the analysis must rely on what we know so far about the programme, and the quantification of expected costs and benefits relies on a series of assumptions. Both costs and benefits are influenced by a wide range of factors, including Norway's relative R&I competitiveness, programme design, national co-funding schemes (such as Retur-EU), and broader geopolitical developments.

The analysis is based on assumptions and findings from the impact evaluation, interviews and written information on FP10 available by April 2026. In the Cost Benefit Analysis (CBA) [80] we assess both monetised and non-monetised costs and benefits. For costs and benefits that cannot be monetised, we apply a qualitative framework.

Throughout the assessment, association with FP10 is compared against a baseline scenario in which the financial contribution to FP10 and Retur-EU is instead allocated to national research and innovation instruments. The Research Council of Norway (RCN) is considered the most relevant comparator, particularly for research and development organisations, which account for the majority of FP participants and thus the bulk of funding flows. For instruments more pertinent to private sector participants, other agencies — such as Innovation Norway or Enova — may serve as more appropriate comparators. However, to avoid introducing complexity that would not be expected materially to alter the analysis, RCN is used as the baseline throughout unless otherwise stated. This is the rationale for the comparison of FP with RCN undertaken in Chapters 3–6.

RCN and FP10 are treated as distinct instruments. This is obviously a simplification as both are heterogeneous and have evolving portfolios of instruments. Moreover, they are interdependent. It is important to recognise that this is, in a sense, to compare apples with oranges. Policy measures at EU level are required to have 'European Added Value', which is to say that they should only do things that could not be done as effectively at the national level. In principle, therefore, EU and national actions are complements, not alternatives. For example, a national-level collaborative R&D project would involve a limited number of organisations, while an FP project would involve participants from at least three countries. So, there would be big differences in the amount and potential quality of the R&D capacity available, the reach in terms of academic and industrial networks, access to markets and supply chains, and the scale of effort that could be devoted to a project. Grant sizes also differ significantly between the national and European levels. The assessment begins with those costs and

[80] The Cost Benefit Analysis (CBA) is conducted using the Norwegian Government Agency for Financial Management (DFØ)'s guidance on cost-benefit analysis (latest version (DFØ, 2026).

benefits that are amenable to monetisation, before turning to those which are not. Sensitivity to changes in key assumptions and distributional consequences are also examined.

8.2 Monetised cost

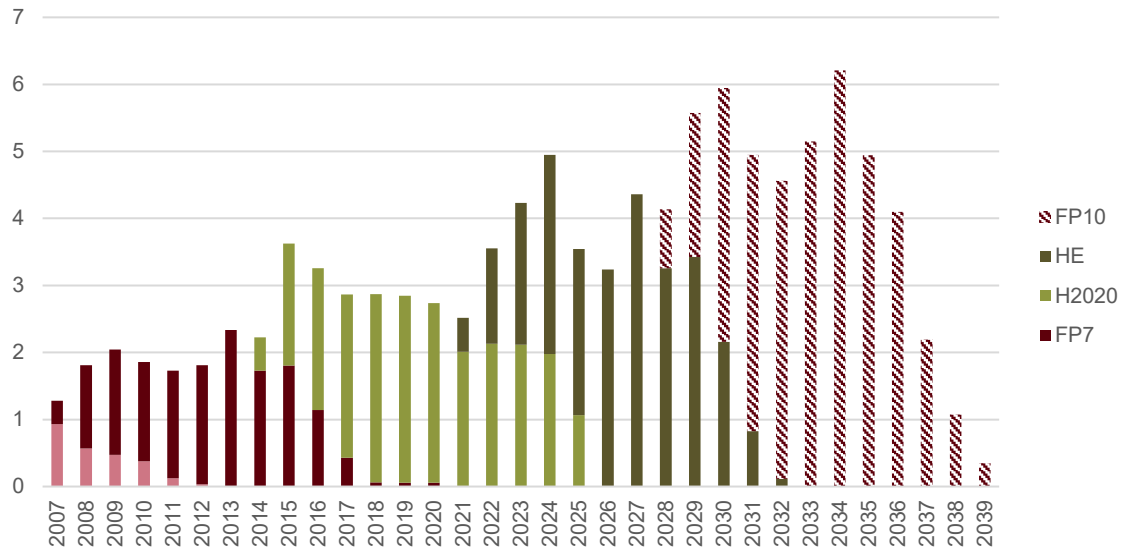
The total budget for FP10 is not yet determined. In the CBA, we rely on the Commission's current proposal of EUR 175, equivalent to EUR 155 billion in 2025-prices (European Commission, 2025). The final budget will be decided by the European Parliament and the Council of the European Union, probably in 2027.

A European Parliament rapporteur has prepared a draft report that may form the basis for the Parliament's position in these negotiations (Ehler et al., 2026). The rapporteur proposes increasing the budget from 155 to 195 billion euro in 2025-prices. However, interviews with Norwegian ministry representatives suggest that the final budget very well may end up being lower than both these proposals due to fiscal constraints in many Member States and competing priorities such as increased defence spending.

Norway's financial contribution is calculated based on the relative size of Norway's economy compared to that of all EU Member States, measured in terms of GDP (the proportionality factor). The financial contribution is paid in Euro, so the actual cost in NOK depends on the exchange rate. The financial contribution will thus vary from year to year depending on the proportionally factor and the actual cost (payments and administrative cost), as well as fluctuations in the exchange rate. We use the 2026 proportionality factor (2.43), average exchange rate during the past year (11.5) and estimate the Norwegian financial contribution for FP10 to be NOK 43 billion in 2025-prices.

Figure 8.1 illustrates Norway's financial contribution from 2015 to 2040 in 2025-NOK. Financial contribution in the period 2007-2025 is based on actual figures. Contribution thereafter is estimated. We use shaded bars for FP10 to illustrate that the budget is yet to be determined.

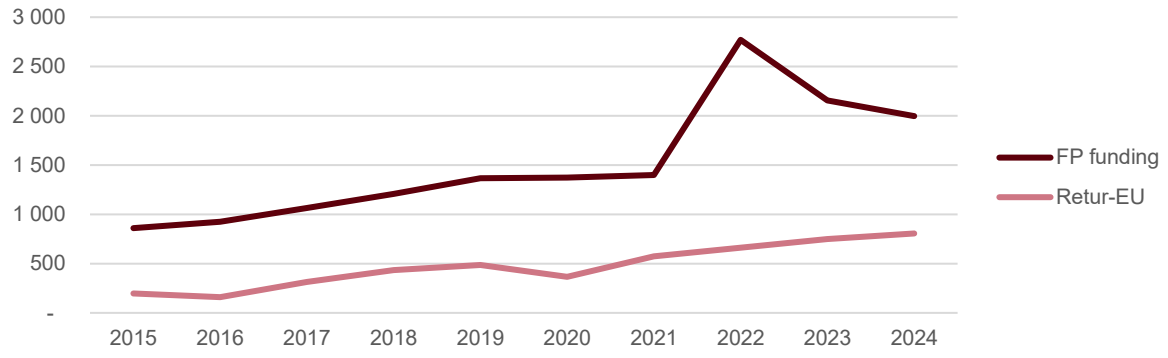
Figure 8.1 Norway's financial contribution 2007–2039. In billion NOK. 2025-prices.



Sources: Statsregnskapet.no, SØA. Note: The annual total contribution is sourced from the National Accounts for the period 2007–2025. From 2026 onwards, figures are estimated. The National Accounts do not distinguish between framework programmes. The contribution by programme has been estimated based on experience of how the contribution is distributed throughout the programme period. Amounts converted to 2025-prices using public consumption deflator from SSB's national accounts.

In the baseline scenario, R&I funding corresponding to the financial contribution to FP10 and Retur-EU is allocated as national R&I instruments. We thus also need to estimate the size of Retur-EU. Retur-EU expenditure has increased in parallel with FP funding to research institutes, underscoring two important points. First, increased participation in the FPs leads to higher Retur-EU expenditure. Second, Retur-EU stimulates institute participation in the FPs as it covers most project-related costs not funded by the EU. However, it is an enabler of participation, not a driver. Increased FP participation cannot be achieved solely by increasing Retur-EU funding, as participation in the FPs is highly competitive and ultimately depends on the collective ability of Norwegian proposers to compete successfully for funding.

Figure 8.2 FP funding to research institutes and Retur-EU. 2015-2024. In mill. 2025-NOK.



Sources: eCorda, RCN. Amounts converted to 2025-prices using public consumption deflator from SSB's national accounts.

In the cost-benefit analysis, Retur-EU funding is assumed to amount to approximately NOK 7.7 billion over the programme period, or NOK 1.1 billion annually. This estimate is based on the level of Retur-EU funding required to achieve a target return rate of 2.8 percent in FP10, on the assumption that research institutes continue to account for approximately 35 percent of Norwegian FP10 funding. The FP10 proposal places greater emphasis on innovation, compared with HE's focus on higher education. This may imply a shift in Norway's participation profile, which could in turn affect the level of Retur-EU funding required.

The costs of preparing proposals have been estimated on the basis of the median time reported in a web survey, combined with historical data on submitted proposals (see Appendix F for details). Such costs are inherently difficult to assess, given the substantial variation across proposers, institutions, and funding instruments. Estimates are subject to considerable uncertainty and are sensitive to assumptions regarding the average number of partners involved, the number of hours spent, and the number of proposals submitted. This applies to both the baseline and FP10 scenarios. The cost of writing proposals is assumed to be somewhat higher in the FP10 scenario than in the baseline, reflecting the greater complexity typically associated with collaborative international bids. The FP10 proposal nonetheless expresses an ambition to simplify and harmonise procedures, funding rates, and rules across instruments. Similarly, RCN actively seeks to reduce the time and resources required for proposal preparation and to limit the number of unsuccessful submissions.

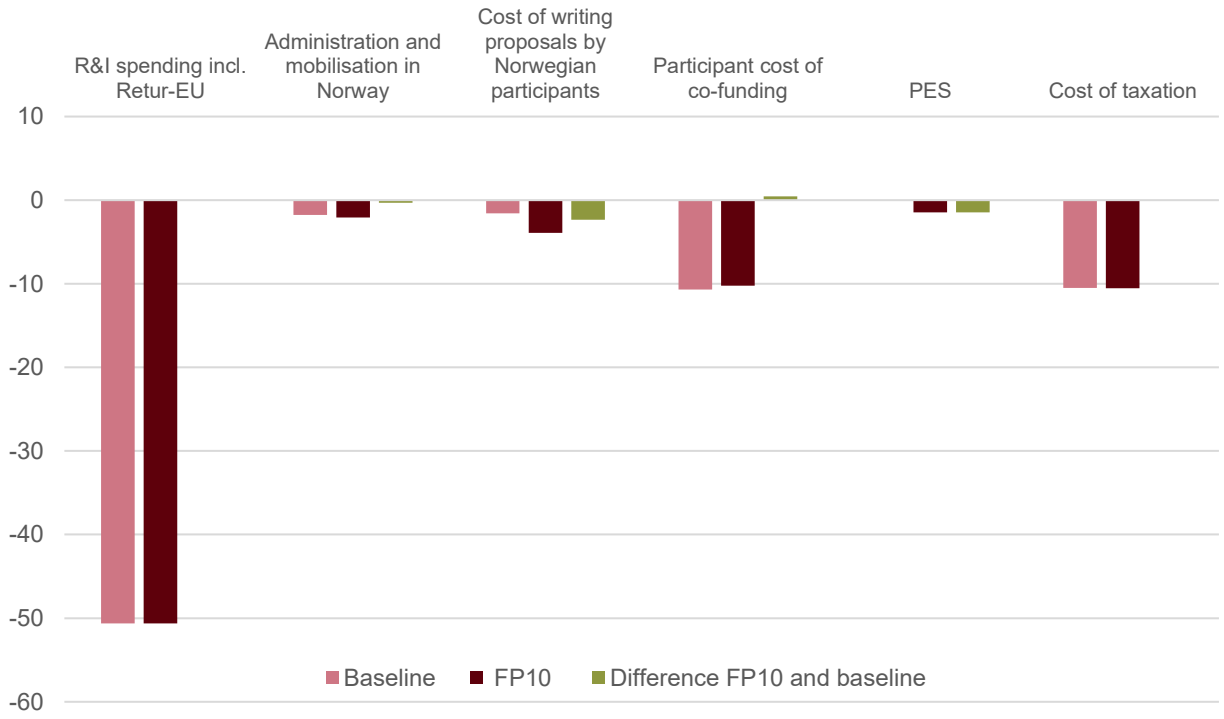
As the designated National Contact Points (NCPs), the Research Council of Norway and Innovation Norway work to assist Norwegian stakeholders in applying for funding. Larger participating institutions likewise maintain dedicated staff to support applicants. Beyond this, ministries and NCPs commit resources to a range of national and international coordination activities.

Interviews suggest that there has not been a growth in resources spent on this type of follow-up in HE compared to H2020, despite the programme being larger. It is thus assumed that resource use of this

nature will remain at the level identified in the previous evaluation (Tofteng, et al., 2020). Given the past and anticipated increase in the scale of FP10, this implies a degree of efficiency improvement. The European Commission's ambition to simplify and harmonise rules may collectively help contain the growth in mobilisation and coordination costs also in the years to come[81]. These activities are likewise difficult to quantify, as they are closely integrated with broader organisational functions and reflect strategic and political priorities.

All cost elements are depicted in Figure 8.3. See Appendix F for assumptions used to estimate costs of mobilisation, writing proposals, participant co-funding, and cost of taxation.

Figure 8.3: Monetised costs in the baseline and FP10 scenarios. NOK billion, 2025 prices



Source: SØA

8.3 Monetised benefits

The key distinction between FP association and the baseline scenario lies in the uncertainty surrounding the share of FP funding that will accrue to Norwegian participants and, correspondingly, the proportion of total public research and innovation expenditure that will be realised in Norway rather than abroad. In the cost-benefit analysis, FP funding flowing to Norway is treated as a benefit, insofar as it constitutes an inflow to the Norwegian economy. The magnitude of this inflow depends on the extent to which Norwegian participants succeed in securing competitive FP funding.

In the FPs, a share of the programme budget is allocated to administrative costs. We have assumed that administrative costs corresponding to six percent of the FP10 budget, based on experience so far

[81] New information from RCN indicates, however, that RCN mobilisation activities, including training, guidance, and advisory services, have been significantly reduced in 2026. This represents a deviation from our assumption that such efforts would remain broadly at the level observed in recent years. The implications for future Norwegian participation are uncertain and fall outside the scope of this analysis.

in HE (European Commission, 2025). It is assumed that 94 percent of the FP budget is allocated through open competition. This share may prove to be somewhat lower should the European Commission elect to allocate a portion of funds outside competitive procedures.

The financial return to Norway is inherently uncertain. We use the current target of 2.8 percent as reflected in the current strategy (Ministry of Education and Research, 2021) as the central assumption in the CBA. We test alternative return rates in the sensitivity analysis (see Section 8.4).

There is a broad consensus that investments in R&I are beneficial. Private returns are, however, unevenly distributed, and some investments may not yield positive returns at all. Neither our data nor other national studies can fully quantify the economic effects of R&I investments. As presented in Section 5.4.2, Frontier Economics (2023) summarised empirical studies and found that private return to investments in R&I varied between 0 and 30 percent. Møen (2019) estimates a return rate of 19 percent on private investments based on Norwegian data. Both Frontier Economics (2023) and Møen (2019) find that the estimate was lower for publicly funded research. For Skattefunn projects the return rate was 16 percent, while for privately funded R&I through RCN's IPN instrument it was close to zero. We have assumed a moderate private return of 7.5 percent per year in FP10 and the baseline scenario.

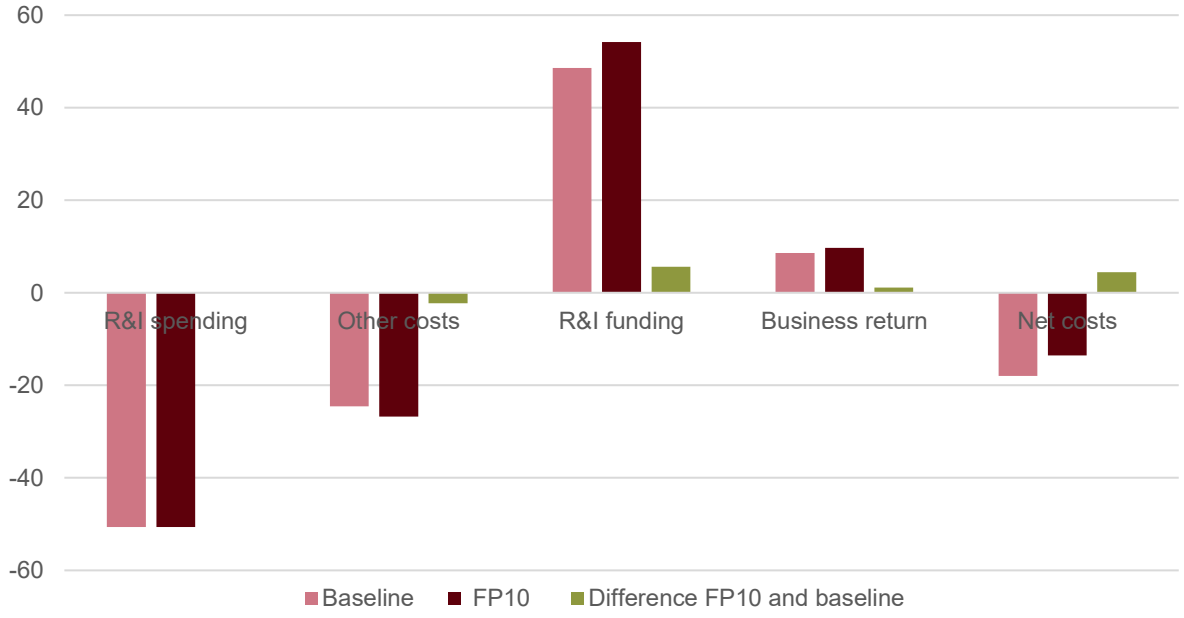
Most importantly, publicly funded R&I is assumed to generate external effects[82]. Estimates of the external effects also vary greatly across sectors and countries, and are sensitive to datasets and methodological choices, indicating that there is no universal social rate of return. The recent mid-term evaluation of HE points to positive impacts on the EU economy; for example, it estimates that 1 euro of EU funding to R&I projects could generate up to 11 euros in GDP gains by 2045 (European Commission, 2025). Frontier Economics (2023) summarised empirical studies and found that the social return on R&I investment is typically twice as high as private returns. The report nevertheless describes this as a rule-of-thumb estimate, due to substantial estimation challenges. Due to the great uncertainty, we do not monetise external effects, but elaborate on the matter as a part of the assessment of non-monetised benefits (Section 8.4).

Figure 8.4 illustrates the monetised costs and benefits of the baseline scenario and of FP10 association. "Other costs" comprise the costs of coordination and mobilisation, proposal preparation by participants, participant co-funding, and the cost of taxation. "Net cost" denotes the net difference between all costs and benefits amenable to quantification.

In both scenarios, the costs exceed the benefits that can be quantified. R&I investments are nevertheless generally considered beneficial due to external effects that are not monetised. Under the assumptions employed, the FP10 scenario compares marginally favourably with the baseline (green bars); however, the difference is modest (0,6 billion NOK a year) and sensitive to changes in assumptions. One being financial return. We test for different assumptions in Section 8.6.

[82] See for example Hall et.al. (2010) and Baumol (2002).

Figure 8.4 Monetised costs and benefits of baseline and FP10 participation. In billion NOK.



Source: SØA

8.4 Non-monetised costs

FP participation entails costs that cannot be monetised. We assess such cost components using a qualitative framework making the distinction between small, moderate, and large impact[83]. We focus on the additional cost of FP10 association relative to the baseline scenario.

8.4.1 Budget inflexibility

The actual financial contribution may exceed current forecasts should the final budget prove higher than assumed, or as a result of a higher proportionality factor or a weakening of the Norwegian krone. Conversely, the contribution may decline if the opposite conditions obtain. Variations in the financial contribution introduce budgetary uncertainty and reduce fiscal flexibility compared with a purely national funding scenario, in which costs are known in advance and may be adjusted through the annual state budget cycle.

A weaker krone would increase the financial contribution but also raise the value (in NOK) of FP funding received by Norwegian participants. An increase in the proportionality factor would also increase the financial contribution but would reflect a situation in which the Norwegian economy grows faster than those of EU Member States. From a Norwegian perspective, the isolated effect of higher GDP growth is positive and is expected to outweigh the associated increase in the financial contribution.

On balance, this is regarded primarily as a budgetary challenge with a relatively small negative impact.

[83] The Cost Benefit Analysis (CBA) is conducted using the Norwegian Government Agency for Financial Management (DFØ)'s guidance on cost-benefit analysis (latest version (DFØ, 2026). We have assessed costs and benefits that cannot be monetised in a somewhat simpler manner than set out in the guidelines.

8.4.2 Need for additional national co-funding

In the CBA, the cost of project co-funding in FP10 has been estimated on the basis of experience from HE. The Commission's proposal for FP10 emphasises the leveraging of private investment, the attraction of capital, and the pooling of resources to foster economic growth and address EU-wide challenges. However, what this will mean in practice remains uncertain. Interviewees anticipate increased expectations for additional national co-funding in certain instruments, as has already been observed in Partnerships. The scope and magnitude of any such requirements remain highly uncertain.

For Norway, as for other associated countries, higher expectations for additional national co-funding under FP10 would further increase direct costs and reduce fiscal flexibility, whilst also necessitating coordination mechanisms across ministries, agencies, and National Contact Points (NCPs) to enable continuous prioritisation among competing FP initiatives.

Given fixed or constrained public research and innovation budgets, this may over time affect the scope and scale of national research and innovation instruments and priorities. Some interviewees, however, anticipate that the need for negotiation and the imperative of maintaining legitimacy, both at the European level and domestically, will keep the magnitude of such effects relatively limited. This is therefore assessed as a small negative impact, though one that warrants ongoing monitoring.

8.4.3 Reduced ability to address Norwegian needs

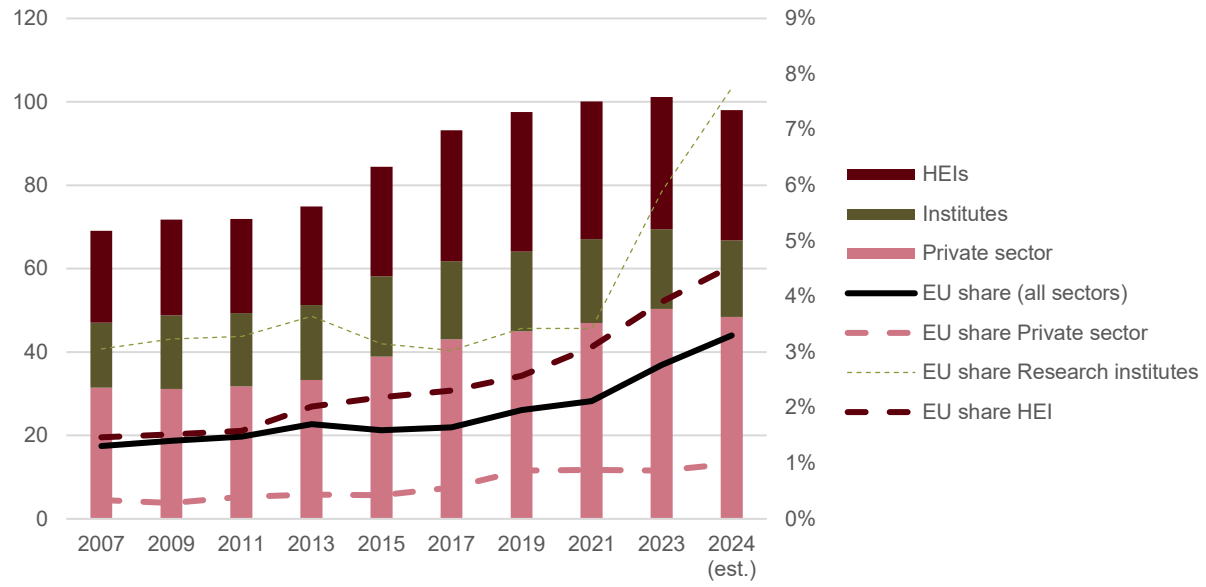
Decision-making processes differ markedly between the two scenarios. A potential concern is that FP10 participation may lead Norwegian research and innovation actors and funding agencies to prioritise resources towards areas of research and innovation that are less strategically relevant to national needs.

Figure 8.5 depicts total Norwegian research and development expenditure by sector, and the share of that expenditure funded by the EU (which is mainly the FPs). Over time, this share has increased across all three research and development sectors, most notably among research institutes. Nevertheless, EU sources accounted for approximately 2.8 percent of total research and development expenditure in 2023, indicating that national funding remains by far the most significant source of financing.

This concern is further mitigated by the fact that European countries face many of the same challenges, among them strengthening competitiveness and productivity, advancing digital sovereignty, and addressing shared societal challenges. Many interviewees argue that European and Norwegian research and innovation priorities are largely aligned.

On this basis, this is assessed as having a small negative impact. Indeed, the diversification of funding sources is regarded as a benefit for Norway.

Figure 8.5 Norwegian R&D expenditure by source of funding and sector. 2007–2024. 2025-NOK million (bars, left axis) and as a share of total R&D expenditure (lines, right axis).



Source: SSB.

8.5 Non-monetised benefits

Investments in R&I are expected to generate benefits that are difficult to monetise. The expectation of such external effects constitutes the principal rationale for public research and innovation funding. The analysis focuses on the additional benefits of FP10 association relative to the baseline scenario. Six types of benefit are elaborated upon below; it should be noted, however, that these are closely interrelated.

8.5.1 Access to competence, infrastructure and data

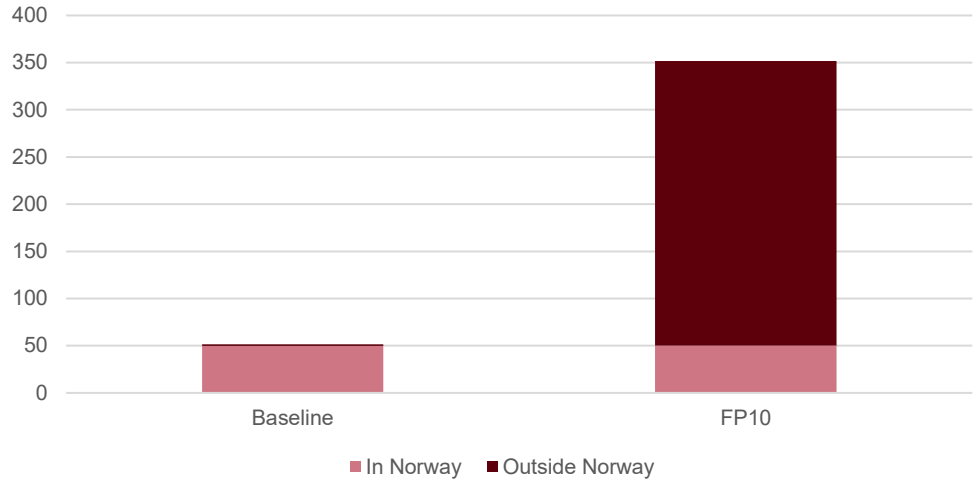
A key distinction between FP10 and national research and innovation instruments is the extent to which FP10 enables and facilitates international collaboration. Through FP10 association, Norwegian participants gain access to a broader range of knowledge, data, and infrastructure, including resources not readily available domestically.

This distinction may be illustrated by reference to the number of international partners or the scale of projects involved. For instance, HE projects with Norwegian involvement include on average 17 foreign partners and for every euro of FP funding received by Norwegian participants, they gain access to research and innovation activities in projects whose total budget is, on average, six times larger[84].

Figure 8.6 includes the estimated magnitude of R&I activities in Norway and in other participating countries in the baseline scenario and with FP10 participation, assuming that the ratio of six also applies in FP10. Although Norwegian participants, or Norway more broadly, cannot be expected to benefit from all knowledge generated within Norwegian FP projects, this nonetheless illustrates that the accessible pool of knowledge, data, and research and innovation infrastructure is substantially larger under FP10 participation than in the baseline scenario.

[84] This ratio is calculated based om data from RCN and relates to Norwegian FP funding by October 2025.

Figure 8.6 Funding to Norwegian and foreign participants in Norwegian projects in baseline and FP association. In billion 2025-NOK



Source: SØA, RCN

8.5.2 Access to R&I instruments not available in Norway

The FPs and RCN both offer portfolios of instruments. A detailed mapping of the similarities and differences between the two has not formed part of this assignment, and much remains to be determined with regard to FP10. It is nonetheless anticipated that FP10 will provide Norwegian organisations with access to instruments not available nationally. For example, Pillar 1 of FP10 will include MSCA instruments supporting doctoral education, postdoctoral training, and researcher mobility, as well as ERC grants, which are considerably more competitive and carry grant values substantially larger than those of RCN's FRIPRO grants. Interviewees suggest that securing an ERC or MSCA grant can have significant positive effects on research groups as well as on individual researchers' career development.

Partnerships and programmes for research infrastructure and technology are important examples of how the FPs enable greater impact by bundling resources across participating countries. Moreover, Pillar 3 is expected to include instruments targeting SMEs and scale-ups, which, according to interviewees, are likely to provide access to larger grants, broader international networks, and more ambitious advisory services than are available nationally. FP10 also envisages ambitious so-called "moonshot" projects in areas such as clean aviation, next-generation artificial intelligence, fusion energy, and quantum computing. All of these represent instruments and mechanisms that could not realistically be established in Norway under the baseline scenario.

Web survey respondents and interviewees representing institutes and HEIs argue that is not entirely fair to pit FP and RCN projects against each other, since both have inherent advantages and disadvantages; they rather complement each other.

Even when instruments are based on similar logic and criteria, they will differ as evaluation panels, consortia requirements and the competitive elements differ. This point is also made in a recent study that suggest there is a thematic division of labour between RCN and the FPs (Piro, 2025). The study highlights, among other findings, that the areas receiving a relatively high number of EU-funded projects are within technology domains (particularly ICT) that are not directly related to Norway’s key industries. The economic value of such instrument-level diversification is impossible to monetise; in our view this diversification represents a large benefit for the Norwegian R&I system.

8.5.3 Enhanced learning, quality, and absorption capacity

The benefits extend beyond merely gaining access to knowledge and instruments not available domestically. Exposure to competition and international research collaboration can serve as a driver of both quality and competitiveness. Collaborating with high-performing partners is in itself a driver of quality, as proximity to excellence raises standards and accelerates learning.

Many private sector participants and R&D sector participants report in web survey that FP projects provide greater opportunities to enhance their organisation's international competitiveness than national instruments do, see Figure 8.7. Moreover, respondents report that FP projects are better able to monitor the state-of-the-art, to import knowledge and technology, and to understand other cultures. This suggests that participation in FP10 can continue to increase the learning, quality and absorption capacity of the Norwegian R&I system. Absorptive capacity refers to the ability of research communities to identify, assimilate and apply externally generated knowledge[85].

We have also included a question on research quality and usefulness of results in the web survey. Only half of survey respondents agree that R&I results from FP projects are of higher quality than national instruments, and even fewer that results from FP projects are more useful. A reason may be that many respondents have participation in collaborative projects addressing societal challenges rather than focusing on excellence.

