

Norway's positions on the Commission's proposal for Horizon Europe

Key messages

With this paper, the Norwegian Government would like to present Norway's positions on the European Commission's proposal for the next EU framework programme for research and innovation, Horizon Europe. Norway's key messages are:

- Norway calls for increased attention to carbon capture and storage (CCS), including carbon-negative technologies as BECCS and other carbon dioxide removals (CDR), scalable energy storage solutions as well as to hydrogen, as they represent areas to reach Europe's goals on climate, energy and transformation towards a low-emission society.
- Norway calls for giving increased priority to "Seas and oceans". Seas and oceans offer an enormous potential for sustainable blue growth in Europe and are at the same time key to understanding and handling societal challenges.
- Norway welcomes missions on "Plastic-free oceans", "Carbon-neutral industries" and "Seasonal energy storage".
- Norway stresses the need for Horizon Europe to be open to the world, as global cooperation is a necessity for Europe to reach its policy goals, to strengthen competitiveness, and to contribute actively to global targets and commitments.
- Horizon Europe should reinforce the three objectives on gender from Horizon 2020: Gender balance in research teams, gender balance in decision-making positions and integration of gender dimension in research and innovation. Monitoring of these parameters is needed.
- Norway believes that social sciences and humanities (SSH) must be integrated in all parts of the programme and calls for an increase in budgets allocated to SSH activities.
- Resources from Erasmus and Horizon Europe should be combined to strengthen and modernise European higher education institutions and foster the integration of education, research and innovation.
- Norway calls for stronger efforts to make necessary advances within open science and open access. Initiatives that establish robust quality criteria for open access publishing should be supported.
- The process of selecting, establishing, monitoring and phasing-out of partnerships must be open and transparent.
- Norway welcomes the EIC, but stresses the need to ensure complementarity between national and European instruments.
- Norway calls for greater clarity in the legal text on the coordination between the Commission and the Member States/Associated Countries (MS/AC) on the implementation of the European Research Area (ERA).

In addition, the Norwegian Government puts forward proposals for amendments of selected parts of the Horizon Europe proposal as separate attached notes.

Furthermore, the Norwegian Government underlines that Horizon Europe should allow for full participation and eligibility in all parts of the programme for institutions, undertakings, organisations and nationals of EEA EFTA States in line with the provisions in the EEA Agreement and calls for amendments of Article 18.5 in line with our proposal on this.

Norway welcomes the Commission's proposal on Horizon Europe. Overall, it has been met with positive response by Norwegian ministries, agencies and stakeholders. The Norwegian Government is submitting this paper to present its views on the next framework programme. Norway takes strong interest in contributing to the further development of Horizon Europe, including through the strategic planning process. However, being an Associated Country, the decision to participate in the next framework programme will be subject to parliamentary consent at a later stage.

Structure, goals and cross-cutting issues

Structure and principles

Norway supports the well-balanced three-pillar structure of the Commission's proposal and appreciates that excellence and European Added Value remain core principles.

Global cooperation is necessary if Europe is to reach its policy goals and contribute actively to global targets, and for European business and industries to further strengthen their competitiveness. Therefore, calls should be as open to participation as possible.

Overarching goals and strategies

Norway supports that Horizon Europe should contribute actively and substantially to the UN Sustainable Development Goals (SDGs) and help achieve the targets set in the Paris Agreement.

We welcome the proposal of allocating 35 % of the budget to climate-related activities as a cross-cutting issue. However, given the importance of concerted efforts in research and innovation to understanding climate change, helping to develop strategies to mitigate and adapt to climate change and safeguarding the Arctic environment, Norway would suggest that the programme explicitly refers to the EU's Arctic policy, for instance in the preamble.

Moreover, we would like to reiterate that Horizon Europe should contribute to the achievement of the targets and commitments in international agreements on biodiversity, chemicals and waste. Biodiversity and ecosystem services are fundamental for the UN SDGs to be reached.

Key-enabling and industrial processes

Norway believes that we still need a dedicated focus on key-enabling and industrial technologies at the European level. A strong-commitment to key enabling and industrial technologies in Horizon Europe will further promote-knowledge-based innovation and restructuring in society. Key-enabling and industrial technologies have broad applications

within several sectors and industries and are necessary to find solutions to global societal challenges and to increase the competitiveness of European industries. The rapid development within these technologies enables new applications in advanced production processes, through the internet of things, robotics and automation, virtual or augmented reality, big data, additive manufacturing and advanced bio-refining and -processing, thus creating a foundation for new solutions, products and services.

Interdisciplinarity and social sciences and the humanities

Norway believes that the interaction between the clusters and pillars should be emphasised even more, as they represent important research and innovation areas in themselves.

Social sciences and the humanities (SSH) are vital for understanding, addressing and finding solutions to complex societal, scientific and technological challenges. To strengthen the role of SSH in Horizon Europe Norway proposes to emphasise SSH in all pillars and clusters. SSH should be included in the complete proposal-cycle, from making the call text to evaluating the proposals. We call for an increase in the budget allocated to SSH throughout the programme in general and to the cluster "Inclusive and Secure Societies" in particular.

Equality, diversity and gender

Equality and integration of gender and diversity dimensions are important for quality, relevance and societal impact of research and innovation.

We urge the Commission to retain and reinforce the three objectives of Horizon 2020 in Horizon Europe: Gender balance in research teams, gender balance in decision-making positions and integration of gender dimension in research and innovation.

The objectives for gender equality and gender dimension need to be monitored and evaluated. Gender disaggregated data and monitoring are necessary to mainstream gender balance and gender dimensions, to assess progress, to identify and solve problems and to eliminate barriers. Norway also proposes that all project proposals must explain how and to what extent gender analysis is relevant for the content of the project.

Responsible Research and Innovation

Responsible Research and Innovation (RRI) ensures that projects are ethically founded and societally anchored. Norway urges the Commission to contribute to the further development of RRI. Norway believes that integration of RRI into all parts of the framework programme as well as common guidelines or a reflection paper on RRI with examples of best practices would be fruitful measures for further promoting RRI.

Synergies with other programmes

Norway welcomes the ambitions in the Commission's proposal on synergies between Horizon Europe and other Union funded programmes. However, we would like to emphasise the need for open and transparent processes when it comes to designing and implementing synergies between programmes.

Norway sees strong links between Horizon Europe and Erasmus as particularly important. Europe needs to combine resources from Erasmus and Horizon Europe to strengthen and modernise its higher education institutions and foster the integration of education and research and innovation. When implementing the two programmes the Commission should strive to make it easier for applicants and beneficiaries to exploit the synergies. This could for instance be done by better coordination of calls and activities and by explicitly communicating the potential synergies the various calls provide for.

Pillar 1: Open science

Norway supports the Commission's proposal for the Open science pillar and welcomes the continuation of the ERC, MSCA and Research Infrastructure.

However, we believe that stronger efforts are needed to make necessary advances within open science and open access. Norway supports cOAlition S ambitions of making open access a reality. Initiatives that establish robust quality criteria for open access publishing (such as Directory of Open Access Journals, DOAJ), should be supported. The roadmap towards open access should follow a path towards increased scientific quality and impact.

Given its globally prestigious grants, Norway believes that the ERC could and should play a stronger role in promoting open publications and open access to data. If researchers are to succeed in increased access to and sharing of research data, effective support services, information, training and incentives must be available to remove barriers.

