tefficient

Analysis prepared for Digitaliserings- og forvaltningsdepartementet

Assessment of Norwegian mobile and fixed broadband revenues in a Nordic context 2025

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Contents

1 Executive summary

This report, commissioned by Digitaliserings- og forvaltningsdepartementet (DFD), builds on the two previous standalone reports for mobile and fixed broadband without going into as deep detail. The focus is on comparing the revenues derived from subscribers and assessing selected value-for-money metrics across the four Nordic markets – Norway, Denmark, Sweden, and Finland – for the period up to June 2025. In addition, the report compares market concentration and reviews the financial results of the main mobile and fixed broadband providers.

Mobile

Across the Nordics, Norway stands out with high mobile ARPU levels. In six out of eight like-for-like comparison cases, Norway has the highest ARPU. The exception is when M2M is included and FWA excluded, where Finland now surpasses Norway – also after adjusting for purchasing power.

When it comes to data usage, Norway is consistently below. Regardless of whether M2M or FWA is counted, Norwegian mobile subscribers use less data than their Nordic neighbours. As a result, the total mobile service revenue per consumed gigabyte is substantially higher in Norway – between 1.7 and 3.9 times higher than in the other Nordic countries. Although Norway has moved closer to the others, the combination of high ARPU and low consumption means that Norwegian mobile users get less data for money than users in Denmark, Sweden, and Finland.

A similar pattern appears when looking at speed. Norwegian subscribers pay more per Mbit/s of median download speed compared to their Nordic peers.

While Norwegian mobile providers more often include cybersecurity and cloud services, these additions only partly explain the high ARPU. Overall, Norwegian subscribers receive less value for money than those in the other Nordic countries.

The Norwegian mobile market is also more concentrated. This is not simply due to the number of MNOs; Telenor's revenue share alone accounts for 69% of the country's HHI. Although concentration is decreasing, Norway remains the most concentrated among the Nordics.

Fixed broadband

Norway also has high ARPU levels in fixed broadband. In three out of four like-for-like comparisons, Norway has the highest ARPU. Denmark now comes out on top when FWA is excluded and no purchasing power adjustment is applied.

Technology mix does not explain these differences. Norway has a high fibre share, but so do Sweden and Finland, despite their lower ARPUs. Denmark has the lowest fibre share but the highest ARPU, suggesting that technology alone does not drive the ARPU differences.

In terms of speed for money, Norwegian customers do not come out best. Norway has the third-highest share of subscriptions at 100 Mbit/s or above but the second-highest ARPU. Its share of gigabit subscriptions is lower than in Denmark and Sweden. Denmark, in particular, has a much faster median speed while maintaining only a slightly higher ARPU than Norway. Sweden and Finland also have high

median speeds but significantly lower ARPUs. This indicates that Norway's comparatively high broadband ARPU cannot be explained by faster connections.

Norwegian providers also bundle cybersecurity and cloud services less frequently than their Nordic peers. Taken together, Norwegian fixed broadband customers get less value for money than customers in Denmark, Sweden, and Finland.

Market concentration in fixed broadband in Norway is roughly in line with the Nordic average. Altibox's revenue share accounts for 51% of Norway's HHI, comparable to the largest players in the other markets. Concentration has declined somewhat since 2023, both in Norway and in Sweden and Finland.

Financial performance

Across both mobile and fixed services, Norwegian operators generally operate with strong financial performance. Neither Telenor Norway nor Telia Norway shows signs of high operating costs; their adjusted EBITDA margins are best in class. Lyse Tele has a lower margin, roughly at the Nordic median when the two larger Norwegian operators are excluded.

Norwegian operators also invest more – measured as a share of revenue – than the Nordic median. On country level, Norway is second-ranked after Denmark. Even with these high investments, both Telenor Norway and Telia Norway maintain the highest EBITDA–CAPEX margins in the region, indicating no pressure from excessive combined operating costs and investment levels. Lyse Tele, however, faces a different situation: In 2024, its CAPEX exceeded its EBITDA, meaning it was unable to cover investments from operating cash flow.

2 Background

This report, commissioned by Digitaliserings- og forvaltningsdepartementet (DFD), builds on the two previous standalone reports on mobile and fixed broadband, each published four times in the past. To streamline the analysis, the report integrates findings from both areas and focuses on subscriber-derived revenues rather than continuing the earlier emphasis on consumer retail price comparisons.

3 Peer group

Just like in the previous editions, the peer group consists of the four Nordic countries **Norway, Denmark, Sweden, and Finland**. These four countries have over the years proven to form a near-perfect international peer group. All metrics will always[1] be compared between these four countries to allow the reader to understand how one metric may affect another metric.

This analysis is principally based on two separate sources:

1. **Telecom regulators**: This analysis relies partly on reported market data from the four Nordic authorities Nkom, Digitaliseringsstyrelsen, PTS, and Traficom to derive metrics on average revenue per user (ARPU), average mobile data usage, and total mobile service revenue per consumed gigabyte (GB) in mobile and, for fixed broadband, the technology and speed distribution of subscription base. The benefit of using regulatory data is that it captures what mobile subscribers actually pay – so-called back book pricing – not the prices of the currently best offers on the market.

2. **Telecom operators**: Listed telecom operators report their financial performance, and this analysis looks at profitability and investment metrics such as earnings before interest, taxation, depreciation and amortisation (EBITDA) and capital expenditure (CAPEX) to revenue ratios. The following operators are included:

    - Norway: Telenor, Telia, Lyse Tele
    - Denmark[2]: Nuuday/TDC NET[3], Telenor, 3
    - Sweden: Telia, Tele2, Telenor, 3
    - Finland: Elisa, Telia, DNA

[1] On a few occasions, regulatory data with sufficient breakdown isn't available, leaving out that metric for the country in question.
[2] Norlys acquired Telia Denmark in 2024 but does not report its results in sufficient detail.
[3] In 2025, Nuuday stopped its quarterly reporting and will onwards only report on an annual basis.

4 Observed data issues

4.1 Denmark no longer reports half-yearly subscriber and usage statistics

Starting in 2025, Denmark's Digitaliseringsstyrelsen no longer reports its subscriber and usage statistics on a half-yearly basis but only on an annual basis, thereby aligning with its revenue reporting frequency. This means that Denmark does not have any figures – neither for mobile, nor for fixed broadband - in this report for the first half of 2025.

4.2 Finland only reports revenues annually

Finland's Traficom doesn't report revenues on a half-yearly basis, but annually. This means that Finland does not have any official revenue metrics for the first half of 2025.

4.3 Sweden only reports fixed broadband revenues annually

Unlike for mobile, where revenues are reported half-yearly, Sweden's PTS only reports fixed broadband revenues on an annual basis. This means that Sweden does not have any fixed broadband revenue metrics for the first half of 2025.

4.4 Finland includes fixed voice in its reported fixed revenue

The Finnish authority Traficom does not report the pure fixed broadband revenue but includes also fixed voice telephony in its reported figure. We are however of the opinion that the error is small since fixed voice telephony for a long time hasn't been an asked-for service in Finland.

4.5 No breakdown of revenue per provider for Denmark and Finland

The Danish and Finnish authorities do not report a breakdown of the revenue per mobile or fixed broadband provider. In the market concentration sections, the analysis for these two countries must therefore either be based on subscriptions or assumptions on revenue.

4.6 M2M traffic and revenues can't be excluded for Denmark and Finland

We would like to exclude M2M from our analysis as it represents a very different segment of the mobile market than the human-focussed business. In the authorities' reporting of Denmark and Finland, M2M revenues and M2M traffic are however not broken out from the total mobile service revenues and total mobile traffic and can't therefore be excluded. The table below summarises the M2M reporting situation.

M2M reporting	Norway	Denmark	Sweden	Finland
Subscriptions	✓	✓	✓	✓
Revenue	✓		✓	
Data traffic	✓		✓	

Figure 1. Comparison of the reporting of M2M by the Nordic authorities [source: Tefficient].

Based on the figures from Norway and Sweden, the error in revenue is however limited: M2M represented 3.0% of the Norwegian mobile revenues[4] in the first half of 2025. For Sweden, country-based M2M represented 1.9%[5].

When it comes to traffic, the error is also limited: M2M traffic represented 1.0% of the Norwegian mobile data traffic[4] in the first half of 2025 while the Swedish proportion was 0.4%[6].

4.7 FWA traffic excluded from the mobile data traffic for Norway and Finland

The four Nordic authorities deal with its reporting of fixed wireless access (FWA) services delivered using mobile networks differently. Norway's Nkom and Finland's Traficom treat FWA as a fixed broadband service whereas Sweden's PTS and Denmark's Digitaliseringsstyrelsen treat it as a mobile broadband service. The table below summarises the FWA reporting situation.

FWA reporting	Norway	Denmark	Sweden	Finland
Subscriptions	✓	(✓)**	✓	(✓)***
Revenue	✓			
Data traffic	(✓)*		✓	(✓)****

Figure 2. Comparison of the reporting of FWA by the Nordic authorities [source: Tefficient] *) An estimation based on Telenor's reported FWA data traffic can be made **) Denmark reports the number of 4G/5G data-only subscriptions with a monthly allowance of 1 TB or more – most of these are likely FWA subscriptions ***) FWA is a substantial part of the reported "other technologies" broadband base ****) Since Finland reports fixed data traffic, an assumption can be made that FWA subscriptions have the same average data usage.

On top of the difference in what is reported on FWA, there's not full harmonisation in the definition of FWA between the reporting Nordics regulators.

- Norway's Nkom and Finland's Traficom define FWA as a fixed installation sold to a specific address, but not necessarily with an outdoor antenna (only in practice). There should also be a certain resource reservation in place, e.g. a dedicated frequency band, a share of the capacity on a base station or network slicing, so that the FWA provider can guarantee an adequate level of service for an individual FWA subscription. A minimum speed should be communicated, not just a maximum speed.
- In its data questionnaire for providers, Sweden's PTS defines two types of FWA where the more advanced is defined similarly as in Norway and Finland – but the more relaxed definition is that it is just sold to a specific address with a minimum speed. Since the currently reported Swedish FWA base number is so large, the FWA data reporting of PTS – subscriptions and traffic – is believed to rely on the latter, relaxed, definition.
- Denmark's Digitaliseringsstyrelsen is since 2024 reporting the number of 4G/5G data-only subscriptions with a monthly allowance of 1 TB or more. Although this is a wider definition than

[4] Excluding roaming and FWA.
[5] Including FWA. If including also international M2M revenues, M2M represented 6.2% of mobile revenues in the first half of 2025. 32 million M2M SIMs are registered in Sweden but less than 8 million are used in the country.
[6] Including FWA.

FWA – it would e.g. include unlimited mobile data-only subscriptions sitting in e.g. laptops and tablets – it could serve as an approximation of the Danish FWA base. There is no requirement on e.g. outdoor antenna or quality of service.

Although the full Norwegian FWA traffic still isn't available, Nkom has access to the figures from the largest Norwegian FWA provider, Telenor. Tefficient used these – and the Nkom reported FWA subscription bases – to calculate the average data usage per Telenor FWA subscription. An assumption has been made that the FWA usage is the same for the other Norwegian providers, resulting in a total FWA data traffic figure for Norway. We can then add this to the Norwegian mobile traffic to get a number comparable to that of Denmark and Sweden (where FWA traffic is included in the mobile data traffic).

Since Finland reports the fixed data traffic – where FWA is included – we can assume that the average FWA subscription uses as much as the average fixed broadband subscription and add this to the reported mobile data traffic to get a number comparable to that of Denmark and Sweden (where FWA traffic is included in the mobile data traffic) and, if making the assumption based on Telenor's FWA traffic as described above, also for Norway.

4.8 Currency fluctuations

If the four countries had the same currency, this would not be an issue. Since the Danish krone (DKK) is pegged to the Euro (+-2.25%), two currencies, EUR, as used in Finland, and DKK are however closely linked. This means that the comparisons we make between Danish and Finnish ARPU levels in the following sections aren't much affected by currency fluctuations.

The Norwegian krone (NOK) has been volatile and weakened vs. the Euro especially in the first half of 2023, see Figure 3.

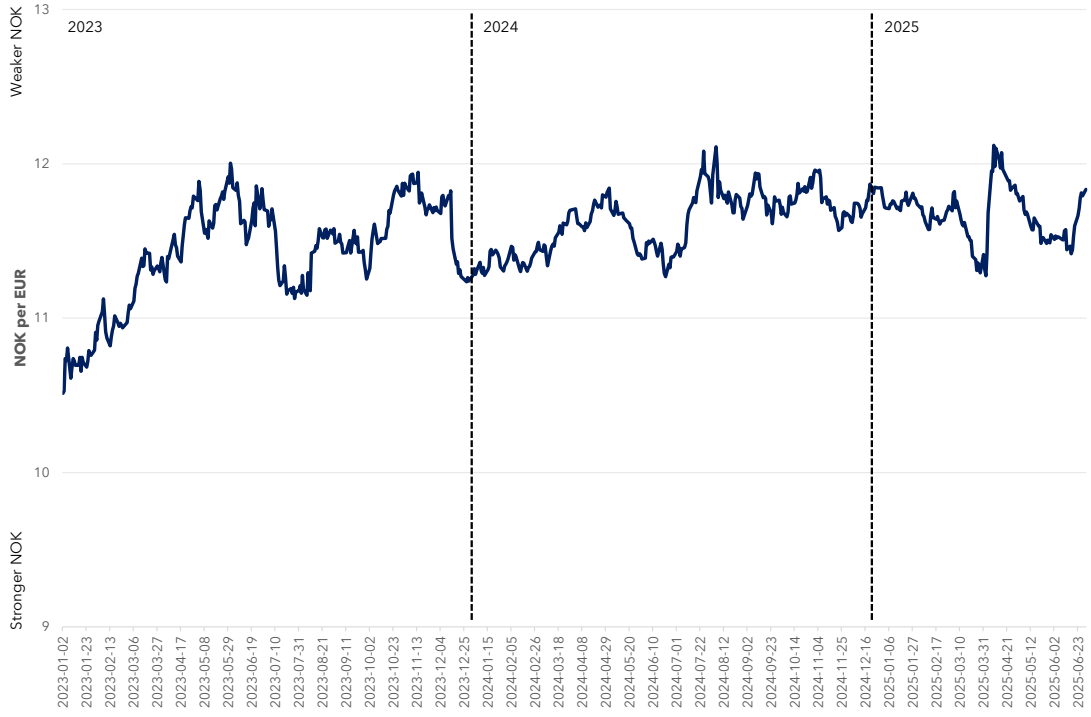

Figure 3. Development of the daily exchange rate between NOK and EUR from 2023 to 30 June 2025 [source: ECB].

The Swedish krona (SEK) followed the NOK around a 1:1 rate in 2023, see Figure 4, but has since strengthened vs. the EUR.