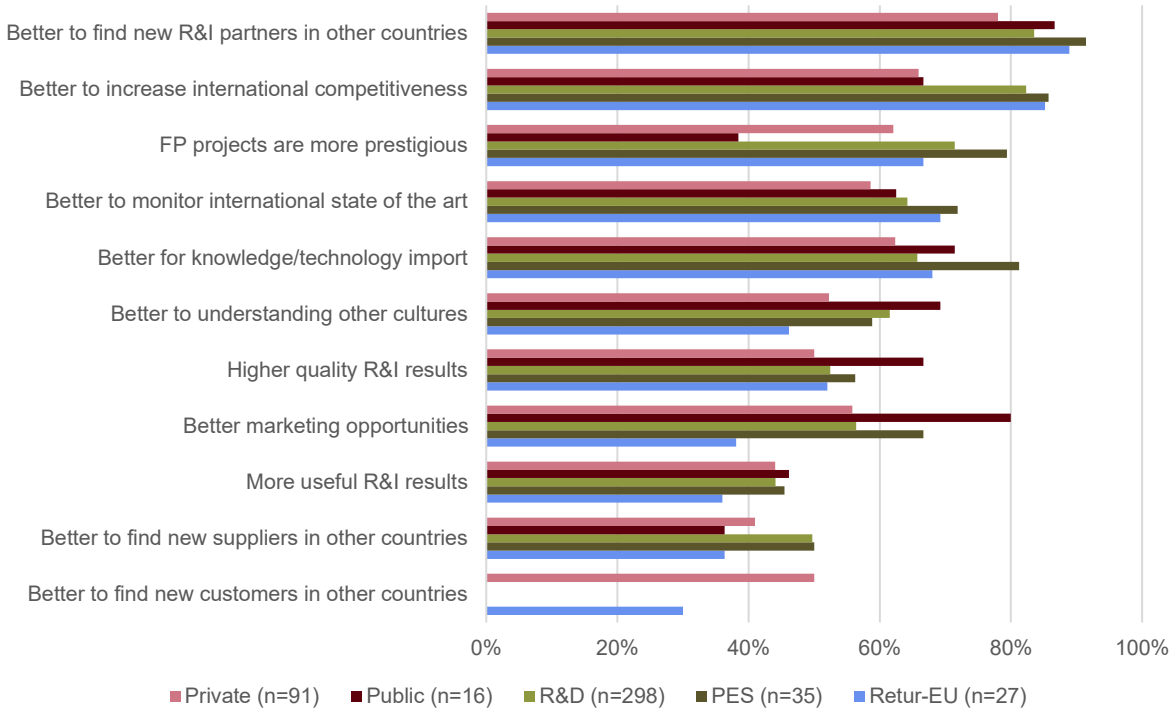
Only half of survey respondents agree that research and innovation results from FP projects are of higher quality than those from national instruments, and even fewer consider results from FP projects to be more useful. One reason may be that a large share of projects are collaborative in nature and address broader societal challenges rather than focusing exclusively on excellence. Collaborative research may serve objectives beyond producing results that are immediately applicable, and is not necessarily oriented towards outputs that are readily transferable to specific user contexts. Smaller-scale nationally funded projects may, in contrast, be more closely aligned with particular user needs.

This does not, however, preclude FP10 from contributing to high-quality research. For example, the HE midterm evaluation found that that 80 percent of ERC projects had resulted in scientific breakthroughs or significant advancements (European Commission, 2025). Furthermore, international research collaboration is more broadly associated with research quality, as demonstrated by systematically higher citation impact[86]. In our view, this reflects the fact that the FPs represent a broad portfolio of instruments, encompassing diverse objectives, motivations, and expectations and that FPs and national instruments complement each other.

[85] Although the concept was originally developed at the firm level by Cohen and Leventhal (1989; 1990), the underlying logic has since been widely extended to apply to research communities and national research systems more broadly.

[86] See for example Wang et al. (2024)

Figure 8.7. Comparison of broad impacts of FP and Norwegian projects.



Source: Technopolis web surveys.

Participation in FP10 can facilitate the development and strengthening of both established and new collaborative relationships, as well as the attraction of international researchers. Networks and knowledge acquired through FP projects can be drawn upon in future research and innovation endeavours, owing to both the personal ties and reputational effects that FP participation engenders. The learning and networking effects may thus endure well beyond the lifetime of an individual FP project.

Competence and an innovation culture can also spill over to other parts of society through R&I collaboration, commercial collaboration, and personal meetings. There is broad consensus among interviewees that participation in FP10 is essential for Norwegian research communities to remain at the research frontier and to disseminate results across the wider research sector and society at large.

The learning effects are assumed to be stronger in the case of FP10 participation than in the baseline scenario. This is accordingly assessed as largely positive. Conversely, a decision not to associate would be expected to have profound consequences for the Norwegian research sector as a whole. The importance of long-term and stable association with the FPs is discussed further in Chapter 9.

8.5.4 Increased innovation, exports, and value creation

An overarching objective of the FPs is that they should strengthen European innovation and productivity. It has not been possible to document that the FPs contribute to a greater extent to productivity and value creation than national funding instruments. There are, however, several mechanisms that nonetheless suggest that international collaboration and exposure to competition may have positive effects on innovation and value creation in Norway. Web survey and interview evidence indicates that FP projects increase competitiveness and facilitate exports to a greater extent than national measures. Analysis of CIS data suggests that FP participants are generally more internationally oriented than participants in national instruments.

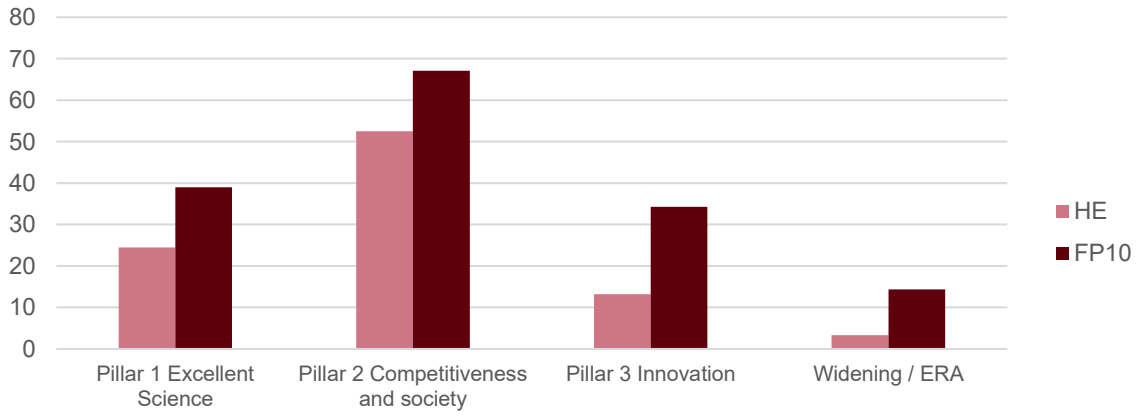
Given concerns[87] that the EU is losing ground to the US and China, there is a strong policy focus on European innovation. The FPs and related EU programmes and strategies represent important instruments in this regard. This focus is reflected, for example, in the FP10 budget proposal.

Figure 8.8 presents the budgets of HE and FP10 by pillar. As the two programmes differ somewhat in terms of the instruments they include and how these instruments are classified across pillars, the comparison should be interpreted with caution. For example, Excellent Science-pillar 1 of FP10 includes the ERC and MSCA as well as “Science for EU Policies”, which funds the EU’s Joint Research Centre (JRC). Under the current HE, the JRC is included within Pillar 2[88]. Such changes affect the comparability of the pillar budgets.

The figure nonetheless demonstrates a proposed shift towards greater support for innovation-oriented activities, which is further amplified by the linkage between the "Competitiveness and Society" pillar and the European Competitiveness Fund. As in the preceding programme, the Innovation pillar will cover the European Innovation Council (EIC) and innovation ecosystems. FP10 includes dedicated measures for SMEs and scale-ups, with a particular focus on strategic technology areas such as digital technologies, deep tech, clean tech, and biotech. The more challenge-driven elements of the EIC will be implemented in close coordination with the ECF.

A further notable feature of FP10 is the inclusion of research and innovation involving dual-use technologies and their linkage to the European Defence Fund, which may present new opportunities for Norwegian research and development providers and companies operating in the field of defence and security.

Figure 8.8. Comparison between pillar budgets of HE and FP10. Billion euro. In 2025-prices.



Source: European Commission.

Several interviewees identify FP10 as offering significant opportunities for Norwegian business and industry, whilst also expressing concern about the ability and willingness of Norwegian businesses to

[87] See for example Draghi (2024)

[88] See RCN on the FP10 from November 2025: Horisont Europa blir en del av et nytt europeisk konkurranseevnefond https://www.forskningsradet.no/indikatorrapporten/fokusartikler-og-dypdykk/2025/horisont-europa-blir-en-del-av-et-nytt-europeisk-konkurranseevnefond/

capitalise fully on those opportunities. This concern is partly grounded in evidence that Norwegian businesses have reduced their research and development investment in recent years.[89]

We judge the potential benefit in terms of innovation, exports and productivity for Norway to be moderately positive. We view this benefit as moderate because there is uncertainty related to the additional effects on productivity of FP projects compared to national projects and private sector participation in FP10.

8.5.5 Policy innovation, development and coordination

Interviewees report that FP association gives Norwegian policymakers and funding agencies access to European policy arenas and fora, enabling policy coordination, knowledge sharing, and policy learning. Over time, FP association has influenced the national policy dialogue, R&I priorities, and aspects of the RCN's organisation and proposal assessment practices. The impact is not limited to R&I policy but has also been relevant for policy development in other areas.

We expect this to hold also for FP10. Moreover, FP10 is expected to be increasingly intertwined with other EU programmes and strategies. Access to arenas for international policy dialogue may be important not only for enabling growth opportunities, European sovereignty and technological development, but also for coordination and the protection of the values underpinning the EU and the ERA, including matters related to freedom of expression, research security, and AI governance.

FP-related policy arenas obviously will not be open to Norway in the absence of FP association. The value of EU policy coordination and collaboration can be particularly important for a non-EU country like Norway. The benefit of having access to such arenas is further amplified by current geopolitical uncertainties, rising trade policy tensions and wars, sanction regimes and competition between large economic blocs (i.e. US, China and EU).

FP10 facilitates international policy coordination to a greater extent than the baseline scenario. We judge the benefit for Norway to be largely positive. While only a limited number of individuals and institutions participate directly in these policy coordination arenas, developments within them may have significant implications for Norwegian policy, regulation, and strategic priorities more broadly.

8.5.6 Transition and meeting societal challenges

Both EU and national funding instruments aim to produce research that is relevant to addressing societal challenges. This is also reflected in the proportion of respondents who report that their projects have contributed to increased welfare and solutions to societal challenges being similar across FP and RCN projects.

How they contribute may, however, differ. FP projects tend to be larger and entail international, interdisciplinary, and intersectoral collaboration to a greater extent than RCN instruments. FP participation also enables European policy coordination and provides a platform for addressing complex challenges through R&I funding, policy coordination and experimentation with R&I instruments. Norway's access to and participation in such initiatives may yield benefits beyond individual projects.

The HE midterm evaluation highlights the current HE as an important instrument for advancing European research in areas such as carbon capture and storage (CCS), hydrogen technologies, the Covid-19 response, and clinical trials (European Commission, 2025).

International research collaboration and policy coordination will be important in meeting societal challenges, whose scale necessitates supra-national responses. The FP10 proposal addresses

[89] Nedgang i næringslivets FoU i 2024 – SSB

societal challenges in several ways, for example through its missions, partnerships, and dedicated funding instruments targeting areas such as climate, health, and digital transformation. For example, the FP10 proposal includes an objective to direct 40 percent of R&I funding to climate-related R&I (up from 35 percent in HE), a principle of “do no significant harm”, as well as a strong focus on zero pollution of water and on transport safety. The “windows” in pillar 2 also indicate the strategic priorities and ambitions in FP10, including Clean Transition and Industrial Decarbonisation, Health, Biotech, Agriculture and Bioeconomy, Digital leadership and Resilience and Security, and Defence Industry and Space.

European Partnerships will continue to be important in this regard, even if both interviewees and the mid-term evaluation of HE point to the need to review the number and organisation of the partnerships (European Commission, 2025). The proposal also introduces so-called “moonshot” projects designed to drive progress in areas such as clean aviation, the space economy, and next-generation AI and aim to strengthen European technological sovereignty (European Commission, 2025).

Because the FP10 better facilitates international research collaboration and policy coordination than the baseline, we also consider participation in FP10 to be more beneficial in addressing transition and societal challenges. We judge the benefit of FP10 association for Norway to be large, but uncertain. Our assessment is as much about the significant risk associated with not participating as it is about the certainty of the direct benefits of participation.

8.6 Key uncertainties and sensitivity test

In the assessment of costs and benefits we have had to rely on estimates. In this section, we elaborate on key uncertainties and present a sensitivity analysis to examine how different assumptions would impact monetised costs and benefits. Funding is reported as annual NOK amounts. We present annual figures to provide clearer insight into the magnitude of the effects.

We do not model dynamic effects or what would be required to change these assumptions.

The financial return has a significant impact on net benefits. In the main assessment, we use the government’s present target of 2.8 percent for HE.

Norwegian funding from FP10 will depend on a variety of factors such as Norwegian R&I competitiveness. As already stated, FP funding to Norway has increased over time, from around 1.8 percent in FP7 to approximately 2.4 percent in Horizon 2020, to around 3.3 percent in HE by end of 2024.

Previous experience suggests that lack of national preparedness was a one possible explanation for the relatively low return at the start of Horizon 2020.

The registry analysis indicates that Norwegian R&I competitiveness has improved since then. The FPs have become an integral part of the Norwegian R&I policy mix and the day-to-day work of Ministiries, RCN and IN, and Norway appears to have a well-developed mobilisation system in place, including measures such as Retur-EU and PES. Funding to CEPI has also impacted on Norwegian FP funding.

Other factors may also influence the return, over some of which Norway does not have direct control, such as the competitiveness of other countries or their choice of whether to participate.

Two additional uncertainties frequently raised by interviewees are whether Norway will participate on equal terms with EU member states, and how the links to the Competitiveness Fund will be defined. The Commission’s proposal suggests close linkage between FP10, and ECF, which could entail both

costs and benefits for Norway. The ECF is currently proposed to have a budget of EUR 207 billion in 2025 prices (European Commission, 2025). Norwegian association to ECF would therefore entail additional financial commitments beyond the FP10 financial contribution. Estimated in the same manner as for FP10, Norway's ECF financial contribution would amount to NOK 58 billion in 2025-prices (corresponding to NOK 8.2 billion a year assuming a 7-year period).

A closer linkage might help facilitate and potentially accelerate the commercialisation of research outputs. Some interviewees view the proposed ECF budget and its linkage to the FP10 as indicative of the Commission's ambition to strengthen innovation and commercialisation of research.

Other interviewees point to the possibility that the ECF could exert significant influence over parts of Pillar 2 of FP10. What this means with regards to Norwegian FP10 participation is unclear at this stage. However, we assume that closer the linkage between the programmes, the greater the uncertainty and potential costs for Norway, should Norway decide to participate in FP10 but not in ECF.

In HE, Norway and other EEA countries are granted a status largely equivalent to that of EU Member States. This follows from the provision that "any limitation to the participation of legal entities established in associated countries which are members of the European Economic Area (EEA) shall be consistent with the rights and obligations set out in the EEA Agreement." Such a provision has, so far, not been explicitly included in the proposal for FP10.

Norwegian authorities have emphasised the importance of ensuring that EEA countries are treated on an equal footing with EU Member States, rather than being grouped with other Associated Countries. If this principle is not upheld, Norway's access to parts of the Programme and certain projects could be restricted. Which parts of FP10 and which specific initiatives Norway may potentially be excluded from remains unknown. However, interviewees suggest that this could apply to programmes or calls related to defence and security, but in areas where EU seeks to protect its own industry. Uncertainty may increase the need for coordination, dialogue, and negotiations and resources of Ministries and NCPs.

Uncertainty regarding the legal status of EEA countries could also affect participation behaviour. If Norway's status is perceived as less secure or less favourable than that of EU Member States, research organisations and companies in other countries may be more hesitant to include Norwegian partners in their proposals. This is particularly relevant for collaborative calls, where consortia seek to minimise risks related to eligibility and funding. This is consistent with UK experience[90].

In the main assessment we assumed a participation in the line with the government ambition. As FP10 will be larger than HE and more countries participate, even maintaining a return rate of 2.8 percent will require a substantial increase in the number of successful proposals. We have tested alternative scenarios in which the FP return is 2.2 percent over the entire assessment period (in line with the accumulated return in H2020) and 3.3 percent (in line with the accumulated return at the end of 2024), see green bars in Figure 8.10). The results show that the net benefit of FP participation is highly sensitive to assumptions about Norwegian competitiveness, participation, and thus FP funding. This is obviously in terms of monetised benefits.

The private return on R&I investment is inherently uncertain. In the main assessment, we apply a private rate of return on investments in R&I of 7.5 percent per year. In the sensitivity analysis, we examine the impact of a higher rate of return (16 percent) for FP-funded activities, but not for RCN-funded activities. This assumption increases the estimated benefit of FP association (yellow bar). This test should be viewed as a "what if", rather than an evidence-based assumption. The net benefit of FP

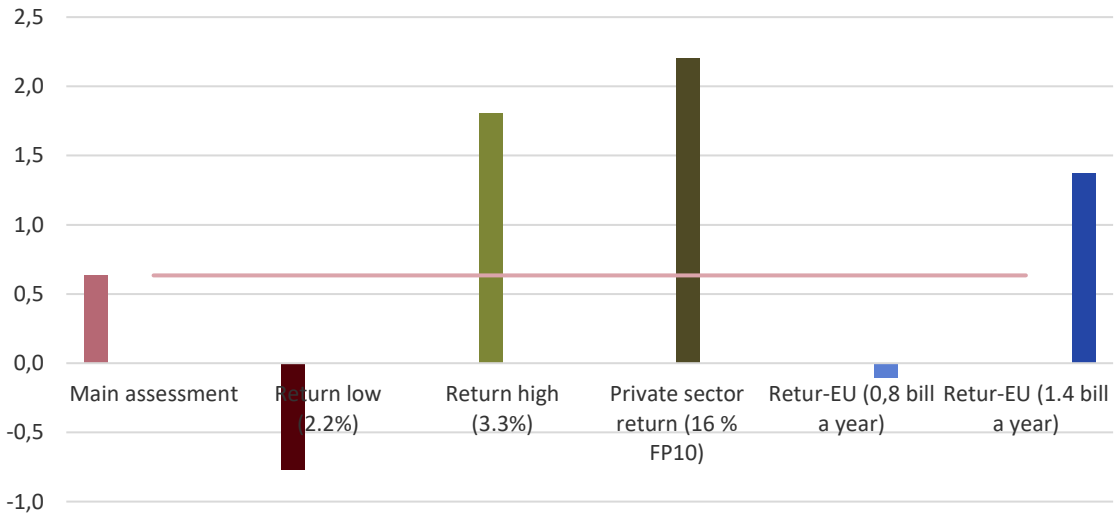
[90] We elaborate on UK and Swiss experiences in Chapter 9.

participation would increase even further if in line with the EC priorities, private sector participation increased.

Retur-EU is expected to affect the ability of research institutes to participate in FP10. In the main assessment, we apply an annual cost of NOK 1.1 billion. In the sensitivity analysis, we consider a lower level of NOK 0.8 billion per year and a higher level of NOK 1.4 billion per year as illustrated in Figure 8.10. The direct effect of increasing the "budget" for Retur-EU is increased cost of taxation in the case of FP association. But we expect that the scope and design of Retur-EU will have an impact on participation amongst research institutes. A "mechanical" calculation of reducing Retur-EU support in this manner reduces FP funding to research institutes and thereby lowers Norway's FP return rate to 2.4 and 3.1 percent of competitive funding, respectively, which has a direct impact on net costs. However, this relationship should not be interpreted as causal, given that FP funding is allocated through highly competitive processes. The analysis does not account for dynamic effects related to impacts on private-sector participation.

Other factors, such as FP10's administrative cost and the degree to which FP funding is distributed without competition, will also impact the net benefit.

Figure 8.9 Sensitivity analysis. Net benefit of FP10 compared to baseline scenario. Average annual difference. Only monetised costs and benefits. Billion NOK per year.



Source: SØA

8.7 Distributional consequences

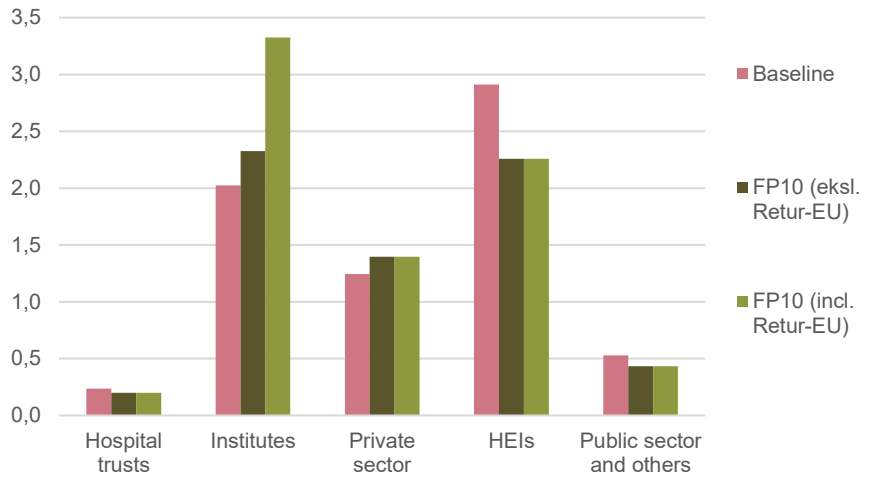
Government policies often cause redistribution. While some participants may benefit from a policy, others may be worse off, even if the net effect is zero.

Schemes implemented to enhance R&I clearly entail redistribution from "all" (through taxation) to the recipients of funding. This applies both to the FP and to national R&I instruments, where resources are redistributed from companies (and individuals) not undertaking R&I to those that do.

Both FP and RCN funding are accessible to all eligible proposers, but the instruments are proposal-based (as opposed to "neutral" rights-based instruments such as Skattefunn). In the case of the FP, funding decisions are made by the Commission, whereas for national instruments they are made by RCN (within the framework of national priorities). The number of proposers is greater to the FP than

for national instruments, which, other things being equal, increases competition. In theory, all FP funding could be awarded to participants outside Norway. We do not know how funds will be awarded in FP10, nor in the baseline scenario where funding is channelled through national measures. We have estimated the distribution of R&I-funding using data for 2019–2024, see Figure 8.10.

Figure 8.10 Distributional consequences. Total funding per year to R&I activities in baseline scenario and for FP10 association. Billion NOK per year. 2025-prices.



Source: SØA, RCN, eCorda

The Figure illustrates the distribution of R&I funding in the baseline scenario (pink bar) and under FP10 participation (green bars). Funding is reported as annual NOK amounts, calculated by distributing total funding evenly across the seven-year period. We present annual figures to provide clearer insight into the magnitude of the effects. We have included R&I funding both with and without Retur-EU funding. Applying these distributions to the estimated R&I funding realised in Norway suggests that research institutes would be better off in monetary terms under FP10, whereas HEIs would be better off in the baseline scenario. This follows from our assumptions regarding participation in projects and from the fact that a relatively larger share of R&I funding accrues to the HEI sector in the RCN scenario than in the FP scenario, whereas the institute sector accrues a larger share of FP funding than of RCN funding. The share of R&I funding accruing to research institutes increases further when Retur-EU is also taken into account.

Differences are small for private sector and negligible for hospital trusts and the public sector.

This finding, however, relies on several important assumptions. First, it assumes the continuation of Retur-EU, which compensates for limited FP funding for research institutes. Second, R&I funding in the RCN scenario is based on funding allocated to the sector to which the project owner belongs, and not the individual participant, whereas in the FP scenario the funding follows the individual project participants.

We can also expect distributional consequences at the institutional level. Historic data suggest that FP-funded companies and R&I providers are generally larger, and more frequently located in the Oslo metropolitan area and Trøndelag, than beneficiaries of RCN funding. Further, analysis of CIS data suggests that FP-funded companies are, on average, slightly more innovative and internationally oriented than RCN participants. One effect of FP association is therefore a reallocation of R&I funding towards companies and R&I providers with these characteristics.

8.8 Participation on a Project-to-project basis

Norway could, at least in theory participate in FP10 as a Third Country. Norwegian R&I providers would not have access to EU funding and would typically be unable to act as coordinators. We are aware that the EC allows some exceptions regarding funding, but for the most part, Norwegian participants would need to rely on national funding. National funding could be private funding, public base funding, or a dedicated national scheme (e.g. a “Norwegian programme for FP10 participation”). RCN currently administers a similar programme to fund Norwegian participation in Euratom.[91]

Experience from Euratom suggests that third-country status in the FP can sometimes be beneficial, as Norwegian project participation does not draw on the FP project budget. Other project participants can then see Norwegian participants’ efforts as an unpaid-for bonus. This can be particularly advantageous in cases where proposal development is already well advanced or where the project is already underway (Samfunnsøkonomisk Analyse, 2025). In the case of Euratom, it is arguable that it is advantageous for Norway to participate as a third country, as the main research communities and nuclear companies are located outside Norway. Hence, if Norway were to associate fully to Euratom, the monetary return to Norway would be very low.

In the case of FP10, participation on a project-to-project basis would most likely result in a very significant reduction in Norwegian participation compared to HE. The mere fact that Norwegian participants would be unable to take on the role of coordinator would in itself lead to a significant decline in Norwegian FP funding.

Establishing a national measure to support FP participation on a project-to-project basis would allow for participation as project partners. Having such a measure entails a number of practical challenges. For example, it would be difficult to determine how large such a scheme would need to be. Introducing a budget cap could make it easier to manage it from a fiscal perspective, but it would also introduce significant uncertainty for those applying to participate in FP projects.

In the case of Euratom, RCN has good insight into FP calls and the research environments intending to apply. Such insight is important in order to foresee the number of proposals and their funding needs. But even in the case of Euratom this can represent a practical challenge (Samfunnsøkonomisk Analyse, 2025). Achieving a similar level of insight would be far more demanding for a measure that, in practice, is intended to cover the full breadth of instruments and thematic areas included in FP10.

Other partners of a proposal consortium might want to reduce the risk that part of the project could end up being unfunded, which could result in Norwegian participants being assigned smaller roles than their competence and capacity would otherwise justify. As a result, Norwegian participation would likely be concentrated to a limited number of projects where Norwegian organisations offer highly specialised or unique expertise of clear value to the consortium. This implies that the benefits described in the preceding sections would be substantially smaller.

Project-by-project participation could thus significantly reduce the ability to building long-term relationships. Participation in collaborative FP projects has strongly shaped existing networks, meaning that lower participation in one period may have long-term implications. We elaborate on the long-term implication in the next Chapter.

[91] https://www.forskningsradet.no/horisont-europa/okonomiske-ordninger/euratom/

8.9 Conclusions

The FP is a central instrument for promoting R&I in Europe. For non-EU Associated States such as Norway, the key question is whether and how to participate. We have investigated the benefits of FP participation from different perspectives.

We have compared the baseline scenario with channelling funding through RCN to the alternative of FP10 association. Under the applied assumptions, the monetised difference between FP association and a purely national alternative is relatively small.

The sensitivity analysis, however, shows the importance of Norway's FP return: a higher return improves the monetised net benefit of FP association. There is a great uncertainty whether Norwegian participants will achieve a return rate in line with the Government's target. Success will amongst other things depend on whether EEA countries such as Norway will face restrictions in specific parts of the new Programme, whether Norwegian organisations have sufficient capacity to sustain and expand participation in this larger Programme (including taking on coordinating roles), and whether research institutes have adequate incentives to participate (contingent on the continuation of Retur-EU). Further, Norway's financial return will depend upon other countries' competitiveness and incentives to participate.

It is important to bear in mind that important benefits, however, are not monetised.

Through participation in the FPs, Norwegian participants will get access to knowledge, data, and infrastructure, as well as R&I funding instruments not available in Norway. FP participation enhances international collaboration to a greater extent than national measures, increasing absorptive capacity and quality within the Norwegian R&D and industrial sectors. While the contribution of a single project is marginal and uncertain, Norwegian R&D providers and companies have access to an important arena for international competition and collaboration through the FP association. We expect this to hold also for FP10. Although FP10 is still under negotiation, we anticipate that it will cover similar instruments to its predecessors. However, FP10 and ECF will together represent raised ambitions with regards to innovation and commercialisation. Another "new" feature of FP10 compared to its predecessor is the proposal of not limiting the Programme to civilian R&I. Implications on of this are yet uncertain, but we expect that these features will bring new opportunities also for Norway.

We further expect that participation in FP10 will give Norwegian policymakers and funding agencies access to European policy arenas, enabling benchmarking, policy innovation, and policy coordination. Participation in working groups, Partnerships, and R&I projects directly and indirectly also influence policy development in other domains.

It is our assessment that Norway's FP association has contributed, and will continue to contribute, to significant non-monetised benefits that outweigh the monetised costs of association. The benefits of international collaboration, knowledge sharing, and market access are particularly important for a small country like Norway. The value of EU collaboration is further amplified by current geopolitical uncertainties, rising trade policy tensions and wars, sanction regimes and competition between large economic blocs (i.e. US, China and EU). The FPs and related EU programmes and strategies are important tools to strengthen European innovation, competitiveness, digital sovereignty and defence capabilities. While the most important benefits of FP participation cannot be monetised, we assume they do depend on the extent to which Norwegian actors participate in project, partnerships and policy arenas. From a cost-benefit perspective it thus makes sense for Norway to strive towards a "decent" return.

Table 8.1 Costs and benefits of FP10 association, FP10 compared to baseline

	Monetised	Non-monetised
Costs	Small difference in cost and benefits which can be monetised. Sensitive to changes in assumptions	Budget inflexibility: Small negative impact Further co-funding: Small negative impact Reduced ability to target Norwegian needs: Small negative impact
Benefits		Access to competence, infrastructure and data: Large positive impact Access to R&I instruments: Large positive impact Learning, quality and absorption capacity: Large positive impact Innovation, export and value creation: Moderate positive impact, but highly uncertain. Policy innovation and coordination: Large positive impact Transition and meeting global challenges: Large positive impact, but highly uncertain

Source: SØA

Norway could, at least in theory, also participate on a project-to-project basis, but we expect that this would result in a significant decline in Norwegian participation in FP projects. For the most part, Norwegian participants would need to rely on national funding and cannot be coordinator. Project-by-project participation could thus significantly reduce the ability to build long-term relationships and remain integrated in the ERA. Norwegian policymakers and RCN could seek to increase international collaboration through national instruments, but it would not be possible to fully compensate what would be lost.

9 FPs long-term implications

In this Chapter we describe the effects of different kinds of association to the FPs, drawing on the experiences from Switzerland and the UK, whose status in this respect has varied over time.

In the previous Chapter we assessed the benefits of Norwegian Association in FP10 by comparing FP10 to national R&I funding instruments. This Chapter considers the likely effects of looser association by looking at the Swiss and UK experience. It then goes on to reflect on longer-term aspects of FP membership.

9.1 Swiss and UK experience

Switzerland has repeatedly been associated with the FP but has also been relegated to third country status from time to time, as a result of failures to conform with EU policies and delays in association negotiations. UK lost its membership as a result for the Brexit referendum, becoming a third country, but more recently returning as a partly Associated Country.

Table 9.1 Current relationship with the FP: Norway, Switzerland, UK

Programme / Instrument	Norway	Switzerland	United Kingdom
Relationship to EU	EEA member	Various bilateral treaties	Post-Brexit agreement
Common markets	Single Market	Single Market	None
HORIZON EUROPE			
Horizon Europe	Associated via EEA	Associated (from 2025)	Associated (from 2024)
Formal policy influence, vote on priorities	No	No	No
Political stability of access	Very stable	Has varied	Moderate
Freedom to coordinate projects	Yes	Yes	Yes
Pillar 1 • ERC • MSCA • Research Infrastructures	Yes	Yes	Yes
Pillar 2	Yes, but the Commission retains the right to exclude specific calls	Yes, but the Commission retains the right to exclude specific calls	Yes, but the Commission retains the right to exclude specific calls
Pillar 3 • EIC • European Innovation Ecosystems • EIT	Yes	Yes	Yes, except for the EIC Fund that provides investments within the EIC Accelerator

Note: The principal cases of exclusion from Pillar 2 related to specific about applied quantum and space in 2025

9.1.1 Switzerland

Switzerland is widely understood as being *de facto* partly integrated into the EU, despite not having formal membership. Switzerland voted in a national referendum in 1992 not to join the EU, but nonetheless subjected itself to significant parts of the *Aquis Communautaire*[92], and negotiated upwards of sixteen bilateral agreements (plus well over a hundred secondary agreements) in 1999 and 2004 (Lavenex, 2009a). It has endured a stop-and-go relationship with the FPs, negotiating a specific association agreement for each successive programme. From 1986, it participated in the FPs as a third country, paying its own way. Switzerland was fully associated to FP6 and FP7, but in each case negotiations dragged into the period of the programme itself, so Swiss teams could not participate at the start of the FPs.