We support the wish to give greater recognition and credit to data management and curation activities in connection with applications for research funding and positions and believe steps must be taken to make data sets citable and the work done with research data more visible.

Long-term, sustainable – and sometimes tailor-made – funding models are needed to ensure proper storing and access to research data. In addition to dedicated funding instruments for establishing infrastructure, there is a need for knowledge on how revenues and costs associated with working with research data can be combined in effective, sustainable business models.

Pillar 2: Global challenges and industrial competitiveness

Norway supports the Commission's proposal for a pillar covering global challenges and industrial competitiveness, as this will accommodate linkages between the two. The five clusters (Health; Inclusive and secure societies; Digital and industry; Climate, energy and mobility, and Food and natural resources), with their intervention areas, are all important for the challenges ahead, facilitating cross-disciplinary and cross-sectoral cooperation when necessary.

Norway calls for Horizon Europe to be open for applicants to propose the means necessary to reach good solutions. Furthermore, the framework programme should, through its structure and calls, actively address and seek answers to underlying and root causes of global challenges.

In the following Norway would like to provide more in-depth comments regarding the cluster on "Climate, energy and mobility" and regarding the intervention area "Seas and oceans" under the cluster on "Food and natural resources".

Climate, energy and mobility

The cluster on "Climate, energy and mobility" provides for cross-sectoral research and innovation and for exploitation of synergies between the three areas, exemplified by the inclusion of clean transport fuels (electricity, hydrogen and biofuels) as an issue that concerns the transport sector and the energy systems as a whole. However, as the three thematic areas no longer have separate budget lines, we would call for clear and transparent mechanisms for prioritising between the areas. Furthermore, there must still be room for research addressing specific needs within each of the three thematic areas.

Norway supports the thematic priorities on energy. However, we believe the triple challenge of meeting needs on energy security, energy affordability and climate emission reductions in conjunction should be more explicitly reflected in the framework programme. In light of the importance of using carbon capture and storage (CCS) to reach climate and energy goals, CCS should be reflected in a more complete manner in the legal texts, by referring also to industrial processes, reflecting the importance of CCS for a wider application than just power generation. Norway also believes that carbon negative technologies such as BECCS and other carbon dioxide removals should be better reflected in Horizon Europe.

Furthermore, Horizon Europe must address the increasing need for scalable energy storage solutions, as intermittent energy sources such as solar and wind power gain traction in the European energy system. Hydrogen is an energy carrier that could play a significant role in a future low-emission society as it can be used in transport, heat and electricity production, or as an input in industrial processes, for example in producing steel. We suggest that hydrogen and its various uses should be given more attention in the next framework programme, for example in the "Climate, energy and mobility" cluster and in the "Digital and industry" cluster.

Norway would also like to emphasize the significance of the maritime sector when it comes to industrial competitiveness, clean transport and mobility as well as smart mobility. We especially welcome that all transport modes are included in the important activities listed under smart mobility.

Finally, Norway agrees that reducing greenhouse gas emissions from industrial sectors is necessary. Electrification alone cannot reduce process-related emissions; it will also require de-carbonised feedstock. Hydrogen production from fossil fuels with CCS will be an important supplement to production of hydrogen through electrolysis and should be reflected in the priorities under "Low-carbon and Clean Industries" in the cluster on "Digital and industry".

Seas and oceans

Norway considers that "Seas and oceans" should be a key priority in Horizon Europe. Oceans are cross-sectoral, and we would therefore like to emphasise that marine and

maritime research and innovation should be fully integrated in all clusters under pillar 2, including specific and dedicated activities, as stated in the Commission's proposal.

In the Commission's proposal for Horizon Europe "Seas and oceans" is one of seven areas of intervention within the cluster "Food and natural resources". Given the challenges related to "Seas and oceans" Norway suggests a substantial increase in the proposed budget for "Food and natural resources". Moreover, we consider that a mission-based approach is well suited to solving the challenges facing seas and oceans (see below). However, a possible mission for "Seas and oceans" must complement regular calls for proposals, and not replace increased funding to "Seas and oceans".

Why should "Seas and oceans" be a key priority in Horizon Europe?

Healthy seas and oceans provide the livelihood, food security and economic prosperity of hundreds of millions of people. However, the coastal and marine ecosystems are facing an increasing number of threats. Overfishing (including illegal, unreported and unregulated fishing), marine pollution (including from plastic litter), climate change (including ocean warming, acidification, sea-level rise and extreme weather events) are affecting communities globally.

If we manage to contain the threats and to support sustainable marine ecosystems, seas and oceans hold the potential for boosting economic growth, employment and innovation. As pointed out by the OECD in its report *The Ocean Economy in 2030* (2016), many ocean-based industries have the potential to outperform the growth of the global economy as a whole, both in terms of value added and employment. The projection suggests that between 2010 and 2030, on a "business-as-usual" scenario basis, the ocean economy could more than double its contribution to global value added, reaching over USD 3 trillion, while value added in the "sustainable" scenario is more than USD 3.2 trillion. That economic growth is higher in the "sustainable" scenario substantiates the importance of research and innovation.

However, to contain the threats and unlock the growth potential, we need increased focus on research and innovation, and we need joint efforts and common solutions. We need to know about the threats to the oceans, the environmental status of marine areas, the economic potential of ocean industries, the jobs they can provide and the impacts they have on ecosystems. We need to move from managing the ocean sector by sector, to an integrated ocean management based on scientific knowledge, taking account of the full range of opportunities and risks.

Giving increased priority to "Seas and oceans" in Horizon Europe is a unique opportunity for Europe to show leadership in this field. The EU Added Value of research and innovation on issues related to seas and oceans is considerable.

Missions

Norway welcomes missions as they provide an opportunity to increase the impact of European research and innovation, grasp the public imagination and make real progress on complex challenges. Norway calls for the further process of developing and selecting areas

and concrete topics for missions, as well as implementing and selecting participants for missions, to be open and transparent.

Norway considers a mission-based approach well suited for solving the challenges facing seas and oceans. Such an approach is important for unlocking the potential the seas and oceans offer both socially and economically. Healthy and clean oceans are a prerequisite for future development of these ecosystems. Litter and pollutions are a serious threat, and Norway therefore supports a mission on a "Plastic free ocean". We would like to offer our expertise in further dialogue on the design of such a mission in order to target the challenges in the most optimal way.

Furthermore, we welcome missions on "Seasonal energy storage" and "Carbon-neutral industries". These topics, like "Plastic free oceans", are of major importance for reaching the goals set in the Paris Agreement and the UN SDGs. Missions focusing on the use of key-enabling and industrial technologies should also be prioritised.

Partnerships

Norway supports the new policy on partnerships as laid out in the proposal for Horizon Europe. However, we believe an instrument providing administrative assistance for Member States and Associated Countries (MS/ACs) activities is needed, and therefore we call for a flexible tool, such as "Coordination and Support Actions" (CSA).

The process of selection, establishment, monitoring and phasing-out of partnerships must be open and transparent. Both MSs and ACs should be active participants in the process. The responsibility for partnerships should therefore be placed in a configuration where ACs participate, such as ERAC or GPC.

Pillar 3: Open innovation

Building on Europe's solid science base, the proposed "Open Innovation" activities can improve the transformation of science into innovation, support the up-scaling of European companies and start-ups and ensure efficient complementarity with national and local innovation ecosystems. However, the innovation pillar must not overshadow the continued need to balance research and innovation in other parts of the programme.