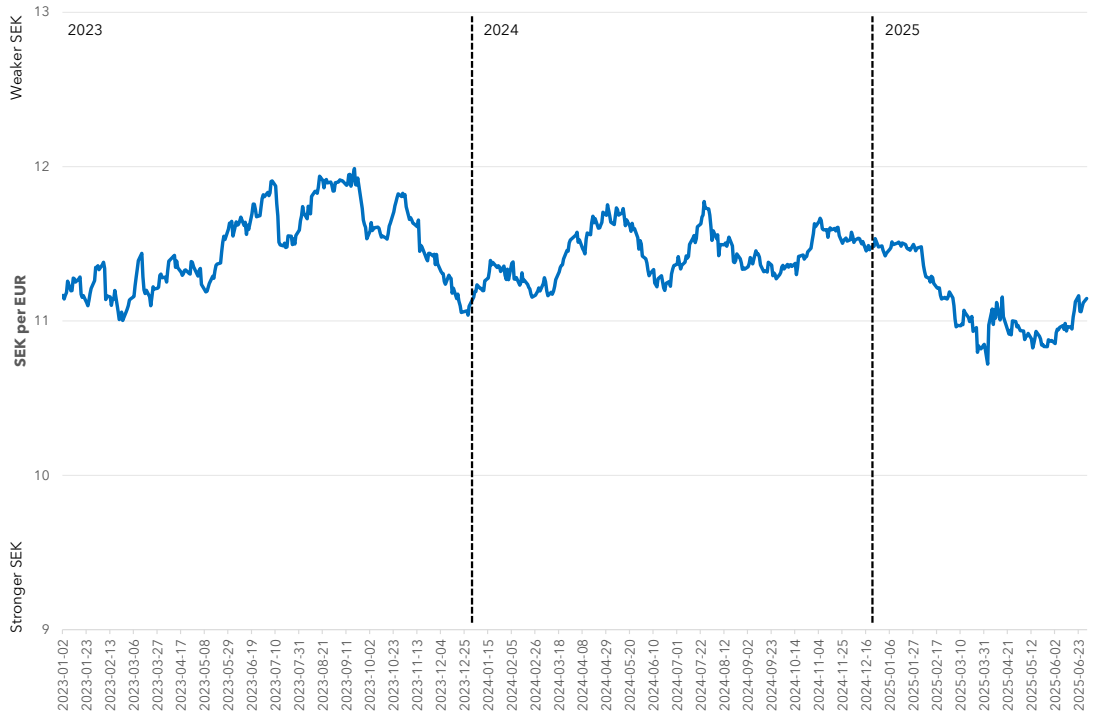

Figure 4. Development of the daily exchange rate between NOK and SEK from 2023 to 30 June 2025 [source: ECB].

When we soon compare average revenue per user (ARPU) in Norwegian kroner we should hence have in mind that the relative weakness of NOK vs. EUR (and thereby DKK) and SEK will make Danish, Swedish, and Finnish ARPUs look higher when compared to Norwegian ARPUs.

4.9 PPP fluctuations

The differences in purchasing power between the four countries has been more significant than what it is today, but it still differs. It hence makes sense to try to adjust for it to end up with **purchasing power parity** (PPP).

In this analysis, most revenue diagrams are therefore produced in two versions:

- A comparison in NOK *without* adjustment for purchasing power
- A comparison in NOK *with* adjustment for purchasing power

An introduction to PPP is given in the box below[7].

[7] From Our World in Data: https://ourworldindata.org/what-are-ppps

Much of the economic data we use to understand the world, such as the incomes people receive or the goods and services firms produce and people buy, is recorded in the local currencies of each country. For example, in 2023, Gross Domestic Product (GDP) per capita – a common measure of the average income of people in a year – was around 205,000 rupees in India, 89,000 yuan in China, and 83,000 dollars in the United States.

These numbers in local currencies can provide useful context within each country. But on their own, they tell us nothing about how these figures *compare*. How rich or poor is someone with 205,000 rupees in India compared to 89,000 yuan in China or 83,000 dollars in the United States?

International dollars are a hypothetical currency that helps us answer such questions by equating different currencies with *what they can buy*. They adjust for the fact that the cost of living is much higher in some countries than in others, allowing us to compare data denominated in different currencies in terms of their local "purchasing power".

International dollars: a hypothetical currency for comparing economic data across time and place

One obvious approach for comparing figures in rupees, yuan, and US dollars would be to convert them into a common currency using currency exchange rates – the kind you would see when changing money at a bank or airport kiosk. These are known as "market exchange rates".

This can be a good approach in some cases, but it doesn't give us the comparison we often look for: what this money *can actually buy* in different countries. This is because the cost of living varies a lot across countries.

To account for the differences in the cost of living, economic indicators are adjusted using **purchasing power parity (PPP)** rates. PPP rates tell us how much of a country's local currency is needed to buy the same basket of goods and services (of comparable quality) in another country.

Using the US dollar as the benchmark currency means that PPP rates tell us how much local currency is needed to match the purchasing power of one US dollar spent in the United States.

Dividing local currency amounts by these PPP rates converts them into a common unit – international dollars – which allows for direct comparisons of purchasing power across countries.

Wherever it is "spent," one international dollar buys the same goods and services as one US dollar would in the United States.

In this analysis, we turn to OECD/Eurostat for their PPPs. The input (and for 2024 also output) parameters for the PPP adjustment are shown in Figure 5 below.

	Input: Purchasing power parity (PPP) Total, National currency units per US dollar 2023	Input: Purchasing power parity (PPP) Total, National currency units per US dollar 2024	Output: Exchange rate adjusted to Norwegian purchasing power level [national currency per PPP NOK] 2024
Norway	9.202390	9.233180	1
Denmark	6.396029	6.230083	0.67475
Sweden	8.765773	8.587839	0.93011
Finland	0.792876	0.766726	0.08304

Figure 5. Comparison of purchasing parity (in international USD) in Norway, Denmark, Sweden, and Finland 2023 and 2024 and the PPP adjusted exchange rates used for 2024 [source: OECD[8]].

Since purchasing power parity (PPP) is calculated on a generic basket of goods and services – not specifically for mobile services – it should be regarded as indicative. Different institutes, e.g. OECD, IMF, and the World Bank report different PPP conversion rates. The rates are revisited and adjusted meaning that historical values might be changed. PPP conversion rates are not yet available for 2025, so when comparing the first half of 2025, we have to assume that the 2024 PPP values still apply.

For these reasons, we do not fully trust the PPPs and encourages the reader to rather study the graphs without adjustment for purchasing power.

[8] Derived from https://data-explorer.oecd.org/vis?lc=en&fs[0]=Topic%2C1%7CEconomy%23ECO%23%7CNational%20accounts%23ECO_NAD%23&fs[1]=Topic%2C2%7CEconomy%23ECO%23%7CNational%20accounts%23ECO_NAD%23%7CGDP%20and%20non-financial%20accounts%23ECO_NAD_GNF%23&pg=0&fc=Topic&snb=53&df[ds]=dsDisseminateFinalDMZ&df[id]=DSD_NAMAIN10%40DF_TABLE4&df[ag]=OECD.SDD.NAD&df[vs]=&pd=%2C&dq=A.AUS%2BAUT%2BBEL%2BCAN%2BCHL%2BCOL%2BCRI%2BCZE%2BDNK%2BEST%2BFIN%2BFRA%2BDEU%2BGRC%2BHUN%2BISL%2BIRL%2BISR%2BITA%2BJPN%2BKOR%2BLVA%2BLTU%2BLUX%2BMEX%2BNLD%2BNZL%2BNOR%2BPOL%2BPRT%2BSVK%2BSVN%2BESP%2BSWE%2BCHE%2BTUR%2BGBR%2BUSA...PPP_B1GQ.....&to[TIME_PERIOD]=false&vw=tb 26 November 2025

5 Mobile ARPU

We have used official data from the four national authorities Nkom, Digitaliseringsstyrelsen, PTS and Traficom to calculate the average service revenue per mobile subscription[9] per month – normally referred to as **ARPU** within the industry.

To satisfy like-for-like comparisons although Nordic authorities report statistics following different standards and granularity, we will in total present eight mobile ARPU graphs to also have comparisons in both NOK and in purchasing power adjusted NOK. The graphic below summarises these showing for which country the calculated ARPU is the highest.

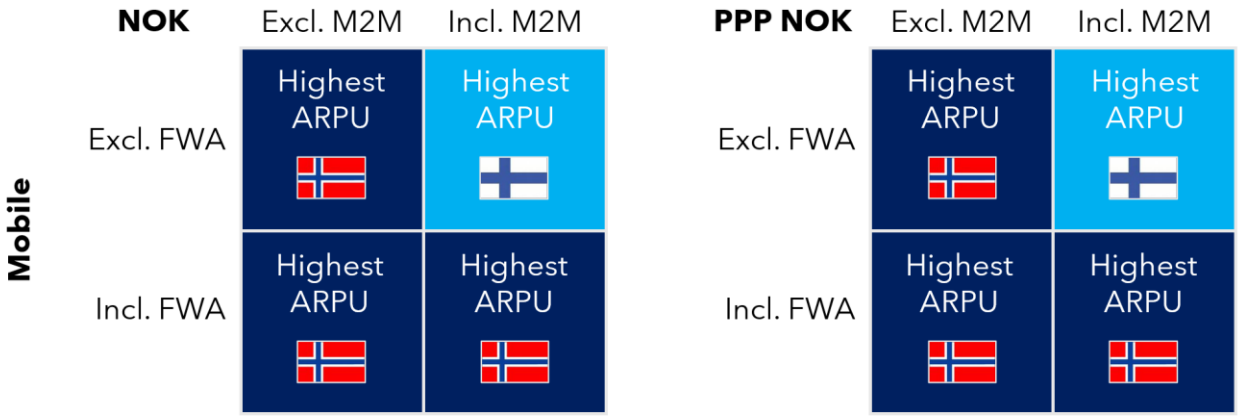

Figure 6. Summary of the eight mobile ARPU comparison cases. Due to insufficient data granularity, all countries aren't represented in each box. See the eight upcoming ARPU graphs for exact definitions and assumptions.

In six out of the eight cases, Norway has the highest ARPU. Finland has the highest ARPU if including M2M but excluding FWA – in both NOK and purchasing power adjusted NOK.

Let's now look at the graphs one by one. To help navigation – there will be many graphs – a small matrix is shown in the graphs, visualising which of the four possible combinations of excluding/including M2M vs. excluding/including FWA that is analysed.

We start with the four ARPU charts that include M2M. Figure 7 compares the mobile ARPU excluding M2M and excluding FWA. Finland's bar is dimmed to indicate that an acceptable assumption (M2M revenues are zero) has been made. Denmark and Sweden are just indicative as FWA can't be excluded.

Since Traficom doesn't report revenues half-yearly, the Finnish ARPU for 1H 2025 has been calculated based on the reporting of the three providers Elisa, DNA, and Telia and an assumption for the 'other' category. Denmark's Digitaliseringsstyrelsen does not report revenues half-yearly either, but a similar calculation based on provider-reported revenues can't no longer be made for Denmark as Nuuday has stopped its quarterly reporting and Norlys does not report in sufficient detail.

[9] Average number of subscriptions in the period calculated as the average of the number of subscriptions at the start of the period and the number of subscriptions at the end of the period.

Norway's ARPU level of **297 NOK** in 1H 2025 has increased since 2023 and 2024. During our comparison period, the increase in ARPU was 6%. This is in line with the development of the Norwegian consumer price index which also increased 6%[10] between 2023 (year average) and the average of January-June 2025. The Norwegian ARPU excluding M2M and excluding FWA is much higher than in Finland although the difference today is less than in 2023. The weakening of the NOK vs. the EUR makes the ARPU growth in Finland look stronger, but Finland's ARPU growth 2023-1H 2025 was still strong in EUR terms: 11%. As a comparison, the Finnish consumer price index only increased 2%[11] between 2023 and 1H 2025.

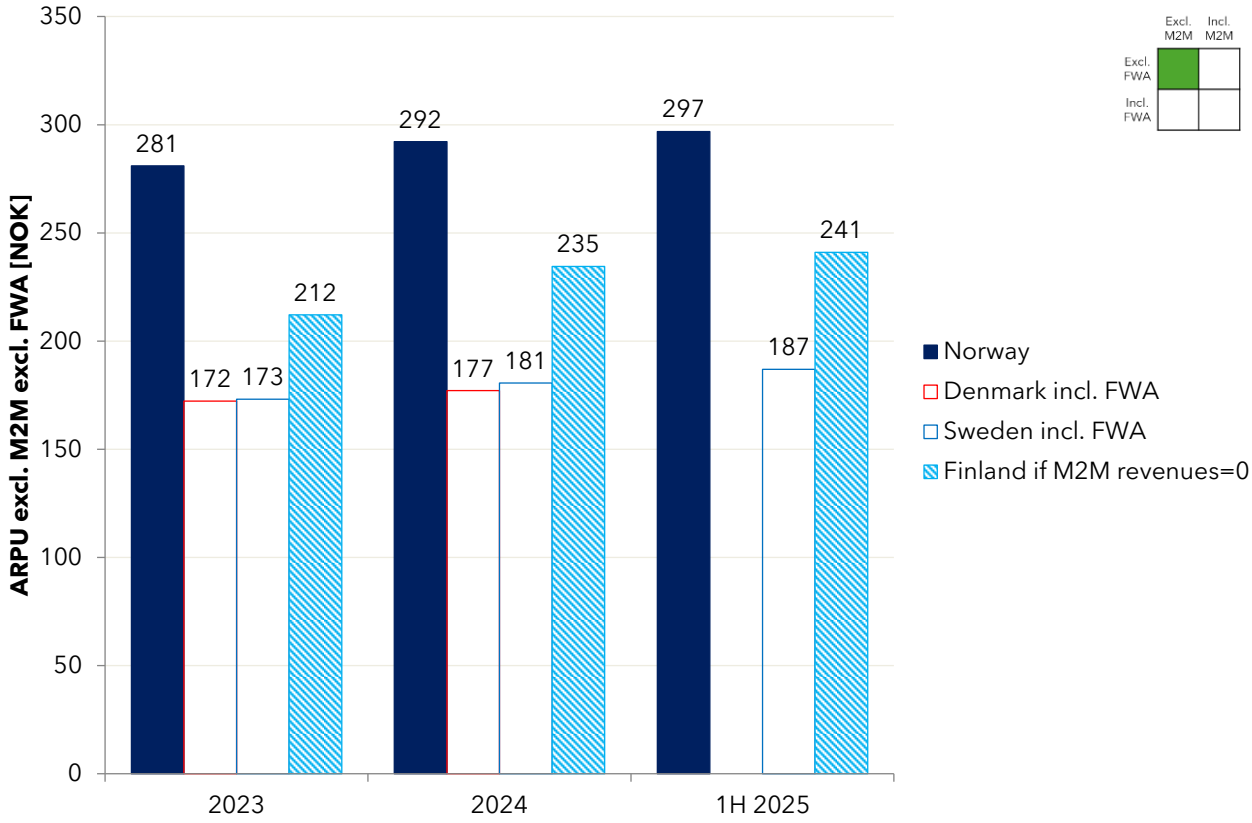

Figure 7. Comparison of mobile ARPU excl. M2M excl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. An assumption of M2M revenues being zero has been made for Finland. Denmark and Sweden are just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years].