Following a referendum on migration in 2014, the EU reduced Switzerland to third-country status for H2020 between 2014 and 2016, denying Swiss researchers access to ERC, MSCA and the SME Instrument. Once Swiss immigration policy was adjusted to EU requirements, Switzerland was given associate status again from 2017 onwards. However, negotiations about association to HE broke down in 2021, with Switzerland only finally getting an agreement on full association from 2024. This agreement also laid the ground for Switzerland to participate in Euratom, the Digital Europe Programme and (from 2026) ITER.

Switzerland's spending on R&D has historically tended to be around 4 percent of GDP, most of which is business expenditure. Academic research is rather concentrated in the (federal) universities, and there is not much of an institute sector. Switzerland was slower than more dynamic EU countries like The Netherlands to build R&I networks within the FP, and Swiss industry has only had the chance to be deeply involved since FP3. While there is no formal institutional framework for its association to the EU, it was in practice possible for Swiss (and Norwegian) representatives and organisations to be closely involved in shaping the FP, for example by their presence (without voting rights) in FP programme committees and informal Research Council meetings, where decisions tend in any case to be made by consensus:

"We are so well integrated in the area of research that an accession to the EU would bring only very marginal additional benefit" (Interview with the Swiss Mission to the European Union, 04.07.2007) (Lavenex, 2009b)

However, Lavenex (2009a) argues that the increasingly formal nature of EU-Swiss bilateral agreements has tended to reduce the flexibility offered by the EU's "network governance", reducing the influence of Associated States.

The most recent national study of the impact of the FP in Switzerland is from 2019, and covered FP6, FP7 and the first three years of H2020. Its major findings were consistent with those of other countries, namely that the FPs are by now deeply integrated into the national R&I landscape, and their benefits go well beyond monetary considerations: FP funding instruments have in effect become integral parts of the policy mix in Switzerland; FP participation boosts competitiveness and creates new jobs; it fosters knowledge generation, knowledge exchange and competition, especially in HEIs; and has a positive impact on Swiss society (State Secretariat for Education, Research and Innovation (SERI), 2019).

The report found that, as in many countries, national funding is researchers' first priority unless they specifically seek the benefits of international cooperation. An important part of the Swiss context was that, unlike in Norway and the UK, the success-rate for bottom-up, researcher-initiated grant applications at the national research council SNSF was close to 50 percent in the period considered by the report, and it has only fallen modestly since then. National funding is rarely used by Swiss

[92] That is, the body of law accumulated by the EU, which any new country has to adopt on becoming a Member State.

researchers as a “plan B” to FP money. The report’s survey shows that among all Swiss FP participants, 40 percent preferred SNSF funding, 35 percent preferred FP funding, and 10 percent preferred Innosuisse (innovation agency) funding. Industry was much more interested in FP funding than the HEIs. Overall, 43 percent of company participants preferred FP funding, compared with 25 percent of HEI participants and 27 percent of other participants.

A second important contextual factor is the Swiss dislike of subsidising private industry. The Innosuisse innovation agency therefore focuses on SMEs, start-ups and knowledge transfer. The FP is an important way to fund academic partnerships with larger and more established companies in a national funding context that is not so friendly to these as in other countries. The share of Swiss FP projects involving academic-industry partnerships was 33 percent in FP6, 48 percent in FP7, and 44 percent in H2020 (as of March 2019).

Three Swiss reports highlight problems posed by Switzerland’s stop-go association with the FPs. The reports found that the benefits of FP participation were reduced or eliminated at times and the national R&I community had frequently to adjust to changes in participation rules, meaning that its ability to maintain long-term R&I collaborations was undermined.

An early study (Reger, Bührer, Balthasar, & Bättig, 1998) investigated the effects of Switzerland not being an EU member while trying to participate in FP3 and FP4 on a project-by-project basis in the period 1990–1996. Swiss participants surveyed regarded their inability to coordinate projects as a major disadvantage. Exclusion from programme committees was also seen as a problem (though this was addressed under the German presidency of 2009, when Associated State representatives became non-voting members of the committees). Swiss participation was thematically narrow at the time of the study – mostly focusing on ICT. Swiss pharmaceuticals researchers largely stayed out of the FP because the intellectual property conditions were regarded as inconsistent with their business models.

The 10-yearly national evaluations of Swiss participation have little to say about the effects of Switzerland’s rather unstable relationship with the FP. A recent commentary (Janta & Käser, 2024), written from the perspective of the Swiss Tropical and Public Health Institute, focuses on the 2021–2024 period, when Switzerland was downgraded to third country status. While government transitional measures were put in place, the authors argue that Switzerland’s reduced status significantly impacted the institute’s visibility, knowledge exchange, collaborative power and hence competitiveness. It also led to misunderstandings and uncertainties within both the Swiss and the international research community, increasing the administrative burden of participation and straining participants’ cash flows. The most important source of damage was the loss of the ability to coordinate projects. Hæring & Wirth (2025) came to similar conclusions based on more systematic evidence. They looked at the value added of the FPs for Switzerland during the period 2021–2024. Major points made were:

- Despite supplementary funding provided by the Swiss Federation, entry of students and young researchers into international research networks was hampered in both research and industry sectors. The attractivity of Swiss universities was reduced, so they could no longer attract the best talent.
- Swiss influence over the FP has been reduced, at a time when Europe is reconfiguring its priorities in response to changes in geopolitics and international competitiveness.
- Swiss companies – especially export-orientated SMEs – have been denied access to programmes in future-orientated sectors and the support to young technology-based enterprises available from the FPs.
- Larger companies have lost influence over the development of the FP and now have fewer opportunities to recruit from the European talent pool.
- Lost access to new knowledge needed to tackle societal challenges.

The authors noted that the macroeconomic models used did not capture any effects of being excluded. Given the indirect and relatively long-term effects to be expected, it would perhaps have been surprising if they had done so.

9.1.2 United Kingdom

The UK was a full member of the EEC and Euratom from the start of the FP in 1984. Following the 2016 referendum that produced a narrow majority for leaving the EU, the UK left on 31 January 2020, and 2020 became a transition year. The EU-UK Trade and Cooperation Agreement planned to start in 2021 was delayed three years over disputes about the Northern Ireland Protocol, leaving the UK as a third country without associated status during this period. The UK returned to the FP as an Associated Country at the start of 2024, Previously, the competitive funding the UK won from the FP was second only to Germany's and much bigger than its budget contribution. Under the EU-UK agreement, the UK's return is capped so that the UK centrally reimburses the FP for any funding it provides UK participants that exceeds 8 percent of the FP budget.

- Becoming associated again, after a period as a third country, meant that the UK could once more lead and coordinate projects
- Like other Associated Countries, the UK has no formal voice in designing or planning the FP – or other relevant EU programmes, such as the ECF
- The UK has subsequently negotiated access to Erasmus+ from 2027

Brexit had a strong negative effect on UK FP participation. Already from the date of the referendum in 2016, UK participants were dropped or excluded from FP proposals. RCN was among the organisations warning against including British partners in consortium proposals.[93] There was also an outflow of researchers, especially EU citizens, from the UK (Corbett & Gordon, 2018), not only because of reduced FP opportunities but also because of anxieties about future visa conditions and an expectation that promotion opportunities for EU academics in the UK would be reduced. UK-based companies also experienced declining influence, as they were excluded from consortia, with some European partners shifting their collaborations from UK- to EU-based partners, and harder access to EU-based research infrastructures.

The EU referendum and its result created significant uncertainty that affected UK participation in H2020, with effects extending beyond the programme itself. The fact that Brexit marked the UK's departure not only from the FP but also from the EU itself (including the freedom of movement that is central to the Single Market), makes it difficult to disentangle the different effects of the two departures. While the UK has since acquired Associated Country status for the FP and some of the damage is being undone, it is clear that the status quo in relation to the FPs before Brexit will not be restored.

A recent study of UK participation in H2020 (Rosemberg, Mehrotra, & Martin, 2025) showed that the absolute numbers of UK proposals and projects declined after 2016, but UK success rates remained above average and the proportion of proposals where the UK took the lead remained stable at about 37 percent. Overall, proposals with a UK partner were 2.4 percent percentage points more likely to be funded than the average.

UK participation in H2020 projects was particularly strong in research-focused instruments and programmes, with ERC and MSCAs representing 45 percent of the funding won by UK partners in H2020. UK presence in industrially-focused instruments was very low, in international comparison. Overall, 68 percent of the funding the UK received from H2020 went to HEIs. The reach (citation impact) of UK H2020 publications (i.e. publications from H2020 projects with at least one UK author)

[93] *Forskningspolitikk* newsletter, dated 23 September 2019

outperforms all other comparator groups. Interviews with UK participants suggested this is because the quality and reach of the international partners chosen exceed those available at the national level.

The survey undertaken for the study in 2025 shows UK-based researchers believe that including a UK organisation in a consortium reduced its probability of success. Some 55 percent of successful UK proposers experienced a significantly reduced ability to coordinate applications, while 47 percent found it harder to join consortia due to EU partners perception that involving UK partners increased risk. Large numbers of open responses suggested that “EU partners considered UK consortium members a risk” and hence that “UK participation was seen as problematic.” This feeling was reflected in declining UK involvement in proposals and projects over the course of H2020, both in absolute terms and relative to other countries. This trend was consistent across all types of organisations and all sub-programmes of H2020.

Stakeholders interviewed emphasised both the perceived and the practical barriers that emerged, even when UK participation remained technically possible. They noted the widespread perception that UK partners represented a risk to proposal success, with consortia actively avoiding including UK partners, and this risk-averse behaviour continued for an extended period. It was exacerbated by poor communication from both the Commission and the UK, and the UK government’s slow and phased approach to announcing UK government guarantees to replace H2020 funding from Brussels. This uncertainty seems to have led to the dismantling of UK universities’ FP support functions and to knowledge gaps developing among young researchers unfamiliar with EU funding opportunities. This is problematic because the FP is normally a big source of career opportunities for post-doc and other early-career researchers. The period of uncertainty highlighted that stability and predictability are key for international research collaboration. For the UK, being outside the FP increased the risk that future thematic and policy directions could reduce the fit between the FP and UK needs. Nonetheless, there is overwhelming support for continued FP association within the UK R&I community and in government

Global science has been growing fast in recent years, and this has been evident from a UK perspective in the growing number of co-publications with authors around the globe, especially China, as research systems develop and grow (Oldac & Olivos, 2025). Despite this growth trend, during the period 2011–2022, there was a clear decline in the number of joint authorships between the UK and all EU sub-regions, beginning in 2016.

In the same period, the share of first authorships among UK co-publications has been declining. In Europe, this appears to be caused by Brexit and the UK’s departure from association in the FPs, while globally it is caused by the maturation of research systems outside Europe. Both elements imply a problematic loss of initiative in starting new projects and leadership in carrying them out. UK-China co-publishing and the share of these papers with Chinese first authors has grown especially fast, predominantly building on funding from the National Natural Science Foundation of China. Since mobility tends to be the strongest predictor for increased future research collaborations (Yang, Oldac, & Nkansah, 2023), it is likely that much of the Chinese growth is driven by young Chinese researchers moving back home after post-graduate and post-doctoral training in the UK.

A recent study investigating UK’s attractiveness to young researchers indicates that the uncertainties resulting from Brexit have reduced UK’s capacity to attract and retain the most talented academics, specifically affecting the younger cohorts. Marini shows (based on Higher Education Policy Institute statistics) that the proportion of university faculty members in the UK with EU citizenship peaked at 16.8 percent at the time of the Brexit referendum, then began to decline while the share of non-EU foreign academics started to rise from a long plateau at just over 11 percent, rising to 15.5 percent in 2021/22. The age and salary profiles of the two populations started to diverge after the referendum, with fewer young EU researchers coming to the UK, while the influx from non-EU countries was

primarily of younger and less well-paid researchers (Marini, 2024), potentially leading to de-skilling at the younger end of the research community.

9.1.3 A comparative analysis of Switzerland and UK

Cavallaro and Lepori (2021) have compared the Swiss and UK cases by looking at the publication patterns of the two countries in the period 2011–2019, concluding that a key effect of the kind of institutional barriers to participation involved is to inhibit consortium-building by undermining the dependability of potential partners over longer periods. In both Switzerland and the UK, the major HEIs participating in the FP have high centrality in FP research collaboration networks. Their central network positions and large numbers of links to potential partners means they are trusted by many and therefore have low transaction costs in entering consortia. They exploit this by building up large numbers of partnerships, but this increases their exposure to risks from changes in institutional rules about participation in the FP. Barriers to mobility and immigration are also important.

Difference-in-difference comparisons of FP participations during the Swiss loss of associated status in 2014 and following the UK's Brexit decision in 2016 indicates that the UK's loss of participation was more substantial in the short term. The number of Swiss participations and coordinator roles recovered quickly after the 2014–2016 period. UK participations and coordinator roles fell after the Brexit vote in 2016 and had failed to recover by 2019 (the year of the latest data included in the article). Swiss participation in the SME instrument in H2020 was stopped in 2014–2016 by the country's loss of associated status, but bounced back rapidly from 2016 when that status was restored. UK participation in the SME instrument similarly fell steeply after the Brexit decision and then continued to decline. UK firms are now allowed to participate in the EIC Accelerator that has replaced the SME Instrument, but not in the investment sub-programme that provides venture capital.

A clear conclusion from these analyses is that participant behaviour responds immediately to decisions that change or render uncertain potential partners' status in the FP, because they undermine the stability of existing consortia and the opportunities for building new ones. The protracted uncertainty about UK FP participation and mobility policy, in effect, lasting from the Brexit referendum in 2016 to 2024, served to increase the costs of Brexit.

9.2 The FP as a long-term intervention

The increasingly rigorous use of a policy cycle in the EU – most recently codified in the Better Regulation Guidelines – means that the contents of the FPs are almost continually negotiated, and periodically planned. The FPs are periodically evaluated, a task that becomes increasingly challenging as their scale and scope increases. However, very little effort has been devoted to understanding the systemic role of the FPs, which over time have become a central instrument in in creating and supporting a continent-wide innovation ecosystem. This stands in sharp contrast to the fragmented, uncoordinated, and significantly weaker European research and innovation system before the FPs. This section provides a brief sketch of some of the current roles of the FP, its continent-wide importance and the opportunities it provides to its members.

The FP was established in 1984, more as a framework than as a programme, to legitimise and expand the European Commission's small collection of R&D schemes by creating an entity recognised in EU law. Most studies of the FP are driven by EU policy and budgeting cycles, and therefore have a short to medium-term perspective, focusing on one FP or a single budgeting period. However, focusing only on the short term is misleading. The FP, now more than four decades old, continues to be a long-term, evolving project (Arnold E. , 2012) with underlying roles in agenda-setting and building European R&I communities.

It is well understood that the collaborative programmes at the core of the FP develop through the evolution of participant networks (often centred on large institutes, such as the Fraunhofer Society, TNO and SINTEF), some of which have been formalised in the European Partnerships. Collaboration patterns are influenced by historic and socioeconomic ties as well as geographical, cultural and linguistic proximity (Hladchenko, 2026).

FP project participation tends to reflect individual organisations' research and technological strengths. Big, established companies from the EU14 tend to retain leading roles. These companies and certain strong research groups have considerable convening-power in converting network membership into leading or coordinating project roles. The strengths of industrial and research competitors combined with their network roles also make it possible for some countries, including Switzerland, the UK and Norway, to take important FP positions even while not being members of the EU.

9.2.1 The key role of networks

The FP does not only fund R&I but sets R&I agendas, supports and develops European industrial structures and business relationships, and grows an R&I community attuned to specific European needs. It builds academic and academic-industrial networks, the most successful of which help shape the R&I ecosystem as a whole. Successful participants belong to – and preferably lead – the most successful networks, tending to operate within the FP for long periods. Less successful participants fail to develop the needed network relationships and lose contact with the mainstream. Not all participants are equal in seeking membership of these networks. National strength provides advantage, so the countries with strong national R&I systems are over-represented in EU networks.

Joining the FP expands countries' R&I networks. This is most easily visible via their increasingly dense webs of co-authored publications. For example, Marini (2023) shows that the cohort of new Member States joining the EU in 2004 subsequently increased their international joint publications and achieved higher citation impacts than other East European countries not joining the EU but remaining in the ERA. R&D spending as a share of GDP rose in the period among the new Member States but fell in the ERA-only countries.

FP networks tend not to be transactional, but to build on trust. It can be hard for new entrants to get into the better-established networks, while the benefits of network membership have considerable half-lives, even after membership ends. New Member States and others associating to the FP not only strengthen the FP ecosystem but increasingly are lifted up by it, raising R&I capacity just as the EU raises the broader economic and industrial capacity of its newer members. In doing so, the FP becomes an integral part of national R&I funding systems, generally providing a minority of the funding available at national level but offering European-level opportunities that cannot be accessed from outside. For many, it is a key element in building R&I careers and becoming part of European R&I networks.

Many of these networks have considerable market power, as well as R&D capacity, setting directionality as well as norms and standards, and deciding the division of research (and sometimes also manufacturing) labour in certain well-established European sectors such as aerospace. FP-inspired technological advance involves a degree of consensus and is rarely as radically innovative or disruptive as that of leading US tech industries (Laredo, 1995; Arnold E. , 2012; Draghi, 2024). The ERC can be thought of as an antidote to this conservatism. Some 63 percent of ERC-funded basic research projects have been claimed to generate major scientific advances and 18 percent to have involved breakthroughs (European Research Council, 2021). However, as a bottom-up basic research initiative, its links to technological development are indirect, and while the newer EIC is orientated towards technology-based start-ups, it is not yet clear that the EU Single Market can match the scale and attractiveness of markets in the USA and China.

Our analysis in this Chapter shows that while these network relationships are inherently longer-term, they are also fragile. Switzerland's stop-and-go relationship with the FP has periodically weakened its position in R&I networks, and it is likely that this has in turn led to a weaker aggregate position than would have been available if Switzerland had been a Member State or more permanently associated with the FP, as Norway is. The UK held a very strong position before Brexit and still enjoys a higher-than-average success rate in applying to the FP (Rosemberg, Mehrotra, & Martin, 2025), but the benefits of EU membership are unmistakably fading away, and it is unclear to what extent the UK's new association to the FP can mitigate this loss. Both Switzerland and the UK have been damaged by the uncertainties in their relations with the FP. Potential partners have had to weigh up the advantages of partnering with them and the risks that would undermine the long-term relationships on which the FP is based. Norway, in contrast, is in the stronger position of having a long and uninterrupted relationship with the FP, which no-one sees as risky. As the British example implies, even the suggestion that the FP relationship is at risk is enough to discourage potential partners and reduce the benefits.

9.2.2 Scope and wider policy

While, especially since the ERC was set up, the FP has increasingly been seen as an arena for academic research, its origins are in innovation and international competition, and its over-riding purpose is still to strengthen European R&I to support industrial competitiveness and quality of life. The FP has grown dramatically in both scale and scope. From the outset in pre-competitive, collaborative research, it has spread into both industrial innovation and investigator-initiated research, aiming to strengthen European capacity and competitiveness. It has since extended into concerns with societal challenges, security, key technologies, technological sovereignty and defence, and increasingly abuts other investment programmes such as the post-Covid Recovery and Resilience Facility, the Digital and Green Transitions, and the European Competitiveness Fund.

There have also been developments in EU R&I policies that go well beyond the FP. They have grown their scope from innovation and research, to building the ERA, increasing its integration with wider EU economic and industrial policies from the time of H2020, building additional programmes in investment and financing, tackling climate and security imperatives, and in the new MMF building a European Competitiveness Fund alongside FP10. The intention is to build a more complete and holistic R&I and industrial policy system addressing EU needs, which goes beyond the opportunities available through FP association alone.

9.2.3 Implications

The discussion above suggests that the FP forms a key part of a developing European research, innovation, and industry ecosystem. Unsurprisingly, the closer states position themselves to EU membership, the easier and better their integration into this ecosystem is. The FP itself has become much broader over time, as has the EU's widening array of R&I-related policy instruments, and these together with more general EU policies such as the Single Market with its associated freedom of movement underpin the developing ecosystem. From a national perspective, the FP and related policies can sometimes fill gaps in national R&I policy mixes. FP participation can support national capacity-building, especially by creating opportunities to work with leading, high-respected and often highly cited colleagues from other countries. It takes time and effort for countries to assimilate into the ecosystem via the FP, building trust and network membership, establishing positions in research and industry sub-systems, and taking leadership positions through project coordinatorships and network centrality. These links are not severed at once if countries' relationship to the FP weakens, but they can be brittle, and they do have half-lives and decay over time.

Interruptions or fluctuations in the degree of association, however, can quickly reduce its benefits. Changes in status can quickly make a country's researchers unattractive partners, and the friction involved in national policy changes or in the need to negotiate new association agreements for each successive FP can prevent national participation at key moments (notably the start of new FPs). Over

time, declining FP participation reduces researcher mobility and therefore opportunities for career development (especially for PhD candidates and early-career researchers who need international experience as a condition of finding academic or industrial research jobs). It reduces opportunities to produce publications from within diverse and powerful research networks that will be highly cited. And it means that research-performing organisations' skills in the black arts of writing FP proposals and building FP networks tend to atrophy. It is easier to leave than to get back in.

9.3 Conclusions

We briefly sketched above the importance of the FPs and wider EU policies and the opportunities they have generated over time by in the form of a large-scale research and innovation ecosystem. This stands in sharp contrast to Norway's European context in 1984. We argue that to a considerable extent, membership of or association to the FPs provides an entry-ticket to the continental ecosystem. The Swiss and UK examples strongly suggest that maintaining a strong and continuous relationship with the FPs is the best way to benefit from membership of that ecosystem over time.

Switzerland has repeatedly been associated with the FPs but also relegated to third country status as a result of failure to conform with EU policies and delays in association negotiations. The UK lost its membership status as a result of Brexit, thus becoming a third country, but the country has more recently returned as a partly Associated Country. The Swiss and UK experience shows that participants respond immediately to restrictions to participation, which undermines the stability of existing consortia and the opportunities for establishing new ones. As the British example implies, even the suggestion that the FP relationship is at risk can be enough to discourage potential partners. FP participation and collaboration can bounce back in the case of re-entry, but it takes time and effort to assimilate into the FP ecosystem, to build trust and establish positions in research and industry sub-systems. Such relations are fragile.

Association to the FPs, and the perception that the association is stable and predictable over time, is therefore most valuable for Norway's integration into the ERA. The benefits of continued participation are linked both to the fact that international R&I relationships take time to establish and are vulnerable to uncertainties and disruptions, and to the increasingly central role of the FPs play in EU R&I policy as reflected in the ambition to link FP10 to ECF.

Non-participation could, over time, have a profound impact on the Norwegian R&I system in general, and more specifically limit Norwegian organisations' the opportunities to contribute to and follow European technological developments, meeting societal challenges and companies' access to the European market.

10 Overall conclusions and recommendations

Norway has participated in the EU's Framework Programmes for research and innovation (FPs) since the 1980s, initially on a project-by-project basis, and as an Associated Country since 1994. The two most recent FPs are Horizon 2020 (H2020, 2014–2020) and Horizon Europe (HE, 2021–2027).

SØA and Technopolis has been contracted by the Ministry of Education and Research (MER) to evaluate the impacts of Norway's participation in the FPs since 2019, thus covering both H2020 and HE. The evaluation also considers Norway's possible participation in the tenth FP (FP10) and evaluates the financial support measures Project Establishment Support (PES) and Retur-EU.

The analysis is based on a variety of data sources and data collection methods, including document studies, registry analyses, web surveys, interviews, econometric analyses and innovation survey analyses.

10.1 Impacts of participation

10.1.1 Activities

Norway's participation under FP4–FP7 gradually decreased in terms of financial return, but the development since the start of H2020 has been a remarkable success. Norway was awarded 1.7 percent of the competitive in FP7 and 2.2 in H2020 respectively. By the end of 2024, Norway as awarded 3.3 percent of the competitive funding, 2.9 percent when excluding CEPI.

The registry analyses of the evaluation conclude by end of 2024 and RCN's recurring analyses show that the return had decreased somewhat by October 2025 (accumulated 3.1%), but this fact does not materially affect the extraordinarily successful long-term trend.

Norway's financial return amounted to EUR 2.3 billion over the course of the period of 2019–2024 in current prices, corresponding to approximately NOK 27 billion in 2025 prices. This includes NOK 3,3 billion to CEPI.

Norwegian organisations have received the greatest part of their FP funding through the Global Challenges and European Industrial Competitiveness pillar of HE (pillar 2), followed by Excellent Science (pillar 1) and Innovative Europe (pillar 3). The funding from the Excellent Science pillar, which largely has the same meaning as in H2020, constitutes a very notable improvement on H2020. Overall, Norwegian organisations are particularly successful in the HE sub-programmes for Research Infrastructure; Climate, Energy and Mobility; Food, Bioeconomy, Natural Resources, Agriculture and Environment; and European Innovation Ecosystems. Norwegian organisations' share of funding in Research Infrastructure projects has more than doubled from H2020 to HE. Overall, Norwegian organisations are quite successful in Co-programmed and Co-funded Partnerships and reasonably successful in EU Missions, whereas participation in Institutionalised Partnerships is way below average.

Norwegian participation is spearheaded by a handful of very active institutes and HEIs, while participation by other stakeholder categories is much lower. Norwegian FP proposers are on average highly competitive, and their competitiveness has been further honed under HE. In terms of proposal

success rate for coordinators, Norwegian institutes are by far the most competitive followed by HEIs, with other stakeholder categories lagging far behind. Institutes play a critical role for participation of the Norwegian private sector, and they are also important for (the much smaller) participation of the public sector. Table 10.1 summarises key figures for Norwegian participation in H2020 and HE.

Table 10.1 Key figures for Norwegian participation in H2020 and HE (end of 2024).

	FP7[2]	H2020	HE (part)
Proposals with Norwegian participation (approx.)	7,000	15,500	7,000
Funded projects with Norwegian participation (share of all)	1,485 (5.9%)	2,003 (5.9%)	1,411 (9,4%)
Norwegian participations in projects (share of all)	2,185 (1.6%)	3,198 (1.8%)	2,285 (2.3%)
FP Funding in NOK (2025-prices)[1]	10.8 bn.	20.7 bn. (19 bn. excl.CEPI)	15.9 bn. (14.4 bn. excl. CEPI).
Success rate	21%	15%	21%
Accumulated return as a share of competitive funding	1.7%	2.5% (2.3% excl. CEPI)	3.3% (2.9% excl. CEPI)
Share of funding (excl. CEPI) to			
• HEIs	39%	34%	34%
• Research institutes	37%	30%	35%
• Private sector	19%	27%	21%
Norwegian participation overrepresented in:	SME, ENV, FOOD	ENERGY, FOOD, ENV, INFRA	CLIMATE, FOOD, RI, ERC

Source: eCorda, RCN, Tofteng et al. (2020). [1] FP funding by year of signature. Amounts are based on funding in NOK as reported the Research Council of Norway and converted to 2025-prices using public consumption deflator from SSB's national accounts.[2] Data from Tofteng et al (2020).

10.1.2 Results

Participants from all stakeholder categories have established extensive national, international, intersectoral, and interdisciplinary R&I collaboration in FP projects, which translates into knowledge transfer between project partners. Similar collaboration effects accrue also to participants in RCN projects, but the extent of international collaboration is much higher in FP projects.

FP projects with Norwegian participants have over time resulted in increasing numbers of scientific articles with Norwegian authors. Overall, these articles have far greater than average scientific impact, and they have led to dissemination of project results within both the scientific and the grey literatures, as well as to the public and via patents. Norway's active participation in programme committees and expert groups is well-invested effort to contribute to European R&I policy, as well as means to ensure that Norway gets to participate on equal terms with Member States. Overall, there is close alignment between Norwegian and European R&I policies since most challenges are shared, meaning that Norway's FP participation largely is in line with national priorities. Both RCN and IN have adapted the processes and selection criteria of their R&I funding instruments to lower the threshold to FP participation. Norway's FP participation influences national policy both inside and outside the R&I domain, as evidenced by both interviews and the many grey-literature documents by the Norwegian government and its agencies that reference Norwegian articles from Norwegian FP projects.

10.1.3 Impacts

Just as with R&I collaboration, project participants from all stakeholder categories have established long-term national R&I relationships in both FP and RCN projects, but international relationships are considerably more common impacts of FP projects.

In terms of additional impacts perceived by participants, differences between FP and RCN projects are mostly subtle for private-sector participants, but both categories have developed demonstrators and

more scientific practices. However, FP project participants have obtained follow-on projects with international public funding to a greater extent. Both categories of participants have improved or implemented new methods for product, service, or process development, have implemented new materials or technologies, and have developed products or services that either already have been commercialised or are expected to be commercialised. Large majorities of both FP and RCN project participants from the private sector eventually expect increased international competitiveness, new customers and increased sales, and many FP participants also expect increased exports, new suppliers, new business models, reduced costs, and new value chains.

FP project participants from the private sector have experienced increased R&I activity, sales, and employment, but the economic benefits – which likely translate into commercial value over time – are similar to those experienced by RCN project participants. The contributions to participants' long-term productivity is uncertain, but FP projects foster innovation, competitiveness, and allocation of resources to R&I-intensive companies.

Public-sector participants in FP projects also have developed demonstrators and expect increased international competitiveness. They have to a notably greater extent than RCN project participants recruited R&D personnel and secured follow-on projects with international public funding. FP project participants from the public sector sooner or later expect to implement new materials or new technologies in existing products or services.

R&D-sector participants in both FP and RCN projects have developed increased international competitiveness and more scientific practices, and have recruited researchers. Participants in FP projects have to a greater extent secured follow-on projects with international public funding, developed R&I directions of greater relevance to the private sector, have improved or implemented methods for product, service, or process development, and have developed demonstrators. R&D-sector participants have also developed R&I directions of greater relevance to the public sector, although to the same degree in FP and RCN projects.

Benefits in terms of increased competitiveness, innovation, and value creation extend beyond the FP projects and their participants. FP participation by all categories of stakeholders contribute to diffusion of knowledge, development of a culture of innovation, and strengthened absorption capacity, which both the private and public sectors benefit from. The full magnitude of such spillovers is difficult to isolate and measure empirically.

Norwegian FP project participants have honed their international competitiveness as evidenced by increasing proposal success rates, proposal excellence scores, and overall financial return, which since FP7 have developed most favourably relative to the Norway's comparator countries. Norwegian articles from Norwegian FP projects frequently address SDGs. These articles are subsequently frequently cited by the Norwegian government and its agencies, which indicates that Norwegian FP projects provide tools to handle societal challenges which ought to contribute to a sustainable development of society.

10.1.4 Fulfilment of Strategy objectives

1. Participation shall raise the quality of Norwegian research and generate more outstanding and innovative environments.

Norwegian articles resulting from Norwegian FP projects have far greater impact than the average article and they are frequently cited by other researchers, but there is no evidence to indicate that the quality of Norwegian research has increased. An alternative way of approaching quality is to note that proposals with Norwegian coordinators have achieved significantly higher success rates in HE than in H2020. Norwegian coordinators' proposals to HE have also fared better than in H2020 in terms of both success rates and excellence scores than proposals coordinated from Norway's comparator countries.

Proposal competitiveness is not necessarily directly related to research quality, but internationally successful researchers have better preconditions to author competitive proposals, so there is at least correlation. Moreover, Norway's remarkably increased financial return since FP7 would not have been possible without a development of more outstanding and innovative researchers and research groups (environments). Such environments are present in all stakeholder categories, but mostly in HEIs and institutes.

2. Participation shall increase value creation, strengthen Norway's competitiveness and capacity for innovation and contribute to transition in the private and public sector.

Private-sector FP participants have experienced increased R&I activity, sales, and employment. These benefits are similar to those experienced by RCN participants, but FP projects foster innovation, competitiveness, and allocation of resources to R&I-intensive companies to a greater extent.

Participation in collaborative FP projects facilitates establishment and expansion of international networks and provides access to the research frontier. For private-sector participants, participation can also support development of new markets and provide access to funding, investors, and advisory services.