European Innovation Council

Norway welcomes the European Innovation Council (EIC) and supports the continuation and further development of this instrument introducing blended finance. At the same time, we wish to underline the importance of building on the success of the SME Instrument, retaining initiatives such as the investor panels and the competence services. The EIC should emphasise innovation and market focused activities.

Norway supports the move towards an EIC forum, where national innovation programmes can work in coordinated cooperation with the Commission to stimulate synergies and avoid overlap. The EIC Forum's members should primarily come from national innovation funding agencies.

Norway supports the proposed EIC Pathfinder as a way to identify and fill gaps in the development and commercialisation of early stage high-risk cutting-edge projects. At the same time, we believe that a bottom-up open approach is essential. Norway values the FET and Proof of Concept instruments in Horizon 2020 and sees similar instruments as an important part of Pathfinder. Furthermore, Norway believes it is necessary to ensure synergies and complementarity with national systems in order to avoid duplication. We are concerned that parts of the Pathfinder in its current form could duplicate activities carried out at the national level.

The proposed EIC Accelerator is complementary to what is or should be addressed at a national level. If implemented as intended the Accelerator will enable European companies to scale in Europe. However it is important that this is done in an open and simple manner to ensure crowding in and not crowding out of private capital. SMEs should be the main target group, growing into small-mid-caps and larger companies throughout the Accelerator instrument.

Innovation ecosystems

Norway supports a holistic approach to the European Innovation Ecosystem to fully harvest the potential of innovation involving researchers, entrepreneurs, industry and society at large. Norway supports promotion and co-funding of joint innovation programmes managed by national authorities. Co-funded schemes under the European Innovation Ecosystems can provide a valuable pipeline for the Accelerator, for instance through programmes such as Eurostar 3.

Innovative procurement policies and activities should be more closely linked to solving global challenges as well as to co-creating new growth markets, based on unmet needs in the public sector. Pre-commercial procurement and public procurement of innovation should be complemented by a more complete and coherent process covering both development and procurement, such as the innovation partnerships.

The European Institute of Innovation and Technology and synergies with EIC

Norway supports the inclusion of the European Institute of Innovation and Technology (EIT) in the Open Innovation pillar. However, the EIC should be given flexibility to develop initiatives, and the EIT should adjust its assistance to accommodate the EIC. Efforts are needed to ensure that the EIT and its Knowledge and Innovation Communities (KICs) improve their outreach effort to renew and reinforce the member base and move from being regional initiatives to true pan-European actors.

The European Research Area (ERA)

The Council and the Commission share the goal of realising ERA. Horizon Europe is in this respect a powerful instrument, as is the ERA roadmap. The ERA priorities in Horizon Europe mirror the priorities in the current ERA roadmap. However, Norway believes that the cooperation between Horizon Europe and ERAC on the ERA priorities should be outlined explicitly in the legal text. We call for better coordination between the Commission and the MSs and ACs, through ERAC, to optimise the ability to realise ERA.

List of attachments, Norwegian positions on Horizon Europa

In the following, the Norwegian Government puts forward proposals for amendments of selected parts of the Horizon Europe proposal as separate attached notes.

- Social Sciences and Humanities
- Gender and Equality
- Responsible Research and Innovation
- Coverage of Hydrogen and Carbon Capture and Storage (CCS) in the Cluster "Digital and Industry" and the Cluster "Climate, Energy and Mobility"
- Seas and Oceans
- European Partnerships
- Open Innovation
- The European Research Area

Norwegian proposal for amendments of the Proposal for a Regulation of the European Parliament and of the Council establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination; the Proposal for a Decision; and Annex I to the Proposal for a Decision of the European Parliament and of the Council on establishing the specific programme implementing Horizon Europe – the Framework Programme for Research and Innovation

The cluster on Inclusive and Secure Societies

Norway welcomes the cluster "Inclusive and secure societies" as it addresses key issues at the heart of European citizens like security, risk, democracy and social transformation. Resources for this cluster should be secured to address both drivers and symptoms of fundamental issues facing European societies.

Social Sciences and Humanities (SSH) as a cross-cutting issue

Norway welcomes the ambition to fully integrate SSH across all clusters and across the Horizon Europe programme. Expertise from the Social Sciences and Humanities (SSH) is fundamental to providing impactful solutions to many of the most pressing global challenges our societies are facing. Societies are in need of SSH to understand, reflect upon and evaluate the origins and consequences of crises, and the risks involved. SSH also contributes to reflection upon dilemmas regarding the balance between freedom and security, openness versus secrecy and the cost and effect of technological solutions.

Interdisciplinary research should be strengthened, including better integration of the SSH in collaborative research. Monitoring reports on SSH Integration in Horizon 2020 show that more efforts on interdisciplinarity are needed in all phases of the implementation. Integration of Social Sciences and Humanities across all clusters must be emphasized in the legal basis, in all stages from topic definition to the evaluation phase. To ensure that social, economic, human and cultural aspects are better integrated in collaborative projects topics need to be drafted in a manner that attract SSH participation. Co-design involving SSH expertise should be secured in an early phase to ensure research topics are open and relevant to contributions from all SSH disciplines.

Experience from Horizon 2020 suggest that flagging of topics relevant to SSH should be restricted to topics where the expected SSH contribution is clearly defined. SSH experts should be systematically included in evaluation panels where SSH aspects are relevant (flagged topics) to ensure adequate evaluation of proposals with an SSH component.

Concluding remark

The Social Sciences and Humanities should be fully integrated across the Horizon Europe programme, and ensured in all stages from topic definition to the evaluation phase. The fundamental role of SSH in addressing global challenges should be specifically stated in the legal basis where relevant and reflected in the budget.

Paragraph in the proposal for a regulation of the European Parliament and of the Council	Amendments of the text	Comments
Other elements: detailed explanation of the specific provisions of the proposal		
Section 2, subsection 2 (new), p. 11	The social sciences and humanities will be fully integrated across all clusters as an essential element.	SSH should be included as a cross-cutting issue.
General provisions		
Article 7, indent 3, letter e), p. 30 3. Missions shall e) spark activity across disciplines, sectors and actors;	e) spark activity across disciplines, sectors and actors, including the social sciences and humanities	SSH should be underlined as relevant for addressing missions. The Missions represent an ideal opportunity to maximize cooperation between all scientific disciplines and sectors.
Text in Annex I to the proposal for a Decision of the European Parliament and of the Council	Amendment of the text	Comment
Pillar II: Global challenges and Industrial competitiveness		
Preamble, paragraph 5, p. 17 Therefore, none of the thematic clusters is intended for only one set of actors.	Therefore, none of the thematic clusters is intended for only one set of actors. Human centered approaches are fundamental for providing impactful solutions and a better understanding of the challenges addressed.	It is important to specifically include human centered approaches in line with the description of SSH in annex 1, p.3 ("Building on experience in Horizon 2020, the social sciences and the humanities will be fully integrated across all clusters, including specific and dedicated activities").
Cluster 'Inclusive and Secure Societies'		
Section 2.2.4, paragraph 2, indent 1, p. 28 - Technologies and capabilities for first responders for emergency operations in crisis and disaster situations;	- Technologies, learning and other capabilities for first responders for emergency operations in crisis and disaster situations;	The learning aspects of first responders after operations are paramount. Crisis appears rather seldom and the lessons learned from them can easily be forgotten if they are not followed up by education, exercise and planning activities.
Section 2.2.4, paragraph 2, indent 2, p. 28	-The capacities of society to better understand , manage and reduce disaster risk,	In order to manage and reduce the risks one must understand the various components of risk,