To compensate for the differences in overall purchasing power, the ARPUs of Denmark, Sweden and Finland have been recalculated into purchasing power parity NOK (PPP NOK), see Figure 8.

The PPP adjustment does not affect Norway, but changes the positions of Denmark, Sweden, and Finland. Since Denmark has the highest purchasing power, Denmark's ARPU decreased whereas the ARPU values of Sweden and Finland increased due to lower purchasing power than Norway.

[10] Source: https://www.ssb.no/en/priser-og-prisindekser/konsumpriser/statistikk/konsumprisindeksen
[11] Source: https://stat.fi/en/statistics/khi

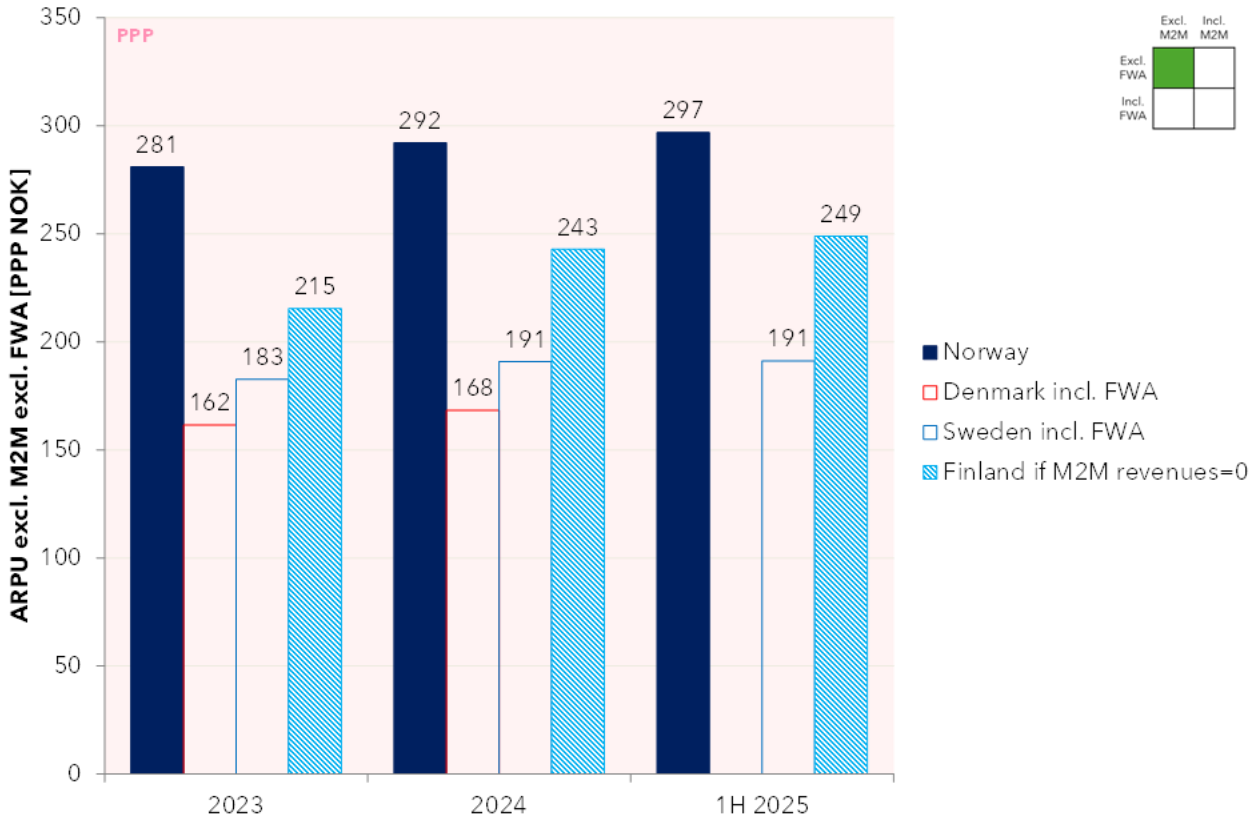

Figure 8. Comparison of PPP mobile ARPU excl. M2M excl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. An assumption of M2M revenues being zero has been made for Finland. Denmark and Sweden are just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years].

The Norwegian ARPU excluding M2M and excluding FWA is much higher than in Finland also in PPP terms.

The Norwegian revenue per mobile subscription excluding M2M and excluding FWA is, both before and after compensation for differences in purchasing power, much higher than in Finland.

Let's now include FWA revenues and subscribers and see how that changes the ARPU levels. This allows for a like-for-like comparison between Norway, Denmark, and Sweden but leaves out Finland. For Denmark an assumption of M2M revenues being zero has been made.

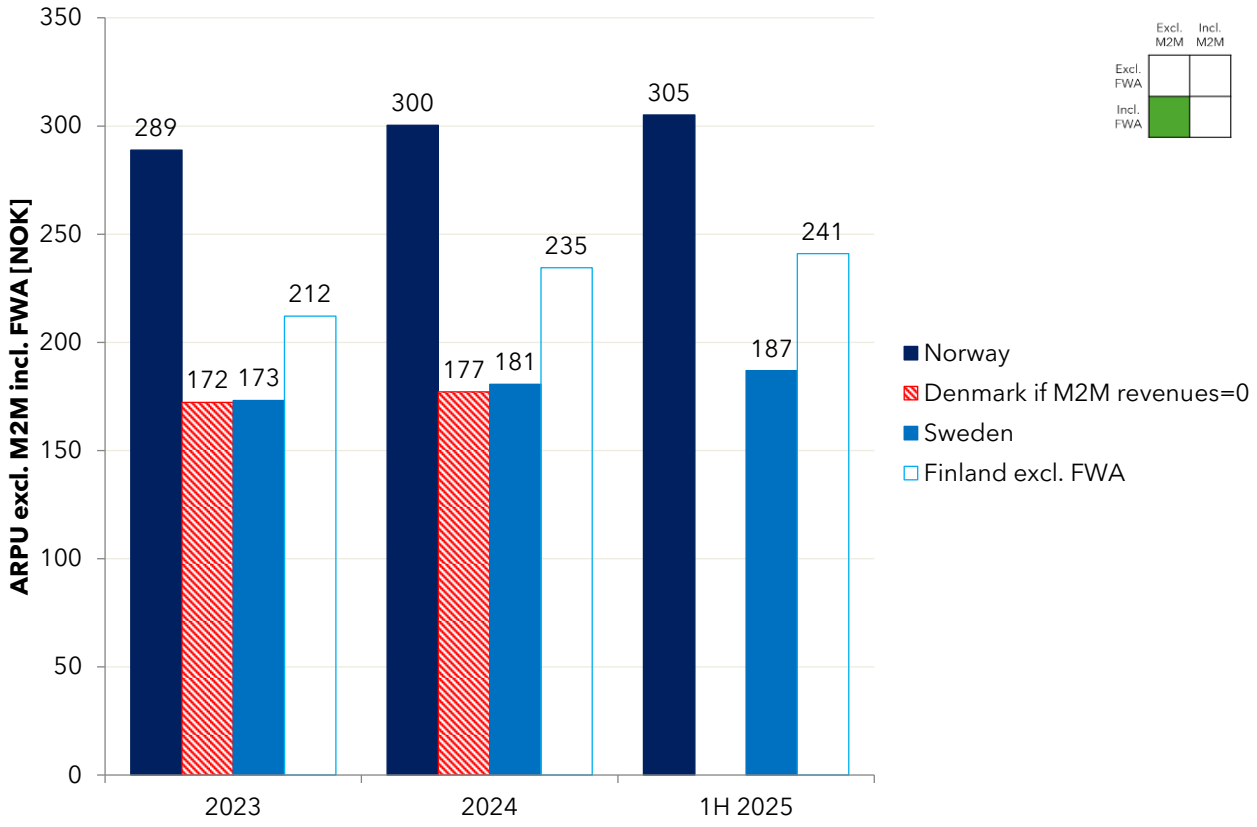

Figure 9. Comparison of mobile ARPU excl. M2M incl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. An assumption of M2M revenues being zero has been made for Denmark. Finland is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years].

Norway's mobile ARPU excluding M2M but including FWA was **305 NOK** in 1H 2025, higher than in 2024 (300 NOK) and in 2023 (289 NOK). In NOK terms, Denmark and Sweden had much lower ARPU than Norway. The weakening of the NOK makes the ARPU growth in Denmark and Sweden look stronger, but there was ARPU growth in Sweden 2023-1H 2025 also in SEK terms: 2%. As a comparison, the Swedish consumer price index increased 3%[12] between 2023 and 1H 2025. For Denmark, ARPU in DKK grew between 2023 and 2024 by 1%. As a comparison, the Danish consumer price index increased 1%[13] between 2023 and 2024.

The next graph is recalculated into purchasing power parity NOK (PPP NOK).

[12] Source: https://www.statistikdatabasen.scb.se/pxweb/sv/ssd/START__PR__PR0101__PR0101A/KPItotM/table/tableViewLayout1/
[13] Source: https://www.dst.dk/en/Statistik/emner/oekonomi/prisindeks/forbrugerprisindeks

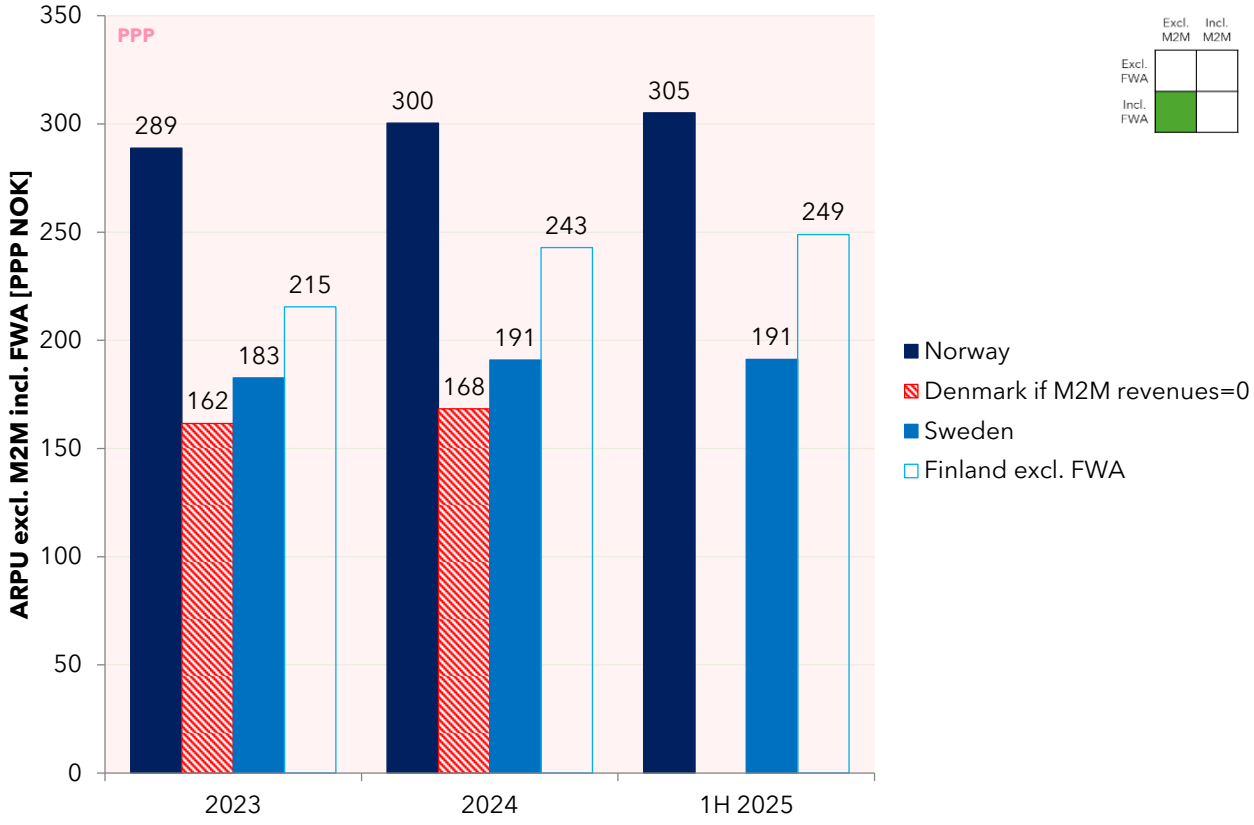

Figure 10. Comparison of PPP mobile ARPU excl. M2M incl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. An assumption of M2M revenues being zero has been made for Denmark. Finland is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years].

Also in PPP terms, Norway had a much higher mobile ARPU than Denmark and Sweden.

The Norwegian revenue per mobile subscription excluding M2M but including FWA is, both before and after compensation for differences in purchasing power, much higher than in Denmark and Sweden.

That were the charts excluding M2M. In the remaining four ARPU charts, M2M is included. Figure 11 below shows the ARPU in NOK[14] including all mobile subscriptions *but* FWA, i.e. regular, data-only (mbb) and M2M/IoT subscriptions. For two countries, Norway and Finland, a like-for-like comparison is possible. Denmark and Sweden are just indicated in the graph since FWA can't be excluded there.

[14] Using the average of the daily exchange rate from ECB. For 2023: 0.65217 DKK per NOK, 1.00472 SEK per NOK, 0.087529 EUR per NOK. For 2024: 0.64140 DKK per NOK, 0.983102 SEK per NOK, 0.085992 EUR per NOK. For 1H 2025: 0.63981 DKK per NOK, 0.951571 SEK per NOK, 0.085757 EUR per NOK.