Benefits in terms of increased competitiveness, innovation, and value creation extend beyond FP projects by contributing to knowledge diffusion, development of an innovation culture, and increased absorption capacity.

European Partnerships are key instruments to realise EU's ambitious competitiveness and environmental goals and contribute to transition in both the private and the public sectors. Norwegian actors participate in many Partnerships and the country punches well above its weight in key Co-programmed Partnerships. This extensive participation ought to contribute to transition in the private and public sectors in Norway and abroad, but the timelines are so long and the attribution often so opaque that a definitive assessment cannot be made.

3. Participation shall enable us to handle major societal challenges, help us achieve the Sustainable Development Goals and contribute to the sustainable development of society.

Many of the Co-programmed and Institutional Partnerships are highly relevant to produce knowledge and tools to deal with societal challenges, reach SDGs and contribute to sustainable development. EU Missions and Co-funded Partnerships are other instruments to realise EU's competitiveness and environmental goals. Norway participates in all EU Missions has an ambitious engagement in most Co-funded Partnerships. This extensive Norwegian engagement should contribute to addressing SDGs and to sustainable development of society. Moreover, Norwegian articles from Norwegian FP projects frequently address SDGs, and Norwegian publications in the grey literature citing Norwegian articles also frequently address SDGs, which suggests that Norwegian FP projects influence development of national policies related to societal challenges, which in turn ought to contribute to sustainable development.

The FPs generate climate-relevant knowledge that may benefit Norway irrespective of direct Norwegian participation but impacts in terms of for example emission reductions require that research findings are translated into policy and regulations. However, it is rarely possible to link a regulation directly to a single FP project, since policymaking relies on diverse evidence where research findings typically only provide one piece of a larger puzzle.

4. Participation shall contribute to the development of research and innovation policy and to new patterns of collaboration across national borders, sectors and fields.

There is strong alignment between Norwegian and European R&I priorities due to shared challenges.

Interviewees also point to concrete examples of EU influence, such as the introduction of EU Missions, which have inspired Norwegian policymakers to launch three Norwegian Missions. Moreover, RCN and IN have increasingly aligned procedures, criteria and terminology with FP practice, and national instruments explicitly incentivise FP participation.

Norway's FP participation also influences national policy on other policy domains, as evidenced by interviews and by the frequent citation of the above-mentioned grey literature in Norwegian policy documents.

FP projects have led to extensive national, international, intersectoral, and interdisciplinary collaboration. Many of these collaborations are no doubt with new partners, but there is no reasonable way of determining what proportion.

5. Norwegian actors shall receive 2.8 percent of the competition-based funding

By end of 2024, Norway's accumulated return in HE excluding funding to CEPI was 2.9 percent, and 3.3 percent including CEPI. RCN's most recent analysis at the time of finalising this report reveals that the accumulated return in HE by October 2025 was 3.1 percent including funding to CEPI.

10.1.5 Conclusions on fulfilment of Strategy objectives

The overall conclusion of Part 1 of the evaluation is that all objectives of the Government's 2021 Strategy have been or probably will be achieved, albeit to varying degrees. Where the evidence at hand does not support definitive assessments (due to methodological challenges such as long timelines and opaque attribution), there is still reason to believe that developments eventually will contribute to fulfilment of the objectives.

10.2 Potential benefits of participating in FP10

We assessed the potential benefits of participating in FP10 by comparing a baseline scenario channelling funding through RCN, to the alternative of devoting the same amount of money to FP10 association. Under the applied assumptions, the monetised difference between FP association and a purely national alternative is relatively small, but the net non-monetisable benefits are very large.

The sensitivity analysis shows the importance of Norway's FP return: a higher return improves the monetised net benefit of FP association. There is uncertainty whether Norwegian participants will continue to achieve returns in line with the Government's target. Success will amongst other things depend on whether EEA countries such as Norway will face restrictions in specific parts of the new Programme, whether Norwegian organisations have sufficient capacity to sustain and expand participation in this larger Programme (including taking on coordinating roles), and whether research institutes have adequate incentives to participate (contingent on the continuation of Retur-EU). Further, Norway's financial return will depend upon other countries' competitiveness and incentives to participate.

We expect the impacts found with regards to HE, will hold also for FP10. Although FP10 is still under negotiation, we anticipate that it will have mainly similar instruments to its predecessors. However, FP10 and ECF will together raise ambitions with regards to innovation and commercialisation. Another "new" feature of FP10 compared to its predecessor is the proposal of not limiting the Programme to civilian R&I. The implications of this are as yet uncertain, but we expect that these features will bring new opportunities for Norway, as for other FP participants.

We further expect that participation in FP10 will give Norwegian policymakers and funding agencies access to European policy arenas, enabling benchmarking, policy innovation, and policy coordination.

Participation in working groups, Partnerships, and R&I projects directly and indirectly also influence policy development in other domains.

Norway could, at least in theory, participate in the FPs on project-to-project basis, rather than through full association. However, we expect that this would result in a significant decline in Norwegian participation in FP projects, and fewer opportunities to participate in FP policy arenas. Project-by-project participation would be likely significantly to reduce Norway's ability to build long-term relationships and remain integrated in the ERA.

Norwegian policymakers and RCN could seek to increase international collaboration through national instruments, but it would not be possible to compensate fully for what would be lost in terms of international collaboration, development of competence and competitiveness, access to infrastructure, and mobility instruments.

Association to the FPs, and the perception that the association is stable and predictable over time, is therefore most valuable for Norway's integration into the ERA. The benefits of continued participation are linked both to the fact that international R&I relationships take time to establish and are vulnerable to uncertainties and disruptions, and to the increasingly central role of the FPs in EU R&I policy.

The benefits of international collaboration, knowledge sharing, and market access are particularly important for a small country like Norway. The value of EU collaboration is further amplified by current geopolitical uncertainties, rising trade policy tensions and wars, sanction regimes and competition between large economic blocs. The FPs and related EU programmes and strategies are important tools to strengthen European innovation, digital competitiveness and sovereignty, cooperation on defence capabilities and protection of the values underpinning the EU and the ERA, from which Norway will benefit from by taking part.

10.3 Importance and impacts of PES

The objectives of PES are to:

- Improve the quality of FP proposals
- Increase the number of FP proposals
- Increase the number of FP proposer

The rationale for the PES measure is that producing an FP proposal generally requires much greater time investment than a proposal to RCN or IN, and that FP participation rules are considerably more complex. Frequent FP proposers have used part of their PES grants to establish internal functions to support both individual FP applicants and project participants to lower the threshold to participation.

10.3.1 Improved quality of FP proposals?

Proposals with Norwegian coordinators have become more competitive under HE in terms of success rates and excellence scores. Moreover, the high success rates are largely due to institutes, which receive most of PES funding. The quality of Norwegian-coordinated proposals is consequently developing in line with this objective.

10.3.2 Increased number of FP proposals?

The number of Norwegian proposals increased rapidly under H2020 and the number under HE exhibits a trend similar to the one under H2020. The development of Norwegian proposal production is thus in line with this objective.

10.3.3 Increased number of FP proposers?

The number of Norwegian proposers cannot be unequivocally assessed since most PES funding is awarded through block grants, and it is not known which FP proposals – and thus which individuals– that benefited from PES funding. However, the number of PES single-grant recipients has decreased under HE after a rapid increase under H2020. Most single-grant recipients so far under HE did not receive a PES grant under H2020, which suggests that PES may contribute to some new proposers, at least from the private sector. In conclusion, the evidence at hand does not support a definitive assessment of fulfilment of this objective, but it seems likely that the number of proposers with PES support has decreased so far under HE.

10.3.4 Conclusions on the importance and impacts of PES

Developments over time are in line with the PES objectives on number and quality of proposals, but analyses do not say indicate whether there is causality between PES support and these outcomes or merely correlation. Lack of information on which FP proposals received PES funding through block grants impedes assessment of the number of proposers benefitting from PES support, but it nonetheless seems like the number of proposers with PES support has decreased in HE. The implications for policy fall into two parts.

First, PES grants appear to play a useful role in encouraging individuals and organisations with limited experience to apply to the FPs, and there is a policy argument to continue supporting such beginners.

Second, block grant has allowed frequent FP participants to build proposal-writing capacity and contribute to a growing Norwegian success in the FPs. Many other European countries have run similar schemes in the past but have discontinued them once frequent participants understood the importance of the FPs and gradually learnt how to address the challenges of participating in the FPs. This evaluation points partly in a similar direction; there has indeed been organisational learning, and this is consistent with the improving performance. This implies that it may be time to gradually scale down PES funding for frequent FP participants. However, we also heard testimony that the signal value of both kinds of PES support is important in encouraging researchers to apply to the FP.

10.4 Importance and impacts of Retur-EU

The objectives of Retur-EU are to increase institutes:

- FP participation
- Coordination of FP projects
- Collaboration with the private sector in FP projects
- Collaboration with the public sector in FP projects

The measure includes a bonus system that specifically rewards coordination and collaboration with the private and public sectors.

The rationale for Retur-EU is that Norwegian institutes receive much lower government base funding than institutes in most other European countries. This means that Norwegian institutes – in contrast to their foreign colleagues – are unable to co-fund FP projects that generally provide far from full cost coverage. The funding percentage of the measure was increased in 2015 in response to new financial rules in H2020, and again in 2020 to reflect institutes' dire financial realities.

10.4.1 Increased participation?

Retur-EU is an absolute necessity for extensive FP participation by Norwegian institutes due to their low level of base funding. The 2015 and 2020 increases to the funding percentage led to increased FP

participation, since the extra base funding made it financially realistic for institutes to increase participation.

10.4.2 Increased coordination?

The 2015 and 2020 changes led to increased FP project coordination, again since the extra base funding made it financially realistic to take on the challenging and risky task of coordinating projects (and proposals).

10.4.3 Increased collaboration with the private sector?

Institutes are successful in partnering with the Norwegian private sector. As coordinators they include at least one Norwegian company in the consortium in 65 percent of projects, and when they are regular partners in 40 percent of projects, where the difference likely reflects the proposal coordinator's position of power in defining project scope and partnership. There has not been any increase in the share of such projects from H2020 to HE, but the number of projects has increased very significantly from H2020 to HE.

10.4.4 Increased collaboration with the public sector?

Institutes are less successful in partnering with the public sector, which probably mainly is explained by this stakeholder category overall being much less keen on FP participation, in part because participation may require a political decision. Institutes tend to include at least one Norwegian public organisation in the consortium in 10–15 percent of projects, regardless of whether they coordinate them or not. There has not been any material change in the share of such projects from H2020 to HE, but the number of projects has increased significantly from H2020 to HE.

10.4.5 Conclusions on the importance and impacts of Retur-EU

Retur-EU strongly has contributed to an increase in the number of institute participations, including an increased propensity to coordinate projects. The measure has also contributed to significant increases in the number of projects with the Norwegian private and public sectors, but not with an increasing share of projects with such partners.

The 2020 change to Retur-EU was particularly important for the technical-industrial institutes that have the lowest base funding and typically also the highest overheads; they consequently tend to receive the highest funding percentages. The removal of the budget cap in 2024 meant that institutes ceased holding back their ambitions, which seems to have contributed to further increased participation.

Retur-EU is an absolute necessity for extensive FP participation. Several institutes have taken the strategic decision to coordinate proposals and have become so good at it that their success rates are quite high. Institutes coordinate proposals and partner with other Norwegian organisations when it makes sense and provided the consortium agrees. The bonus system does not seem to influence behaviour.

10.5 Recommendations

The overarching question of this evaluation is whether Norway should participate in FP10. The comparisons between full FP association and the alternative of channelling the equivalent funds through national instruments, as well as experiences from Switzerland and the United Kingdom, suggest that the benefits of full association outweigh the costs. The FP remains the most important instrument for integrating Norway into the European innovation ecosystem, and the potential negative effects of non-association are substantial, both in the short and the long term. The evaluation thus concludes that **Norway should associate itself to FP10**, since there is no realistic and equally beneficial alternative.

Norway should maintain its efforts to ensure that it can participate on equal terms with EU Member States. In addition, Norway should strive for further simplifications to FP participation rules and procedures, efficient linkages to other EU programmes and strategies, and in particular the European Competitiveness Fund (ECF). Norway should also seek to ensure that research topics of strategic relevance to Norway remain key priorities. Given the limited opportunities for Norway directly to influence the FP, national policy and national instruments should incentivise and support FP participation, and national instruments should complement FP instruments. As FP10 will be larger than HE, even maintaining a return rate of 2.8 percent will require a substantial increase in Norwegian participation.

While developments are broadly in line with the objectives of PES, the evaluation cannot establish how much of this can be attributed to PES specifically. The most frequent Norwegian FP participants among HEIs and institutes have become most competitive. **This suggests gradually scaling down PES funding to frequent FP participants and instead prioritising infrequent FP participants.**

However, the evaluation cannot determine whether continued – or, indeed, increased – PES funding will be needed to sustain success in an increasingly competitive environment, in line with the government's ambitions for financial return. Furthermore, as FP10 (and ECF) is expected to place greater emphasis on innovation than previous FPs, this may warrant measures to support private sector participation. These are ultimately matters of political judgement.

In contrast, the evaluation of Retur-EU does show a clear causal relationship between Retur-EU funding and institutes' FP participation, which in turn supports participation of private- and public-sector participants. The reason for the measure's impact on participation is that it addresses the structural issue of the institutes' low level of base funding and thus makes it financially realistic for them to participate at large. Retur-EU is an effective way to compensate for this structural issue, and it is likely a cost-effective way for Norway to obtain a high financial return. The evaluation concludes that **Retur-EU should remain intact, although the bonus system could be discontinued** since it does not seem to influence behaviour. However, the signal effect of the bonus system may be considered important enough to leave it untouched, despite its questionable effects.

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Acronyms

2ZERO	**Towards Zero-emission Road Transport Co-programmed Partnership under HE**
5G	Advanced 5G Networks for the Future Internet Contractual Public-Private-Partnership under H2020
AAL2	Active and Assisted Living Institutional Partnership
ADR	AI, Data and Robotics Co-programmed Partnership under HE
AGROECOLOGY	Agroecology Partnership Co-funded Partnership under HE
AI	Artificial intelligence
AT	Austria
B4P	Built4People Co-programmed Partnership under HE
BATT4EU	Batteries Co-programmed Partnership under HE
BBI	Bio-based Industries Joint Undertaking under H2020
BERD	Business Expenditure on R&D
BigData	Big Data Value Contractual Public-Private-Partnership under H2020
Biodiversa+	European Biodiversity Partnership Co-funded Partnership under HE
Cancer	Cancer Mission under HE
CBA	Cost Benefit Analysis
CBE	Circular Bio-based Europe Institutionalised Partnership under HE
CCAM	Connected, Cooperative & Automated Mobility Co-programmed Partnership under HE
CCS	Carbon capture and storage
CEF	Connecting Europe Facility
CEPI	Coalition for Epidemic Preparedness Innovations
CERN	European Organization for Nuclear Research
CETP	Clean Energy Transition Partnership Co-funded Partnership under HE
Chips	Chips Institutionalised Partnership under HE
CIS	Community Innovation Survey
Cities	Climate-neutral and Smart Cities Mission under HE
Clean Aviation	Clean Aviation Institutionalised Partnership under HE
CleanH2	Clean Hydrogen Institutionalised Partnership under HE
Climate	Adaptation to Climate Change Mission under HE
COST	Cooperation on Science and Technology
cPPP	Contractual Public-Private-Partnership under H2020
CS2	Clean Sky 2 Joint Undertaking under H2020
Cybersecurity	Cybersecurity Contractual Public-Private-Partnership under H2020
DIGITAL	Digital Europe Programme
DK	Denmark
DUT	Driving Urban Transitions Partnership Co-funded Partnership under HE
ECF	European Competitiveness Fund
ECSEL	Electronic Components and Systems Joint Undertaking under H2020
EDCTP2	European & Developing Countries Clinical Trials Institutional Partnership

EDF	European Defence Fund
EEA	European Economic Area
EeB	Energy-efficient Buildings Contractual Public-Private-Partnership under H2020
EEN	Enterprise Europe Network
EFTA	European Free Trade Organization
EIC	European Innovation Council
EIE	European Innovation Ecosystems
EIP	European Innovation Partnership
EIT	European Institute of Innovation and Technology
EMBO	European Molecular Biology Organisation
ENV	Environment (including Climate Change) sub-programme within Cooperation pillar of FP7
EOSC	European Open Science Cloud Co-programmed Partnership under HE
EPO	European Patent Office
ERA	European Research Area
ERA4Health	European Research Area for Health Research Co-funded Partnership under HE
ERASMUS+	EU programme to support education, training, youth and sport in Europe
ERC	European Research Council within Excellent Science pillar of H2020 and HE
ERIC	European Research Infrastructure Consortium
ES	Excellent Science pillar of H2020 and HE
ESA	European Space Agency
ESFRI	European Strategy Forum on Research Infrastructures
ESO	European Southern Observatory
ETP	European Technology Platform
EUPAHW	European Partnership on Animal Health and Welfare Co-funded Partnership under HE
EU-Rail	Europe's Rail Institutionalised Partnership under HE
EURATOM	European Atomic Energy Community
EUREKA	Network for international R&D and business-driven innovation
EuroHPC	European High-Performance Computing Joint Undertaking under H2020, also High Performance Computing Institutionalised Partnership under HE
Eurostars	Eurostars Institutional Partnership
Eurostars 3	European Partnership on Innovative SMEs Co-funded Partnership under HE
FCH2	Fuel Cells and Hydrogen 2 Joint Undertaking under H2020
FET	Future and Emerging Technologies sub-programme within Excellent Science pillar of H2020
FI	Finland
FoF	Factories of the Future Contractual Public-Private-Partnership under H2020
FOOD	Food Security, Sustainable Agriculture and Forestry, Marine and Maritime and Inland Water Research and the Bioeconomy sub-programme within Societal Challeges pillar of FP7
FP	Framework Programme for Research and Innovation
FP10	Tenth Framework Programme for Research and Innovation
FP7	Seventh Framework Programme for Research and Innovation
FTE	full-time equivalent
FTI	Fast Track to Innovation
FWCI	Field-weighted citation impact
GC	Global Challenges pillar of HE

GC-CLIMATE (CL5)	Climate, Energy and Mobility sub-programme (Cluster 5) within Global Challenges pillar of HE
GC-CULTURE (CL2)	Culture, Creativity and Inclusive Society sub-programme (Cluster 2) within Global Challenges pillar of HE
GC-FOOD (CL6)	Food, Bioeconomy, Natural Resources, Agriculture and Environment sub-programme (Cluster 6) within Global Challenges pillar of HE
GC-HEALTH (CL1)	Health sub-programme (Cluster 1) within Global Challenges pillar of HE
GC-INDUSTRY (CL4)	Digital, Industry and Space sub-programme (Cluster 4) within Global Challenges pillar of HE
GC-SECURITY (CL3)	Civil Security for Society sub-programme (Cluster 3) within Global Challenges pillar of HE
GDP	Gross Domestic Product
GH EDCTP3	Global Health EDCTP3 Institutionalised Partnership under HE
H2020	Horizon 2020 (Eighth Framework Programme for Research and Innovation, FP8)
HE	Horizon Europe (Ninth Framework Programme for Research and Innovation,FP9)
HEI	Higher-education institution (university or university college), alternative notation for eCorda HES category
HES	Higher or secondary education organisation
IA	Innovation Actions
ICT	Information and Communication Technologies, also Information and Communication Technologies sub-programme within Cooperation pillar of FP7
IE-EIC	European Innovation Council sub-programme within Innovative Europe pillar of HE
IE-EIE	European Innovation Ecosystems sub-programme within Innovative Europe pillar of HE
IE-EIT	European Institute of Innovation and Technology sub-programme within Innovative Europe pillar of HE
IFE	Institute for Energy Technology
IGO	Intergovernmental organisation
IHI	Innovative Health Initiative Institutionalised Partnership under HE
IL	Industrial Leadership pillar of H2020
IL-EEN	Enterprise Europe Network sub-programme within Industrial Leadership pillar of H2020
IL-EIC-PILOT	EIC Pilot sub-programme within Industrial Leadership pillar of H2020
IL-FINANCE	Access to risk finance sub-programme within Industrial Leadership pillar of H2020
IL-GREENDEAL	Green Deal sub-programme within Industrial Leadership pillar of H2020
IL-INNOSUPSME	INNOSUP sub-programme within Industrial Leadership pillar of H2020
IL-JPICH	Joint Programming Initiative on Cultural Heritage and Global Change within Industrial Leadership pillar of H2020
IL-LEIT-ADVMANU	Advanced manufacturing and processing sub-programme within Industrial Leadership pillar of H2020
IL-LEIT-ADVMAT	Advanced materials sub-programme within Industrial Leadership pillar of H2020
IL-LEIT-BIOTECH	Biotechnology sub-programme within Industrial Leadership pillar of H2020
IL-LEIT-ICT	ICT sub-programme within Industrial Leadership pillar of H2020
IL-LEIT-NMP	Nanotechnologies sub-programme within Industrial Leadership pillar of H2020
IL-LEIT-SPACE	Space sub-programme within Industrial Leadership pillar of H2020
IL-NCP	National Contact Point sub-programme within Industrial Leadership pillar of H2020
IL-SMEINSTRUMENT	SME Instrument sub-programme within Industrial Leadership pillar of H2020
IMI2	Innovative Medicines Initiative 2 Joint Undertaking under H2020
IN	Innovation Norway
Institute	Research institute (or Research and Technology Organisation, RTO), alternative notation for eCorda REC category

IPCC	Intergovernmental Panel on Climate Change
JPI	Joint Programming Initiative
JRC	Joint Research Centre
JTI	Joint Technology Initiative
JU	Joint Undertaking
KBBE	Food, Agriculture, and Biotechnology sub-programme within Cooperation pillar of FP7
KDT	Key Digital Technologies (Chips) Institutionalised Partnership under HE
KIC	Knowledge and Innovation Community
LEIT	Leadership in Enabling and Industrial Technologies within Industrial Leadership pillar of H2020
MER	Ministry of Education and Research
Metrology	Metrology Institutional Partnership
MFF	Multiannual Financial Framework
MiE	Made in Europe Co-programmed Partnership under HE
MoD	Ministry of Defence
MoU	Memorandum of Understanding
MP project	Multi-partner project
MSCA	Marie Skłodowska-Curie Actions within Excellent Science pillar of H2020 and HE
NCP	National Contact Point
NIBIO	Norwegian Institute of Bioeconomy Research
NILU	Norwegian Institute for Air Research
NIVA	Norwegian Institute for Water Research
NL	Netherlands
NO	Norway
NTNU	Norwegian University of Science and Technology
Ocean	Restore our Ocean and Waters Mission under HE
OECD	Organisation for Economic Co-operation and Development
OTH	Other
Pandemic	European Partnership for Pandemic Preparedness Co-funded Partnership under HE
PARC	Partnership for the Assessment of Risk from Chemicals Co-funded Partnership under HE
PCP	Pre-Commercial Procurement
PEOPLE	People pillar of FP7
PES	Project Establishment Support
Photonics	Photonics Contractual Public-Private-Partnership under H2020 and Photonics Co-programmed Partnership under HE
PPI	Public Procurement of Innovative solutions
PPP	Public-Private Partnership
PRC	Private for profit organisation – excl. education
Private-sector organisation	Company, alternative notation for eCorda PRC category
Processes4Planet	Processes4Planet Co-programmed Partnership under HE
PUB	Public body – excl. research and education
Public-sector organisation	Public organisation, alternative notation for eCorda PUB category
R&D	Research and development
R&I	Research and innovation

RARE	European Partnership on Rare Diseases Co-funded Partnership under HE
RCN	Research Council of Norway
REC	Research organisation
RI	Research Infrastructures sub-programme within Excellent Science pillar of H2020 and HE
RIA	Research and Innovation Actions
Robotics	Robotics Contractual Public-Private-Partnership under H2020
SBEP	Sustainable Blue Economy Partnership Co-funded Partnership under HE
SC	Societal Challenges pillar of H2020
SC-ENERGY	Secure, clean and efficient energy sub-programme within Societal Challenges pillar of H2020
SC-ENV	Climate action, Environment, Resource Efficiency and Raw Materials sub-programme within Societal Challenges pillar of H2020
SC-FOOD	Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy sub-programme within Societal Challenges pillar of H2020
SC-HEALTH	Health, demographic change and well-being sub-programme within Societal Challenges pillar of H2020
SC-SECURE	Secure societies - Protecting freedom and security of Europe and its citizens sub-programme within Societal Challenges pillar of H2020
SC-SOCIETY	Europe In a Changing World - Inclusive, Innovative and Reflective Societies sub-programme within Societal Challenges pillar of H2020
SC-TPT	Smart, Green and Integrated Transport sub-programme within Societal Challenges pillar of H2020
SDG	Sustainable Development Goal
SE	Sweden
SEAWP	Spreading Excellence and Widening Participation horizontal action of H2020
SESAR2	Single European Sky ATM Research Joint Undertaking under H2020
SESAR3	Integrated Air Traffic Management (ATM) Institutionalised Partnership under HE
SFS	European Partnership for Sustainable Food Systems Co-funded Partnership under HE
SME	Small and Medium-sized Enterprise, also Research for the Benefit of SMEs sub-programme within Capacities pillar of FP7
SNS	Smart Networks and Services Institutionalised Partnership under HE
Soil	A Soil Deal for Europe Mission under HE
SPIRE	Sustainable Process Industry Contractual Public-Private-Partnership under H2020
SRIA	Strategic Research and Innovation Agenda
SSB	Statistics Norway
STRENGTHENING	Reforming and Enhancing the European Research and Innovation System horizontal action of HE
SWAFS	Science with and for Society horizontal action of H2020
TFEU	Treaty on the Functioning of the European Union
THCS	European Partnership on Transforming Health and Care Systems Co-funded Partnership under HE
TRL	Technology Readiness Level
UiB	University of Bergen
UiO	University of Oslo
UK	United Kingdom
Water4All	Water4All Partnership Co-funded Partnership under HE
WIDENING	Widening Participation and Spreading Excellence horizontal action of HE
WIPO	World Intellectual Property Organisation
ZEWT	Zero-emission Waterborne Transport Co-programmed Partnership under HE

Appendix A Participant characteristics

In this appendix we provide more details on participants in H2020 and HE. The registry analyses of projects in H2020 and HE are based on the RCN data set which originates from eCorda datasets but classified using RCN's sector codes, Norwegian regions and FP funding in NOK in current prices at the time of signing. For comparisons with national R&I instruments, we use data from RCN and The Norwegian Industrial Policy Instruments Database[94]. Organisational characteristics (location, number of employees and industry sector) are obtained from Register of Business Enterprises (the Brønnøysund Register) and linked to projects through organisations' registration numbers.

A.1 Funding and participation

Table A.0.1: FP funding in mill. EUR. Current prices. H2020 and HE.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	**2019-2024**
Other	1	5	4	4	4	6	6	6	8	5	5	36
CEPI	-	-	-	-	-	36	100	-	35	70	35	276
Norwegian hospital trust	1	5	3	3	3	6	7	8	14	13	8	55
Institutes	13	47	56	56	60	71	85	72	191	131	115	665
Private sector	10	27	57	43	82	89	87	28	134	62	67	468
Public sector	7	13	10	9	14	8	9	7	45	11	12	93
HEIs	9	59	49	53	90	90	97	77	146	149	134	692
Total H2020 and HE	40	156	179	168	254	306	391	197	573	441	377	2 285

Source: eCorda augmented with Norwegian stakeholder categories and FP funding in EUR, from RCN. According to year of signed contracts. Amounts converted to 2025-prices using public consumption deflator from SSB's national accounts. Table: 09189.

[94] Aggregated data are available online https://www.regjeringen.no/no/tema/naringsliv/stotteordninger-for-naeringsliv-og-kultur/koronadata/id2740151/

Table A.0.2: FP funding in bill. NOK. 2025-prices. H2020 and HE.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	**2019-2024**
Other	0,01	0,06	0,05	0,05	0,05	0,08	0,07	0,07	0,09	0,06	0,06	0,42
CEPI	-	-	-	-	-	0,44	1,27	-	0,39	0,76	0,41	3,28
Norwegian hospital trust	0,01	0,06	0,03	0,04	0,04	0,07	0,09	0,09	0,16	0,15	0,10	0,65
Institutes	0,15	0,57	0,70	0,70	0,73	0,85	1,03	0,89	2,14	1,53	1,37	7,81
Private sector	0,12	0,32	0,71	0,54	1,00	1,07	1,05	0,33	1,50	0,74	0,80	5,50
Public sector	0,08	0,16	0,13	0,11	0,17	0,10	0,11	0,08	0,51	0,13	0,14	1,08
HEIs	0,10	0,71	0,62	0,66	1,10	1,08	1,17	0,94	1,64	1,67	1,59	8,09
Total H2020 and HE	0,48	1,88	2,24	2,10	3,10	3,69	4,80	2,41	6,42	5,04	4,48	26,83

Source: eCorda augmented with Norwegian stakeholder categories and FP funding in NOK, from RCN. According to year of signed contracts. Amounts converted to 2025-prices using public consumption deflator from SSB's national accounts. Table: 09189.

Table A.0.3: FP participation by region, excl. CEPI

	H2020		**HE**	
	NOK	**Participations**	**NOK**	**Participations**
Agder	2 %	2 %	2 %	3 %
Akershus	11 %	13 %	12 %	11 %
Buskerud	2 %	1 %	1 %	1 %
Finnmark	0 %	0 %	0 %	0 %
Innlandet	1 %	1 %	2 %	2 %
Møre og Romsdal	1 %	1 %	1 %	1 %
Nordland	1 %	1 %	1 %	3 %
Oslo	29 %	28 %	27 %	27 %
Rogaland	3 %	4 %	4 %	5 %
Telemark	1 %	1 %	0 %	1 %
Troms	4 %	5 %	5 %	6 %
Trøndelag	27 %	25 %	28 %	24 %
Vestfold	1 %	1 %	1 %	1 %
Vestland	13 %	13 %	14 %	14 %
Østfold	3 %	2 %	1 %	2 %

eCorda augmented with Norwegian regions. FP funding in NOK in current prices. Calculated by RCN.

The tables below show the participants with the most participations in H2020 and HE respectively, within the four R&D sectors: private sector, higher education institutions (HEIs), research institutes and the public sector. RCN and Innovation Norway are not included. Neither is CEPI.

Table A.0.4: 10 organisations with the highest number of participations in HE (by the end of 2024).

Private sector	Mill. NOK	Partici-pations	HEI	Mill. NOK	Participations	Institutes	Mill. NOK	Participations	Public sector	Mill. NOK	Participations
Dnv AS	53	19	NTNU	1457	225	Sintef AS	1445	175	Oslo kommune	13	8
Equinor Energy AS	10	14	UiO	1316	211	Norce Research AS	438	54	Statnett SF	30	8
Telenor ASA	43	13	UiT	512	93	Sintef Energi AS	381	43	HK-Dir	40	7
Corvus Energy AS	60	8	UiB	578	87	Sintef Ocean AS	232	33	Jernbanedirektoratet	0	7
Equinor ASA	8	7	NMBU	194	32	Nibio	162	29	Sigma2 AS	6	3
Flowphys AS	25	5	OsloMet	96	29	Norsk institutt for vannforskning	144	28	Bane NOR SF	3	4
Kongsberg Maritime AS	45	5	UiS	141	28	Havforskningsinstituttet	123	27	Sios Svalbard AS	7	3
Vianode AS	16	5	Nord	76	18	Stiftelsen Nilu	161	26	Stavanger kommune	11	3
Elkem Silicon Product Development AS	15	5	UiA	78	18	Folkehelse-instituttet	168	22	Fiskeri-direktoratet	4	3
Elkem ASA	39	5	USN	65	16	Institutt for energiteknikk	205	20	Østfold kommune	12	3
Share of sector funding	11 %	15%		95%	94%		73%	65%		56 %	47%

Source: eCorda augmented with Norwegian stakeholder categories and FP funding in NOK in current prices, from RCN.