<p>– The capacities of society to better manage and reduce disaster risk, including through nature-based solutions, by enhancing prevention, preparedness and response to existing and new risks</p>	<p>including through human and social sciences, by enhancing prevention, preparedness and response to existing and new risks</p>	<p>through a variety of sources and sciences, especially increased participation of human and social sciences.</p>
<p>Section 2.2.5, paragraph 2, indent 6 p. 28 – Ensuring the protection of personal data in law enforcement activities, in particular in view of rapid technological developments.</p>	<p>– Ensuring the protection of human rights and personal data in law enforcement activities, in particular in view of rapid technological developments.</p>	<p>The personal data protection is only a narrower element of the general dilemma between security and freedom and other human rights.</p>
<p>Section 2.2.6, paragraph 1, p. 28 ...Our future security and prosperity depend on improving our ability to protect the EU against cyber threats.</p>	<p>Our future security and prosperity depend on improving our ability to understand the nature of cyber threats and protect the EU against these cyber-threats.</p>	<p>We still understand too little of the risks of cyberspace. Even if computers are hacked, manipulated or destroyed, what are the real consequences for societal security? What is our capacity to learn and repair?</p>
<p>Section 2.2.6, paragraph 2, indent 1 (new), p. 29</p>	<p>-Human and social factors involved in the cybersecurity domain</p>	<p>Technological solutions does not cover the whole picture. We need to understand how computers involve human and social dimensions that can improve resilience and reduce or increase risks.</p>
<p>Text in the proposal for a Decision establishing Horizon Europe</p>	<p>Amendments of the text</p>	<p>Comments</p>
<p>Explanatory Memorandum; Other Elements; Pillar II – ‘Global Challenges and Industrial Competiveness’</p>		
<p>Section 2, paragraph 3, p.3 The entire pillar is designed to be more impact-oriented.</p>	<p>The entire pillar is designed to be more impact-oriented. To produce impact in a broad sense - i.e. also societal, economic, environmental and cultural – the need for expertise from the Social Sciences and Humanities should be clearly stated.</p>	<p>The Monitoring reports on SSH Integration covering the years 2014-16 show that more can be done to increase collaboration between the SSH and STEM disciplines</p>

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Norwegian proposal for amendments of the Regulation of the European Parliament and of the Council establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination; and to Annex I to the Proposal for a Decision of the European Parliament and of the Council on establishing the specific programme implementing Horizon Europe – the Framework Programme for Research and Innovation

Gender and equality

Norway support the Commission's ambition for gender equality and gender dimension in the whole research and innovation cycle.

However, we call on the Commission to retain and reinforce the three objectives of Horizon 2020 to promote gender equality and the gender dimension in research and innovation; *Gender balance in research teams; Gender balance in decision making positions; Gender dimension in research and innovation content*. The overall impact of Horizon Europe should be monitored and evaluated against these objectives. A stronger gender dimension will support better solutions to global challenges, accommodate responsible research and innovation, and help boost the EU's innovation, competitiveness and societal sustainability capacities.

Horizon Europe needs to implement systematic long-term monitoring to assess the progress, and identify and eliminate potential barriers to the promotion of gender equality and gender dimension. The lack of gender disaggregated data and monitoring of the three set objectives has been a major obstacle for assessing progress during Horizon 2020. All project proposals in Horizon Europe should be obliged to describe and evaluate the relevance of gender analysis to the content of the project.

It is crucial to address the gender dimension as a cross-cutting issue in all proposed thematic areas, in particular in 'Pillar II: Global Challenges and Industrial Competitiveness'. For increased quality, relevance and societal impact of research and innovation, the gender dimension should be explicitly incorporated into all clusters. The UN Sustainable Development Goal 5, *Achieve gender equality and empower all women and girls*, should also be explicitly recognized in all pillars of Horizon Europe.

Concluding remark

Norway calls on the Commission to reinforce existing objectives to promote gender equality and the gender dimension in Horizon Europe. The progress of these objectives should systematically be monitored and evaluated, also on project level, to promote more disaggregated data on gender equality and the gender dimension.

Paragraph in the proposal for a regulation of the European Parliament and of the Council	Amendments of the text	Comments
Title I General Provisions		
<p>Article 6 indent 9, p. 30</p> <p>The programme shall ensure the effective promotion of gender equality and the gender dimension in research and innovation content. Particular attention shall be paid to ensuring gender balance, subject to the situation in the field of research and innovation concerned, in evaluation panels and in bodies such as expert groups.</p>	<p>The programme shall ensure the effective promotion of gender equality and the gender dimension in research and innovation content. Particular attention shall be paid to ensuring gender balance, subject to the situation in the field of research and innovation concerned, in evaluation panels and in bodies such as expert groups. To ensure an effective promotion of gender balance and the gender dimension in research and innovation, every funding proposal should include a gender analysis.</p>	<p>The objectives for gender equality and gender dimension need to be monitored and evaluated. Gender disaggregated data and monitoring are necessary to mainstream gender balance and gender dimensions, to assess progress, to identify and solve problems and eliminate barriers.</p>
Text in Annex I to the proposal for a Decision of the European Parliament and of the Council	Amendment of the text	Comment
Pillar II: Global Challenges and Industrial Competitiveness		
<p>Preamble, paragraph 5, p. 17</p> <p>Research and innovation under this pillar of Horizon Europe is grouped into integrated clusters of activities. Rather than addressing sectors, the investments aim at systemic changes for our society and economy along a sustainability vector. These will only be achieved if all actors, both private and public, engage in co-designing and co-creating research and innovation; bringing together end-users, scientists, technologists, producers, innovators, businesses, educators, citizens and civil society organizations, Therefore, none of the thematic clusters is intended for only one set of actors.</p>	<p>Research and innovation under this pillar of Horizon Europe is grouped into integrated clusters of activities. Rather than addressing sectors, the investments aim at systemic changes for our society and economy along a sustainability vector. These will only be achieved if all actors, both private and public, engage in co-designing and co-creating research and innovation; bringing together end-users, scientists, technologists, producers, innovators, businesses, educators, citizens and civil society organizations, and in doing so, including a gender dimension. Therefore, none of the thematic clusters is intended for only one set of actors.</p>	<p>Equality and integration of gender and diversity dimensions are important for quality, relevance and societal impact of research and innovation.</p>

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Norwegian proposal for amendments of Annex I to the Proposal for a Decision of the European Parliament and of the Council on establishing the specific programme implementing Horizon Europe – the Framework Programme for Research and Innovation

Responsible research and innovation (RRI)

Horizon Europe emphasise strategic integration of responsible research and innovation throughout the programme, to ensure that all projects are ethically founded and societally anchored.

RRI dimensions should be included in calls and evaluations, and guidance for proposal developers and proposal evaluators must be offered. Projects with a primary focus on building a RRI knowledge and experience base should be launched, and demonstrations of "good practices" should be collected, used and distributed. Initiatives to coordinate and support RRI across the three pillars in Horizon Europe should be initiated.

Concluding remark

Horizon Europe should further develop the concept of RRI and RRI practices in all parts of the framework programme.