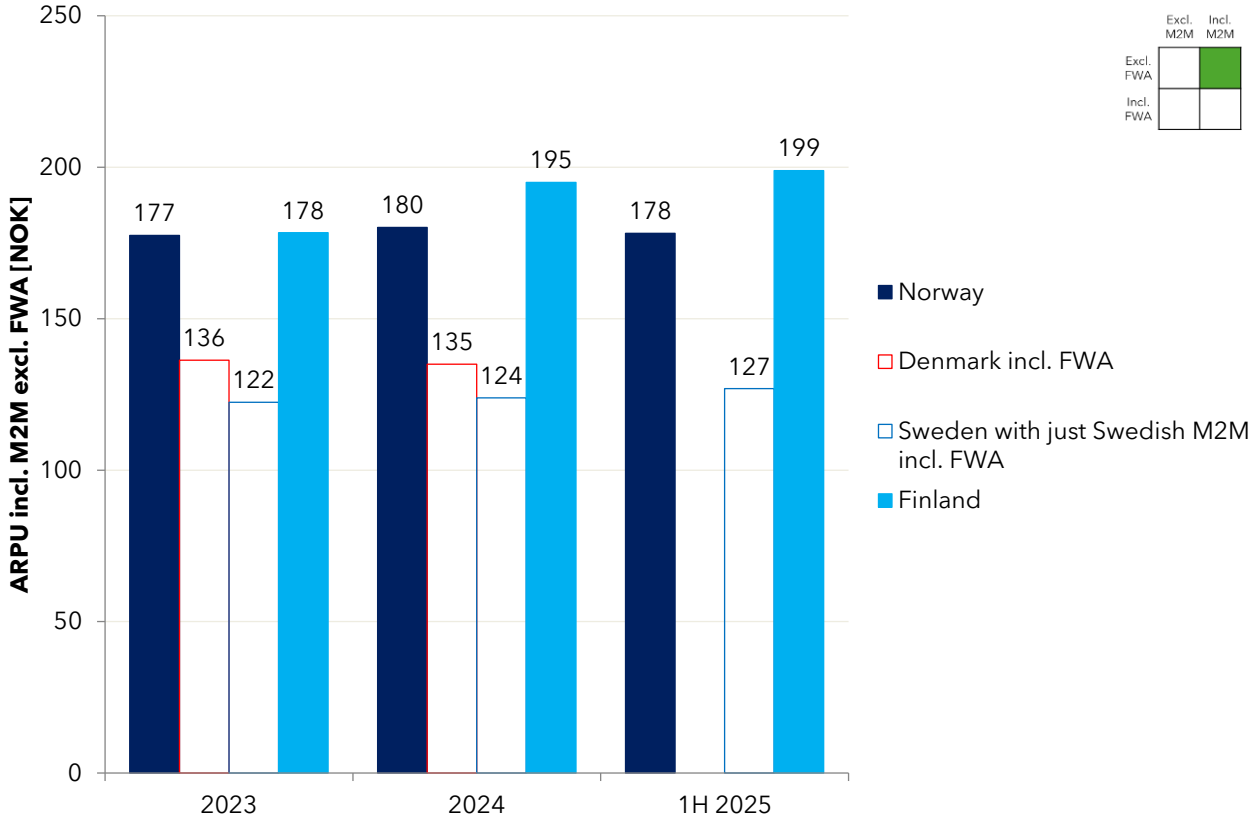

Figure 11. Comparison of mobile ARPU incl. M2M excl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Denmark and Sweden are just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years].

Norway's mobile ARPU was **178 NOK** in the first half of 2025, less than in 2024 (180 NOK) and 1 NOK more than in 2023. During our comparison period, the increase in ARPU was less than 1%. In NOK terms, Finland overtook the Norwegian ARPU in 2024. The weakening of the NOK vs. the EUR makes the ARPU growth in Finland look stronger, but Finland's ARPU growth 2023-1H 2025 was still strong in EUR terms: 9%.

To compensate for the differences in overall purchasing power, the ARPUs of Denmark, Sweden and Finland have been recalculated into purchasing power parity NOK (PPP NOK), see Figure 12.

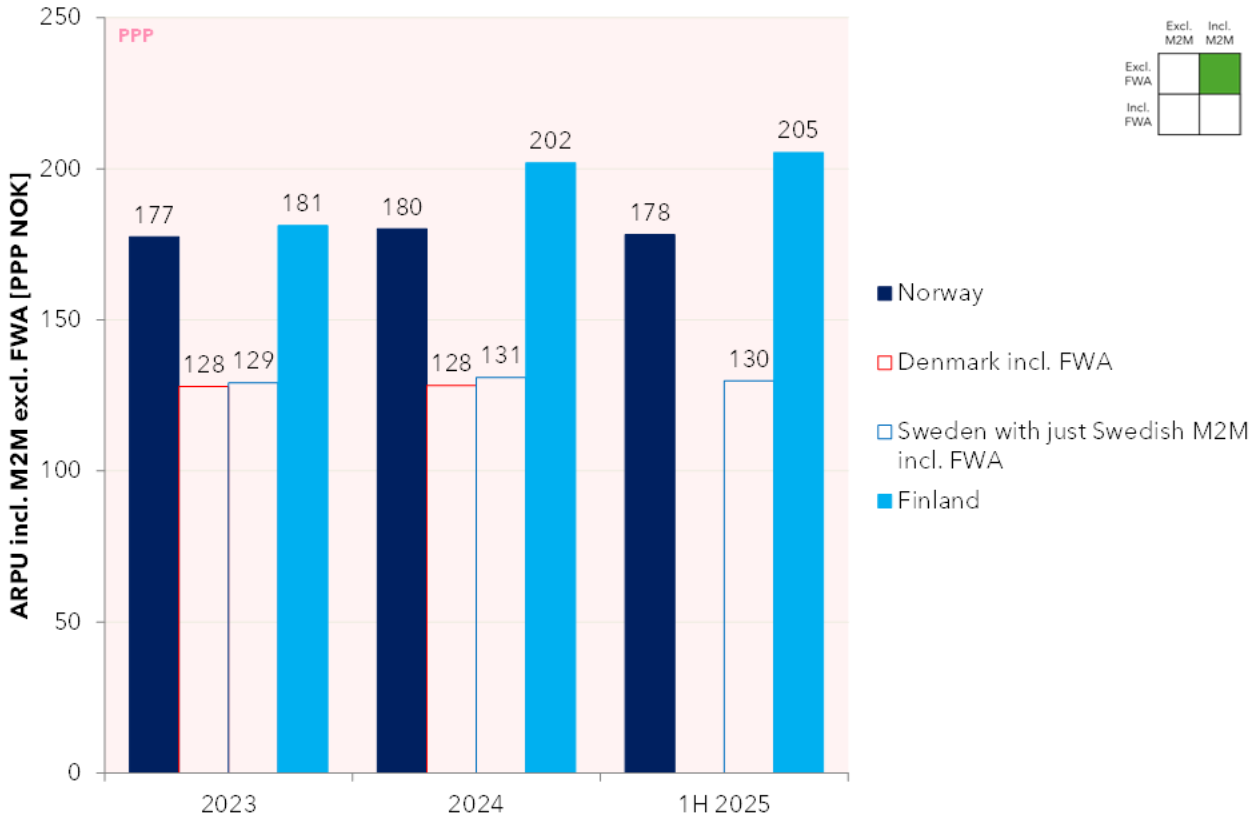

Figure 12. Comparison of PPP mobile ARPU incl. M2M excl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Denmark and Sweden are just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years].

Also in PPP terms, Finland had higher mobile ARPU than Norway.

The Finnish revenue per mobile subscription including M2M but excluding FWA is now higher than in Norway – before and after compensation for differences in purchasing power.

Let's now include FWA revenues and subscribers and see how that changes the ARPU levels. This allows for a like-for-like comparison between Norway, Denmark, and Sweden but leaves out Finland as FWA revenues aren't reported (nor included in mobile revenues) there.

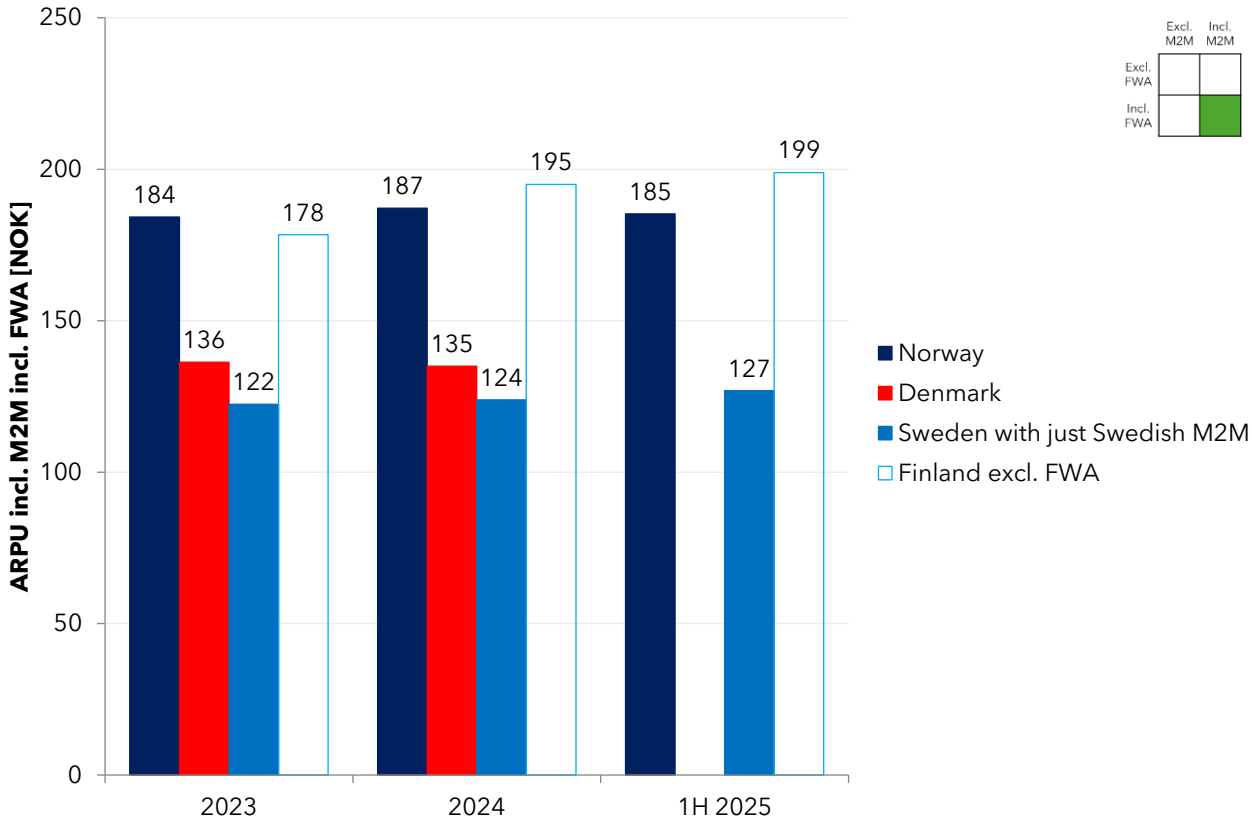

Figure 13. Comparison of mobile ARPU incl. M2M incl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Finland is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years].

Norway's mobile ARPU incl. FWA was **185 NOK** in 1H 2025, less than in 2024 (187 NOK) and 1 NOK more than in 2023. In NOK terms, Denmark and Sweden have much lower ARPU than Norway. The weakening of the NOK makes the ARPU growth in Denmark and Sweden look stronger. In SEK terms, there wasn't ARPU growth in Sweden 2023-1H 2025: ARPU fell by 2%. Denmark had an ARPU decline also in DKK: -3% between 2023 and 2024.

The next graph is recalculated into purchasing power parity NOK (PPP NOK).

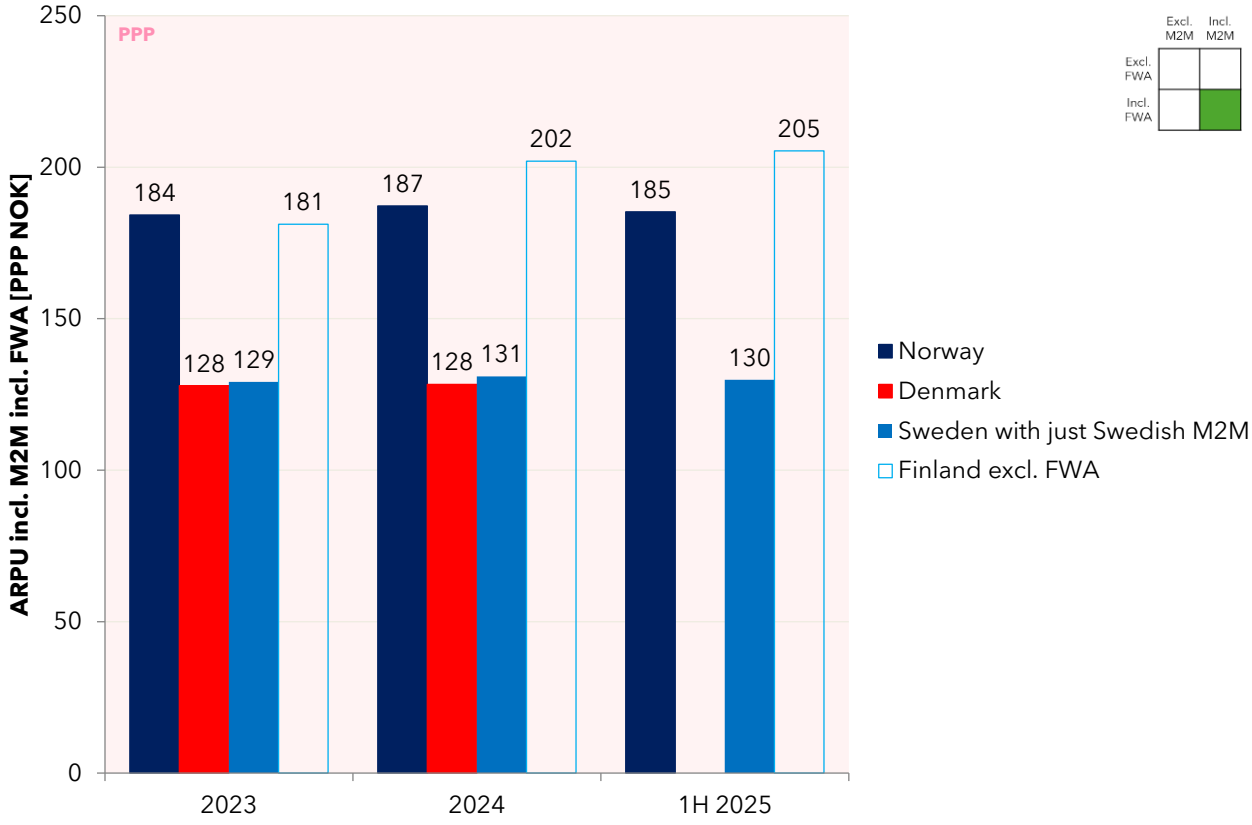

Figure 14. Comparison of PPP mobile ARPU incl. M2M incl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Finland is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years].

Also in PPP terms, Norway had a much higher mobile ARPU than Denmark and Sweden.