Table A.0.5: 10 organisations with the highest number of participations in H2020

Private sector	Mill. NOK	Participations	**HEI**	Mill. NOK	Participations	**Institutes**	Mill. NOK	Participations	**Public sector**	Mill. NOK	Participations
Telenor ASA	69	19	UiO	1709	271	Sintef AS	1433	230	Oslo kommune	81	17
Avinor AS	18	19	NTNU	1 392	252	Stiftelsen Sintef	220	111	Sigma2 AS	34	8
Dnv AS	31	17	UiB	951	170	Norce Research AS	272	50	Statens vegvesen	2	5
Kongsberg Maritime AS	179	15	UiT	279	73	Sintef Ocean AS	208	39	Direktoratet for medisinske produkter	7	5
Indra Navia AS	3	11	NMBU	240	38	Sintef Energi AS	269	39	Bergen kommune	8	5
Elkem ASA	55	11	Oslo Met	118	29	Norsk institutt for vannforskning	117	34	Viken fylkeskommune	9	5
Equinor Energy AS	16	10	UiS	89	25	Havforskningsinstituttet	93	33	Politidirektoratet	8	4

Tellu AS	25	9	USN	34	14	Nibio	118	33	Stavanger kommune	41	4
Borregaard AS	239	9	HVL	26	10	Folkehelseinstituttet	174	28	Justis- og beredskapsdepartementet	12	3
Jotne Connect AS	26	7	Nord	45	8	Stiftelsen Nilu	109	28	Rogaland Fylkeskommune	19	3
Share of sector funding	**16 %**	**14 %**		**97 %**	**96 %**		**68 %**	**65 %**		**55 %**	**51 %**

Source: eCorda augmented with Norwegian stakeholder categories and FP funding in NOK from RCN. In current prices.

A.2 Private sector participation

In this section, we take a closer look at private-sector participation. We compare HE and H2020 with each other and with national R&I instruments. By examining sectoral patterns and the types of companies receiving support, we can identify the extent to which the two FPs and the national measures reach similar or different target groups. Understanding these characteristics helps indicate both the relevance and the potential impact of the FPs.

The following two tables present R&I funding and participation across various R&I measures. The first table shows how funding is distributed across industry sectors. The second table summarises the characteristics of companies participating in the FPs. Participation data are based on unique organisation numbers, meaning that if the same company has participated in multiple FP projects within the same programme, it is counted as one participant. When comparing H2020 and HE funding, the overall sectoral distribution is relatively stable. Manufacturing and professional, scientific and technical activities remain the two dominant sectors in both programmes (as they are in other instruments). The main difference between the programmes is a shift of funding from manufacturing towards professional, scientific and technical activities. This shift is only for funding, not in terms of unique participants.

Compared to RCN, the FP programmes display a broadly similar sectoral profile, with both instruments allocating a large share of funding to research-intensive industries. Relative to other national instruments, the FPs reach a narrower set of industries. Skattefunn and IN reach a broader mix of sectors, particularly information and communication and service sectors.

Table A.0.6 Funding to private sector organisations, by industry sector (percent).

		H2020	**HE**	RCN	IN (innovation)	Skattefunn
A03	Fishing and aquaculture	**1 %**	**1 %**	3 %	1 %	2 %
B	Mining and quarrying	**1 %**	**1 %**	2 %	1 %	2 %
C	Manufacturing	**33 %**	**25 %**	27 %	26 %	22 %
D35	Electricity, gas, steam and air conditioning supply	**3 %**	**3 %**	2 %	2 %	1 %
E36–E39	Water supply; sewerage, waste management and remediation activities	**0 %**	**1 %**	0 %	2 %	1 %
G46	Wholesale trade, except of motor vehicles and motorcycles	**3 %**	**1 %**	3 %	5 %	6 %
H49–H53	Transportation and storage	**3 %**	**3 %**	1 %	2 %	1 %

		H2020	HE	RCN	IN (innovation)	Skattefunn
J	Information and communication	**13 %**	**12 %**	11 %	18 %	25 %
K	Financial and insurance activities	**0 %**	**0 %**	0 %	0 %	0 %
M	Professional, scientific and technical activities	**35 %**	**44 %**	44 %	34 %	26 %
N	Administrative and support service activities	**1 %**	**2 %**	1 %	1 %	2 %
	Other	**6 %**	**8 %**	6 %	9 %	12 %
	All industries	**100 %**	**100 %**	100 %	100 %	100 %

Source: RCN, IN, Ecorda, The Norwegian Industrial Policy Instruments Database

Table A.0.7 Private sector participants, by industry sector (percent).

		H2020	HE	RCN	IN (innovation)	Skattefunn
A03	Fishing and aquaculture	4 %	4 %	3 %	3 %	4 %
B	Mining and quarrying	2 %	2 %	1 %	1 %	1 %
C	Manufacturing	21 %	22 %	17 %	21 %	21 %
D35	Electricity, gas, steam and air conditioning supply	3 %	4 %	1 %	2 %	1 %
E36–E39	Water supply; sewerage, waste management and remediation activities	1 %	2 %	1 %	2 %	1 %
G46	Wholesale trade, except of motor vehicles and motorcycles	5 %	4 %	6 %	7 %	9 %
H49–H53	Transportation and storage	3 %	5 %	1 %	1 %	2 %
J	Information and communication	17 %	12 %	21 %	22 %	27 %
K	Financial and insurance activities	0 %	1 %	1 %	0 %	1 %
M	Professional, scientific and technical activities	37 %	35 %	39 %	34 %	24 %
N	Administrative and support service activities	2 %	2 %	3 %	2 %	3 %
	Other	4 %	7 %	7 %	4 %	7 %
	Total	100 %	100 %	100 %	100 %	100 %

Source: RCN, The Norwegian Industrial Policy Instruments Database Note: Unique organisational number.

The following two tables show funding and participation by company size. H2020 and HE display similar size patterns, although the share of funding allocated to smaller companies (1–9 employees) is substantial and has increased in HE. The relationship between company size and funding also points to differences in the roles companies play within FP projects. Companies of all sizes participate in FP. Larger firms (+250 empl.) however account for a relatively high share of total funding compared with their share of participants, reflecting their involvement in larger projects, participation in multiple projects, and/or more central roles within consortia. Smaller companies, by contrast, make up a higher share of participants than of funding, suggesting that they tend to be involved in more specialised and narrowly defined projects and/or tasks within consortia. Compared with other national instruments, the

FPs are more concentrated among medium-sized and large companies, whereas IN and SkatteFUNN to a greater extent support R&I activities in small enterprises.

Table A.0.8 R&D funding to private sector, by size (percent).

	H2020	**HE**	RCN	IN (innovation)	Skattefunn
No empl.	3 %	5 %	5 %	5 %	6 %
1–9 empl.	19 %	25 %	25 %	30 %	25 %
10–19 empl.	17 %	15 %	13 %	22 %	18 %
20–49 empl.	18 %	20 %	20 %	18 %	20 %
50–99 empl.	11 %	6 %	8 %	9 %	12 %
100–249 empl.	4 %	9 %	9 %	8 %	9 %
250+ empl.	27 %	19 %	20 %	8 %	10 %

Source: RCN, IN, The Norwegian Industrial Policy Instruments Database, Register of Business Enterprises

Table A.0.9 Private sector participants by size (percent).

	H2020	**HE**	RCN	IN (innovation)	Skattefunn
No empl.	11 %	9 %	14 %	9 %	9 %
1–9 empl.	29 %	29 %	37 %	41 %	34 %
10–19 empl.	16 %	15 %	15 %	19 %	17 %
20–49 empl.	16 %	14 %	13 %	15 %	18 %
50–99 empl.	9 %	9 %	7 %	7 %	9 %
100–249 empl.	8 %	9 %	6 %	4 %	7 %
250+ empl.	10 %	15 %	8 %	4 %	5 %

Source: RCN, IN, The Norwegian Industrial Policy Instruments Database, Register of Business Enterprises
Note: Unique organisational number.

There are also some differences between the regional distribution of funding and participants. Oslo accounts for a higher share of funding than of participants, indicating that organisations located there tend to be involved in larger projects, while regions such as Akershus, Trøndelag and Østfold have a higher share of participants than funding. The marked shift in Østfold between H2020 and HE is explained by a single large H2020 Flagship project awarded to Borregaard. Compared with national instruments, H2020 and HE display more concentrated regional patterns, whereas IN show broader regional coverage.

Table A.0.10 R&D funding to private sector, by region (percent)

	H2020	HE	RCN	IN (innovation)	Skattefunn
Agder	4 %	6 %	4 %	11 %	4 %
Akershus	16 %	11 %	11 %	4 %	10 %
Buskerud	3 %	3 %	3 %	1 %	3 %
Finnmark	0 %	0 %	0 %	0 %	0 %

	H2020	HE	RCN	IN (innovation)	Skattefunn
Innlandet	2 %	2 %	4 %	2 %	3 %
Møre og Romsdal	1 %	4 %	4 %	7 %	5 %
Nordland	2 %	2 %	2 %	3 %	2 %
Oslo	22 %	28 %	29 %	14 %	30 %
Rogaland	8 %	11 %	9 %	10 %	12 %
Telemark	2 %	2 %	3 %	2 %	2 %
Troms	1 %	1 %	1 %	2 %	1 %
Trøndelag	11 %	9 %	15 %	14 %	10 %
Vestfold	8 %	3 %	4 %	5 %	5 %
Vestland	8 %	15 %	7 %	22 %	10 %
Østfold	12 %	2 %	3 %	2 %	3 %

Source: RCN, IN, The Norwegian Industrial Policy Instruments Database, Register of Business Enterprises.

Table A.0.11 Private sector participants by region (percent)

	H2020	HE	RCN	IN	Skattefunn
Agder	5 %	6 %	5 %	12 %	5 %
Akershus	13 %	11 %	9 %	5 %	9 %
Buskerud	4 %	4 %	3 %	2 %	3 %
Finnmark	0 %	1 %	1 %	0 %	1 %
Innlandet	3 %	4 %	3 %	3 %	3 %
Møre og Romsdal	3 %	4 %	4 %	7 %	5 %
Nordland	3 %	5 %	4 %	3 %	3 %
Oslo	28 %	22 %	29 %	12 %	26 %
Rogaland	9 %	11 %	10 %	12 %	12 %
Telemark	3 %	2 %	3 %	3 %	2 %
Troms	2 %	2 %	2 %	2 %	2 %
Trøndelag	10 %	7 %	12 %	16 %	9 %
Vestfold	3 %	3 %	3 %	5 %	4 %
Vestland	10 %	14 %	10 %	15 %	11 %
Østfold	4 %	2 %	2 %	2 %	3 %

Source: RCN, IN, The Norwegian Industrial Policy Instruments Database, Register of Business Enterprises Note: Unique organisational number.

Appendix B Registry analyses

This appendix describes the methodology of the registry analyses of Norway's FP participation in FP7 (2007–2013), H2020 (2014–2020), and the first four years of HE (2021–2024), as well as some additional results not presented in the main report.

B.1 Methodological notes

The registry analyses of projects in H2020 and HE are based on the Commission's publicly available eCorda datasets, whereas the registry analyses of proposals in H2020 and HE are based on Commission datasets that are not publicly available; these were provided by RCN. All datasets were extracted in May 2025, but we have drawn the line at 31 December 2024 to analyse full calendar years. Results for FP7 come from our 2020 evaluation of Norway's FP participation (Tofteng, et al., 2020); we have not re-analysed FP7 data.

Where we present annualised data relating to proposals, this is based on the deadline year of the call for proposals. For projects in H2020 and HE, annualised data is based on the year that the contract was signed. Annualised data for projects in FP7 is based on project start year, but long-term trends should not be materially affected by this difference.

The participation of Norway (NO) in FP7, H2020 and HE is compared with the performance of five comparator countries: Austria (AT), Denmark (DK), Finland (FI), the Netherlands (NL) and Sweden (SE). Given the different sizes of the comparator countries, we present results weighted by national research capacity using Eurostat figures on the total number of R&D personnel (FTE) in each country, see Table B.0.1. For such comparisons, we use **bold and red** to denote the three countries (out of six) with the highest values for the given metric to help visualise greatest activity or success, as well as whether Norway sits in the top or bottom half of this sub-set of countries. We use the same way to denote when Norway has an above-average on metrics when compared to the total population of projects in the respective programme.

Table B.0.1 Total R&D personnel (FTE) per country.

	NO	SE	DK	FI	AT	NL
FP7 (2007 – 2013 average)	36,361	78,617	55,942	55,207	59,934	105,499
H2020 (2014-2020 average)	45,304	89,470	60,811	50,564	76,946	150,594
HE (2021-2023 average)	53,408	120,295	68,196	57,748	92,761	183,358

Source: UIS (FP7), Eurostat (H2020, HE)

B.2 Terminology and abbreviations

In presenting results, we use the following terminology:

- A **proposal** is generally submitted by a consortium. Each organisation's involvement in that proposal is termed an **application**. Similarly, the involvement of each individual organisation within a **project** is termed a **participation**

- When analysing the coordination of proposals and projects, we look separately at **multi-partner (MP)** projects, in order to exclude when no consortium is involved (no partners)
- The stakeholder category notations in eCorda may seem a bit awkward, so we have adopted our own terminology, see Table B.0.2

Table B.0.2 Stakeholder categories.

eCorda abbreviation	eCorda category	Terminology used in this report
HES	Higher or secondary education organisation	Higher-education institution (HEI)
REC	Research organisation	Institute[95]
PRC	Private for profit organisation – excl. education	Private-sector organisation, company
PUB	Public body – excl. research and education	Public-sector organisation, public organisation
OTH	Other	Other

The eCorda stakeholder categories do not completely coincide with the R&D sector categories commonly used in Norway, but we have no choice but to use the eCorda categorisation when we compare Norway's FP participation with that of other countries. However, when we consider purely Norwegian conditions we use the Norwegian sector categorisation. In general, the concordance between eCorda and Norwegian classifications is quite good, and the odd inconsistency at organisation level does not materially disturb overall analyses by stakeholder category. However, it should be noted that the uniquely Norwegian hospital trust (*helseforetak*) category does not exist in eCorda; hospital trusts are spread over the HES, PUB, REC and OTH categories.

Table B.0.3 and Table B.0.4 list the abbreviations used when referring to the sub-programmes and pillars of H2020 and HE.

Table B.0.3 Abbreviations used for sub-programmes in H2020.

Abbreviation	Pillar	Sub-programme
ES-ERC	EXCELLENT SCIENCE	European Research Council (ERC)
ES-FET	EXCELLENT SCIENCE	Future and Emerging Technologies (FET)
ES-MSCA	EXCELLENT SCIENCE	Marie Skłodowska-Curie Actions
ES-RI	EXCELLENT SCIENCE	Research Infrastructures
IL-FINANCE	INDUSTRIAL LEADERSHIP	LEIT
IL-GREENDEAL	INDUSTRIAL LEADERSHIP	LEIT
IL-LEIT-ICT	INDUSTRIAL LEADERSHIP	LEIT - Information and Communication Technologies (ICT)
IL-LEIT-NMP	INDUSTRIAL LEADERSHIP	LEIT - Nanotechnologies
IL-LEIT-ADVMAT	INDUSTRIAL LEADERSHIP	LEIT - Advanced materials
IL-LEIT-BIOTECH	INDUSTRIAL LEADERSHIP	LEIT - Biotechnology
IL-LEIT-ADVMANU	INDUSTRIAL LEADERSHIP	LEIT - Advanced manufacturing and processing
IL-LEIT-SPACE	INDUSTRIAL LEADERSHIP	LEIT - Space
IL-FINANCE	INDUSTRIAL LEADERSHIP	Access to risk finance

[95] An alternative terminology is Research and Technology Organisation (RTO).

Abbreviation	Pillar	Sub-programme
IL-EIC-PILOT	INDUSTRIAL LEADERSHIP	Innovation In SMEs
IL-SMEINSTRUMENT	INDUSTRIAL LEADERSHIP	Innovation In SMEs
IL-EEN	INDUSTRIAL LEADERSHIP	Innovation In SMEs
IL-NCP	INDUSTRIAL LEADERSHIP	Innovation In SMEs
IL-INNOSUPSME	INDUSTRIAL LEADERSHIP	Innovation In SMEs
IL-JPICH	INDUSTRIAL LEADERSHIP	Innovation In SMEs
SC-other	SOCIETAL CHALLENGES	SC-other
SC-HEALTH	SOCIETAL CHALLENGES	Health, demographic change and well-being
SC-FOOD	SOCIETAL CHALLENGES	Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy
SC-ENERGY	SOCIETAL CHALLENGES	Secure, clean and efficient energy
SC-TPT	SOCIETAL CHALLENGES	Smart, Green and Integrated Transport
SC-ENV	SOCIETAL CHALLENGES	Climate action, Environment, Resource Efficiency and Raw Materials
SC-SOCIETY	SOCIETAL CHALLENGES	Europe In A Changing World - Inclusive, Innovative and Reflective Societies
SC-SECURE	SOCIETAL CHALLENGES	Secure societies - Protecting freedom and security of Europe and its citizens
SEAWP	SPREADING EXCELLENCE AND WIDENING PARTICIPATION	SPREADING EXCELLENCE AND WIDENING PARTICIPATION
SWAFS	SCIENCE WITH AND FOR SOCIETY	SCIENCE WITH AND FOR SOCIETY
EEN	Enterprise Europe Network (EEN)	Enterprise Europe Network (EEN)
FTI	Fast Track to Innovation	Fast Track to Innovation
FTI-Pilot	Fast Track to Innovation	Fast Track to Innovation Pilot
EURATOM	EURATOM	EURATOM

Source: eCorda.

Table B.0.4 Abbreviations used for sub-programmes in HE.

Abbreviation	Pillar	Sub-programme
EURATOM	EURATOM	EURATOM
ES-ERC	EXCELLENT SCIENCE	European Research Council (ERC)
ES-MSCA	EXCELLENT SCIENCE	Marie Skłodowska-Curie Actions
ES-RI	EXCELLENT SCIENCE	Research Infrastructures
GC-HEALTH (CL1)	GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	HEALTH
GC-CULTURE (CL2)	GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	CULTURE, CREATIVITY AND INCLUSIVE SOCIETY
GC-SECURITY (CL3)	GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	CIVIL SECURITY FOR SOCIETY
GC-INDUSTRY (CL4)	GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	DIGITAL, INDUSTRY AND SPACE

Abbreviation	Pillar	Sub-programme
GC-CLIMATE (CL5)	GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	CLIMATE, ENERGY AND MOBILITY
GC-FOOD (CL6)	GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE AND ENVIRONMENT
IE-EIC	INNOVATIVE EUROPE	EUROPEAN INNOVATION COUNCIL (EIC)
IE-EIE	INNOVATIVE EUROPE	EUROPEAN INNOVATION ECOSYSTEMS (EIE)
IE-EIT	INNOVATIVE EUROPE	EUROPEAN INSTITUTE OF INNOVATION AND TECHNOLOGY (EIT)
WIDENING	WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA	WIDENING PARTICIPATION AND SPEADING EXCELLENCE
STRENGTHENING	WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA	REFORMING AND ENHANCING THE EUROPEAN RESEARCH AND INNOVATION SYSTEM

Source: eCorda.

B.3 Participation in FP7, H2020 and HE

Table B.0.5 summarises the involvement in number of projects by Norway and the comparator countries. Norway participated in 1,485 projects in FP7 and 2,003 projects in H2020 (almost 6% of the total in the respective programme). The figure so far in HE is 1,411 but larger in relation to all projects (9.5% of the total). All comparator countries have been involved in higher numbers (and proportions) of FP7, H2020 and HE projects. The final rows of the Table show the weighted number of projects. On this measure, Norway ranks second in FP7 and H2020, and first in HE.

Table B.0.5 Involvement in FP7, H2020 and HE projects.

	NO	SE	DK	FI	AT	NL	All
Projects FP7	1,485	**3,080**	2,011	1,779	**2,436**	**5,024**	25,238
Projects H2020	2,003	**3,351**	2,831	2,223	**3,186**	**6,073**	33,913
Projects HE	1,411	**1,886**	1,713	1,458	**1,846**	**3,611**	14,888
% of all Projects in FP7	5.9%	**12.2%**	8.0%	7.0%	**9.7%**	**19.9%**	
%of all projects in H2020	5.9%	**9.9%**	8.3%	6.6%	**9.4%**	**17.9%**	
% of all projects in HE	9.5%	**12.7%**	11.5%	9.8%	**12.4%**	**24.3%**	
FP7 Projects per 1,000 FTE	**41**	39	36	32	**41**	**48**	
H2020 Projects per 1000FTE	**44**	37	**47**	**44**	41	40	
HE projects per 1000 FTE	**26**	16	**25**	**25**	20	20	

Source: eCorda.

Table B.0.6 similarly summarises the number of participations by Norway and its comparator countries. The number of Norwegian participations was 2,185 in FP7 and 3,198 in H2020 (1.6% and 1.8% of all participations, respectively). Thus far, there are 2,285 Norwegian participations in HE (2.3% of the total). As with project involvement, all comparator countries have higher numbers (and proportions) of participations in FP7, H2020 and HE. However, when weighted by R&D populations Norway compares better. There were 60 Norwegian participations per 1,000 FTE in FP7, 71 in H2020, and 43 thus far in HE (second highest among the six countries in FP7 and H2020, and highest in HE).

Table B.0.6 Participation in FP7, H2020 and HE projects.

	NO	SE	DK	FI	AT	NL	All
FP7	2,185	**4,506**	2,754	2,650	**3,516**	**8,151**	133,615
H2020	3,198	**5,146**	3,895	3,490	**5,042**	**10,960**	175,685
HE	2,285	**2,800**	2,459	2,429	**2,882**	**6,264**	99,534
% of all participations FP7	1.6%	**3.4%**	2.1%	2.0%	**2.6%**	**6.1%**	
%of all participations in H2020	1.8%	**2.9%**	2.2%	2.0%	**2.9%**	**6.2%**	
% of all participations in HE	2.3%	**2.8%**	2.5%	2.4%	**2.9%**	**6.3%**	
FP7 participations per 1,000 FTE	**60**	57	49	48	**59**	**77**	
H2020 Participations per 1000FTE	**71**	58	64	**69**	66	**73**	
HE Participations per 1000 FTE	**43**	23	**36**	**42**	31	34	

Source: eCorda.

Table B.0.7 shows the distribution of Norwegian participations in H2020 projects across the sub-programmes (only those with more than 1% of participations are shown) and for comparison the distribution of all participations. Over half of Norwegian participations (52%) were accounted for by just five sub-programmes: ES-MSCA, SC-ENERGY, SC-FOOD, IL-LEIT-ICT and SC-TPT. The other twelve programmes shown accounted for another 43 percent.

Table B.0.7 Participations in H2020 by sub-programme.

Pillar	Sub-Programme	NO	All
EXCELLENT SCIENCE	ES-MSCA	13.1%	17.8%
SOCIETAL CHALLENGES	SC-ENERGY	**10.5%**	8.0%
SOCIETAL CHALLENGES	SC-FOOD	**9.9%**	7.0%
INDUSTRIAL LEADERSHIP	IL-LEIT-ICT	9.9%	11.0%
SOCIETAL CHALLENGES	SC-TPT	**8.8%**	8.6%
SOCIETAL CHALLENGES	SC-ENV	**8.7%**	5.5%
EXCELLENT SCIENCE	ES-RI	**6.8%**	4.4%
SOCIETAL CHALLENGES	SC-HEALTH	6.4%	7.9%

Pillar	Sub-Programme	NO	All
EXCELLENT SCIENCE	ES-ERC	4.0%	5.7%
SOCIETAL CHALLENGES	SC-SECURE	**3.1%**	3.0%
SOCIETAL CHALLENGES	SC-SOCIETY	**2.6%**	2.4%
INDUSTRIAL LEADERSHIP	IL-SMEINSTRUMENT	**2.5%**	1.5%
INDUSTRIAL LEADERSHIP	IL-LEIT-ADVMAT	**2.5%**	1.9%
INDUSTRIAL LEADERSHIP	IL-LEIT-ADVMANU	2.2%	2.6%
SCIENCE WITH AND FOR SOCIETY	SWAFS	**1.8%**	1.5%
INDUSTRIAL LEADERSHIP	IL-LEIT-SPACE	1.6%	1.8%
EXCELLENT SCIENCE	ES-FET	1.3%	3.3%
Total participations		3,198	175,685

Source: eCorda.

Table B.0.8 similarly shows the distribution of Norwegian participations in HE projects across sub-programmes (only those with more than 1% of participations are shown) and for comparison the distribution of all participations. Just over 70 percent of Norwegian participations were accounted for by just four sub-programmes: GC-CLIMATE, ES-MSCA, GC-FOOD and GC-Industry.

Table B.0.8 Participations in HE by sub-programme.

Pillar	Sub-programme	NO	All
GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	GC-CLIMATE (CL5)	**25.5%**	18.7%
EXCELLENT SCIENCE	ES-MSCA	17.8%	18.6%
GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	GC-FOOD (CL6)	**14.7%**	13.1%
GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	GC-INDUSTRY (CL4)	12.9%	16.2%
GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	GC-HEALTH (CL1)	7.3%	8.9%
EXCELLENT SCIENCE	ES-RI	**5.9%**	3.8%
EXCELLENT SCIENCE	ES-ERC	**5.3%**	5.1%
GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	GC-CULTURE (CL2)	3.4%	3.8%
INNOVATIVE EUROPE	IE-EIC	2.4%	3.6%
GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS	GC-SECURITY (CL3)	1.6%	2.4%
WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA	WIDENING	1.3%	2.3%
WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA	STRENGTHENING	1.0%	1.1%
Total participations		2,285	99,534

Source: eCorda.

Table B.0.9 summarises the distribution of participations for Norway and its comparator countries by eCorda stakeholder category, first for H2020 and then for HE. The Table shows that among the six countries and across both FPs, Norwegian HES and PRC actors tend to be underrepresented and REC actors overrepresented.

Table B.0.9 Participations in H2020 and HE by eCorda stakeholder category.

H2020	NO	SE	DK	FI	AT	NL	All
HES	31%	**46%**	**49%**	36%	29%	**38%**	33%
REC	**31%**	9%	6%	**23%**	**22%**	18%	21%
PRC	28%	**32%**	30%	31%	**37%**	**35%**	34%
PUB	**7%**	**8%**	**7%**	5%	3%	3%	6%
OTH	4%	4%	**7%**	5%	**8%**	**6%**	7%
HE	NO	SE	DK	FI	AT	NL	All
HES	35%	**53%**	**54%**	39%	34%	**41%**	34%
REC	**30%**	10%	6%	**23%**	**25%**	18%	22%
PRC	24%	**26%**	24%	26%	**32%**	**30%**	30%
PUB	6%	**7%**	**9%**	**6%**	3%	3%	5%
OTH	5%	4%	**7%**	6%	**7%**	**9%**	8%

Source: eCorda.

B.4 Success rates in HE

Table B.0.10 summarises success rates for proposals coordinated by Norwegian actors by HE sub-programme (only sub-programmes where Norway has submitted at least 10 proposals are included). Norway's highest success rates are in the ES-RI, GC-HEALTH, GC-CLIMATE and GC-FOOD sub-programmes, where 30 percent or more of proposals coordinated have been successful. Relative to its comparators, Norway has been particularly successful in the GC-HEALTH, GC-CLIMATE and GC-INDUSTRY sub-programmes. Norway's lowest success rates are in GC-SECURITY and WIDENING. Of the six countries, only Austria had a successful proposal in WIDENING.

Table B.0.10 Proportion of HE proposals coordinated that have been awarded grants by sub-programme.

	NO	SE	DK	FI	AT	NL
ES-RI	50%	22%	**75%**	**59%**	38%	**63%**
GC-HEALTH (CL1)	**39%**	**33%**	21%	25%	18%	**32%**
GC-CLIMATE (CL5)	**33%**	18%	26%	**27%**	26%	**32%**
GC-FOOD (CL6)	**31%**	25%	**32%**	31%	27%	**31%**
GC-INDUSTRY (CL4)	**25%**	19%	20%	**24%**	19%	**24%**

	NO	SE	DK	FI	AT	NL
GC-CULTURE (CL2)	**24%**	19%	**28%**	21%	18%	**28%**
ES-MSCA	20%	19%	**23%**	16%	**20%**	**21%**
IE-EIE	19%	**21%**	**25%**	16%	**20%**	16%
ES-ERC	14%	16%	**19%**	11%	**20%**	**22%**
IE-EIC	8%	10%	**10%**	**12%**	9%	**13%**
GC-SECURITY (CL3)	5%	8%	**25%**	7%	**13%**	**16%**
WIDENING	0%	0%	0%	0%	**10%**	0%
All	**20%**	**17%**	**21%**	**16%**	**19%**	**22%**

Source: eCorda.

Table B.0.11 illustrates that it is only Norwegian institute (REC) coordinators that make the top half of among the comparator countries. No proposal led by a Norwegian public organisation (PUB) has so far been successful, although it should be noted there have only 11 such proposals thus far in HE. However, overall Norwegian-coordinated proposals are among the top half of the six countries.

Table B.0.11 Proportion of HE proposals coordinated that have been awarded grants by eCorda stakeholder category.

	NO	SE	DK	FI	AT	NL
REC	**30%**	17%	20%	**31%**	21%	**31%**
HES	19%	18%	**23%**	14%	**19%**	**21%**
OTH	17%	24%	**31%**	**28%**	27%	**34%**
PRC	11%	10%	**11%**	11%	**16%**	**16%**
PUB	0%	**29%**	11%	**31%**	10%	**14%**
All	**20%**	**17%**	**21%**	**16%**	**19%**	**22%**

Source: eCorda.

Appendix C Web surveys

C.1 Methodology

Selection and categorisation of survey respondents

We conducted four surveys:

- Survey 1 was of project leaders in RCN projects representing companies (private sector)
- Survey 2 was of project leaders in RCN projects representing public organisations, HEIs, institutes and hospital trusts (responses sorted into public sector and R&D sector (HEIs, institutes and hospital trusts))
- Survey 3 was of PES block grant administrators
- Survey 4 was of institute managing directors as responsible for Retur-EU base funding

The mailing lists for survey invitations were provided by RCN. For surveys 1 and 2, RCN's list of project leaders was filtered to only include project leaders of projects started in 2019–2024 that correspond to the three main pillars of H2020 and HE, whereupon duplicate e-mail addresses were eliminated. Project leaders of other stakeholder categories than those mentioned above were filtered out.

Surveys 1 and 2 commenced with a question on whether the respondent personally had participated in at least one project in H2020 or HE, thus creating a cohort of FP project participants and another of RCN project participants. Results of Surveys 1 and 2 are presented for the following three stakeholder categories:

- Private sector: limited companies (including publicly owned ones)
- Public sector: any kind of public organisation *except* HEIs, institutes and hospital trusts
- R&D sector: HEIs, institutes and hospital trusts

For all practical purposes, the first two categories coincide with the PRC and PUB categories in eCorda, while the third one is a composite of the HES and REC, plus hospital trusts (which are spread over several eCorda categories). However, the survey respondent categorisation used comes from RCN's dataset.

Survey populations and response rates

Table C.0.1 shows the total survey populations and response rates for surveys 1 and 2 by stakeholder category. In total, we sent 3,757 e-mail invitations of which 169 bounced, giving us a population of 3,588. We sent three reminders to increase response rates and eventually received 1,090 responses, corresponding to a response rate of 30 percent. The response rate is about the same across the three stakeholder categories.

Table C.0.1: Survey populations and response rates for surveys 1 and 2 by stakeholder category.

Stakeholder category	Population	Number of responses	Response rate
Private sector	941	271	29%
Public sector	246	73	30%
R&D sector	2,401	746	31%
Of which HEIs	*1,344*	*399*	*30%*
Of which institutes	*952*	*319*	*34%*
Of which hospital trusts	*105*	*28*	*27%*
Total	3,588	1,090	30%

Source: Technopolis web surveys.

Table C.0.2 shows the share of respondents that we classified as participants of FP and RCN projects, respectively, depending on the response to the first question. Of the 1,090 individuals who responded to the surveys, 54 percent had participated in H2020 and/or HE projects, and 46 percent in RCN projects.

Table C.0.2: Survey respondents by stakeholder category.