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments to the text	Comments
Part Strengthening the European Research Area		
Preamble (new), p. 74-75	RRI dimensions should be included in calls and evaluations, and guidance for proposal developers and proposal evaluators should be offered. Projects with a primary focus on building a RRI knowledge and experience base should be launched, and demonstrations of "good practices" should be collected, used and distributed. Institutionalisation of RRI, with emphasis on strategies and commitment, should be encouraged.	The RRI concept ensures that projects are ethically founded and societally anchored.

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Norwegian proposal for amendments of the annexes to the Commission Proposal for a Decision of the European Parliament and of the Council on establishing the specific programme implementing Horizon Europe – the Framework Programme for Research and Innovation

Hydrogen and Carbon Capture and Storage (CCS) in the Cluster "Digital and Industry" and the Cluster "Climate, Energy and Mobility"

The future competitiveness of European industry and the possibility to fulfil the 2050 decarbonisation goals are at the heart of the Horizon Europe proposal. Increased use of renewable energy technologies and electrification of energy, industry and transport systems are not sufficient to decarbonise society in time to meet the decarbonisation goals and to avoid serious climate change. Among others, we need to address emissions from industrial processes.

Carbon capture and storage (CCS) must be used to avoid greenhouse gas emissions from the use of fossil fuels and from industrial processes. This should be much better reflected in Horizon Europe, in particular in the section dealing with low-carbon and clean industries.

Moreover, hydrogen can play a significant role in the future low emission society. Hydrogen can be applied in a number of sectors such as the energy intensive industry (for power and heat generation as well as feedstock), power production, energy storage, and transport. The Hydrogen Council predicts a demand of hydrogen in 2050 of 550 Mt/year, ten times the present global production. A literature study recently published by the Carbon Sequestration Leadership Forum (CSLF) indicates that such an increase will have to be met by a combination of electrolysis and reforming of fossil fuels with CCS. Even a five-fold increase in demand will be difficult to meet with electrolysis alone.

While both electrolysis and natural gas-based hydrogen with CCS are proven technologies, new technologies that reduce costs are necessary to secure broad implementation. In addition, for hydrogen value chains, considerable research efforts are needed in the areas of liquefaction, transportation, end-user equipment, safety and system integration. This can fast-track hydrogen's potential and applicability in mid-century decarbonisation context.

Balanced efforts on both disruptive renewable energy technologies, electrolysis and hydrogen production with CCS are required, as they will have to supplement each other to meet demand predictions for hydrogen by 2050.

To ensure that the aforementioned need are met, Norway would like to propose some amendments to the text in the clusters on "Digital and industry" and "Climate, energy and mobility".

Text in Annexes	Amendments of the text	Comments
3.2.8. Cluster "Low-Carbon and Clean Industries"		
<p>Section 3.2.8, paragraph 3, indent 2</p> <p>Industrial CO₂ valorisation;</p>	<p>Efficient industrial processes to capture CO₂, including CO₂ valorisation when it is proved environmentally safe and offers substantial climate benefits; Industrial CO₂ valorisation;</p>	<p>CO₂ valorisation should be encouraged when it is proven environmentally safe and offers substantial climate benefits as it otherwise risks undermining decarbonisation policies.</p>
<p>Section 3.2.8, paragraph 3, indent 3</p> <p>Electrification and use of unconventional energy sources within industrial plants, and energy and resource exchanges between industrial plants (for instance via industrial symbiosis);</p>	<p>Electrification and use of clean energy sources and decarbonised feedstock within industrial plants, and energy and resource exchanges between industrial plants (for instance via industrial symbiosis);</p>	<p>Fossil feedstock results in significant CO₂ emissions from many industries and cannot always be replaced by electrification, but should be replaced by e.g. decarbonised hydrogen (electrolysis and/or reforming with CCS).</p>
<p>Section 3.2.8, paragraph 3, indent 5 (new)</p>	<p>The use of carbon capture and storage (CCS) to decarbonise industrial processes and energy carriers.</p>	<p>It is highly unlikely that demand for electrification and decarbonised industrial processes can be met by renewables only in the timeframe to meet the climate goals in 2050. CCS will be needed to achieve necessary reductions targets within the set timeframe.</p>
4.2.2. Energy Supply		
<p>Section 4.2.2, paragraph 2, indent 3</p> <p>Technologies and solutions to reduce greenhouse gas emissions from fossil fuel-based power generation via CO₂ capture, utilisation and storage (CCUS).</p>	<p>Technologies and solutions to reduce greenhouse gas emissions from fossil fuel-based heat and power generation via CO₂ capture, utilisation and storage (CCUS) as well as clean hydrogen production.</p>	<p>The text should emphasise that CCUS has a wider application than just power generation.</p>

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Norwegian proposal for amendments of the Annex I to the Proposal for a Decision of the European Parliament and of the Council – on establishing the specific programme implementing Horizon Europe – the Framework Programme for Research and Innovation

Seas and Oceans

Norway supports that Horizon Europe should contribute actively and substantially to the UN Sustainable Development Goals (SDGs) and help achieve the targets set in the Paris Agreement. The UN 2030 Agenda for Sustainable Development, adopted in 2015, identified conservation and sustainable use of oceans as one of the 17 SDGs (SDG 14).

Healthy seas and oceans provide the livelihood, food security and economic prosperity of hundreds of millions of people. However, the coastal and marine ecosystems are facing an increasing number of threats. To contain the threats and unlock the growth potential, we need increased focus on research and innovation, and we need joint efforts and common solutions. We need to know about the threats to the oceans, the environmental status of marine areas, the economic potential of ocean industries, the jobs they can provide and the impacts they have on ecosystems. We need to move from managing the ocean sector by sector to a more integrated ocean management, based on scientific knowledge, taking account of the full range of opportunities and risks.

Norway considers that "Seas and oceans" should be a key priority in Horizon Europe. We emphasise that marine research and innovation should be fully integrated in all clusters under pillar II, including specific and dedicated activities, as stated in the Commission's proposal.

Concluding remark

Giving increased priority to "Seas and oceans" in Horizon Europe is an unique opportunity for Europe to show leadership in this field. The EU added value of research and innovation on issues related to "Seas and oceans" is considerable.

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comments
Programme activities		
Strategic Planning, paragraph 10, p. 2 Under the 'Global Challenges and Industrial Competitiveness' pillar, building on experience in Horizon 2020, the social	Under the 'Global Challenges and Industrial Competitiveness' pillar, building on experience in Horizon 2020, the social sciences and humanities will be fully integrated across all	No suggested amendments but the text is of crucial importance and building on the experiences from H2020 and should therefore be kept.