The Norwegian revenue per mobile subscription including M2M and including FWA is, both before and after compensation for differences in purchasing power, much higher than in Denmark and Sweden.

6 Value for money – mobile

6.1 Mobile data usage

The previous section showed that the Norwegian ARPU, in six out of the eight comparison cases, is higher than the other countries. In section 6.3, we compare the ARPU levels with the mobile data usage to give an idea of how much data mobile subscribers consume for that ARPU. It's an attempt to assess a key element in value for money[15].

Figure 15 below compares the mobile data usage per subscription excluding M2M[16] and excluding FWA.

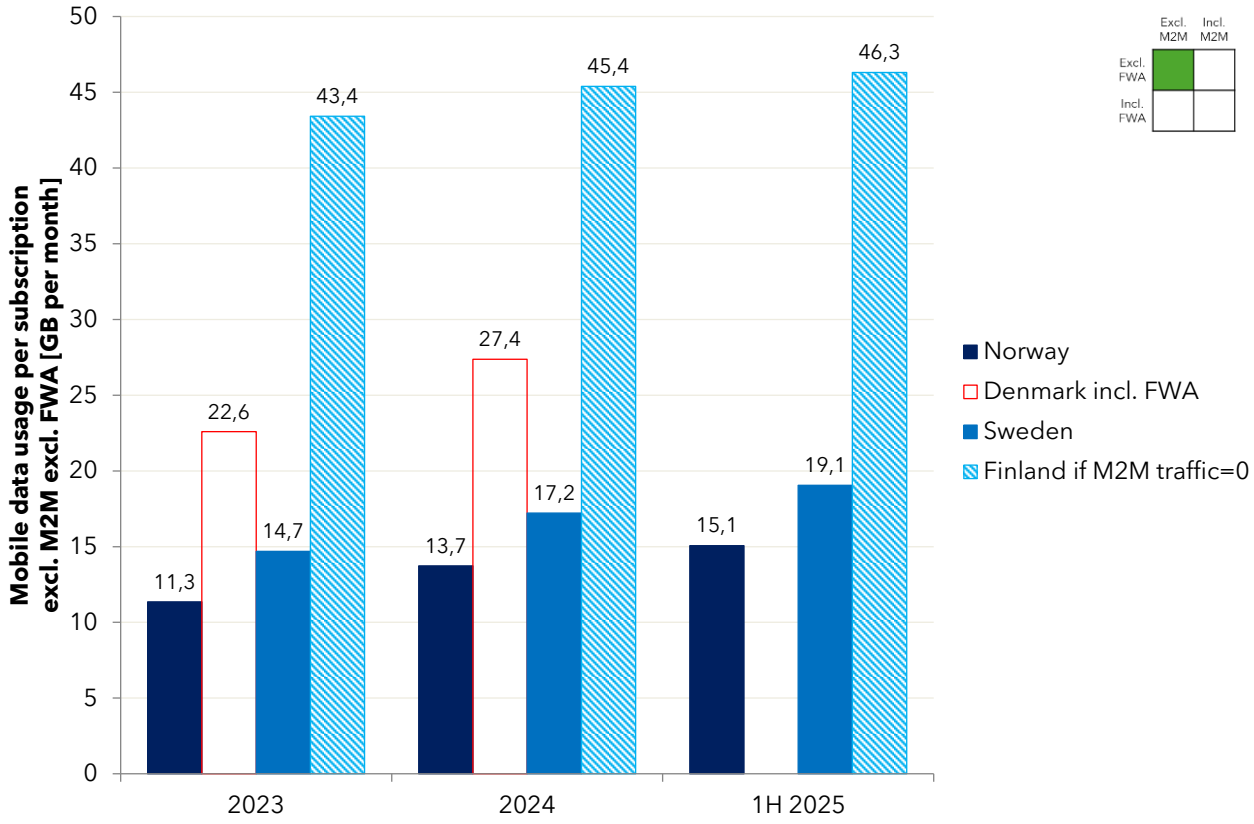

Figure 15. Average mobile data usage per mobile subscription excl. M2M excl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. An assumption of M2M data traffic being zero has been made for Finland. Denmark is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, compiled by Tefficient].

[15] Although data isn't the only mobile service, most mobile plans sold in the Nordics come with unlimited call minutes and SMS/MMS – in contrast to mobile data which outside of Finland often is limited. This makes data the prime price-defining parameter. In addition, some operators with unlimited data offerings have started to charge for maximum speed. In addition to that, many operators have started to bundle in auxiliary services, often cyber security or streaming, especially on more premium plans. For customers wanting these services, it could also influence value for money when provided without a charge.

[16] Denmark and Finland aren't separating out the M2M data traffic (Norway and Sweden do) but from the Norwegian and Swedish data it's clear that the M2M data traffic is marginal compared to the overall data traffic, see section 4.6.

Finland is one of the world leaders[17] in average mobile data usage and dominates over the other Nordic countries with an average of 46.3 GB used per subscription per month in 1H 2015 (in their case assuming that M2M traffic is zero). Sweden had 19.1 GB while Norway is last with 15.1 GB.

Now to the comparison of the mobile data usage per subscription excluding M2M but including FWA.

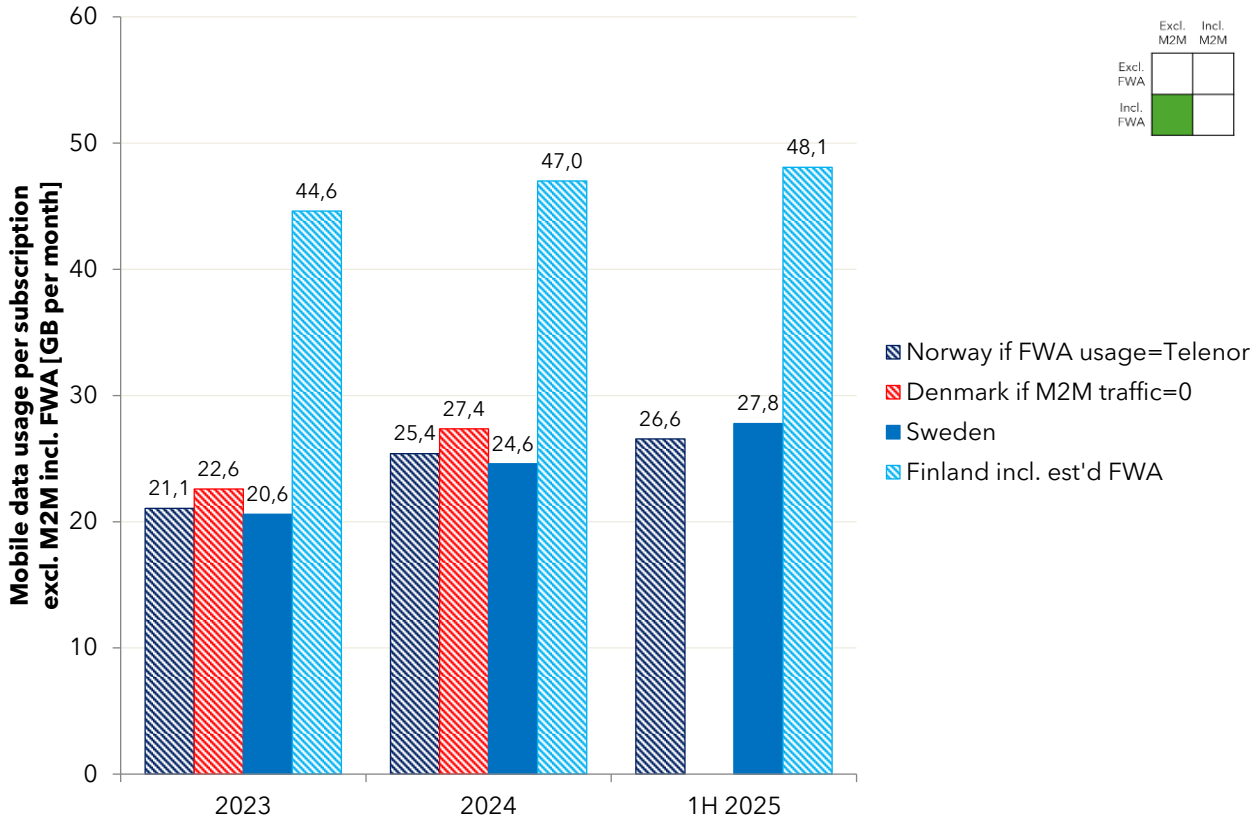

Figure 16. Average mobile data usage per mobile subscription excl. M2M incl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. An assumption of M2M data traffic being zero has been made for Denmark. The values for Norway assume that the FWA usage of other providers is the same as for Telenor's FWA users. The values for Finland assume that the average FWA usage equals the average fixed broadband usage (incl. FWA) and that all subscribers in 'other technologies' are FWA [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, compiled by Tefficient].

When excluding M2M, but including FWA, the average mobile data usage of Norway is estimated to 26.6 GB per subscription per month in 1H 2015 – slightly lower than Sweden's 27.8 GB. In 2024, Denmark's usage was higher than Norway's and Sweden's, but Finland still has a comfortable lead with 48.1 GB per subscription and month in 1H 2025.

Norway's average mobile data usage per mobile subscription excl. M2M is the lowest – regardless of excluding or including FWA.

[17] See Tefficient's https://tefficient.com/arpu-growth-softens-further-as-mobile-data-usage-growth-slows-in-half-of-the-countries/

How does the inclusion of M2M change this? Figure 17 compares the mobile data usage per subscription including M2M but excluding FWA across our countries. Finland still leads over the other Nordic countries with an average of 38.2 GB used per subscription per month in the first half of 2025.

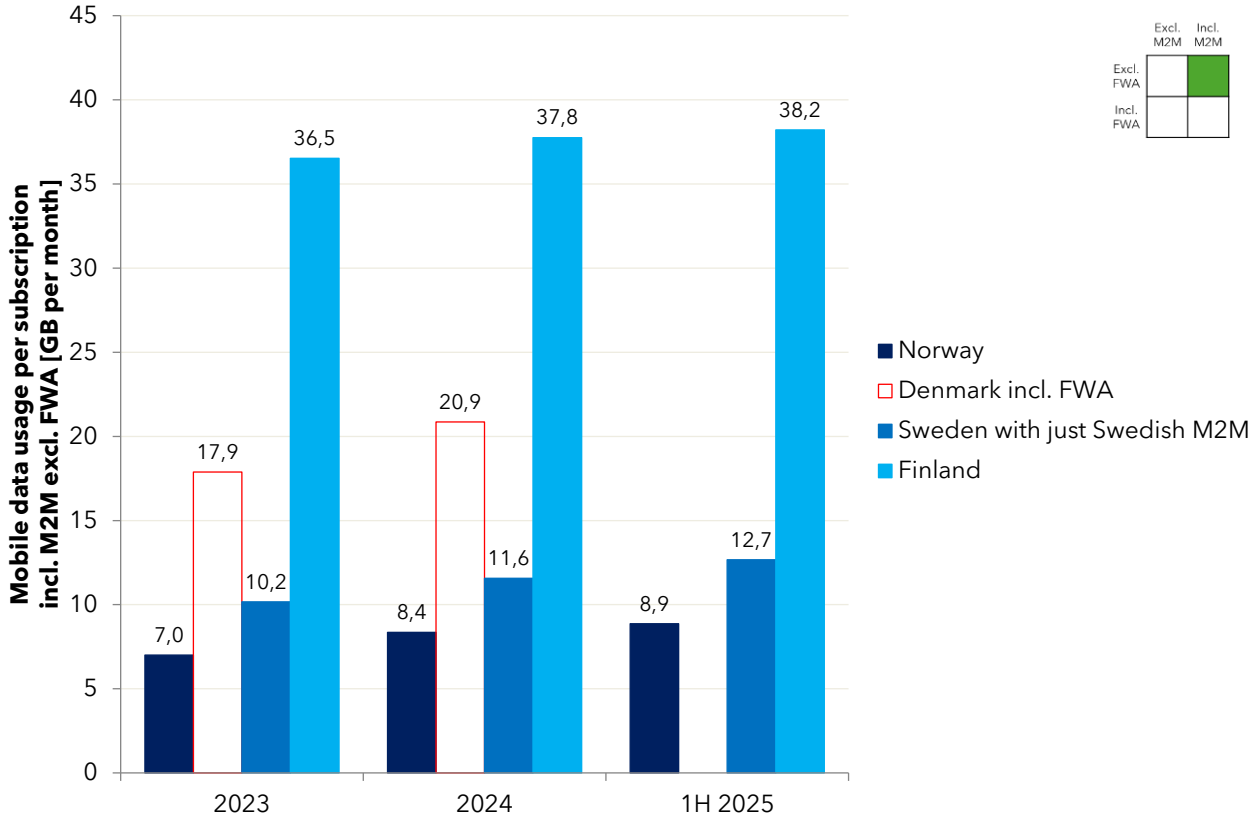

Figure 17. Average mobile data usage per mobile subscription incl. M2M excl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Denmark is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, compiled by Tefficient].

The average mobile data usage of Norway was 8.9 GB per subscription per month in 1H 2025 – significantly lower than Finland, but also lower than Sweden.

Figure 18 below compares the mobile data usage per subscription including M2M and including FWA.