Stakeholder category	FP project participants	RCN project participants
Private sector (n=271)	129 (48%)	142 (52%)
Public sector (n=73)	27 (37%)	46 (63%)
R&D (n=746)	434 (58%)	312 (42%)
Of which HEIs	*202 (51%)*	*197 (49%)*
Of which institutes	*219 (69%)*	*100 (31%)*
Of which hospital trusts	*13 (46%)*	*15 (54%)*
Total (n=1,090)	590 (54%)	500 (46%)

Source: Technopolis web surveys.

Table C.0.3 shows the survey populations and responses rates by stakeholder subcategory for survey 3, i.e. of PES block grant administrators. Three reminders were sent.

Table C.0.3: Survey populations and response rates for surveys 3 by stakeholder subcategory.

Stakeholder category	Population	Number of responses	Response rate
HEIs	22	12	55%
Institutes	38	23	61%
Hospital trusts	5	3	60%
Total	65	38	58%

Source: Technopolis web surveys.

Table C.0.4 shows the survey populations and responses rates by stakeholder subcategory for survey 4, i.e. of institute managing directors as responsible for Retur-EU base funding. Three reminders were sent also for this survey.

Table C.0.4: Survey populations and response rates for surveys 4 by stakeholder subcategory.

Stakeholder category	Population	Number of responses	Response rate
Environmental	7	5	71%
Primary industry	5	4	80%
Social science	15	11	73%
Technical-industrial	8	3	38%
Other	14	6	43%
Total	49	29	59%

Source: Technopolis web surveys.

C.2 Survey Questions Project Participants

E-mail invitation

Subject: Evaluation of Norway's participation in Horizon 2020 and Horizon Europe

The Norwegian Ministry of Education and Research (*Kunnskapsdepartementet*) has commissioned Samfunnsøkonomisk Analyse in collaboration with Technopolis Group to evaluate Norway's participation in Horizon 2020 and Horizon Europe. The evaluation is to be used by Parliament (*Stortinget*) as foundation for its decision on whether Norway should participate in the upcoming Framework Programme during the years 2028–2034.

You receive this survey invitation since you have participated in research and innovation (R&I) project(s) funded by the Research Council of Norway (*Forskningsrådet*).

The button below takes you to a web survey that should take around 20 minutes to complete. Please respond as soon as possible but no later than **3 October**.

In our evaluation report all data will be presented in aggregated form to ensure that individuals cannot be identified.

The legal basis for data collection is consent. We interpret recorded responses as active consent to collect your data. You can withdraw your consent by contacting Catharina Palm or Maja Tofteng. Your data will then be deleted and not included in the overall survey results.

Personal information, such as e-mail addresses, will be deleted within 90 days of submittal of the final evaluation report. Anonymised survey data may be retained for up to ten years for research and enquiry purposes.

[Start Button]

Introduction

The evaluation of Norway's participation in Horizon 2020 and Horizon Europe, wherein this survey is an important element, will be used by Parliament (*Stortinget*) as foundation for its decision on whether Norway should participate in the upcoming Framework Programme during the years 2028–2034.

You receive this survey invitation since you have participated in research and innovation (R&I) project(s) funded by the Research Council of Norway (*Forskningsrådet*). We very much appreciate you

taking the time to share your experiences with us, regardless of whether you have experience of R&I projects funded through Horizon 2020/Horizon Europe or not.

The survey should take around 20 minutes to complete. Please respond as soon as possible but no later than 3 October.

In this survey, we use the following abbreviations:

FP	Framework Programme: "FP" is used to refer to both H2020 and HE
H2020	Horizon 2020
HE	Horizon Europe
PES	Project Establishment Support (*Prosjektetableringsstøtte*)
RCN	Research Council of Norway (*Forskningsrådet*)
R&I	Research and Innovation
TRL	Technology Readiness Level

1. Have you personally participated in one or more FP projects, i.e. projects co-funded by the European Commission through H2020 or HE?

- Yes
- No

[Continued survey for those answering "Yes" to question 1; the survey for those answering "No" follows below]

FP project(s)

If you have participated in more than one FP project, please respond to the questions on this page for the FP project that you consider most important.

2. Is this FP project still on-going?

- Yes
- No, it has been completed

3. Do/did you coordinate the FP project?

- Yes, I coordinate/-d a consortium consisting of several organisations
- Yes, I coordinate/-d the project, but it only involves/-d my organisation (no partners)
- No, my organisation is/was partner (or third party)

Voluntary comment:

4. Please assess to what extent the following collaboration-related motives were important for your company's participation in the FP project.
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

To establish/strengthen research and innovation (R&I) collaboration with…

- University in Norway
- Research institute in Norway
- Hospital trust/regional health authority in Norway

- Company in Norway (incl. publicly owned)
- Public organisation in Norway (other than university/research institute/hospital trust/regional health authority)
- University in another country
- Research institute in another country
- Company in another country
- Public organisation in another country (other than university/research institute)

Voluntary comment:

5. Please assess to what extent the following additional motives were important for your company's participation in the FP project.
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- To solve a specific problem through R&I
- To build general R&I competence within the company
- To access external R&I competence
- To access external R&I infrastructure (testing/production/prototype equipment, database, software etc.)
- To find new suppliers
- To find new customers
- To develop a more scientific approach for in-house R&I
- To receive public co-funding for R&I

Voluntary comment:

6. How would you characterise the FP project on the Technology Readiness Level (TRL) scale at its start?
If the project was/is not technical in nature, please try to apply the scale to the project's context.

- TRL1 – Basic principles observed
- TRL2 – Technology concept formulated
- TRL3 – Experimental proof of concept
- TRL4 – Technology validated in lab
- TRL5 – Technology validated in relevant environment
- TRL6 – Technology demonstrated in relevant environment
- TRL7 – System prototype demonstration in operational environment
- TRL8 – System complete and qualified
- TRL9 – Actual system proven in operational environment
- Don't know

Voluntary comment:

7. How would you characterise the FP project on the TRL scale at its end?

- The project is still on-going, so it's too soon to say
- TRL1 – Basic principles observed
- TRL2 – Technology concept formulated
- TRL3 – Experimental proof of concept
- TRL4 – Technology validated in lab
- TRL5 – Technology validated in relevant environment

- TRL6 – Technology demonstrated in relevant environment
- TRL7 – System prototype demonstration in operational environment
- TRL8 – System complete and qualified
- TRL9 – Actual system proven in operational environment
- Don't know

Voluntary comment:

8. Please estimate the total number of working weeks (= 37.5 hours) that you – including colleagues, if applicable – spent writing or contributing to the FP proposal (*søknadsskriving*).
(Open question)

9. Please estimate the total number of working weeks that you – including colleagues, if applicable – spent reporting on the FP project, including all technical and financial reporting, including status, interim and final reports.
(Open question)

10. What would have happened if the project had not been co-funded through the FP?

- The project probably would have been…
- Implemented in the same way but with other public co-funding – please specify funding source in comment box
- Implemented in the same way with own funding
- Implemented with own funding, but with lower ambition level, fewer partners and/or over a longer period
- Would not have been implemented
- Don't know

Voluntary comment:

Results and impacts

We distinguish between results and impacts. Results refer to the direct outcomes of a project, whereas impacts emerge with time when results have been further developed, implemented and/or commercialised.

If you have participated in more than one FP project, please respond to the questions on this page for the FP project that you consider the most important.

If you cannot judge a specific result or impact alternative, you may skip it – but please continue answering the survey.

11. Which of the following results has the FP project led to for your company (in the short term)?
(Has already been achieved/Will be achieved in the future/Will not be achieved/Not applicable/Don't know)

- R&I collaboration with university in Norway
- R&I collaboration with research institute in Norway
- R&I collaboration with hospital trust/regional health authority in Norway
- R&I collaboration with company in Norway (incl. publicly owned)
- R&I collaboration with public organisation in Norway (other than university/research institute/hospital trust/regional health authority)

- R&I collaboration with university in another country
- R&I collaboration with research institute in another country
- R&I collaboration with company in another country
- R&I collaboration with public organisation in another country (other than university/research institute)
- R&I collaboration between industry sectors
- Interdisciplinary R&I collaboration
- Scientific publication with co-author from my company
- Other open publication with co-author from my company

Voluntary comment:

12. Which of the following collaboration-related impacts has the FP project contributed to for your company (in the longer term)?
(Has already been achieved/Will be achieved in the future/Will not be achieved/Not applicable/Don't know)

Establishment/maintenance of long-term R&I partnership with…

- University in Norway
- Research institute in Norway
- Hospital trust/regional health authority in Norway
- Company in Norway (incl. publicly owned)
- Public organisation in Norway (other than university/research institute/hospital trust/regional health authority)
- University in another country
- Research institute in another country
- Company in another country
- Public organisation in another country (other than university/research institute)

Voluntary comment:

13. Which of the following additional impacts has the FP project contributed to for your company (in the longer term)?
(Has already been achieved/Will be achieved in the future/Will not be achieved/Not applicable/Don't know)

- New R&I project with Norwegian public co-funding
- New R&I project with international/foreign public co-funding
- Self-funded R&I project
- Implementation of new material/new technology in existing product/service
- Implementation of new method for product/service/process development
- Improvement of existing method for product/service/process development
- Implementation of new manufacturing/production method
- Improvement of existing manufacturing/production method
- Development of demonstrator/prototype
- Development of new/improved product/service
- Commercial introduction of new/improved product/service
- Patent
- Recruitment of researcher with PhD degree
- Recruitment of other R&I personnel

- More scientific approach for in-house R&I

Voluntary comment:

14. Which of the following commercial impacts has the FP project contributed to for your company (in the longer term)?
(Has already been achieved/Will be achieved in the future/Will not be achieved/Not applicable/Don't know)

- Maintained/increased R&I activity in Norway
- Maintained/increased production in Norway
- Maintained/increased employment in Norway
- Technology dissemination between industry sectors in Norway, please specify sectors (from-to) in comment box
- Increased sales
- Increased exports
- Reduced costs
- New suppliers
- New customers
- New value chain
- New business model
- Increased international competitiveness
- Spin-off company, please specify company name in comment box

Voluntary comment:

15. Please assess to what extent you believe that Norway's overall FP participation (i.e. not only your company's FP project) contributes to the following wider impacts for Norway.
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- Increased research quality
- More outstanding and innovative environments
- Increased value creation
- Increased competitiveness
- Increased capacity for innovation
- Transition in private and public sectors
- Increased capacity to handle societal challenges
- More sustainable development of society
- Development of R&I policy
- Development R&I collaboration across national borders, sectors and fields

Voluntary comment:

FP projects vs. Norwegian projects

If you have participated in more than one FP project, please respond to the question on this page with respect to your compound FP experiences.

16. Please assess to what extent you agree to the following statements on FP proposals/projects compared to Norwegian proposals/projects (e.g. co-funded by RCN, Skattefunn or Innovation Norway).
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- FP proposals take longer time to write
- FP proposal success rates are lower
- FP project administration is more demanding
- FP project reporting requirements are more demanding
- FP projects result in more public funding for the company
- FP projects provide better value for money on the company's own investment
- FP projects provide better opportunities for monitoring the international state of the art
- FP projects provide better opportunities for knowledge/technology import
- FP projects provide better opportunities for finding new R&I partners in other countries
- FP projects provide better opportunities for finding new suppliers in other countries
- FP projects provide better opportunities for finding new customers in other countries
- FP projects provide better opportunities for increasing the company's international competitiveness
- FP projects result in higher quality R&I results
- FP projects result in more useful R&I results
- FP projects are more prestigious
- FP projects provide better marketing opportunities
- FP projects better facilitate understanding other cultures

Voluntary comment:

17. Please elaborate on the advantages and disadvantages of FP participation.
(Open question)

18. Did you receive Project Establishment Support (*Prosjektetableringsstøtte*, PES) when preparing the proposal for the important FP project that you had in mind answering the questions on the previous pages?

- Yes
- No [End of survey]
- Don't remember/don't know [End of survey]

[Continued survey for those answering "Yes" to question 18.]

Project Establishment Support (*Prosjektetableringsstøtte*, PES)

19. Please assess to what extent you agree to the following statements on the results of the PES grant.
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

The PES grant…

- Made it easier for myself to prioritise working on the FP proposal
- Made it easier to motivate within my company to work on the FP proposal
- Meant that I could spend more time preparing the FP proposal
- Meant that my company (or the consortium) could hire a consultancy to help prepare the FP proposal
- Resulted in a more competitive FP proposal
- Resulted in my company taking on larger responsibilities in the FP project
- Resulted in my company getting a larger share of the FP project budget
- Resulted in the consortium including additional Norwegian partners

Voluntary comment:

20. What would have happened if you had not received a PES grant?

The FP proposal probably would have been…

- Submitted anyway, and it would have been equally competitive
- Submitted anyway, but it would have been less competitive
- Would not have been submitted

21. What would happen if PES grants were not available in the future?

I would likely submit…

- No FP proposals
- Fewer FP proposals
- Equally many FP proposals
- Don't know

22. What would happen if PES grants were not available in the future? *

I would likely submit…

- Less competitive FP proposals
- Equally competitive FP proposals
- Don't know/Not applicable since I would not submit any FP proposals

23. Please elaborate on the importance of PES should Norway decide to join also the next FP (FP10).
(Open question)

[End of survey]

[Continued survey for those that answered "No" to question 1]

RCN project(s)

If you have participated in more than one RCN project, please respond to the questions on this page for the RCN project that you consider the most important.

The rationale for asking about your experiences of an RCN project is that we need to understand how results and impacts from RCN projects differ from those of FP projects.

2. Is this RCN project still on-going?

- Yes
- No, it has been completed

3. Please assess to what extent the following collaboration-related motives were important for your company's participation in the RCN project.
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

To establish/strengthen research and innovation (R&I) collaboration with…

- University in Norway
- Research institute in Norway
- Hospital trust/regional health authority in Norway
- Company in Norway (incl. publicly owned)
- Public organisation in Norway (other than university/research institute/hospital trust/regional health authority)
- University in another country
- Research institute in another country
- Company in another country
- Public organisation in another country (other than university/research institute)

Voluntary comment:

4. Please assess to what extent the following additional motives were important for your company's participation in the RCN project.
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- To solve a specific problem through R&I
- To build general R&I competence within the company
- To access external R&I competence
- To access external R&I infrastructure (testing/production/prototype equipment, database, software etc.)
- To find new suppliers
- To find new customers
- To develop a more scientific approach for in-house R&I
- To receive public co-funding for R&I

Voluntary comment:

5. How would you characterise the RCN project on the Technology Readiness Level (TRL) scale at its start?
If the project was/is not technical in nature, please try to apply the scale to the project's context.

- TRL1 – Basic principles observed
- TRL2 – Technology concept formulated
- TRL3 – Experimental proof of concept
- TRL4 – Technology validated in lab
- TRL5 – Technology validated in relevant environment
- TRL6 – Technology demonstrated in relevant environment
- TRL7 – System prototype demonstration in operational environment
- TRL8 – System complete and qualified
- TRL9 – Actual system proven in operational environment
- Don't know

Voluntary comment:

6. How would you characterise the RCN project on the TRL scale at its end?

- The project is still on-going, so it's too soon to say
- TRL1 – Basic principles observed
- TRL2 – Technology concept formulated

- TRL3 – Experimental proof of concept
- TRL4 – Technology validated in lab
- TRL5 – Technology validated in relevant environment
- TRL6 – Technology demonstrated in relevant environment
- TRL7 – System prototype demonstration in operational environment
- TRL8 – System complete and qualified
- TRL9 – Actual system proven in operational environment
- Don't know

Voluntary comment:

7. Please estimate the total number of working weeks (= 37.5 hours) that you – including colleagues, if applicable – spent writing or contributing to the RCN proposal (*søknadsskriving*).
(Open question)

8. Please estimate the total number of working weeks that you – including colleagues, if applicable – spent reporting on the RCN project, including all technical and financial reporting, including status, interim and final reports.
(Open question)

9. What would have happened if the project had not been co-funded by RCN?

The project probably would have been…

- Implemented in the same way but with other public co-funding – please specify funding source in comment box
- Implemented in the same way with own funding
- Implemented with own funding, but with lower ambition level, fewer partners and/or over a longer period
- Would not have been implemented
- Don't know

Voluntary comment:

Results and impacts

We distinguish between results and impacts. Results refer to the direct outcomes of a project, whereas impacts emerge with time when results have been further developed, implemented and/or commercialised.

If you have participated in more than one RCN project, please respond to the questions on this page for the RCN project that you consider the most important.

If you cannot judge a specific result or impact alternative, you may skip it – but please continue answering the survey.

10. Which of the following results has the RCN project led to for your company (in the short term)?
(Has already been achieved/Will be achieved in the future/Will not be achieved/Not applicable/Don't know)

- R&I collaboration with university in Norway
- R&I collaboration with research institute in Norway

- R&I collaboration with hospital trust/regional health authority in Norway
- R&I collaboration with company in Norway (incl. publicly owned)
- R&I collaboration with public organisation in Norway (other than university/research institute/hospital trust/regional health authority)
- R&I collaboration with university in another country
- R&I collaboration with research institute in another country
- R&I collaboration with company in another country
- R&I collaboration with public organisation in another country (other than university/research institute)
- R&I collaboration between industry sectors
- Interdisciplinary R&I collaboration
- Scientific publication with co-author from my company
- Other open publication with co-author from my company

Voluntary comment:

11. Which of the following collaboration-related impacts has the RCN project contributed to for your company (in the longer term)?
(Has already been achieved/Will be achieved in the future/Will not be achieved/Not applicable/Don't know)

Establishment/maintenance of long-term R&I partnership with…

- University in Norway
- Research institute in Norway
- Hospital trust/regional health authority in Norway
- Company in Norway (incl. publicly owned)
- Public organisation in Norway (other than university/research institute/hospital trust/regional health authority)
- University in another country
- Research institute in another country
- Company in another country
- Public organisation in another country (other than university/research institute)

Voluntary comment:

12. Which of the following additional impacts has the RCN project contributed to for your company (in the longer term)?
(Has already been achieved/Will be achieved in the future/Will not be achieved/Not applicable/Don't know)

- New R&I project with Norwegian public co-funding
- New R&I project with international/foreign public co-funding
- Self-funded R&I project
- Implementation of new material/new technology in existing product/service
- Implementation of new method for product/service/process development
- Improvement of existing method for product/service/process development
- Implementation of new manufacturing/production method
- Improvement of existing manufacturing/production method
- Development of demonstrator/prototype
- Development of new/improved product/service

- Commercial introduction of new/improved product/service
- Patent
- Recruitment of researcher with PhD degree
- Recruitment of other R&I personnel
- More scientific approach for in-house R&I

Voluntary comment:

13. Which of the following commercial impacts has the RCN project contributed to for your company (in the longer term)?
(Has already been achieved/Will be achieved in the future/Will not be achieved/Not applicable/Don't know)

- Maintained/increased R&I activity in Norway
- Maintained/increased production in Norway
- Maintained/increased employment in Norway
- Technology dissemination between industry sectors in Norway, please specify sectors (from-to) in comment box
- Increased sales
- Increased exports
- Reduced costs
- New suppliers
- New customers
- New value chain
- New business model
- Increased international competitiveness
- Spin-off company, please specify company name in comment box

Voluntary comment:

FP participation

24. Have you personally participated in any FP proposals to H2020 or HE?

- Yes, more than one proposal, but neither was successful
- Yes, one proposal, but it was not successful
- No

Voluntary comment:

<u>If you answered "Yes", please ignore the next question.</u>

25. Please assess to what extent you agree to the following statements on why you have not participated in any FP proposals.
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- FP calls for proposals are not sufficiently relevant to my company
- My company does not have sufficient resources
- My company does not have appropriate networks to identify partners
- FP participations rules are too complicated
- FP proposals require too much effort
- FP proposal success rates are too low

- The time lag from proposal deadline to project start is too long
- FP funding level for direct (eligible) costs is too low
- FP funding level for indirect costs (overhead) is too low
- Norwegian funding agencies' support in connection with proposals is insufficient

Voluntary comment:

[End of survey]

C.3 Survey Questions PES

E-mail invitation

Subject: Relevance and importance of Project Establishment Support (*Prosjektetableringsstøtte*, PES)

The Norwegian Ministry of Education and Research (*Kunnskapsdepartementet*) has commissioned Samfunnsøkonomisk Analyse in collaboration with Technopolis Group to evaluate Norway's participation in Horizon 2020 and Horizon Europe, including the impacts and relevance of Project Establishment Support (*Prosjektetableringsstøtte*, PES) and Retur-EU. The evaluation is to be used by Parliament (*Stortinget*) as foundation for its decision on whether Norway should participate in the upcoming Framework Programme during the years 2028–2034.

You receive this survey invitation since we understand from the Research Council of Norway (*Forskningsrådet*) that you have deep insights into the use and importance of your organisation's PES block grants.

The button below takes you to a web survey that should take around 15 minutes to complete. Please respond as soon as possible but no later than **10 October**.

If you believe that a colleague of yours would be better placed to respond to the survey, please feel free to forward this invitation. (You can ignore "Please do not forward this email as its survey link is unique to you." below.)

In our evaluation report all data will be presented in aggregated form to ensure that individuals cannot be identified.

The legal basis for data collection is consent. We interpret recorded responses as active consent to collect your data. You can withdraw your consent by contacting Catharina Palm or Maja Tofteng. Your data will then be deleted and not included in the overall survey results.

Personal information, such as e-mail addresses, will be deleted within 90 days of submittal of the final evaluation report. Anonymised survey data may be retained for up to ten years for research and enquiry purposes.

[Start Button]

Introduction

The evaluation of Norway's participation in Horizon 2020 and Horizon Europe, wherein this survey is an important element, will be used by Parliament (*Stortinget*) as foundation for its decision on whether

Norway should participate in the upcoming Framework Programme during the years 2028–2034 (FP10).

You receive this survey invitation since you are knowledgeable as regards the use and importance of your organisation's PES block grants. We very much appreciate you taking the time to share your experiences with us.

The survey should take around 15 minutes to complete. Please respond as soon as possible but no later than 10 October.

If you believe that a colleague of yours would be better placed to respond to this survey, please feel free to forward this invitation.

In this survey we use the terminology "organisation" to refer to the university, research institute, or health authority that you work for. Moreover, we use the following abbreviations:

FP	Framework Programme
FP10	Framework Programme during the years 2028–2034
FP support function	Internal unit with responsibility to support the organisation's FP participation (EU office, Grants office etc.)
HE	Horizon Europe
PES	Project Establishment Support (*Prosjektetableringsstøtte*, PES)
RCN	Research Council of Norway (*Forskningsrådet*)
R&I	Research and Innovation

Use of PES block grants

1. Please estimate how your Project Establishment Support (PES) block grants were used during the years 2021–2024, i.e. under Horizon Europe (HE), in approximate relative financial terms.
Move circle to the right to indicate approximate percentage for each of the following activities, or enter numerical value in the small box to the right.

- Development of strategy and action plan for HE participation (*Utforme strategi og handlingsplan for deltakelse i Horisont Europa*)
- Positioning of organisation in HE networks and consortia (*Posisjonering av egen institusjon*)
- Promotion of Norwegian priorities and agendas in HE forums, networks and European partnerships (*Posisjonering av norske interesser og forskningsagenda*)
- Competence development to further HE participation (*Kompetansebygging*)
- Preparation of HE proposals (*Utarbeide prosjektforslag*)
- Other, please specify in comment box

Voluntary comment:

2. For the remainder of HE (i.e. 2025 and onwards), the Research Council of Norway (RCN) has restricted the use of PES to preparation of proposals. Do you expect that this will affect your organisation's HE participation? Why?
(Open question)

Results and impacts

3. Please assess to what extent you believe that all PES block grants that your organisation has received over the years have allowed the FP support function…
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- To expand the personnel available to provide support services
- To enhance the quality of the support services provided
- To provide additional types of support services
- To more efficiently monitor and communicate FP calls within the organisation
- To better coordinate the organisation's overall FP activities
- To better satisfy the administration and reporting needs of colleagues participating as partners in FP projects
- To better satisfy the administration and reporting needs of colleagues coordinating FP projects

Voluntary comment:

4. Please assess to what extent you believe that all PES block grants that your organisation has received over the years have contributed to the internal FP support function becoming more knowledgeable in terms of…
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- How to prepare a competitive FP proposal
- How to build a competitive FP consortium
- FP participation rules
- FP proposal submittal procedures
- FP project administration and reporting procedures
- How to manage intellectual property rights (IPR)

Voluntary comment:

5. Please assess to what extent you believe that all PES block grants that your organisation has received over the years have contributed to your organisation as a whole…
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- Having established itself in the European Research Area (ERA)
- Having promoted your organisation's FP priorities, especially on European Partnerships
- Having promoted Norwegian FP priorities (beyond your organisation's priorities), especially on European Partnerships
- Accepting invitations to participate in FP proposals more often
- Taking the initiative to FP proposals more often
- Taking on the role of coordinator of FP proposals more often
- Including companies in Norway in FP proposals more often
- Including public-sector organisations in Norway (other than university/research institute/hospital trust) in FP proposals more often
- Coordinating/participating in more competitive FP proposals with a higher chance of being funded

Voluntary comment:

6. Please assess to what extent you believe that Norway's overall FP participation (i.e. not only your organisation's) contributes to the following wider impacts for Norway.
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- Increased research quality
- More outstanding and innovative environments
- Increased value creation
- Increased competitiveness

- Increased capacity for innovation
- Transition in private and public sectors
- Increased capacity to handle societal challenges
- More sustainable development of society
- Development of research and Innovation (R&I) policy
- Development R&I collaboration across national borders, sectors and fields

Voluntary comment:

FP projects vs. Norwegian projects

7. Please assess to what extent you agree to the following statements on FP proposals/projects compared to Norwegian proposals/projects (e.g. co-funded by RCN or Innovation Norway).
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- FP proposals take longer time to write
- FP proposal success rates are lower
- FP project administration is more demanding
- FP project reporting requirements are more demanding
- FP projects result in more public funding for the organisation
- FP projects provide better value for money on the organisation's own investment
- FP projects provide better opportunities for monitoring the international state of the art
- FP projects provide better opportunities for knowledge/technology import
- FP projects provide better opportunities for finding new R&I partners in other countries
- FP projects provide better opportunities for finding new suppliers in other countries
- FP projects provide better opportunities for increasing the organisation's international competitiveness
- FP projects result in higher quality R&I results
- FP projects result in more useful R&I results
- FP projects are more prestigious
- FP projects provide better marketing opportunities
- FP projects better facilitate understanding other cultures

8. Please elaborate on the advantages and disadvantages of FP participation.
(Open question)

Future of PES

Please respond to the questions on this page under the assumption that Norway decides to join FP10 (2028–2034).

9. If there continues to be a PES measure under FP10, what kind of activities should you be allowed to use it for?
(Yes/No/Don't know)

- Development of strategy and action plan for FP participation
- Positioning of organisation in FP networks and consortia
- Promotion of Norwegian priorities and agendas in FP forums, networks and European partnerships
- Competence development to further FP participation
- Preparation of FP proposals
- Other, please specify in comment box

Voluntary comment:

10. What would happen if a PES measure were not available under FP10?

The organisation would likely submit:

- No FP proposals
- Fewer FP proposals
- Equally many FP proposals
- Don't know

11. What would happen if a PES measure were not available under FP10?

The organisation would likely submit:

- Less competitive FP proposals
- Equally competitive FP proposals
- Don't know/Not applicable

12. Please elaborate on the importance of a PES measure should Norway decide to join FP10. *(Open question)*

[End of survey]

C.4 Survey Questions Retur-EU

E-mail invitation

Subject: Relevance and importance of Retur-EU

The Norwegian Ministry of Education and Research (*Kunnskapsdepartementet*) has commissioned Samfunnsøkonomisk Analyse in collaboration with Technopolis Group to evaluate Norway's participation in Horizon 2020 and Horizon Europe, including the impacts and relevance of Retur-EU and Project Establishment Support (*Prosjektetableringsstøtt*e, PES). The evaluation is to be used by Parliament (*Stortinget*) as foundation for its decision on whether Norway should participate in the upcoming Framework Programme during the years 2028–2034.

You receive this survey invitation since we understand from the Research Council of Norway (*Forskningsrådet*) that you have deep insights into the use and importance of your institute's Retur-EU base funding.

The button below takes you to a web survey that should take around 15 minutes to complete. Please respond as soon as possible but no later than **10 October**.

If you believe that a colleague of yours would be better placed to respond to the survey, please feel free to forward this invitation. (You can ignore "Please do not forward this email as its survey link is unique to you." below.)

In our evaluation report all data will be presented in aggregated form to ensure that individuals cannot be identified.

The legal basis for data collection is consent. We interpret recorded responses as active consent to collect your data. You can withdraw your consent by contacting Catharina Palm or Maja Tofteng. Your data will then be deleted and not included in the overall survey results.

Personal information, such as e-mail addresses, will be deleted within 90 days of submittal of the final evaluation report. Anonymised survey data may be retained for up to ten years for research and enquiry purposes.

[Start Button]

Introduction

The evaluation of Norway's participation in Horizon 2020 and Horizon Europe, wherein this survey is an important element, will be used by Parliament (Stortinget) as foundation for its decision on whether Norway should participate in the upcoming Framework Programme during the years 2028–2034 (FP10).

You receive this survey invitation since you are knowledgeable as regards the use and importance of your institute's Retur-EU base funding. We very much appreciate you taking the time to share your experiences with us.wThe survey should take around 15 minutes to complete. Please respond as soon as possible but no later than 10 October.

If you believe that a colleague of yours would be better placed to respond to this survey, please feel free to forward this invitation.

In this survey, we use the following abbreviations:

FP	Framework Programme
FP10	Framework Programme during the years 2028–2034
HE	Horizon Europe
RCN	Research Council of Norway (Forskningsrådet)
R&I	Research and Innovation
STIM-EU	Retur-EU's predecessor under previous FPs

Use of Retur-EU base funding

1. Please estimate how your Retur-EU base funding was used during the years 2022–2024, i.e. under Horizon Europe (HE), in approximate relative financial terms.
Move circle to the right to indicate approximate percentage for each of the following activities, or enter numerical value in the small box to the right.

Please ignore this question if your institute has not been granted any Retur-EU base funding during the years.

- Strategic institute investments (*Strategiske instituttsatsninger*)
- Initial/pilot projects (*For-/ideutviklingsprosjekter*)
- Co-funding of the HE projects that resulted in the Retur-EU base funding (*Egenandel i forskningsprosjekter i HE*)
- Co-funding of other projects (*Egenandel i andre forskningsprosjekter*)
- Networking and competence development (*Nettverksbygging og kompetanseutvikling*)
- Scientific equipment (*Vitenskapelig utstyr*)
- Other, please specify in comment box

Voluntary comment:

Results and impacts

2. Please assess to what extent you believe that all STIM-EU/Retur-EU base funding that your institute has received over the years has contributed to the institute as a whole…
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- Having established itself in the European Research Area (ERA)
- Having promoted your institute's FP priorities, especially on European Partnerships
- Having promoted Norwegian FP priorities (beyond your institute's priorities), especially on European Partnerships
- Accepting invitations to participate in FP proposals more often
- Taking the initiative to FP proposals more often
- Taking on the role of coordinator of FP proposals more often
- Including companies in Norway in FP proposals more often
- Including public-sector organisations in Norway (other than university/research institute/hospital trust) in FP proposals more often
- Coordinating/participating in more competitive FP proposals with a higher chance of being funded

Voluntary comment:

3. Please assess to what extent you believe that Norway's overall FP participation (i.e. not only your institute's) contributes to the following wider impacts for Norway.
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- Increased research quality
- More outstanding and innovative environments
- Increased value creation
- Increased competitiveness
- Increased capacity for innovation
- Transition in private and public sectors
- Increased capacity to handle societal challenges
- More sustainable development of society
- Development of research and innovation (R&I) policy
- Development R&I collaboration across national borders, sectors and fields

Voluntary comment:

FP projects vs. Norwegian projects

4. Please assess to what extent you agree to the following statements on FP proposals/projects compared to Norwegian proposals/projects (e.g. co-funded by RCN or Innovation Norway).
(To a very large extent/To a large extent/To some extent/To a small extent/Not at all/Don't know)

- FP proposals take longer time to write
- FP proposal success rates are lower
- FP project administration is more demanding
- FP project reporting requirements are more demanding
- FP projects result in more public funding for the institute
- FP projects provide better value for money on the institute's own investment

- FP projects provide better opportunities for monitoring the international state of the art
- FP projects provide better opportunities for knowledge/technology import
- FP projects provide better opportunities for finding new R&I partners in other countries
- FP projects provide better opportunities for finding new suppliers in other countries
- FP projects provide better opportunities for finding new customers in other countries
- FP projects provide better opportunities for increasing the institute's international competitiveness
- FP projects result in higher quality R&I results
- FP projects result in more useful R&I results
- FP projects are more prestigious
- FP projects provide better marketing opportunities
- FP projects better facilitate understanding other cultures

5. Please elaborate on the advantages and disadvantages of FP participation.
(Open question)

Future of Retur-EU

Please respond to the questions on this page under the assumption that Norway decides to join FP10 (2028–2034) and that the funding rules remain the same as under HE.