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comments
<p>sciences and humanities will be fully integrated across all clusters, including specific and dedicated activities. Likewise, activities involving marine and maritime research and innovation will be implemented in a strategic and integrated manner in line with the EU Integrated Maritime Policy, the Common Fisheries Policy Policies and international commitments.</p>	<p>clusters, including specific and dedicated activities. Likewise, activities involving marine and maritime research and innovation will be implemented in a strategic and integrated manner in line with the EU Integrated Maritime Policy, the Common Fisheries Policy Policies and international commitments.</p>	
Cluster 'Climate, energy and mobility'		
<p>Section 4,1, paragraph 11, p. 39 Activities will contribute to different Sustainable Developments Goals (SDGs) such as: SDG 3 – Good Health and Well-Being for People; SDG 7 – Affordable and Clean Energy; SDG 9 -Industry Innovation and Infrastructure; SDG 13 – Climate Action.</p>	<p>Activities will contribute to different Sustainable Developments Goals (SDGs) such as: SDG 3 – Good Health and Well-Being for People; SDG 7 – Affordable and Clean Energy; SDG 9 -Industry Innovation and Infrastructure; SDG 13 – Climate Action; SDG 14 – Life below water; SDG 15 – Life on land.</p>	<p>SDG 14 – Life below water and SDG 15 – Life on land should be reflected, as well.</p>
<p>Section 4.2.1, paragraph 2, indent 3, p. 40 Climate projections and techniques for predictability and services for businesses, public authorities and citizens;</p>	<p>Climate projections and techniques for predictability and climate tools and services for businesses, public authorities and citizens allowing the evaluation and management of climate risk including financial impact;</p>	<p>The evaluation of climate risk is expected to be a concrete outcome of the EU's long-term climate action plan with potential impacts for business – like access to capital.</p>

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comments
<p>Section 4.2.2, paragraph 1, p. 40 As regards fossil fuels, decarbonising their usage will be essential to meet the climate objectives.</p>	<p>As regards fossil fuels, decarbonising and reducing methane and CO2 emissions and their usage will be essential to meet the climate objectives.</p>	<p>Methane emissions is the top strategic climate challenge of oil and gas companies in Europe and the main show-stopper to using natural gas as a bridging fuel. Methane emissions have been rising faster over that past years and this is important in the context of curbing cumulative emissions as methane has 80 % higher warming effect than CO₂. Focus and support should be given to concepts such as Smart Oceans and advanced sensor and satellite technology.</p>
<p>Section 4.2.2, paragraph 2, indent 2, p. 40 Disruptive renewable energy technologies for new applications and breakthrough solutions;</p>	<p>Disruptive renewable energy technologies, particularly tidal and wave energy, but also floating offshore wind, for new applications and breakthrough solutions;</p>	<p>As nuclear, coal and, later on, gas are phased out and as long as storage is not progressing at scale, a more stable production profile will be needed to balance EU energy systems. Offshore renewables offer the most promising portfolio of renewable baseline energy and should therefore be prioritized.</p>
<p>Section 4.2.2, paragraph 2, indent 3, p. 40 Technologies and solutions to reduce greenhouse gas emissions from fossil fuel-based power generation via CO₂ capture, utilization and storage (CCUS).</p>	<p>Technologies and solutions to reduce greenhouse gas emissions from fossil fuel-based power generation via CO₂ capture, utilization and storage (CCUS), with particular emphasis on effective and commercially competitive CO₂ monitoring technologies.</p>	<p>Public acceptance and lack of adequate insurance products remain two of the biggest show-stoppers of commercially viable CCS in Europe. Both problems can be solved through better monitoring technology of CO₂ migration in the reservoir.</p>
<p>Section 4.2.6, paragraph 2, indent 6 (new), p. 43</p>	<p>Circular economy: Recycling and reuse of components in vessels / vehicles / aircraft to be ensured through technology, requirements and guidelines.</p>	<p>Minimizing lifecycle impact on the environment, human health and energy use is mentioned initially, but not specified in broad lines. The problem as to what to do with all the used/old batteries and hulls is increasing. It is a challenge to recycle and reuse batteries, other</p>

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comments
		parts of propulsion systems and some types of hulls on vessels. The same is true for the car and aircraft industry.
<p>Section 4.2.7, paragraph 1, p. 43 Building on progress with electrification and the use of fuel cells for cars, buses light duty vehicles it is essential to accelerate research and innovation solutions for other sectors such as aviation, and inland navigation and lorries.</p>	<p>Building on progress with electrification and the use of fuel cells for cars, buses light duty vehicles and short sea shipping it is essential to accelerate research and innovation solutions for other sectors such as aviation, deep sea shipping and inland navigation and lorries. Special attention should be given to learning between large-scale applications such as railway, maritime and fast charging.</p>	<p>It is important to recognize the latest advancements in the field of electrification and the use of fuel cells in European short sea shipping.</p>
<p>Section 4.2.8, paragraph 2, indent 5 (new), p. 44</p>	<p>Automation of vessels and infrastructures (e.g. ports), effects on maritime safety and emergency response, new routes as in the Arctic.</p>	<p>The broad lines should also include maritime transport and reflect the important advancements related to automation of maritime transport.</p>
<p>Section 4.2.9, paragraph 2, indents 4 and 5 (new), p. 44</p>	<p>-Deep-sea shipping; including new concepts in infrastructure, storage and bunkering -Technologies for offshore wind, hydrogen and tide and wave power</p>	<p>There are huge amounts of energy to be handled in shipping. This should be pushed forward in the light of new energy sources. Moreover: There is a need for more green energy sources to reach the new renewable target for the EU.</p>
Cluster 'Food and Natural Resources'		
<p>Section 5.1, paragraph 2, p. 45 Making the transition to sustainable consumption and production and restoring planetary health requires investing in technologies, new business</p>	<p>Making the transition to sustainable exploitation, consumption and production and restoring planetary health requires investing in technologies, new business models, and social and environmental innovation.</p>	<p>It is important to also ensure sustainability in exploitation.</p>

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comments
models, and social and environmental innovation.		
<p>Section 5.2.1, paragraph 1, p. 46</p> <p>The capacity to observe the environment underpins research and innovation for the sustainable use and monitoring of food and natural resources.</p>	<p>The capacity to observe the environment underpins research and innovation for the sustainable use and monitoring of food, energy and natural resources including minerals.</p>	<p>The emerging ocean industries will provide food and energy to the growing global population. It is important to recognise the broader commercial impact due to environmental observation and monitoring. In the long term the greening of the economy cannot take place without access to minerals. It is therefore critical to establish the knowledge base for safe and environmentally friendly exploration, exploitation and mining methods for minerals in the seabed.</p>
<p>Section 5.2.1, paragraph 2, indent 5 (new), p. 46</p>	<p>The Arctic; Ocean observations and monitoring, cooperation for preservation of biodiversity and sustainable use of natural resources including seafood, energy and minerals in the Barents Area.</p>	<p>The rapid on-going changes in the Arctic present an urgent need to better observe, characterize and quantify ocean based resources in the region.</p>
<p>Section 5.2.4, title, p. 49</p> <p>Sea and Oceans</p>	<p>Seas and oceans</p>	<p>Several seas and oceans are relevant:</p>
<p>Section 5.2.4, paragraph 1, p. 49</p> <p>To prevent seas and oceans from reaching a point of no return, it is necessary to strengthen our knowledge and understanding in order to sustainably manage, protect and restore marine and coastal ecosystems and prevent marine pollution, in a context of an</p>	<p>To prevent seas and oceans from reaching a point of no return, it is necessary to strengthen our knowledge and understanding capability in order to sustainably manage, protect and restore marine and coastal ecosystems and prevent marine pollution, in a context of an improved and responsible ocean governance framework.</p>	<p>In addition to increasing our knowledge about seas and oceans we also need to put the knowledge into use. Capability covers knowledge, understanding and the use of knowledge.</p>