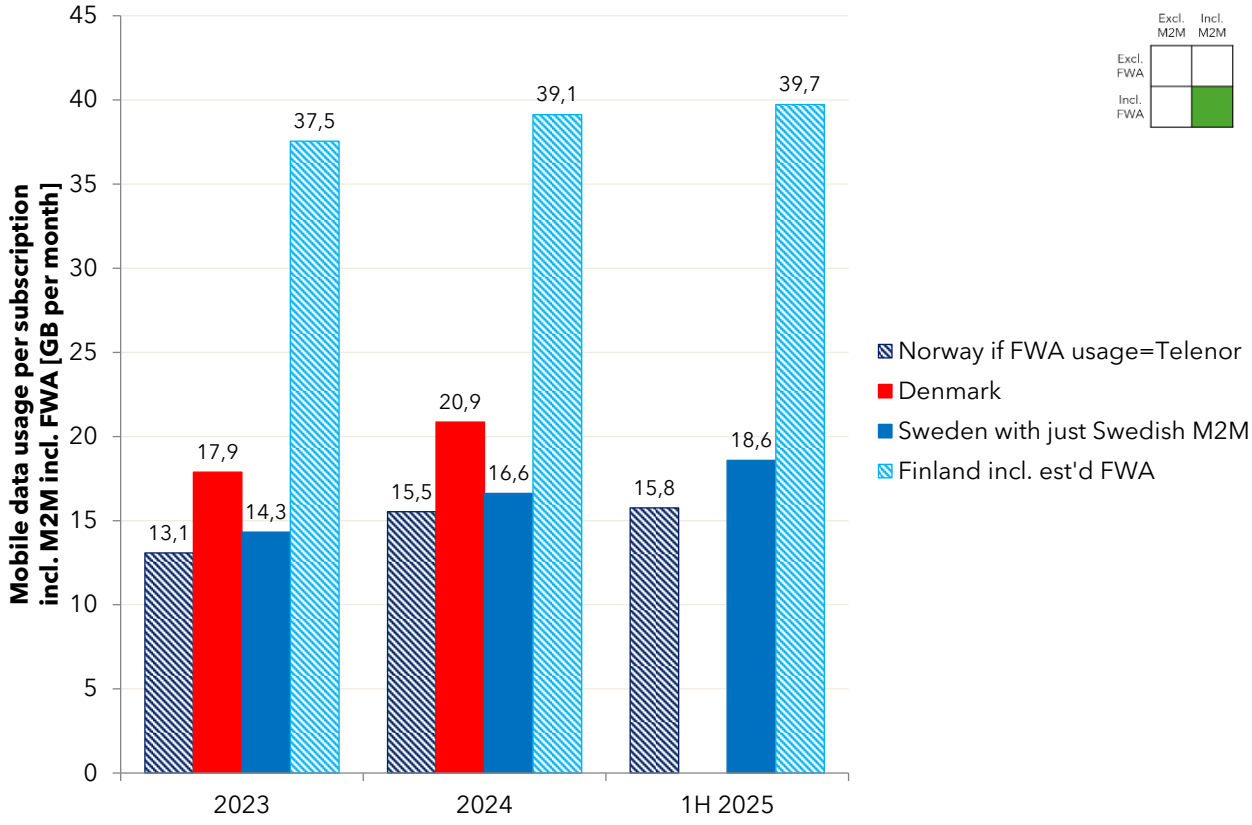

Figure 18. Average mobile data usage per mobile subscription incl. M2M incl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. The values for Norway assume that the FWA usage of other providers is the same as for Telenor's FWA users. The values for Finland assume that the average FWA usage equals the average fixed broadband usage (incl. FWA) and that all subscribers in 'other technologies' are FWA [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, compiled by Tefficient].

The Finnish estimated[18] usage is still the highest, 39.7 GB per month in 1H 2025. Denmark had the highest usage of the other three countries with 20.9 GB per month in 2024. Sweden had 18.6 GB per month in 1H 2025 and Norway's estimated[19] usage was, also when including FWA, the lowest in the Nordics with 15.8 GB.

Norway's average mobile data usage per mobile subscription incl. M2M is the lowest – regardless of excluding or including FWA.

In all our four usage charts, Norway has the lowest data usage and Norway does not have faster usage growth than the other markets. But when including the estimated FWA traffic, the usage difference to Sweden and Denmark is smaller than without FWA. FWA traffic seems to be disproportionate in Norway compared to Sweden and Finland.

[18] Assumes that the average FWA usage equals the average fixed broadband usage (incl. FWA) and that all subscribers in 'other technologies' (62k in June 2025) are FWA.
[19] Assumes that the FWA usage of other providers is the same as for Telenor's FWA users.

The table below compares FWA's proportion of total mobile data traffic between Norway, Sweden, and Finland. For Denmark, FWA traffic isn't reported and can't be estimated.

FWA share of total mobile data traffic (incl. FWA)	Norway	Denmark	Sweden	Finland
2023	59%*	n/a	30%	3%**
2024	59%*	n/a	31%	4%**
1H 2025	58%*	n/a	33%	4%**

Figure 19. Comparison of FWA's proportion of mobile data traffic incl. FWA per country [source: Nkom, PTS, Traficom, compiled by Tefficient]. *) The values for Norway assume that the FWA usage of other providers is the same as for Telenor's FWA users **) The values for Finland assume that the average FWA usage equals the average fixed broadband usage (incl. FWA) and that all subscribers in 'other technologies' are FWA.

If Telenor's FWA usage indeed is representative for the whole Norwegian FWA market, a majority of the traffic (58%) on the Norwegian mobile networks is generated by FWA subscriptions. It's interesting as FWA only represents 6% of the Norwegian mobile+FWA revenues in 1H 2025.

Also in Sweden, FWA's traffic proportion is high, 33%. In Finland, with its strict definition of what is FWA, see section 4.7, only 4% of the mobile data traffic is estimated to be FWA. In reality, many Finnish households and businesses since long utilise unlimited mobile data-only subscriptions as home/office Wi-Fi which contributes to Finland's overall high mobile data usage.

6.2 Total mobile service revenue per consumed GB

Could Norway's relatively low mobile data usage and just-usual growth rate have something to do with the cost of mobile data? To assess this, we have calculated the **total mobile service revenue per consumed GB**[20].

Just like with ARPU, we need a total of eight charts to cover all possible combinations of M2M and FWA with and without purchasing power adjustment. We start with a chart excluding M2M and excluding FWA.

[20] The reason why we use the total mobile service revenue, not just the mobile service revenue associated with mobile data, is the way mobile plans typically are packaged today – with an unlimited number of minutes and SMS/MMS messages and a limited or unlimited number of GBs. With this, there is no way to separate the total service revenue into voice, messaging, and data. The more operators bundle in services such as cyber security or streaming without charging for it separately, the less representative this calculation becomes.

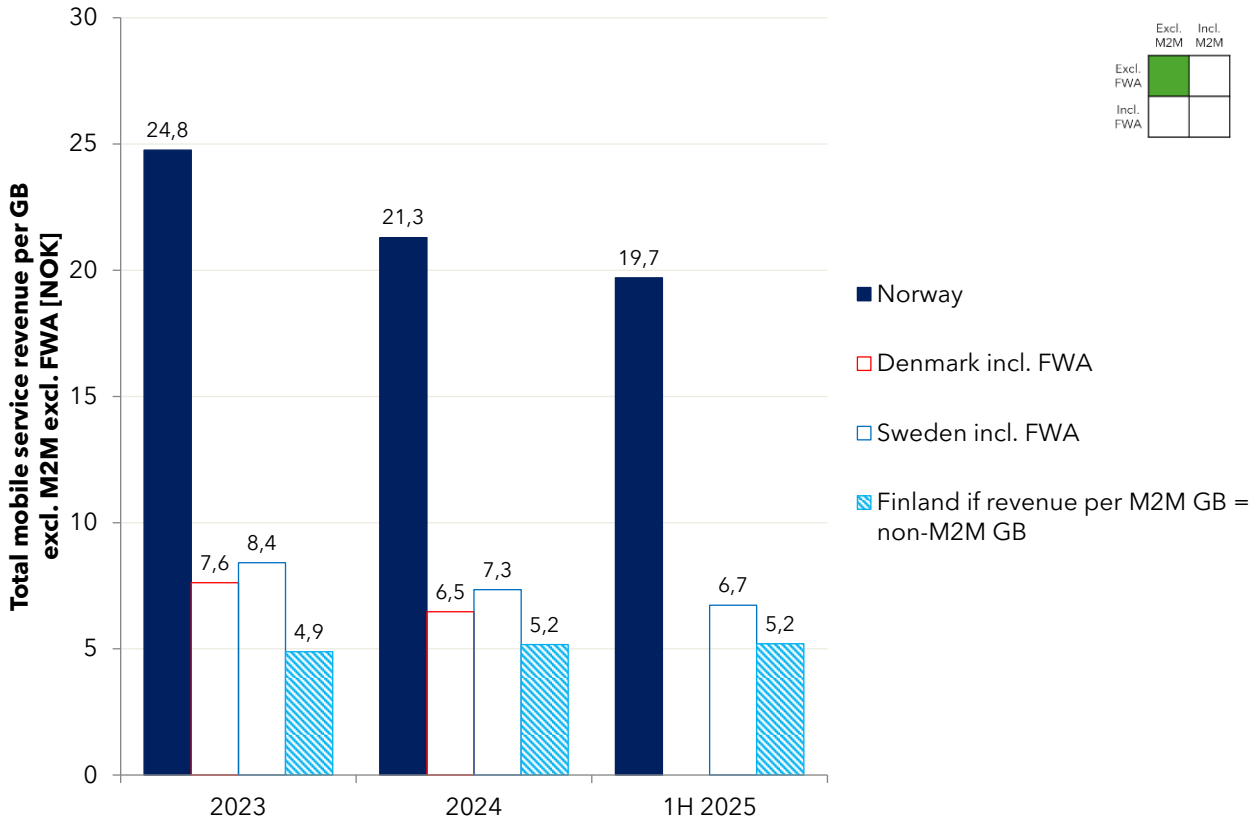

Figure 20. Total mobile service revenue in NOK per consumed GB excl. M2M excl. FWA for Norway and Sweden 2023, 2024, and 1H 2025. An assumption of the M2M revenue per GB being the same as the non-M2M revenue per GB has been made for Finland. Denmark and Sweden are just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

Figure 20 shows the figures in pure NOK if excluding M2M and excluding FWA (where possible). The revenue per GB in Norway in 1H 2025 was 19.7 NOK which represents a decline compared to 2023 and 2024. Although the revenue per GB increased in Finland, Norway's revenue per GB is 3.8 times higher. This factor has however come down since 2023 (5.1) and 2024 (4.1).

Two factors are behind Norway's higher revenue per GB:

1) The higher ARPU in Norway, see section 5,

2) The lower mobile data usage in Norway, see section 6.1.

Now to the same graph but after purchasing power adjustments.

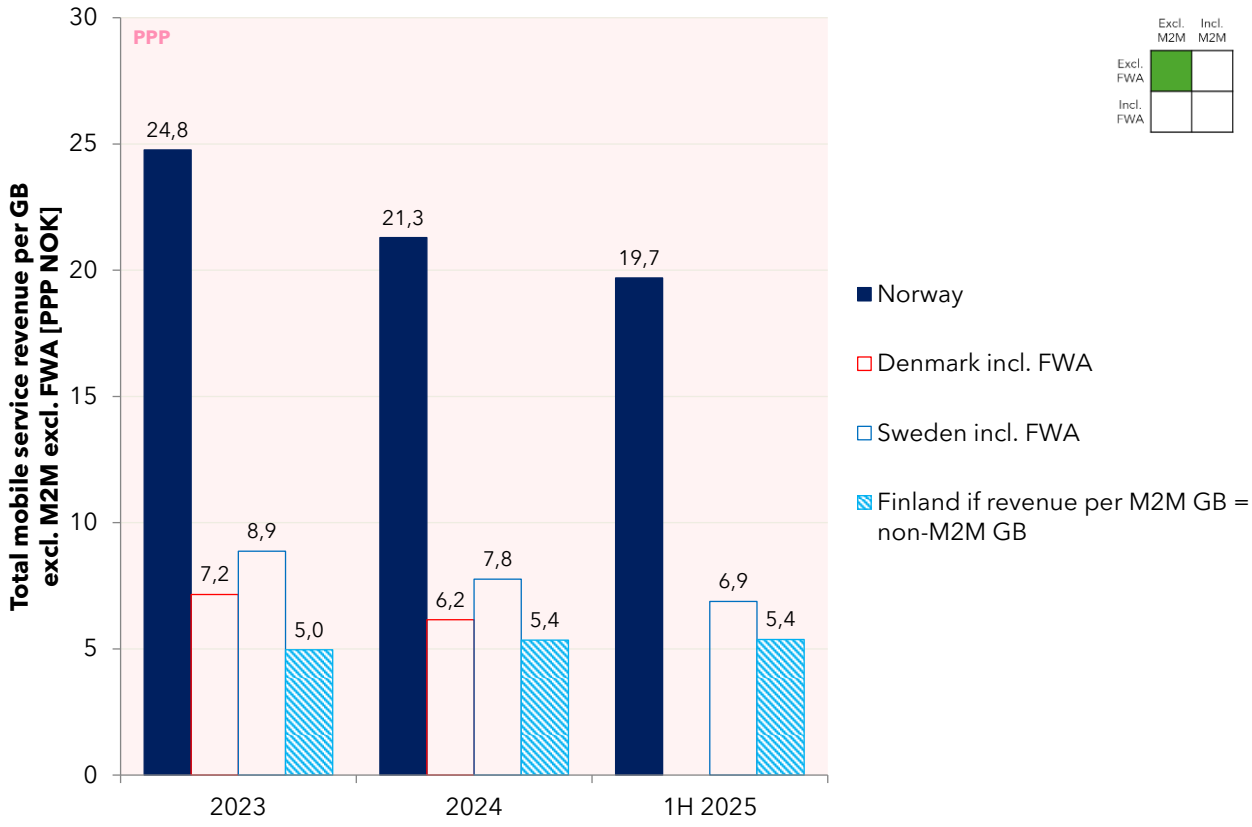

Figure 21. Total mobile service revenue in PPP NOK per consumed GB excl. M2M excl. FWA for Norway and Sweden 2023, 2024, and 1H 2025. An assumption of the M2M revenue per GB being the same as the non-M2M revenue per GB has been made for Finland. Denmark and Sweden are just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

The PPP adjusted revenue per GB in Norway in 1H 2025 was 3.5 times higher than in Finland. This factor has come down since 2023 and 2024.

Now to the graphs excluding M2M but including FWA.