6. If there continues to be a Retur-EU measure under FP10, what kind of activities should you be allowed to use it for?
(Yes/No/Don't know)

- Strategic institute investments
- Initial/pilot projects
- Co-funding of the HE projects that resulted in the Retur-EU base funding
- Co-funding of other projects
- Networking and competence development
- Scientific equipment
- Other, please specify in comment box

Voluntary comment:

7. What would happen if a Retur-EU measure were not available under FP10?

The institute would likely submit:

- No FP proposals
- Fewer FP proposals
- Equally many FP proposals
- Don't know

8. What would happen if a Retur-EU measure were not available under FP10?

The institute would likely submit:

- Less competitive FP proposals
- Equally competitive FP proposals
- Don't know/Not applicable

9. Please elaborate on the importance of a Retur-EU measure should Norway decide to join FP10.
(Open question)

[End of survey]

Appendix D Econometric analysis

In this appendix, we present the results of an econometric analysis of FP participation. First, we describe and discuss our methodological approach to analysing company performance, before we give a brief description of the data used in the impact assessment. We then show the results of the analyses and discuss them.

D.1 Methodology[96]

To assess the effect of Norwegian participation in the FP programmes, we will conduct a quasi-experimental study. A quasi-experimental study is a study where (i) the objective is to clarify cause-and-effect relationships (causal relationships) and (ii) it is not feasible to use controlled experimentation, in the sense of being able to impose the procedures or treatments whose effects it is desired to discover (Cochran & Chambers, 1965). The main challenge is to determine how the beneficiaries would have performed in absence of the scheme and it is generally a challenge for ex-post assessments to identify proper quasi-experiments.

To apply a quasi-experimental design, we identify a group that has been exposed to the intervention (treatment group) and a control group that is as identical as possible to the treatment group but have not been exposed to the intervention. These groups can then be compared over time to evaluate whether there is a significant difference between them in relation to a given result indicator. We compare the performance of companies that received FP project funding to that of the companies who have received funding from national R&D funding schemes, such as Innovation Projects for the Industrial Sector (IPN), comparable schemes under IN ("Innovasjonsoppdraget") or Skattefunn. To improve comparability, we use matching to compare companies of similar, observable characteristics. The characteristics we match on are company size, fixed assets[97], age and industry affiliation. We match on the value of these variables in the year before R&D funding is given. Our methodology is the same as in our previous evaluation (Tofteng et al., 2020) and based on the Finnish impact assessment (Piirainen et al., 2018), as well as Samfunnsøkonomisk Analyse AS's work on IN's MRS system[98]. Note that we also control for companies' industrial affiliation and age in the regressions.

A difference-in-differences approach requires at least two groups at two or more time periods (before and after). Assume for now that the treatment variable (defining the intervention), denoted by D, is binary, i.e. $d \in \{0,1\}$. Also, variables are measured at most in two time periods, T, where $t \in \{0,1\}$. The first period (t=0) indicates a time before treatment (pre-treatment) and the second period (t=1) indicates a time after the treatment took place (post-treatment).

[96] The text in this section bears much resemblance to the equivalent in appendix E in Tofteng et al. (2020).

[97] «Aktiva» in Norwegian

[98] See Cappelen et al. (2015) for documentation of the methodology

Let "potential" outcome variables be indexed by the potential state of the treatment, so that Y_t^d denotes the outcome that would be realised for a specific value of d in period t. Then, the *average treatment effect on the treated* in period t is defined as:

$$ATT_t = E(Y_t^1 - Y_t^0 | D = 1) \quad (1)$$

ATT_t denotes the average effect of the treatment for those who are treated.[99]

Assuming linearity, for simplicity, the set-up of the model is:

$$Y_t = \beta_0 + \beta_1 T + \beta_2 D + \beta_3 T \times D + \varepsilon_t \quad (2)$$

The mean potential outcome if treated is then equal to β_3, which can be shown by comparing changes for the treated before and after treatment with changes for controls:

$$\begin{aligned}(E[Y_1^1|D=1] - E[Y_0^1|D=1]) - (E[Y_1^0|D=0] - E[Y_0^0|D=0]) \\ = \big((\beta_0 + \beta_1 + \beta_2 + \beta_3) - (\beta_0 + \beta_2)\big) - \big((\beta_0 + \beta_1) + (\beta_0)\big) \\ = \beta_3\end{aligned} \quad (3)$$

The difference-in-differences estimator ($\hat{\beta}_3$) can be obtained by estimating equation (2) with OLS.

This set-up can easily be extended to multiple groups and time periods, as well as adding additional time-varying regressors.

The pre-treatment differences are to be identified and should not be due to the scheme. When the pre-existing trend is identified, any observed difference in performance between these two groups in the period after implementation of the scheme is explained by the scheme. More precisely, one compares the difference in outcomes between the companies receiving support from the scheme, and the control group, before and after the support is received, and then attribute the change in the difference between the two groups to be a result of the scheme. One crucial assumption for the validity of the result is that the difference in the outcome variable between the treatment and control group is stable over time before the intervention, also known as parallel or common trend assumption[100]. Any external shock should have the same impact on both groups. The probability of this being the case is increased by performing matching before estimating the treatment effect, assuring we have comparable groups of companies.

In addition to classic selection problems discussed in the evaluation literature[101], we are faced with some specific issues regarding support from funding schemes:

- How long does it take from a project is initiated until potential and measurable effects occur?
- How long do the effects last?

[99] For a more comprehensive description see Lechner, M. (2010). The Estimation of Causal Effects by Difference-in-Difference Methods. Foundations and Trends(R) in Econometrics, vol. 4(3). 165-224

[100] See for example Lechner, M. (2010), for more information on the assumption that the common trend between treatment and control group.

[101] See Blundell, R. & Dias, M. C. (2009). Alternative Approaches to Evaluation in Empirical Microeconomics. Journal of Human Resources. University of Wisconsin Press, vol. 44(3). 565-640

- How do we treat repeated support to the same company over time?

- How do we treat the fact that the company can receive support from several schemes at the same time or at relatively close points in time?

It is difficult to isolate the effect of FP funding, since many of the companies with project funding from the EU also have R&D projects funded by national sources, like RCN. However, this is not necessarily our aim. Rather, our goal is to evaluate the extra effect on company performance of having FP funded R&D projects as compared to "just" nationally funded R&D projects. Thus, our results cannot be called causal effects, since it is very challenging to control for all potential factors that impact the company indicators we analyse. Rather, the results will give indications as the effects of FP participation for the companies.

There is however a potential issue regarding selection bias. We use matching to compare companies with FP funding to companies with funding from national sources with the same size (no. of employees) and fixed assets, while controlling for industry classification and age in the regressions. Still, there might be an unobservable difference between the two groups of companies: Some companies have FP funded R&D projects, and some have projects with funding from national sources, the latter being, generally, easier to get. Our impact assessment can therefore be called a comparison of the excellent to the good. However, assuming this unobservable difference between the two groups is constant over time, the diff-in-diff method nulls constant differences, since we compare groups over time. We measure the effects of projects from the year the project starts until our company observations end. For example, if a company received FP7 funding in 2008 and we observe their company accounts until 2017, the effect is measured over the years 2008-2017. This way, we try to capture long-term effect for those companies that received funding early in our estimation period. The average effect we end up with is then a combination of long-term and short-term effects. We have not split the sample up to divide the two because we have few company observations.

This methodology is applied on the same dataset as in Tofteng et al (2020), but with the extension of more data from company accounts, until 2024. Our hypothesis is that this will allow us to capture long term effects to a greater extent than in Tofteng et al (2020). We also apply the same method on more recent FP project participants, over the years 2019-2024, to evaluate effects for the current evaluation period.

Repeated support to companies is ignored, since we start measuring the treatment effect from the first project we observe in time for each company. This means that a part of the treatment effect is based on companies with multiple projects. However, as these are mostly R&D intensive companies, this is a trait of both the treatment and control group. It is therefore reasonable to assume that ignoring repeated support does not cause a bias in our estimates.

Our impact assessment will focus on the effects of FP funding on growth in company productivity, turnover, profitability, employment and value added. To capture the full economic effects of R&D projects, one must consider the externalities. This is outside the scope of this assessment and will not be addressed.

D.2 Data[102]

To utilise the methodology described above, we need project data, as well as company data. The evaluation period in the previous evaluation was from 2008 until 2019. We used FP7 and H2020 data,

[102] The text in this section bears much resemblance to the equivalent in appendix E in Tofteng et al (2020).

but we will now also analyse results of HE funding. In the previous evaluation, company accounts for 2019 were not available, meaning the latest data we used in were from 2018.[103] Hence, companies that only have projects that started in 2018 or later were not included.

There were about 660 unique projects with funded participation by Norwegian companies in the private business sector[104] with funding from FP7 or H2020 that started before 2018. These 660 projects meant funding for about 540 unique companies. Of these, about 450 projects originated in FP7, with funding for about 350 companies. About 200 unique companies (with 216 unique projects) participated in H2020 projects with contracts that were signed in 2017 or before. Since 2018, about 800 companies have received funding for H2020 or HE projects.

Our level of observation is the company level, not the project level, since we want to evaluate the effects of FP funded projects for companies.

When constructing our groups, we only include companies that are observed over a four-year (uninterrupted) time period. This means only companies that "survive" are included in the analysis, implying a survival bias. However, since both groups possess this bias, the survival bias does not pose a problem (create a bias) in our estimation of the treatment effect, but it imposes a reservation on our conclusion: We estimate the treatment effect only for the companies that survive, not for those that are dissolved in some way or another. We exclude public enterprises, state owned enterprises, municipal owned enterprises, non-profit organisations, universities, colleges and the institute sector because we only want to observe private market-oriented business. We also exclude extraction of crude oil and gas, support activities for petroleum and gas extraction and transport via pipelines in order to remove the most oil price dependent behaviour, which could bias our results due to large changes in the oil price over the period. By imposing restrictions on our observed companies, we lose observations in both our treatment and control groups. However, these restrictions are implemented to achieve a balanced, high quality dataset that allows us to observe company performance over time. The restrictions lead to the exclusion of about 200 unique companies with FP funding in the "old" dataset (2007-2017). In the 2018-2024 period, we exclude a little over 100 unique companies with FP funding.

The matching procedure also results in a loss of observations. Here, we lose about 200 unique companies in the treatment group (about 1/2), because we do not find matches for them in the control group in the 2006-2017 period. Big companies like Borregaard, Yara, Hydro, Rolls-Royce Marine and Kværner are dropped due to a lack of matches. After the matching procedure, we are left with about 200 unique companies with FP funding in the years 2007-2017, with the added restriction that 2018 should not be the first year of funding. In the 2018-2024 period, the matching procedure leads to the loss of about the same share of unique companies with FP funding.

Our measure of productivity is value added per man-labour years, which differs from the measure used in the evaluation of Skattefunn, where value added per hours worked was used.[105] Our definition of productivity is due to a lack of data and our measure is therefore somewhat less precise, but still a good measure of productivity.

At the outset, the national funding sources include all RCN and IN schemes ("Innovasjonsoppdraget"), as well as Skattefunn. However, the companies are subjected to the matching procedure, ensuring

[103] The analysis was carried out in the summer/fall of 2019

[104] Excluding public enterprises, state owned companies, municipal owned companies, non-profit organisations, universities, colleges and the institute sector

[105] Person-labour years is calculated by Samfunnsøkonomisk Analyse AS using wage costs from company accounts and data on average wage costs in 64 industries from Statistics Norway

that these companies are comparable with the FP funded companies. Including so many national funding sources was a necessity due to a lack of data.[106]

D.3 Results

In the following, we present the results of an econometric analysis of the performance of companies that received funding from FP7 and H2020 up to and including 2017. This is a re-estimation of the regression in Tofteng et al (2020) with company accounts until 2024. Our hypothesis is that this will allow us to capture long-term effects to a greater extent than in the previous evaluation.

Table D.0.5 shows the results from the difference-in-difference regressions comparing companies with FP funding in the period 2007-2017 with companies with only national R&D funding in the same period. Our results show no statistically significant effects of FP funding on our indicators: turnover, value added, productivity, number of employees and profitability.[107] Thus, we cannot say that company performance is improved by having FP funding when compared to national funding.

Table D.0.5 Regression results. Re-estimation on FP, RCN, IN and Skattefunn data for 2006-2017 with company accounts until 2024.

Indicator	Coefficient	Average yearly added growth (percentage points)	Standard error	P>[z]	z	Obs.	Treated obs
Turnover	0.0123	1.23	0.0188	0.512	0.6544	11937	2353
Value added	-0.0026	-0.26	0.0136	0.847	-0.1927	10653	1965
Productivity	-0.0092	-0.92	0.0093	0.321	-0.9908	9295	1789
Man-years	0.0069	0.69	0.0105	0.512	0.6551	10091	2131
Profitability	0.0021	0.21	0.0027	0.449	0.7559	10840	2100

Notes: Statistically significant at the 2,5 percent level: *** 5 percent level: ** 10 percent level: *
The regressions include time fixed effects, and dummies for industry affiliation, age and economic region

The results shown above are from regressions that include firms of all sizes. About half of the estimation sample in both groups consist of companies with less than five employees (after the matching procedure). If we exclude these, we reduce the sample size, but we restrict the analysis to more established companies. Table D.0.6 displays the results from the difference-in-difference regressions comparing companies with FP funding in the period 2006-2017 with companies with only national R&D funding in the same period and restricting the sample to companies with five or more employees. The results show statistically significant effects at the 2.5 percent level for turnover and man-labour-years, but none for value added, productivity and profitability.

[106] We need a sizeable number of companies in the control group in order to find enough matches for the treatment group.

[107] As a robustness check, we tested whether removing “extreme observations” (the top and bottom five percent of the indicator variable’s distribution) had any impact on the results reported in table D.0.5, but it did not. We also checked whether removing those with only Skattefunn projects had any impact on the results, but it did not.

Table D.0.6 Regression results. Re-estimation on FP, RCN, IN and Skattefunn data for 2006-2017 with company accounts until 2024. Only companies with more than four employees.

Indicator	Coefficient	Average yearly added growth (percentage points)	Standard error	P>[z]	z	Obs.	Treated obs
Turnover	0.0475***	4.75	0.020804	0.022354	2.284307	5977	1288
Value added	0.0139	1.39	0.015015	0.354373	0.926141	5806	1196
Productivity	-0.0021	-0.21	0.008888	0.815281	-0.23362	5769	1193
Man-years	0.0237***	2.37	0.010551	0.024506	2.249095	5998	1313
Profitability	0.0032	0.32	0.003271	0.321999	0.990359	4945	1075

Notes: Statistically significant at the 2,5 percent level: *** 5 percent level: ** 10 percent level: *
The regressions include time fixed effects, and dummies for industry affiliation, age and economic region

The previous regression results do not cover the current evaluation period from 2019 until today. We have done a separate econometric analysis for the period 2018-2024, since we do not have company accounts for 2025 at the time of writing (May 2026).

Table D.0.7 displays the results from the difference-in-difference regressions comparing companies with FP funding in the period 2018-2024 with companies with only national R&D funding in the same period. Our results show no statistically significant effects at the 5 percent level or lower of FP funding on our indicators. Thus, we cannot conclude that company performance is improved by having FP funding when compared to national funding.

However, we found a statistically significant effect on man-labour-years, but only at the 10 percent level, which is not usually considered as a strong enough result for scientific findings. The effect of FP funding on turnover is almost significant at the 10 percent level. Overall, the results suggest that there after all may be an added effect of receiving FP funding compared to national funding schemes.

Table D.0.7 Regression results. Estimation 2018-2024

Indicator	Coefficient	Average yearly added growth (percentage points)	Standard error	P>[z]	z	Obs.	Treated obs
Turnover	0.0669	6.69	0.0428	0.1181	1.5628	2177	436
Value added	0.0504	5.04	0.0381	0.1859	1.3229	1692	323
Productivity	0.0055	0.55	0.0265	0.8360	0.2071	1501	290
Man-years	0.0413*	4.13	0.0243	0.0895	1.6981	1914	410
Profitability	0.0046	0.46	0.0185	0.8031	0.2494	1446	281

Notes: Statistically significant at the 2,5 percent level: *** 5 percent level: ** 10 percent level: *
The regressions include time fixed effects, and dummies for industry affiliation, age and economic region

When analysing the “old” sample of FP funding recipients, we found statistically significant results when restricting the sample to companies with five or more employees. We did not find an equivalent result when doing so for the “newer” sample which includes HE project coordinators and participants. Instead, these results are statistically insignificant.

The estimation covering the 2018-2024 sample covers the COVID pandemic. This event constitutes such a shock to business activity that it hampers our estimation (even though we control for it with year dummies), because several years of the period were abnormal in terms of costs, activity levels and so on.

Appendix E CIS data analysis

In this section, we present the results of an analysis of Statistics Norway's Community Innovation Survey (CIS) data.

We supply CIS data with information about R&D project funding to identify companies with public funding from FPs, RCN, Innovation Norway[108] and Skattefunn from RCN and The Norwegian Industrial Policy Instruments Database in the CIS data. Combining this data for the years 2020-2024, we can compare the responses of FP funded companies with RCN funded companies to unveil any potential differences between the two. This is our main analysis in the following. However, we also look at more heterogenous groups in terms of participation in national R&D funding schemes (this is shown in figures in this appendix). We construct our groups such that a company is included in a group only when they have received funding from RCN or the FP before or in the given year. We only include companies with this type of funding from 2015 or later, meaning companies with project starts in 2014 or earlier (and not later) are not included. Note that, in the main analysis, both FP and RCN funded companies mostly have funding from Skattefunn and/or Innovation Norway in addition, and many FP funded companies also have funding from RCN.

The innovation survey is a survey, and thus not a complete information set, but does include all companies with more than 50 employees. However, smaller companies are selected in order to cover a representative sample on an industry-company size spectrum.[109] This sampling leads to a bias due to an underrepresentation of small companies in the sample, compared to that of the population. However, as RCN and FP funded companies are quite similar in size, this bias is not likely to be significant in our comparison of the two groups. However, as this analysis is first and foremost a comparison of two groups, we do not consider this to be a significant problem.

Another issue is the fact that many companies have more than one source of public support, which means that there can be cases where project results are attributed to the wrong funding agency. However, both RCN and FP funded companies are active in seeking other public R&D funding, and since our aim is just as much to compare the groups, not (only) to observe the impact of a specific type of funding, we do not view this as a troubling issue. Furthermore, as mentioned, we construct our two groups such that they are not included in our sample before they receive funding. Since most companies in both the FP group and the RCN group have funding from other sources as well, this analysis merely gives insight into the characteristics of the companies in the groups. We cannot for example say that a certain innovation stems from FP funding alone.

In our analysis, we focus on some of the indicators in the survey, namely:

- Innovations
- Product innovations
- Process innovations
- Innovations new to market
- Levels of intellectual property right:

[108] Only covering funding under "innovasjonsoppdraget", i.e. only «Miljøteknologiordningen» and «Innovasjonskontrakter». https://www.regjeringen.no/no/tema/naringsliv/stotteordninger-for-naeringsliv-og-kultur/koronadata/id2740151/

[109] For further information see https://www.ssb.no/teknologi-og-innovasjon/statistikker/innov and https://www.regjeringen.no/no/tema/naringsliv/stotteordninger-for-naeringsliv-og-kultur/koronadata/id2740151/

    - Patent applications
    - Design applications
    - Trademark applications
    - Secrecy/trade secret
    - Copyright demand
- Market location (both in terms of company presence in markets and market importance to companies)
    - Locally/regionally in Norway
    - Domestically in Norway
    - EU/EFTA
    - Other countries
    - Cooperation with private sector, universities and research institutes in the EU/EFTA countries outside the Nordics
    - Environmental effects of innovation

In our main analysis, we compare FP funded companies to RCN funded companies. In the innovation survey, we find around twice as many RCN funded (without FP funding), as FP funded companies. Note that most companies have multiple sources of funding in both groups.

Table E.0.8 Number of companies in each group by year

	FP funded	RCN funded	Project starts
2020	309	638	2015-2020
2022	343	685	2015-2022
2024	384	665	2015-2024

Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Expanding the groups to look at the whole dataset, we find that the survey is dominated by companies without funding from the included sources. Note that some of these could have funding from other sources, such as regional R&D programmes, Investinor, other schemes under Innovation Norway etc. The second largest group is those with only Skattefunn funding, while the RCN group in the main analysis (shown in the table above), is dominated by companies with funding from all three national sources: Skattefunn, Innovation Norway and RCN.

Table E.0.9 Number of companies in each group by year, heterogenous groups, covering the whole dataset

	2020	2022	2024
FP funded (and other sources)	309	343	384
RCN funded only	55	51	28
Innovation Norway funded only*	269	285	232
Skattefunn funded only	834	888	854
Innovation Norway and RCN funded	50	52	39
Skattefunn and Innovation Norway funded	606	682	709
Skattefunn and RCN funded	173	199	185
Skattefunn, Innovation Norway and RCN funded	390	419	413
No funding from included sources	3 424	3 834	3 666

* Miljøteknologiordningen and Innovasjonskontrakter
Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Database for Industrial Policy Instruments

The innovation survey is dominated by the service industry, but also covers a considerable number of companies within manufacturing.

Table E.0.10 Number of companies, employees and income by industry. Averages over the three surveys (2020, 2022 and 2024)

	No. of companies	No. of employees	Income (MNOK)
Agriculture, forestry and fishing	125	10 214	98 476
Mining and quarrying	161	58 745	1 196 831
Manufacture of food products and drinks	343	36 139	228 130
Process manufacturing	622	58 743	322 657
Other manufacturing	689	61 020	239 435
Electricity etc., waste management etc. and construction	850	103 295	333 385
Wholesale and retail trade	587	45 632	295 876
IT*	661	45 616	96 155
Other services	2 418	235 996	801 664

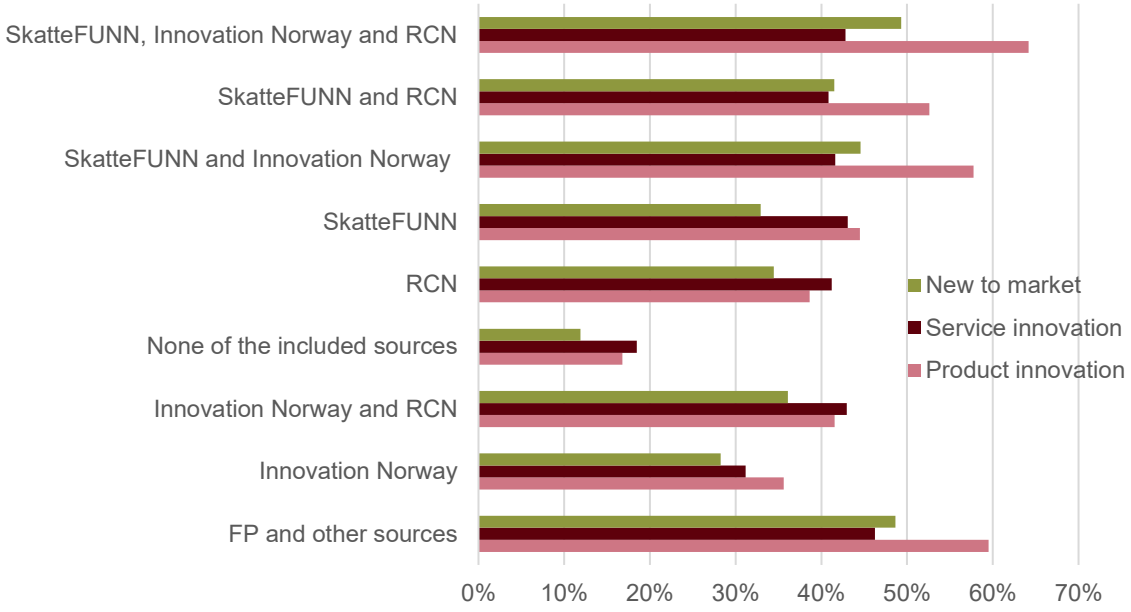
* Defined as Computer programming, consultancy and related activities, Information service activities and Software publishing (Standard Industrial Classification 2007 (SIC 2007)
Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey

Table E.0.11 Number of companies*, by industry and R&D funding. Averages over the three surveys (2020, 2022 and 2024)

	FP funded (and other sources)	RCN funded only	Innovation Norway funded only**	Skattefunn funded only	Innovation Norway and RCN funded	Skattefunn and Innovation Norway funded	Skattefunn and RCN funded	Skattefunn, Innovation Norway and RCN funded	No funding from included sources
Agriculture, forestry and fishing	16	…	9	23	…	24	6	11	34
Mining and quarrying	4	…	5	25	…	13	11	12	90
Manufacture of food products and drinks	17	…	25	53	5	64	12	26	141
Process manufacturing	42	5	57	70	5	115	18	57	255
Other manufacturing	50	4	25	106	4	114	27	70	288
Electricity etc., waste management etc. and construction	22	7	23	70	3	31	15	11	669
Wholesale and retail trade	10	3	12	71	…	27	16	9	437
IT***	42	5	27	177	4	131	15	71	189
Other services	142	20	78	264	23	145	67	140	1538

* Dotted cells means less than three companies
** Miljøteknologiordningen and Innovasjonskontrakter
*** Defined as Computer programming, consultancy and related activities, Information service activities and Software publishing (Standard Industrial Classification 2007 (SIC 2007))
Sources: Samfunnsøkonomisk analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Figure E.0.1 Innovation survey responses about product and service innovations by share of companies with positive response in group. Averages over the three surveys (2020, 2022 and 2024).



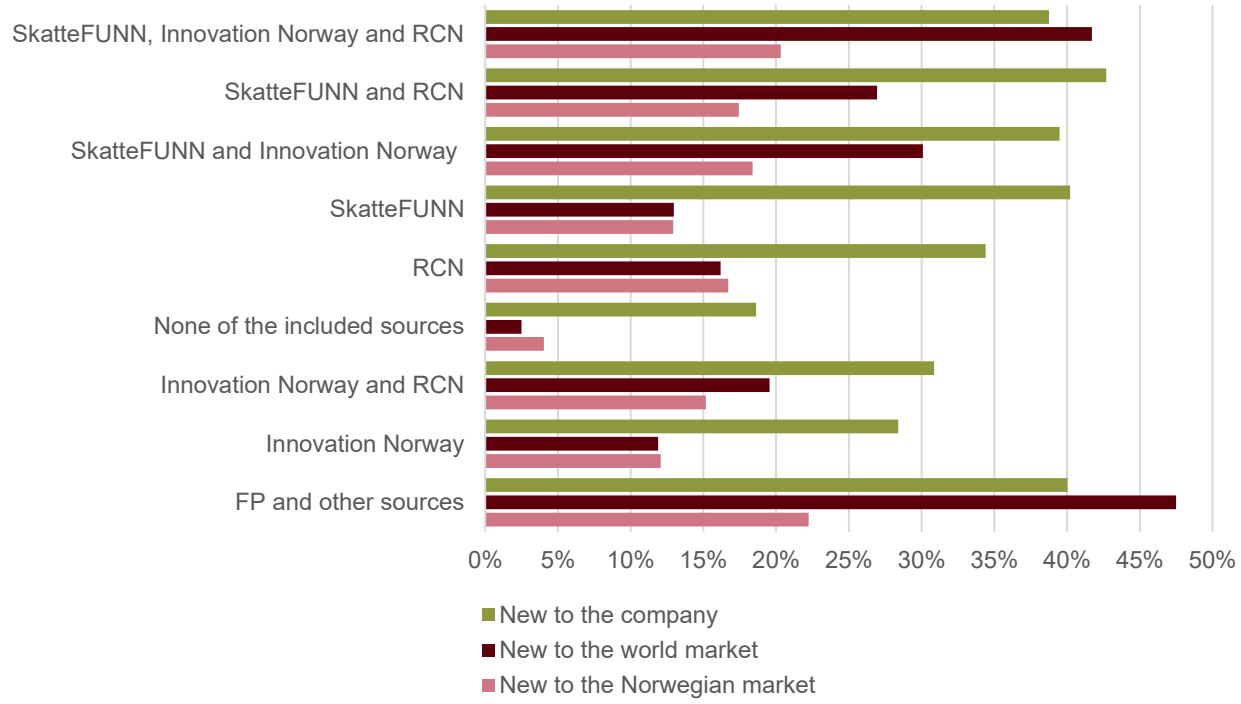
Sources: Samfunnsøkonomisk analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Table E.0.12 Innovation survey responses about novelty value in geographic market terms of product or service innovations by share of companies with positive response in group

	New to the Norwegian market		New to the European market		New to the world market		New only to the company	
	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded
2020	25 %	19 %	33 %	24 %	28 %	21 %	44 %	43 %
2022	21 %	18 %	31 %	22 %	27 %	20 %	44 %	40 %
2024	21 %	20 %	34 %	29 %	28 %	25 %	32 %	33 %

Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Figure E.0.2 Innovation survey responses about novelty value in geographic market terms of product or service innovations by share of companies with positive response in group. Averages over the three surveys (2020, 2022 and 2024).



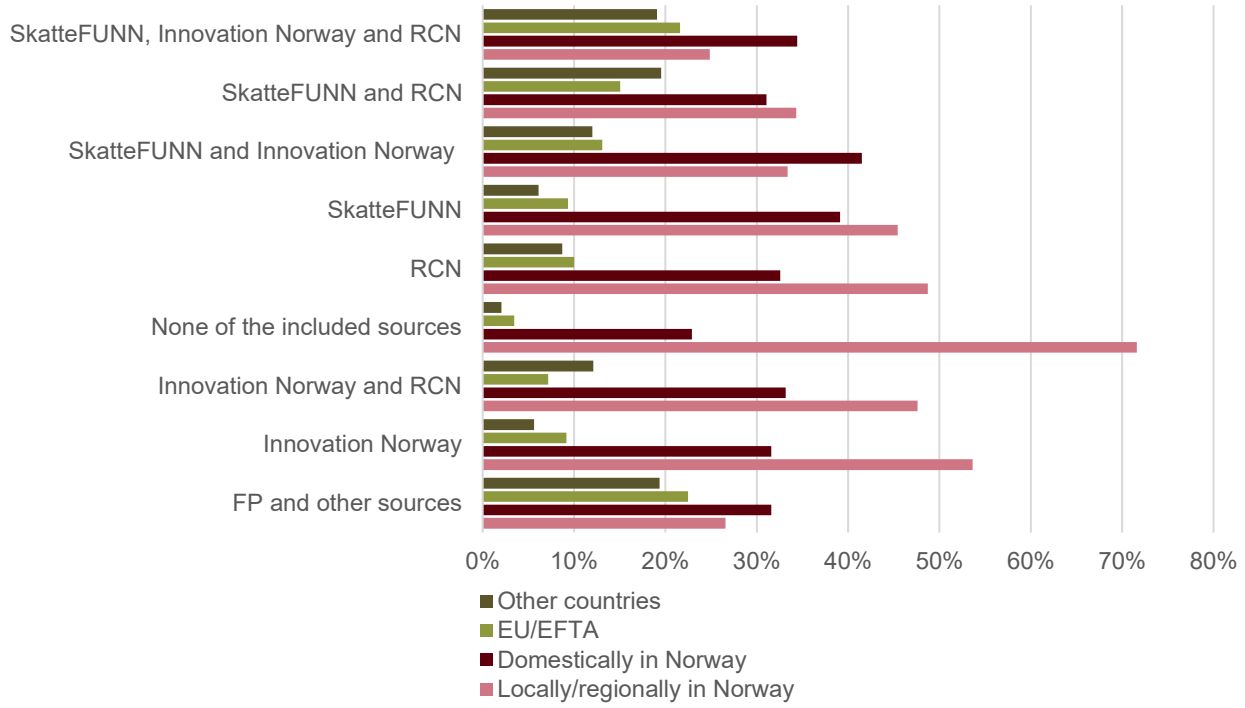
Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Table E.0.13 Innovation survey responses about most important market location by share of companies with positive response in group

	Locally/regionally in Norway		Domestically in Norway		EU/EFTA		Other countries	
	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded
2020	25 %	29 %	36 %	35 %	21 %	18 %	18 %	18 %
2022	27 %	32 %	29 %	31 %	22 %	17 %	21 %	19 %
2024	27 %	30 %	29 %	33 %	24 %	19 %	19 %	18 %

Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Figure E.0.3 Innovation survey responses about most important market location by share of companies with positive response in group. Averages over the three surveys (2020, 2022 and 2024).



Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Table E.0.14 Innovation survey responses about turnover share by market location. Average in group

	Locally/regionally in Norway		Domestically in Norway		EU/EFTA		Other countries	
	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded
2020	38 %	41 %	42 %	42 %	31 %	30 %	28 %	31 %
2022	41 %	44 %	40 %	42 %	32 %	29 %	31 %	33 %
2024	34 %	34 %	37 %	41 %	34 %	29 %	30 %	33 %

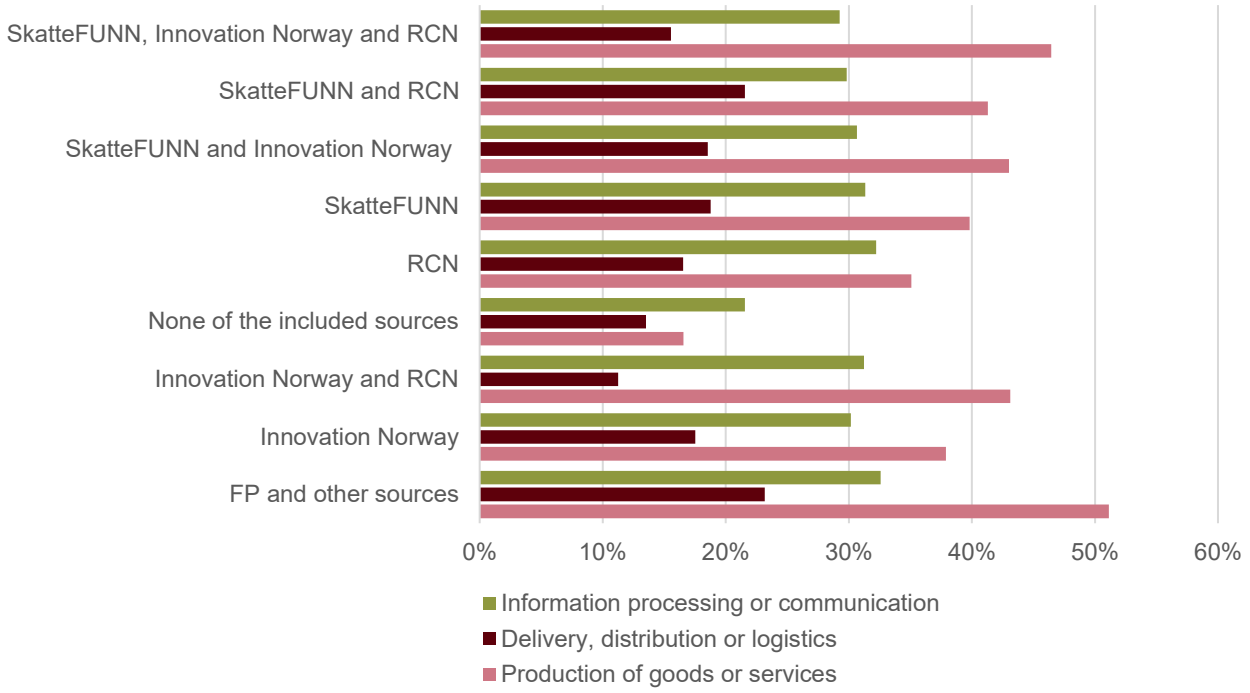
Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Table E.0.15 Innovation survey responses about process innovations by share of companies with positive response in group

	Production of goods or services		Delivery, distribution or logistics		Information processing or communication	
	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded
2020	52 %	44 %	26 %	17 %	43 %	36 %
2022	48 %	41 %	18 %	17 %	32 %	32 %
2024	53 %	46 %	26 %	16 %	23 %	20 %

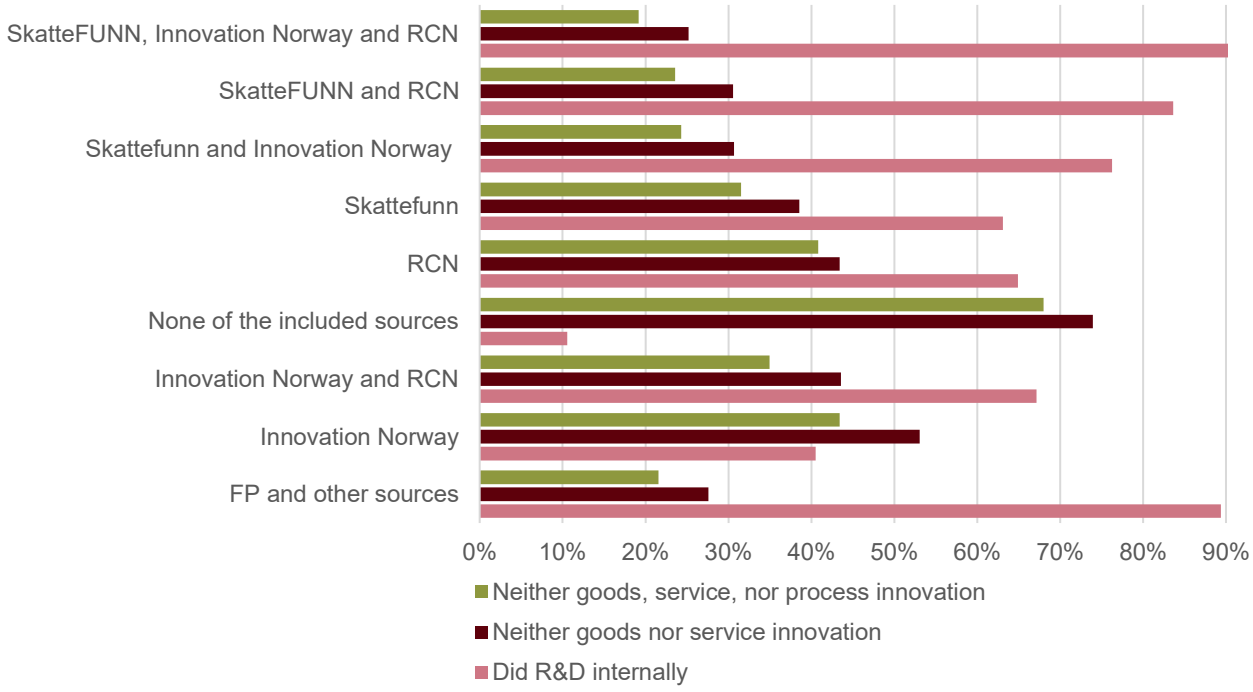
Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Figure E.0.4 Innovation survey responses about process innovation by share of companies with positive response in group. Averages over the three surveys (2020, 2022 and 2024).



Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Figure E.0.5 Innovation survey responses about innovation by share of companies with response in group. Averages over the three surveys (2020, 2022 and 2024).



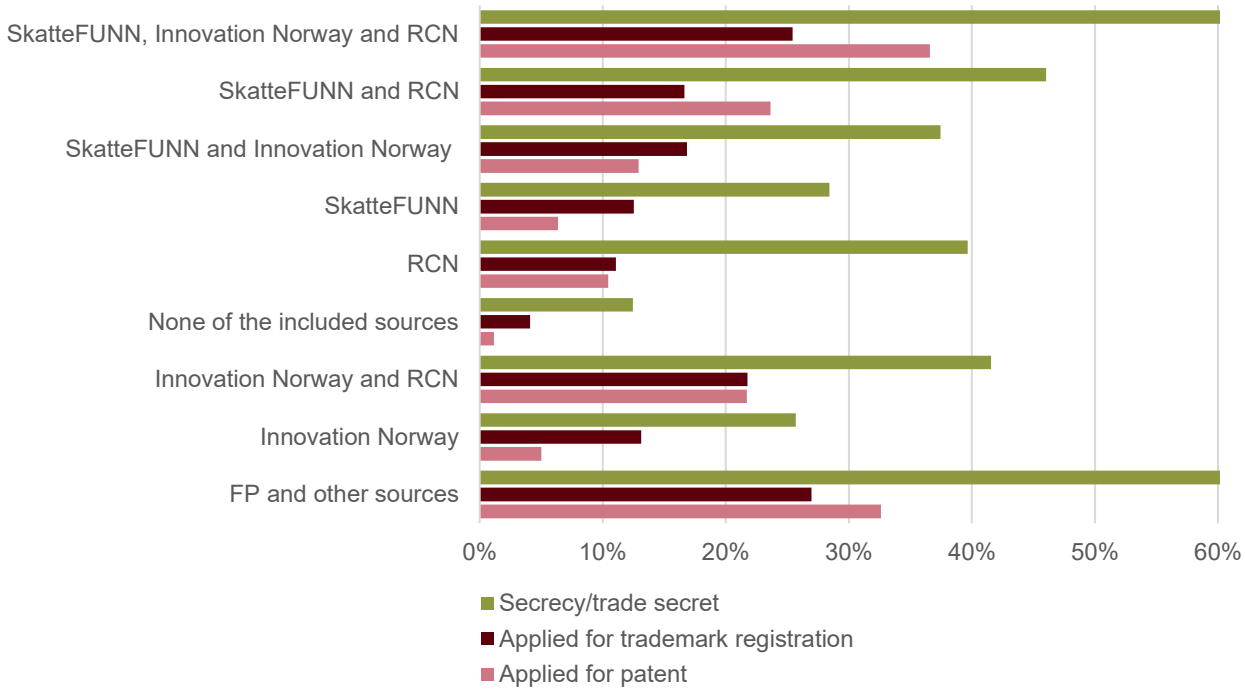
Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Table E.0.16 Innovation survey responses about protection of intellectual property rights by share of companies with positive response in group

	Applied for patent		Applied for design registration		Applied for trademark registration		Secrecy/trade secret		Copyright demand	
	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded
2020	34 %	34 %	14 %	11 %	30 %	25 %	60 %	56 %	17 %	14 %
2022	33 %	28 %	10 %	9 %	28 %	21 %	62 %	56 %	15 %	12 %
2024	31 %	28 %	10 %	8 %	23 %	18 %	59 %	54 %	13 %	12 %

Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Figure E.0.6 Innovation survey responses about protection of intellectual property rights by share of companies with positive response in group. Averages over the three surveys (2020, 2022 and 2024).



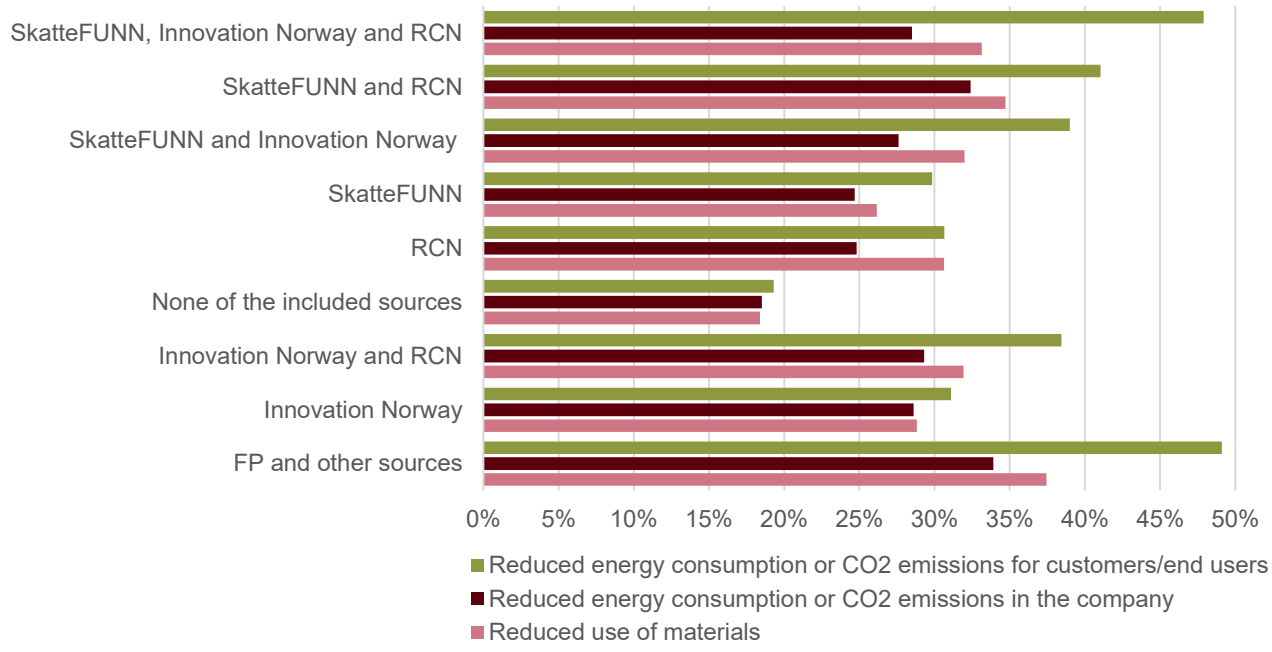
Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Table E.0.17 Innovation survey responses about environmental effects of innovation by share of companies with positive response in group

	Reduced use of materials		Reduced energy consumption or CO^2 emissions in the company		Reduced energy consumption or CO^2 emissions for customers/end users	
	FP funded	RCN funded	FP funded	RCN funded	FP funded	RCN funded
2020	38 %	30 %	35 %	26 %	44 %	39 %
2022	29 %	26 %	38 %	36 %	51 %	44 %
2024	45 %	42 %	29 %	23 %	53 %	48 %

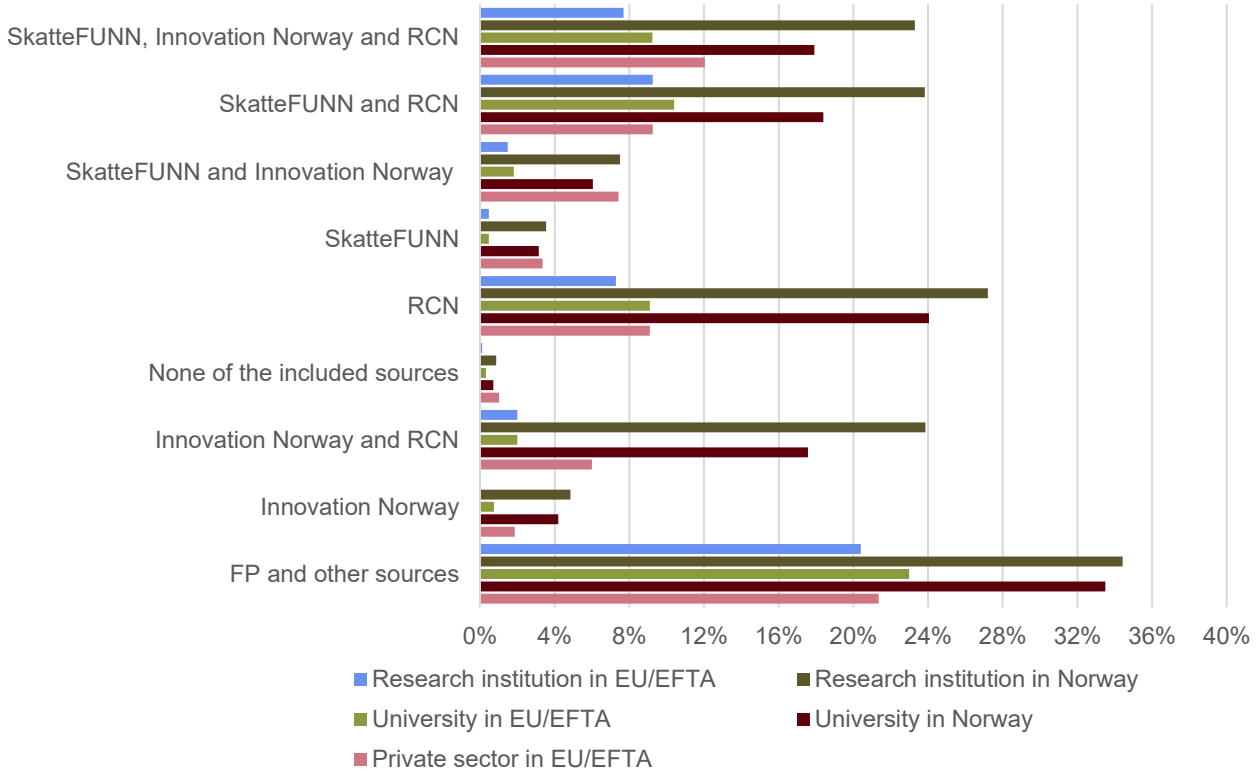
Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Figure E.0.7 Innovation survey responses about environmental effects of innovation by share of companies with positive response in group. Averages over the three surveys (2020, 2022 and 2024).



Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Figure E.0.8 Innovation survey responses about cooperation by share of companies with positive response in group. Averages over the three surveys (2020, 2022 and 2024).



Sources: Samfunnsøkonomisk Analyse AS, based on Statistics Norway's innovation survey and The Norwegian Industrial Policy Instruments Database

Appendix F CBA of FP10

In this appendix we present the assumptions used in the monetising cost and benefits of participation in FP10 compared to the alternative of rather spending the funds nationally.

F.1 Monetised costs

R&I spending

R&I spending refers to the total amount of public research and innovation funding available in each scenario. To ensure comparability between scenarios, we assume that the overall level of public R&I spending is held constant.

Baseline scenario: Public R&I funding is reallocated to national instruments, corresponding to the total resources that would otherwise be used for the FP financial contribution and Retur-EU.

FP10 scenario: Public R&I spending is determined by Norway's participation in FP10. The financial contribution is calculated as the total FP10 budget multiplied by Norway's proportionality factor and the exchange rate. The actual annual financial contribution also depends on the annual FP disbursements. Experience from previous FPs suggests a payment period of 10-12 years.

The total budget for FP10 has yet to be determined. In the CBA, we rely on the current proposal of EUR 175 billion. However, this figure remains uncertain and may change. Assuming an inflation rate of 2 percent and a 12-year payment period, in line with experience from previous FPs, the proposed FP10 budget corresponds to approximately EUR 155 billion in 2025 prices. We use the most current proportionality factor for 2026 (RCN) and an exchange rate of EUR 1 = NOK 11.5 equivalent to the average exchange rate from May 2025 until May 2026 (Norges Bank's exchange rates) as proxies when estimating Norway's financial contribution to FP10. This suggests that the upcoming Framework Programme is between 60 and 65 percent larger than the current programme, depending on the assumed disbursement profile and level of inflation. We use 63 percent in line with estimates applied by the Research Council of Norway[110].

Based on these assumptions, the financial contribution is estimated at NOK 43 billion in 2025 prices.

Mobilisation, coordination and advisory activities

As the designated National Contact Points (NCPs), the Research Council of Norway and Innovation Norway work to assist Norwegian stakeholders in applying for funding. Large participating institutions also have dedicated staff to support applicants. In addition, ministries and NCPs spend resources in various forms of coordination and mobilisation efforts.

Baseline scenario: The Research Council of Norway (RCN) (as well as Innovation Norway and other funding entities) already allocate substantial resources to mobilising and advising potential applicants.

[110] https://www.forskningsradet.no/indikatorrapporten/fokusartikler-og-dypdykk/2025/horisont-europa-blir-en-del-av-et-nytt-europeisk-konkurranseevnefond/

In the CBA, we assume that an increase in RCN funding would not require a corresponding increase in mobilisation and advisory resources nor for coordination.

FP10 scenario: Participation in the FPs requires resources for mobilisation, coordination, and follow-up by ministries, the Research Council of Norway (RCN), Innovation Norway (IN), and other R&I funding entities. A common view among interviewees is that the magnitude of these efforts is difficult to quantify, as FP-related activities are increasingly integrated into broader international and strategic work. MER, RCN and IN have staff dedicated specifically to FP-related work, while other employees may contribute to FP-related activities as part of their broader responsibilities.

Some interviewees suggest that these costs have increased over time, while others argue that they have remained broadly stable or even declined, even as the FP budget increases. Given this uncertainty, we apply the same assumption as in Tofteng et al. (2020): 50 full-time equivalents (FTEs) and NOK 25 million in direct costs, such as representation in Brussels, in 2025 prices. We apply an annual labour cost of NOK 1.24 million, including overhead costs, in 2025 prices, based on SSB table 07685: Total average labour costs per full-time equivalent, within Professional, scientific and technical activities.

Based on these assumptions, the costs of mobilisation, coordination and advisory activities related to FP participation are estimated at approximately NOK 100 million per year, corresponding to around NOK 700 million over the programme period.

In addition, we assume continued spending on PES. Average annual PES spending amounted to approximately NOK 140 million over the period 2020–2023. Based solely on the larger size of FP10 relative to HE, we assume PES spending at approximately NOK 230 million per year.

National administrative costs

National administrative costs refer to public resources used for programme administration, including proposal evaluation, contract management and reporting.

Baseline scenario: In the baseline scenario, administrative costs are associated with the management of national R&I instruments. These costs are assumed to correspond to 7 percent of total R&I funding, in line with RCN's most recent annual report (RCN, 2026). Administrative costs are treated as a separate public expenditure and are therefore not deducted directly from the level of R&I funding. In the CBA, however, we assume that an increase in RCN funding would not require a proportional increase in administrative resources. We apply an effective marginal administrative cost of 3.5 percent of national R&I funding.

FP10 scenario: In the FP10 scenario, administrative costs are covered within the overall FP10 budget. Based on the Horizon Europe midterm evaluation, we assume that the European Commission's administrative costs correspond to approximately 6 percent of the FP10 budget (European Commission, 2025). These costs are implicitly included in Norway's financial contribution and are not treated as a separate cost item for Norway. We return to this issue under Norwegian FP10 funding.

Retur-EU

Retur-EU refers to national funding allocated to Norwegian participants in the FPs to compensate for (most of) the gap between EU funding and total project costs for research institutes.

Baseline scenario: We assume that the resources otherwise used for Retur-EU would be reallocated to national R&I instruments in the baseline scenario.

FP10 scenario: Retur-EU is treated as a national redistribution mechanism directed towards Norwegian participants in FP10. In 2024, Retur-EU spending amounted to close to NOK 0.8 billion. In the analysis, Retur-EU is assumed to amount to approximately NOK 1.1 billion annually (2025 prices).

This estimate is based on an assessment of the Retur-EU funding required to reach the target return rate of 2.8 percent in FP10. Under these assumptions FP funding to research institutes is estimated at approximately NOK 16.7 billion over the programme period (Figure 8.6). Furthermore, we assume that Retur-EU represents approximately 45 percent of FP funding (Figure 8.2). This is equivalent to approximately NOK 7.5 billion over the entire programme period, or NOK 1.1 billion a year.

Cost of writing proposals

The cost of writing proposals refers to the resources spent by Norwegian applicants on preparing and submitting applications for R&I funding. In both RCN and FP funding schemes, substantially more proposals are prepared than ultimately receive funding.

Baseline scenario: Based on web survey data, respondents report that preparing an RCN proposal requires approximately four person-weeks on average for an RCN coordinator. We assume that RCN projects on average include one coordinator and other participants spending one person-week. This is in line with NIFU (2017) suggesting that the median time spent on an RCN application is 185 hours. We apply an annual labour cost of NOK 1.24 million, including overhead costs, in 2025 NOK, based on SSB table 07685: Average labour costs per full-time equivalent, within Professional, scientific and technical activities. The cost of preparing an RCN proposal is estimated at NOK 137,400.

The number of proposals must also be estimated. During the period 2020-2024 RCN received close to 4,750 proposals a year on average. During the same period, R&I spending totalled NOK 11 billion a year on average. A proportional scaling of the application volume implies approximately 23,000 proposals over a seven-year period in the baseline scenario.

An increase in national R&I spending may have a mobilisation effect. For example, the RCN or other funding agencies could introduce new or expanded instruments that stimulate new project ideas, participants, and partnerships. At the same time, additional funding could also increase the average project size and/or allow projects with lower evaluation scores to receive funding. We assume that additional funding has such a mobilising effect, but that the marginal effect of mobilisation is declining. As for mobilising costs, we assume that additional spending generates half as many new proposals. Furthermore, the RCN aims to reduce the number of proposals and thereby increase the success rate. We assume that the increase in national R&I spending results in half as many proposals (11,500 over the programme period).

The cost of preparing RCN proposals is estimated at NOK 1.6 billion in the baseline scenario, over the entire programme period.

FP10 scenario: Survey data and interviews indicate that preparing FP proposals is more resource-intensive than preparing proposals for RCN, although the time spent varies substantially across applicants and funding instruments.

We estimate the costs of preparing FP proposals based on historical data from HE and survey data, scaled to reflect the estimated funding from FP10 to Norwegian participants. By the end of 2025, Norwegian participants had submitted 7,800 applications to Horizon Europe (of which 21 percent were successful). Adjusted to the size of FP10, we assume a total of 21,000 Norwegian proposals to be submitted to FP10 during the programme period.

Based on the web survey, median time spent preparing a proposal is found to be eight weeks for FP coordinators (NOK 220,000) and four weeks for FP partners (NOK 110,000). We assume an average

of 1.0 partner and 0.5 coordinator in each FP proposal. Based on these assumptions, we estimate the cost of writing an FP proposal at NOK 220,000. We only estimate costs for Norwegian participants. The total costs of preparing an FP proposal would be substantially higher if the analysis also included the time costs incurred by partners outside Norway.

The cost of preparing FP proposals is estimated at NOK 4.6 billion in the FP10 scenario over the programme period. Part of the cost of writing proposals can be covered by PES and thus already included. We have assumed that half of PES funding is spent on writing proposals.

The costs of preparing proposals are inherently difficult to assess due to substantial variation across applicants, institutions, and funding instruments. Both estimates are therefore associated with considerable uncertainty, and sensitive to assumptions regarding the average number of participating partners and time spent. This applies to both the baseline and FP10 scenarios, as both the RCN and the European Commission actively seek to reduce the time and resources required to prepare proposals and the number of unsuccessful proposals.

We also expect that many prospective applicants begin preparatory work before they start writing a concrete proposal, for example developing an idea, seeking partners and scoping the project. We also expect that many prospective applicants start preparing proposals without ultimately submitting them. We do not have sufficient data to estimate such costs in either scenario.

Cost of co-funding

The cost of co-funding refers to the share of project costs that must be financed by project participants in addition to public R&I funding. Co-funding is treated as a cost, as these resources could otherwise have been used for alternative productive activities.

Baseline scenario: The required level of co-funding varies across project types and funding schemes. We do not have detailed data on co-funding levels across RCN instruments and participant groups. We have therefore estimated the average level of co-funding based on different instruments and their relative share of the RCN portfolio. Based on these estimates, we assume that project participants finance 18 percent of total project costs, while the remaining 82 percent is covered by RCN funding.

Table 0.18 Key RCN instruments: number of projects, average numbers of partners and co-funding.

	Share of projects	Share of funding	Participant co-funding	Average number of partners
Research project	33%	65%	5%*	1.1*
Innovation project	39%	13%	52%	3.5
Competence and cooperation project	25%	11%	27%	7.6
Research centre	1%	8%	50%*	10.0*
Research infrastructure	2%	4%	20%*	5.0*
Total / Average	100%	100%	18%	3.8

Note: The share of projects is calculated using the average annual number of projects reported in "Forskningsrådet i tall" over the period 2022–2024. Co-funding and the average number of participants are based on projects finalised in 2020–2024 (Samfunnsøkonomisk Analyse, 2020–2025). Figures marked with an asterisk are assumptions.

FP10 scenario: Based on Norwegian participation in Horizon Europe and Horizon 2020 during the period 2019–2024, we find that, on average, 18 percent of eligible project costs are covered by participants and 82 percent of eligible project costs are covered by funding from the European Commission. For FP10, we expect that the required level of co-funding will vary considerably across pillars, instruments, and participant groups. In particular, we expect co-funding levels to be higher in

Pillar III (Innovative Europe). HE data indicate that FP participants, on average, finance approximately 31 percent of the total organisational costs associated with FP projects.

It is important to note that organisation cost only include EC-eligible project costs. Participants may therefore incur additional non-eligible costs, implying that the actual cost of participation may be higher than indicated by formal co-funding requirements. This is particularly relevant for research institutes and why we also include Retur-EU in the CBA. The estimated cost of co-funding should therefore be regarded as a conservative estimate of the total costs associated with participation in FP projects.

We also expect collaborative FP projects to require more administrative resources than national projects, reflecting their larger size, more complex governance structures, and the higher number of partners from different countries. At the same time, both the HE midterm evaluation and interviews suggest that the European Commission, as well as the RCN, continuously seek to reduce administrative burdens for participants. For example, under the HE, the European Commission has expanded the use of lump sum grants, where a fixed amount is provided for the entire project. EC estimates that lump sum grants will reduce beneficiaries' administrative costs (European Commission, 2025). Such costs can be financed by R&I funding, co-funding or other sources.

Cost of taxation

The financial contribution, as well as public expenditure on mobilisation and administration in Norway, is financed through taxation. Tax financing is distortionary, meaning that the social cost of raising public funds exceeds the government's direct expenditure. To account for this efficiency loss, we add a cost of taxation equivalent to 20 percent, in accordance with DFØ guidelines (DFØ, 2026). The cost of taxation is applied to the financial contribution, Retur-EU, PES, administration and mobilisation. Cost of taxation is estimated at 10.6 billion NOK in both scenarios.

F.2 Monetised benefits

R&D funding in Norway

R&D funding to Norwegian participants refers to the share of public R&I funding that accrues to Norwegian actors in each scenario. Funding from the FP that is paid to Norwegian participants can be viewed as an inflow to Norway and thus as a benefit relative to the baseline scenario. The magnitude of this benefit depends on the extent to which Norwegian participants succeed in securing competitive FP funding. To illustrate the net effect across scenarios, we present R&D funding both on the cost side and on the benefit side.

Baseline scenario: In the baseline scenario, R&I funding is allocated through national instruments. R&D funding to Norwegian participants is assumed to correspond to total R&I spending, with 4 percent allocated to activities outside Norway.

FP10 scenario: Future FP funding to Norway is inherently uncertain. In the FPs, a share of the total budget is allocated to administrative costs and other non-competitive activities. The FP10 proposal does not specify a dedicated administrative budget, but the midterm evaluation of Horizon Europe reports administrative expenditure corresponding to approximately 6 percent of the HE budget. We therefore assume that 94 percent of the FP10 budget will be distributed as competitive funding. In practice, the share of competitively distributed funding may be lower if the Commission allocates FP funding to non-competitive activities.

We use the current target of 2.8 percent as the central assumption in the CBA and test alternative return rates in the sensitivity analysis. The return is calculated as the competitive part of the FP10 budget (adjusted for 6 percent of EC administrative costs) multiplied by Norway's return rate.

Private sector benefits

Private sector benefits refer to the returns accruing to firms from participation in R&I activities, including increased productivity, competitiveness, and commercial outcomes.

We apply the same rate of return on investment to both FP-funded and RCN-funded private-sector R&I activity. We assume private-sector co-funding to be 31 percent for both RCN and FP, somewhat higher than average co-funding for the entire portfolio.

Baseline scenario: Private returns are assumed to correspond to a rate of return of 7.5 percent per year after the R&I investment is made, applied to RCN-funded R&D investments in the private sector, including co-funding. Returns are realised over a 13-year period with a depreciation rate of 4 percent. We apply the historical distribution of R&I funding across sectors, that is, 18 percent of RCN funding goes to private sector participants.

FP10 scenario: Private returns are calculated as above and we apply the historical distribution of R&I funding across sectors, that is, 21 percent of Norwegian FP funding is allocated to private sector participants.

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