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comments
improved and responsible ocean governance framework.		
<p>Section 5.2.4, paragraph 1, p. 49</p> <p>This will also include research to sustainably unlock the vast and unexploited economic potential of seas and oceans aiming at producing more energy and food without increasing pressures on them, and also contribute to alleviate pressure on land, freshwater and ocean resources.</p>	<p>This will also include research to sustainably unlock the vast and unexploited economic potential of seas and oceans aiming at producing more energy and food without increasing pressures on them, and also contribute to alleviate pressure on land, freshwater and ocean resources.</p>	<p>To meet the EUs ambitions on decarbonising the energy system, offshore ocean energy including offshore wind, tidal and wave will be required to balance the system and supply offshore and deep sea operations including the harvesting of mesopelagic fish, deep sea mining and deep sea shipping.</p>
<p>Section 5.2.4, paragraph 1, p. 49</p> <p>There is a need for partnering approaches, including sea basin and macro-regional strategies extending beyond the EU (e.g. in the Mediterranean, the Baltic, the Black Sea, the Atlantic, the Caribbean Sea and in the Indian Ocean); and for contributing to International Ocean Governance commitments, initiatives like the United Nations Decade of Ocean Science and Sustainable Development and commitments linked to the conservation of marine biological diversity in areas beyond national jurisdiction.</p>	<p>There is a need for partnering approaches both at industry and civil society level, including sea basin and macro-regional strategies extending beyond the EU (e.g. in the Mediterranean, the Baltic, the Black Sea, the Atlantic, the Caribbean Sea and in the Indian Ocean); and for contributing to International Ocean Governance commitments, initiatives like the United Nations Decade of Ocean Science and for Sustainable Development and commitments linked to the conservation and sustainable use of marine biological diversity in of areas beyond national jurisdiction.</p>	<p>The responsibility of implementing the political ambitions goes beyond the governmental and intergovernmental level - it falls with industry and citizens, it is important to empower them to act.</p>

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comments
<p>Section 5.2.4, paragraph 2, indent 1, p. 49 Sustainable sea and ocean farming, fisheries and mariculture for food, including alternative sources of protein with increased food security, food sovereignty and climate resilience;</p>	<p>Sustainable sea and ocean farming, fisheries and mariculture for food, feed and other bio-based products, including alternative sources of protein with increased food security, food sovereignty and climate resilience and based on circular bioeconomy-approaches;</p>	<p>Ocean farming and mariculture of non-food and feed should also be included in this first bullet point. Though "blue value chains" are addressed in indent 6, the <u>production</u> of biomass in aquaculture systems seems to be mentioned only in the first bullet point. In all production systems the circular approach should be applied in order to achieve zero waste and create new value chains based on side streams. The text should therefore include a reference to the circular bioeconomy.</p>
<p>Section 5.2.4, paragraph 2, indent 2, p. 49 Strengthened resilience of marine ecosystems thereby ensuring seas and ocean health, combating and mitigating the effects of natural and human pressures like pollution and plastics, eutrophication, acidification, seas and oceans warming, sea level rise, considering the intersection between land and seas and fostering a circular approach;</p>	<p>Strengthened resilience of marine ecosystems thereby ensuring seas and ocean health, combating and mitigating the effects of natural and human pressures like pollution and plastics, eutrophication, acidification, seas and oceans warming, sea level rise, tipping points, considering the intersection between land and seas and fostering a circular approach;</p>	<p>The knowledge of tipping points and pathways to avoid collapses should be included in the text.</p>

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comments
<p>Section 5.2.4, paragraph 2, indent 6, p. 49 Blue value chains, including the multiple use of marine space and growth of the renewable energy sector from seas and oceans, including sustainable micro- and macroalgae.</p>	<p>Innovative blue value chains, including the multiple use of marine space and growth of the renewable energy sector from seas and oceans, including sustainable micro- and macroalgae.</p>	<p>In order to stimulate the development of new blue value chains, the term "innovative" should be included. The multiple use of marine space and the energy sector should be supplemented by other areas and economic pathways, e.g. aquaculture, fisheries, etc.</p>
<p>Section 5.2.4, paragraph 2, indent 11 (new), p. 50</p>	<p>Impact of climate and environmental changes on marine food and feed production.</p>	<p>Radical impact of climate and environmental changes on marine food and feed production is well-documented in ongoing RTD-projects, and should be addressed.</p>
<p>Section 5.2.4, paragraph 2, indent 12 (new), p. 50</p>	<p>Sustainable energy production from the ocean.</p>	<p>Renewable energy production in the ocean is expected to be a future ocean based industry.</p>
<p>Section 5.2.4, paragraph 2, indent 13 (new), p. 50</p>	<p>Deep sea mining.</p>	<p>Land-based resources cannot deliver enough minerals to meet the growing demand for EV batteries and storage solutions - the green shift cannot be sustained without access to a larger resource base.</p>
<p>Section 5.2.4, paragraph 2, indent 14 (new), p. 50</p>	<p>Smart Ocean; incl. use of oceanographic data to ensure precision, reliability and safe operations for several ocean industries.</p>	<p>There is a need for European collaboration on oceanographic data in the same way as meteorological data.</p>
<p>Non-nuclear direct actions of the Joint Research Centre</p>		
<p>Section 6.2.2, Broad line 4, indent 15 (new), p. 55</p>	<p>Reuse expertise and proven technologies from mature industries to develop new sustainable solutions.</p>	<p>Reuse competence from mature industries to strengthen and develop new sustainable solutions. The oil and maritime sectors for example are global leaders in the use of digitalisation and technology development. New market opportunities (ocean wind, deep sea extraction, geothermal etc.)</p>

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comments
		can benefit from adopting proven technology. The industry should therefore be incentivised to apply existing technologies in new sustainable solutions.
Pillar III Open Innovation		
<p>Preamble, paragraph 6 Europe has to ride the wave. It is well positioned as the new wave comes in 'deep-tech' areas, such as artificial intelligence, quantum technologies, clean energy sources, where Europe has some competitive advantages regarding science and knowledge, and can build on close public-private cooperation (e.g. in health care or energy).</p>	Europe has to ride the wave. It is well positioned as the new wave comes in 'deep-tech' areas, such as artificial intelligence, quantum technologies, clean energy sources, where Europe has some competitive advantages regarding science and knowledge, and can build on close public-private cooperation (e.g. in health care, blue economy or energy).	Substantial achievements in the field of ocean technologies based on national and European cooperation (ref. Ocean of Tomorrow, Blue Growth-investments) from private and public sectors should be included in the examples.

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Norwegian proposal for amendments of Annex I to the Proposal for a Decision of the European Parliament and of the Council on establishing the specific programme implementing Horizon Europe – the Framework Programme for Research and Innovation

Partnerships

Norway supports the policy on partnerships as laid out in the proposal for Horizon Europe. This policy is a good basis for simplifying and streamlining the partnership landscape. However, we observe that "Coordination and Support Actions" (CSA), existing in Horizon 2020, is not mentioned as a support tool for partnerships in the proposal for Horizon Europe.

CSA has been crucial for initiatives that do not fall under the ordinary funding mechanisms of the Framework Programme. CSA has been important for, among others, the JPIs, by providing an important financial basis for secretariat capacity and networking. Norway strongly recommends that a flexible CSA mechanism is included in Horizon Europe.

Concluding remark

CSA has been used to strengthen and increase the cooperation between Member States and Associated Countries in the European Research Area, and we propose that this funding mechanism is continued in Horizon Europe, and connected to the Part 'Strengthening the European Research Area'.