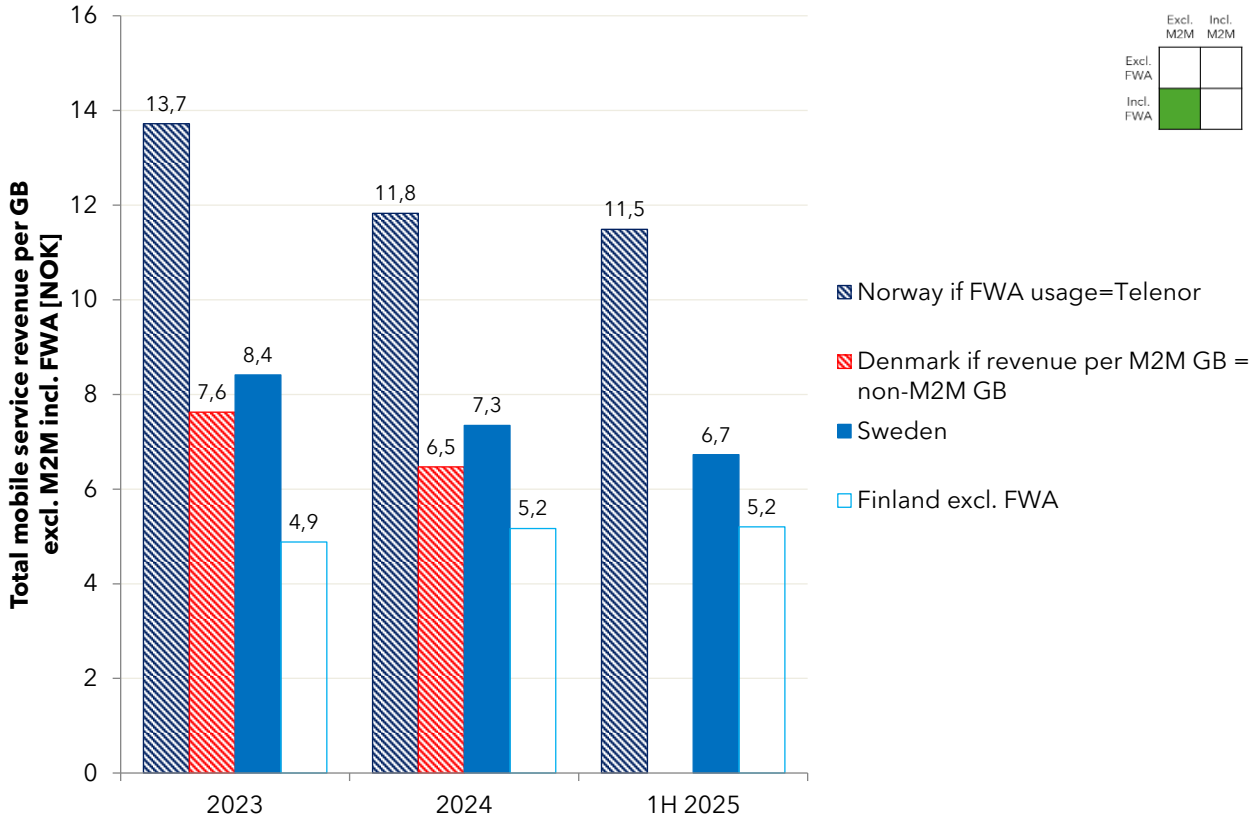

Figure 22. Total mobile service revenue in NOK per consumed GB excl. M2M incl. FWA for Norway and Sweden 2023, 2024, and 1H 2025. An assumption of the M2M revenue per GB being the same as the non-M2M revenue per GB has been made for Denmark. Finland is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

The estimated revenue per GB in Norway was 11.5 NOK in 1H 2025 which represents a decline compared to 2023 and 2024. Norway's revenue per GB was 1.8 times higher than in Denmark in 2024 and 1.7 times higher than in Sweden in 1H 2025. Unlike vs. Finland, the factors vs. Denmark and Sweden are overall stable. The next graph is in PPP NOK.

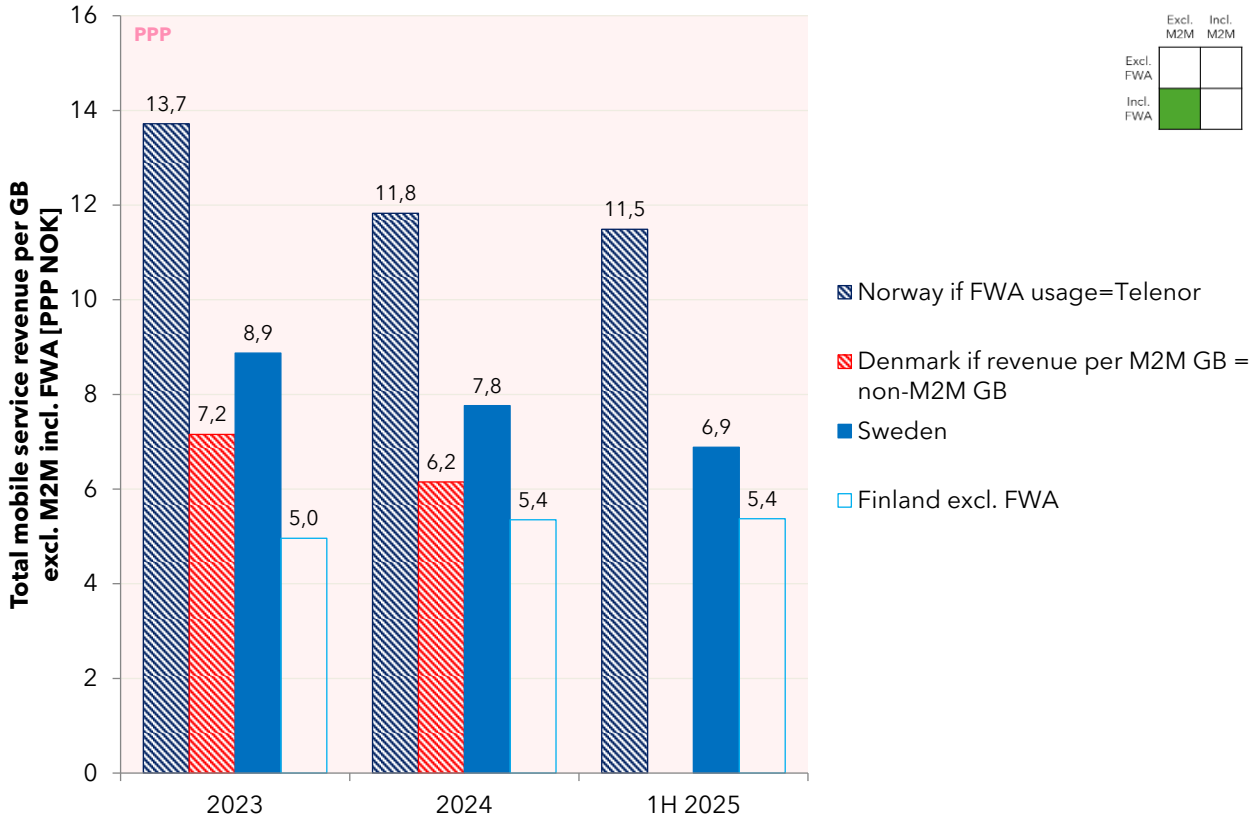

Figure 23. Total mobile service revenue in PPP NOK per consumed GB incl. M2M excl. FWA for Norway and Sweden 2023, 2024, and 1H 2025. An assumption of the M2M revenue per GB being the same as the non-M2M revenue per GB has been made for Denmark. Finland is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

The PPP adjusted estimated revenue per GB in Norway was 1.9 times higher than in Denmark in 2024 and 1.7 times higher than in Sweden in 1H 2025.

Let's now include M2M and see if that changes the positions.

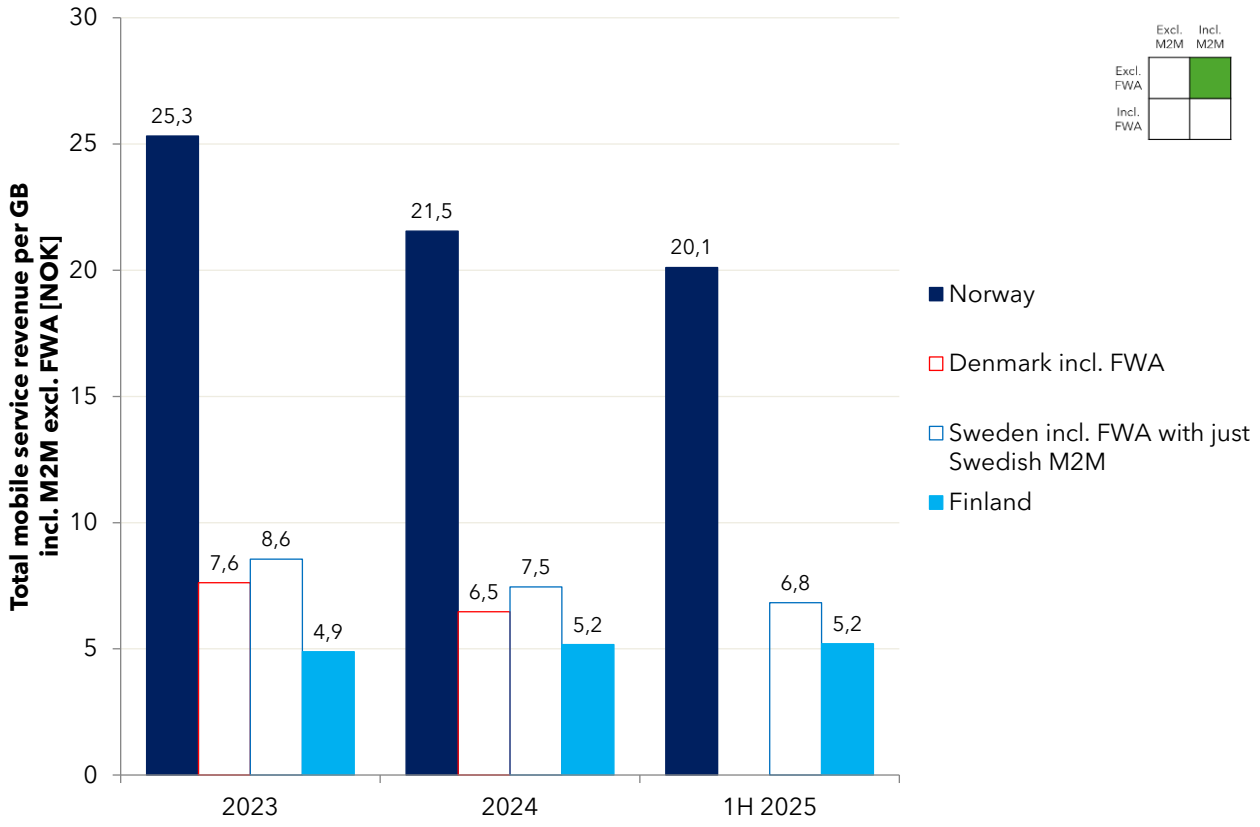

Figure 24. Total mobile service revenue in NOK per consumed GB incl. M2M excl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Denmark and Sweden are just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

Figure 24 shows the figures in pure NOK if including M2M and excluding FWA (where possible). The revenue per GB in Norway in 1H 2025 was 25.3 NOK which represents a decline compared to 2023 and 2024. Although the revenue per GB increased in Finland, Norway's revenue per GB is 3.9 times higher. This factor has however come down since 2023 (5.2) and 2024 (4.1).

Now to the same graph but after purchasing power adjustments.

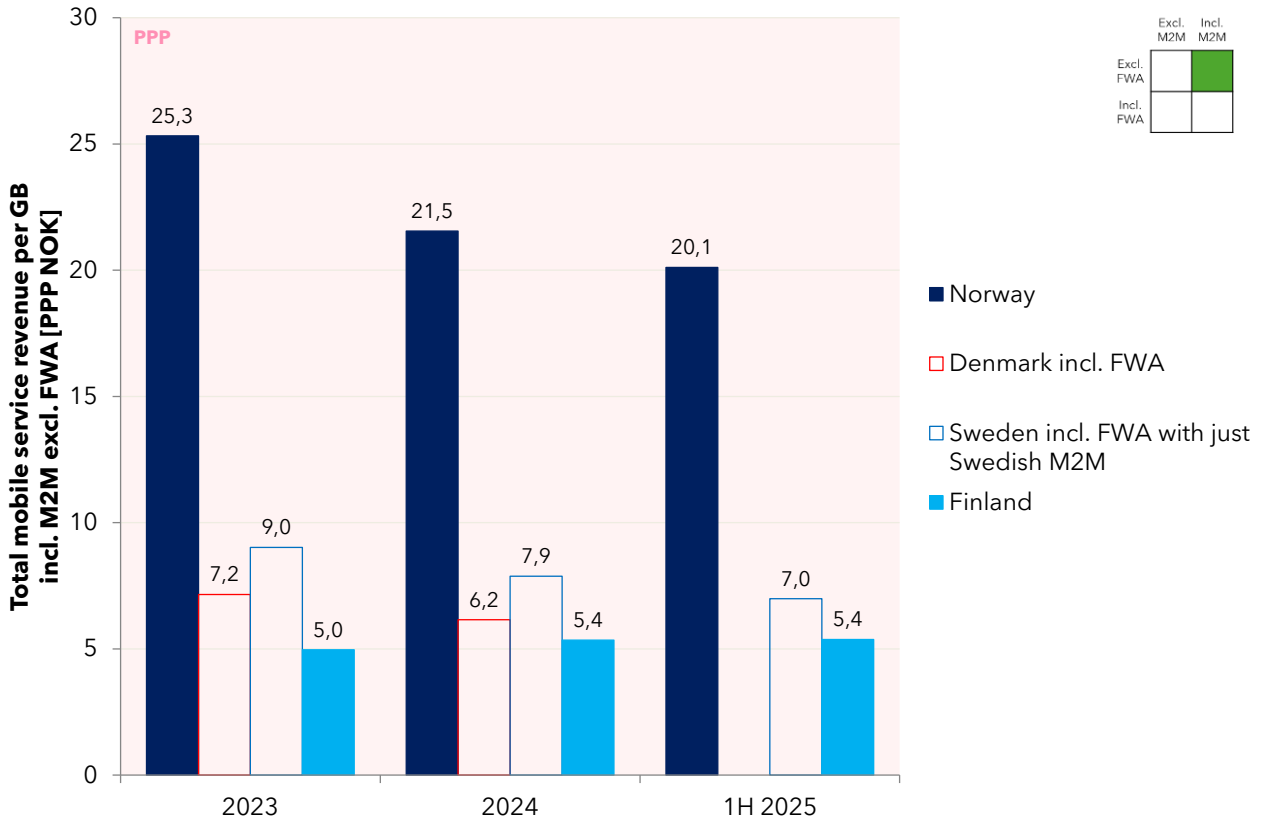

Figure 25. Total mobile service revenue in PPP NOK per consumed GB incl. M2M excl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Denmark and Sweden are just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

The PPP adjusted revenue per GB in Norway in 1H 2025 was 3.7 times higher than in Finland. This factor has come down since 2023 and 2024.

Next to the graphs that include FWA.