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comment
Strengthening the European Research Area		
Section 2, paragraph 2, indent (new), p. 77	<ul style="list-style-type: none"> - Ensure coordination support for partnerships between Member States / Associated Countries and civil society organisations, such as foundations and / or industry associations on common priorities, including regular bottom-up and competitive calls for proposals aiming at the continuation of existing and the emergence of new networks across Europe. 	There is a need for an administrative support instrument that is independent of the priorities in Horizon Europe.

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Norwegian proposal for amendments of the Proposal for a Decision and Annex I to the Proposal for a Decision of the European Parliament and of the Council on establishing the specific programme implementing Horizon Europe – the Framework Programme for Research and Innovation

Open innovation

Building on Europe’s solid science base, the proposed Open Innovation activities can improve the transformation of science into innovation, support the scale up of European companies and start-ups, and ensure efficient complementarity with national and local innovation ecosystems.

Norway welcomes the European Innovation Council (EIC) and supports the continuation and further development of this instrument, including introducing blended finance.

Norway supports the proposed EIC Pathfinder as a way to identify and fill gaps in the development and commercialization of early stage high-risk cutting-edge projects, e.g. from research at HEIs, R&D institutes, hospitals and companies. However, we believe it is essential with a "bottom-up, open approach". We are concerned that the Pathfinder in its current form do not ensure synergies and complementarity with national systems.

The EIC Accelerator should focus on breakthrough and disruptive innovations and scale-up for European and global markets. If implemented as intended, the Accelerator will enable European companies to scale up in Europe. SMEs should be the main target group, growing into mid-caps and larger companies throughout the Accelerator instrument.

Concluding remark

Norway supports the Commission's proposal for an *Open Innovation pillar*. The EIC should emphasise innovation and market-focused activities and aim at being complementary to national and local innovation ecosystems.

Text in the Decision of the European Parliament and of the Council	Amendments of the text	Comments
Chapter II, Implementation and Programming		
<p>Art. 10, indent 3, p. 13 The EIC Board shall be composed of 15-20 high level individuals drawn from various parts of Europe’s innovation ecosystem including entrepreneurs, corporate leaders, investors and researchers.</p>	<p>The EIC Board shall be composed of 15-20 high level individuals drawn from various parts of Europe’s innovation ecosystem including entrepreneurs, corporate leaders, investors and researchers, banks and venture capital funds.</p>	<p>In order reach the objectives of the EIC and operate as a one-stop shop for innovators it is important that the EIC board has a clear focus on growing and scaling new global companies</p>

Text in Annex I to the proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comments
<p>Preamble, (new) p. 17</p>	<p>Involvement of multiple stakeholders across sectors, disciplines and technologies, including public actors stimulating the demand side through innovative public procurement and regulatory framework, is necessary in order to unlock the potential of research and innovation.</p>	<p>Stimulating the demand side is necessary to solve global challenges. Public procurement is also a powerful tool for development and innovation in the public sector.</p>
<p>Pillar III Open Innovation</p>		
<p>Section 1.1 paragraph 3, indent 1, p. 61</p> <p>Focus on breakthrough and disruptive innovations, including social, that have the potential to create new markets, as opposed to those which make incremental improvements in existing products, services or business models;</p>	<p>Focus on breakthrough and disruptive innovations, including social-, business model-, design driven-, and service innovation, that have the potential to create new markets. The aim being value creation.</p>	<p>The Accelerator should not limit its target companies to deep-tech.</p>
<p>Section 1.1, paragraph 3, indent 4, p. 61</p> <p>They will be centred on innovators (...)</p>	<p>They will be centred on innovators and close to market SMEs, growing into small-mid-caps and larger companies throughout the Accelerator.</p>	<p>The Accelerator should target SMEs (the backbone of Europe's industry) at the entry point, and stimulate growth to small-mid caps.</p>
<p>Section 1.1.1, paragraph 5, p. 63</p> <p>The Pathfinder will be implemented in close coordination with MS programmes and activities.</p>	<p>The Pathfinder will be implemented in close coordination with MS and Associated Countries (AC) programmes and activities. The Pathfinder should be complementary to programmes and activities at the national level.</p>	<p>The Pathfinder in its current form risk duplicating activities carried out at the national level.</p>
<p>Section 1.1.2, paragraph 6, p. 64</p>	<p>This open and bottom up call will target all forms of innovation including business model innovation, design driven</p>	<p>A broad definition of innovation should be emphasized to not exclude any close to markets disruptive SMEs.</p>

<p>This open and bottom up call will be complemented by targeted support for emerging breakthrough or disruptive technologies of potential strategic significance.</p>	<p>innovation and service innovation and be complemented by targeted support for emerging breakthrough or disruptive technologies of potential strategic significance.</p>	
<p>Section 1.1.2, paragraph 8, p. 64</p> <p>The Accelerator will allow for fast-track take-up of innovations stemming from Pathfinder supported projects from the Pathfinder, from similar Member States and Associated Countries 'advanced research programmes' and from other pillars of the EU Framework Programmes, in order to support them to reach the market.</p>	<p>The Accelerator will allow for fast-track take-up of innovations stemming from Pathfinder supported projects from the Pathfinder, from similar Member States and Associated Countries 'advanced research programmes' and from other pillars of the EU Framework Programmes, in order to support them to reach the market.</p>	<p>The fast-track take up of projects should not be limited to advanced research programmes, but also include projects from other innovation programmes.</p>
<p>3. European Institute of Innovation and Technology (EIT)</p>		
<p>Section 3.2.1, paragraph 2, indent 1, p. 71</p> <p>Reinforcing the effectiveness of the existing KICs and setting up new ones in a limited number of thematic areas;</p>	<p>Reinforcing the effectiveness of the existing KICs and setting up new ones in a limited number of thematic areas that ensures that the EIT complements initiatives of EIC</p>	<p>EIC is the main instrument to foster breakthrough innovation and should be allowed to play a free role in developing initiatives and the EIT should adjust their offerings to create synergies with the EIC.</p>

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Norwegian proposal for amendments of Annex I to the Proposal for a Decision of the European Parliament and of the Council on establishing the specific programme implementing Horizon Europe – the Framework Programme for Research and Innovation

The European Research Area (ERA)

The Council and the Commission share the goal of realising ERA. Horizon Europe is in this respect a powerful instrument, as is the ERA roadmap. The ERA priorities in Horizon Europe mirror the priorities in the ERA roadmap. Norway believes that the cooperation between Horizon Europe and ERAC on the ERA priorities should be outlined explicitly in the legal text. We call for better coordination between the Commission and the Member States and Associated Countries, through ERAC, to optimise the ability to realise ERA.

Text in Annex I to the Proposal for a Decision of the European Parliament and of the Council	Amendments of the text	Comment
Strengthening the European Research Area		
<p>Preamble, paragraph 5, p. 74</p> <p>By combining efforts at EU level, synergies can be exploited and the necessary scale can be found to make support to national policy reforms more efficient and impactful.</p>	<p>By combining efforts at EU level, as in closer cooperation between the Commission (Horizon Europe) and the European Research and Innovation Area Committee (ERAC) and the ERA-related groups, synergies can be exploited and the necessary scale can be found to make support to national policy reforms more efficient and impactful.</p>	<p>The cooperation between Horizon Europe and ERAC and the ERA-related groups should be made explicit in several parts of the HE text. That would however demand a more thorough analyses and closer considerations.</p>

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