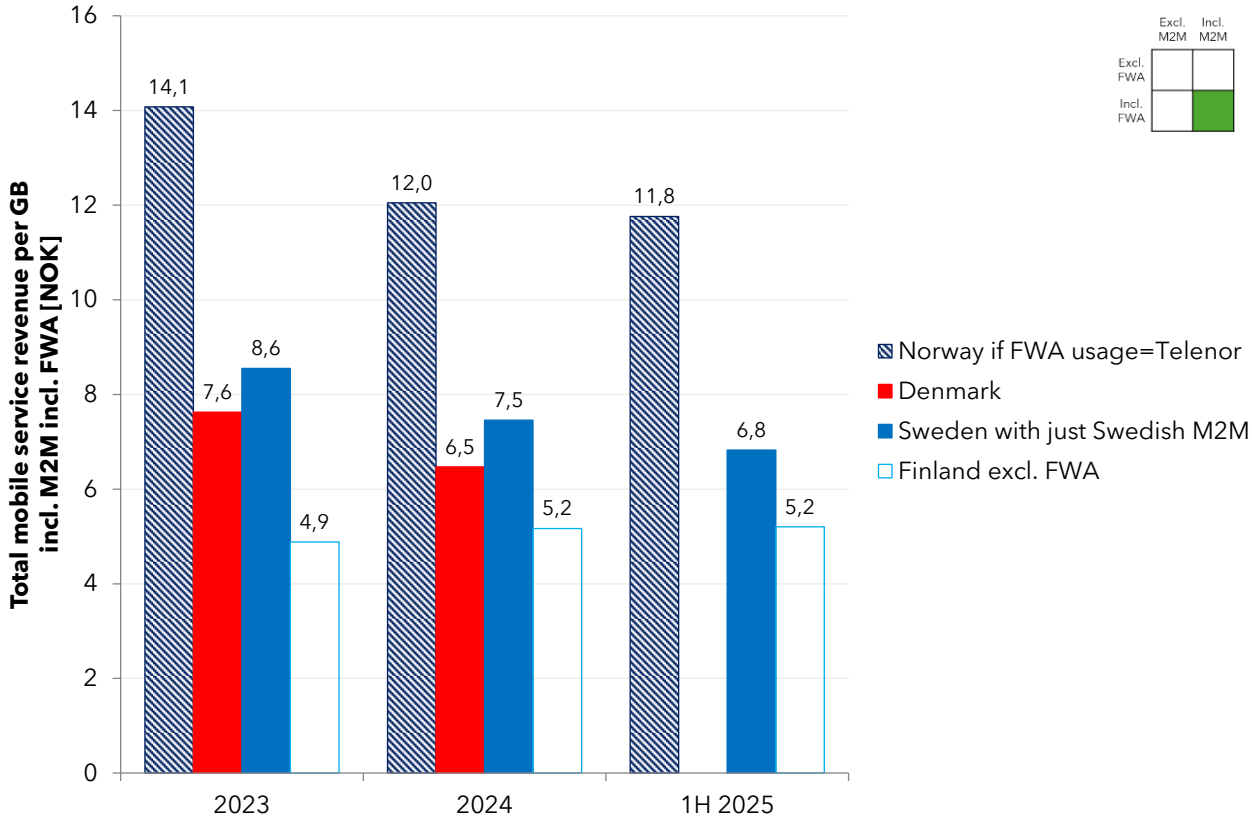

Figure 26. Total mobile service revenue in NOK per consumed GB incl. M2M incl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. The value for Norway assumes that the FWA usage of other providers is the same as for Telenor's FWA users. Finland is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

Figure 26 shows the figures in pure NOK if including M2M and FWA (where possible). The estimated revenue per GB in Norway in 1H 2015 was 11.8 NOK which represents a decline compared to 2023 and 2024. Norway's revenue per GB was 1.9 times higher than in Denmark in 2024 and 1.7 times higher than in Sweden in 1H 2025. Unlike vs. Finland, the factors vs. Denmark and Sweden are overall stable.

Now the same graph but after purchasing power adjustments.

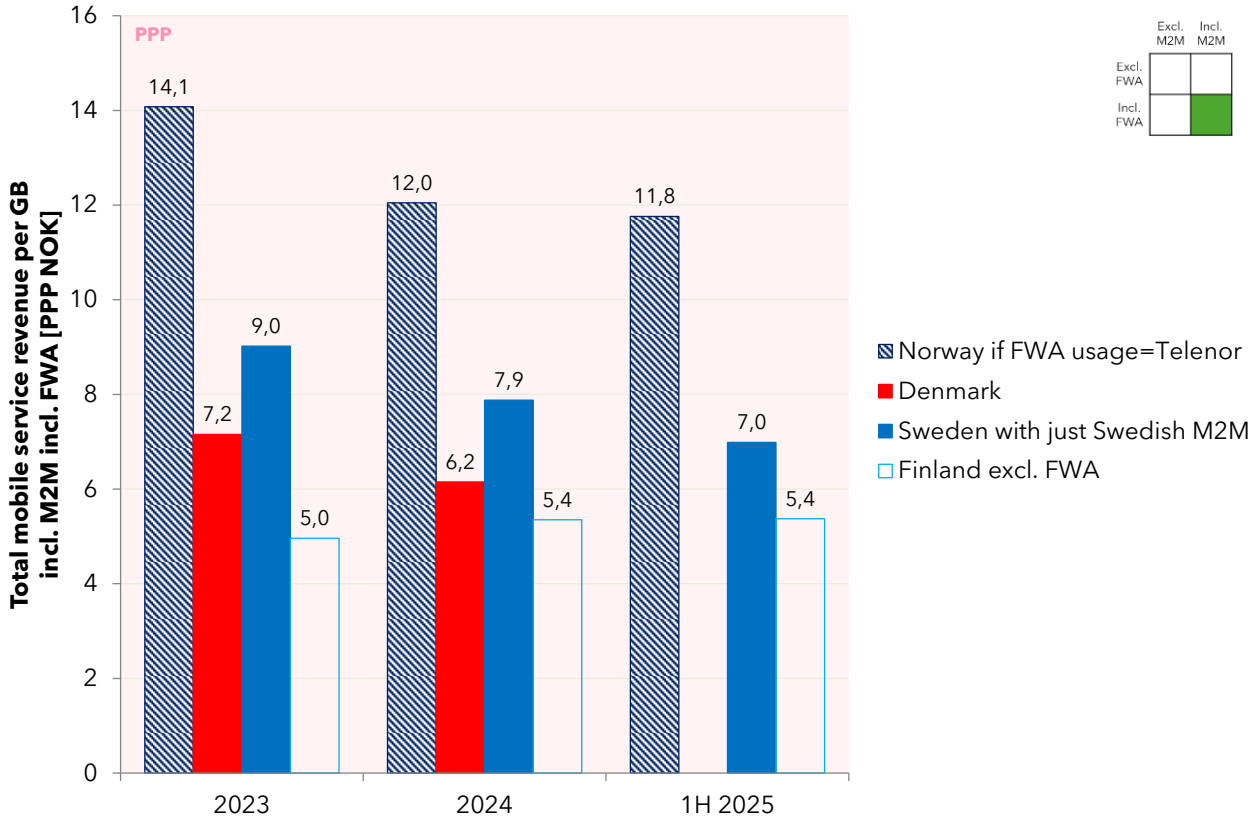

Figure 27. Total mobile service revenue in PPP NOK per consumed GB incl. M2M incl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. The value for Norway assumes that the FWA usage of other providers is the same as for Telenor's FWA users. Finland is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

The PPP adjusted estimated revenue per GB in Norway in 1H 2015 was 2.0 times higher than in Denmark in 2024 and 1.7 times higher than in Sweden in 1H 2025.

The total mobile service revenue per consumed gigabyte is substantially higher in Norway – between 1.7 and 3.9 times higher than in the other Nordic countries. Norway has moved closer to the others, though.

6.3 Data for money

The following graphs compare how much data mobile subscribers get for what they pay. We are comparing the ARPU from section 5 with the average mobile data usage from section 6.1 for the four possible combinations of M2M excluded/included and FWA excluded/included. Since the purchasing power adjustments didn't change any conclusions in the ARPU and revenue per GB sections, we omit the PPP cases here, comparing only the four pure NOK cases.

First the graph where M2M is excluded and FWA too:

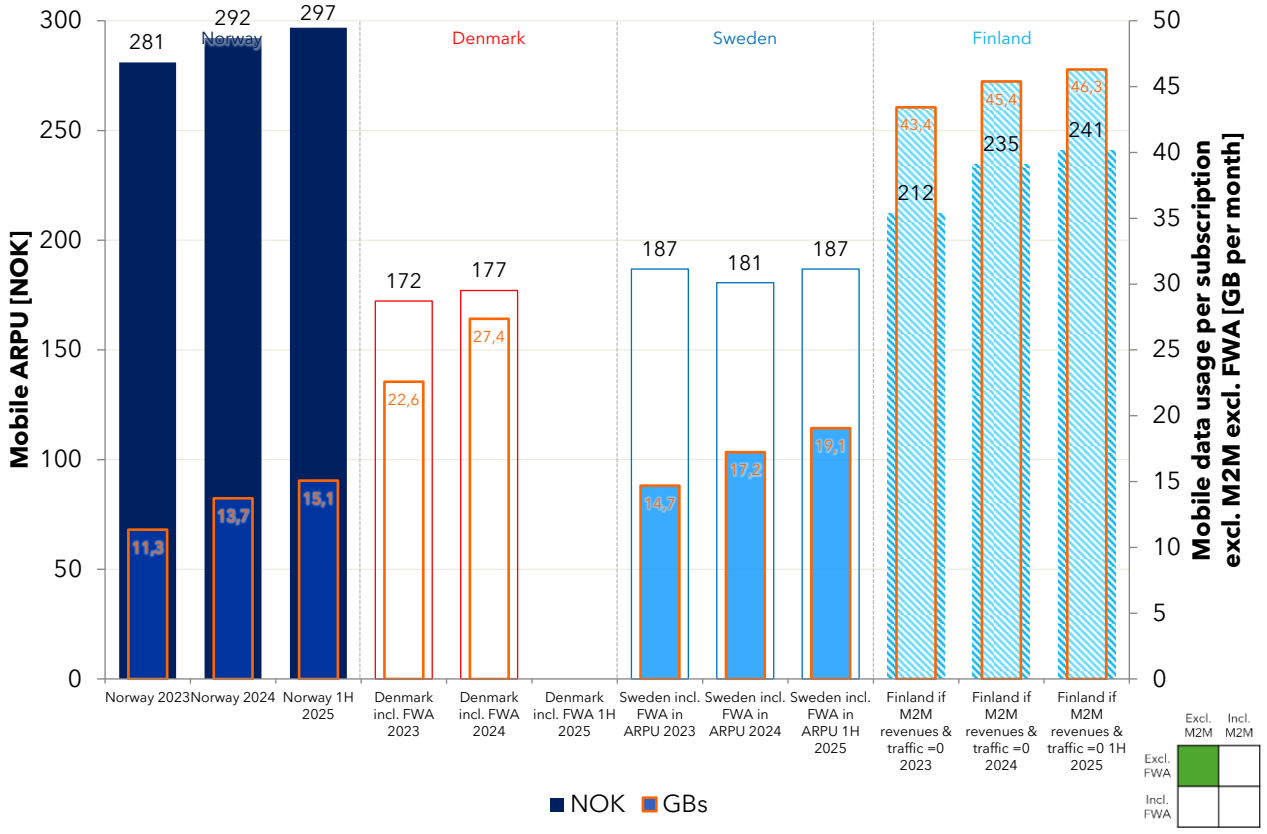

Figure 28. ARPU per mobile subscription excl. M2M excl. FWA vs. the average mobile data usage per subscription excl. M2M excl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. For definitions of indications and assumptions, see the respective ARPU and data usage charts [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

When excluding M2M and FWA, Norway's ARPU is higher than that of Finland although the Norwegian average mobile data usage is much lower. Norway's mobile data usage is also lower than Sweden's.

In the next graph, FWA has been added.

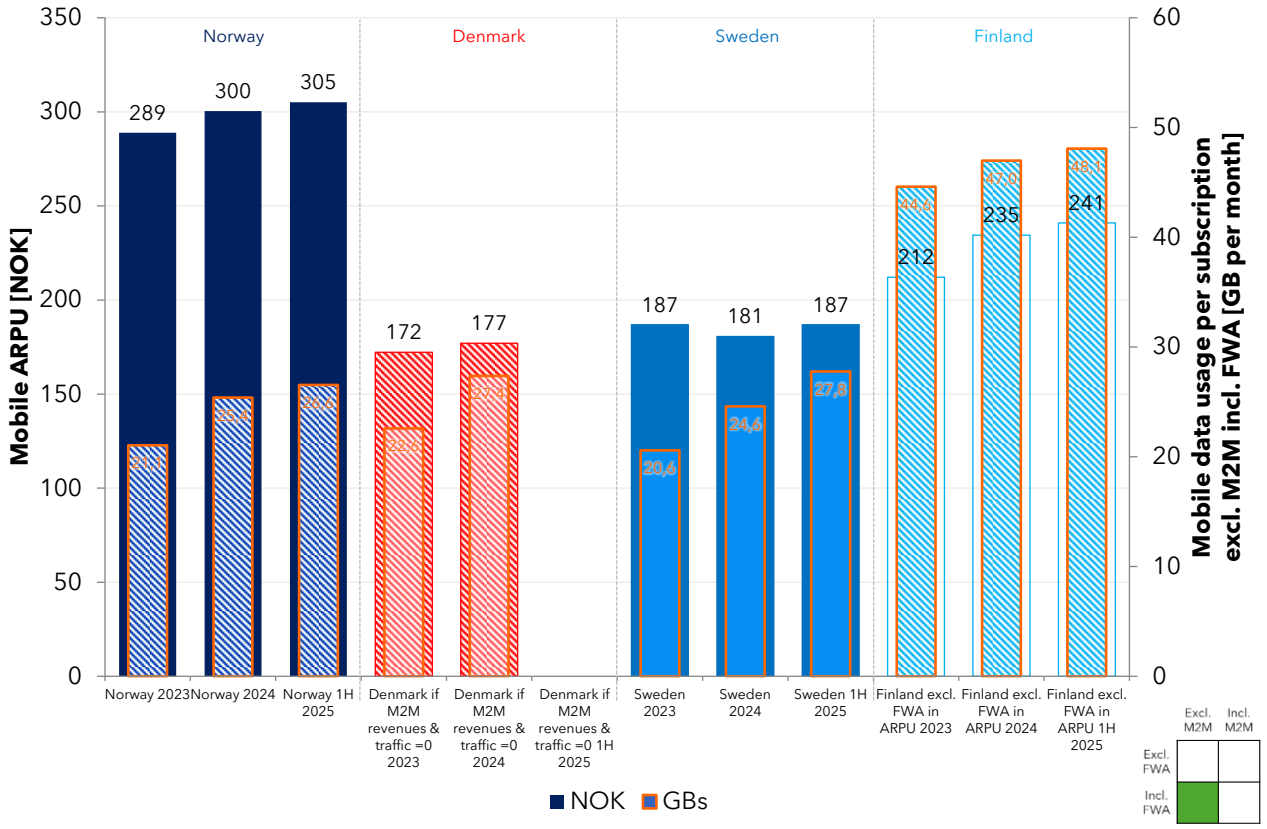

Figure 29. ARPU per mobile subscription excl. M2M incl. FWA vs. the average mobile data usage per subscription excl. M2M incl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. For definitions of indications and assumptions, see the respective ARPU and data usage charts [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

When excluding M2M but including FWA, Norway's ARPU lead vs. Denmark and Sweden is very pronounced although the Norwegian estimated average mobile data usage is slightly lower than Denmark's and Sweden's.

In the next two graphs, we look at the comparisons including M2M.

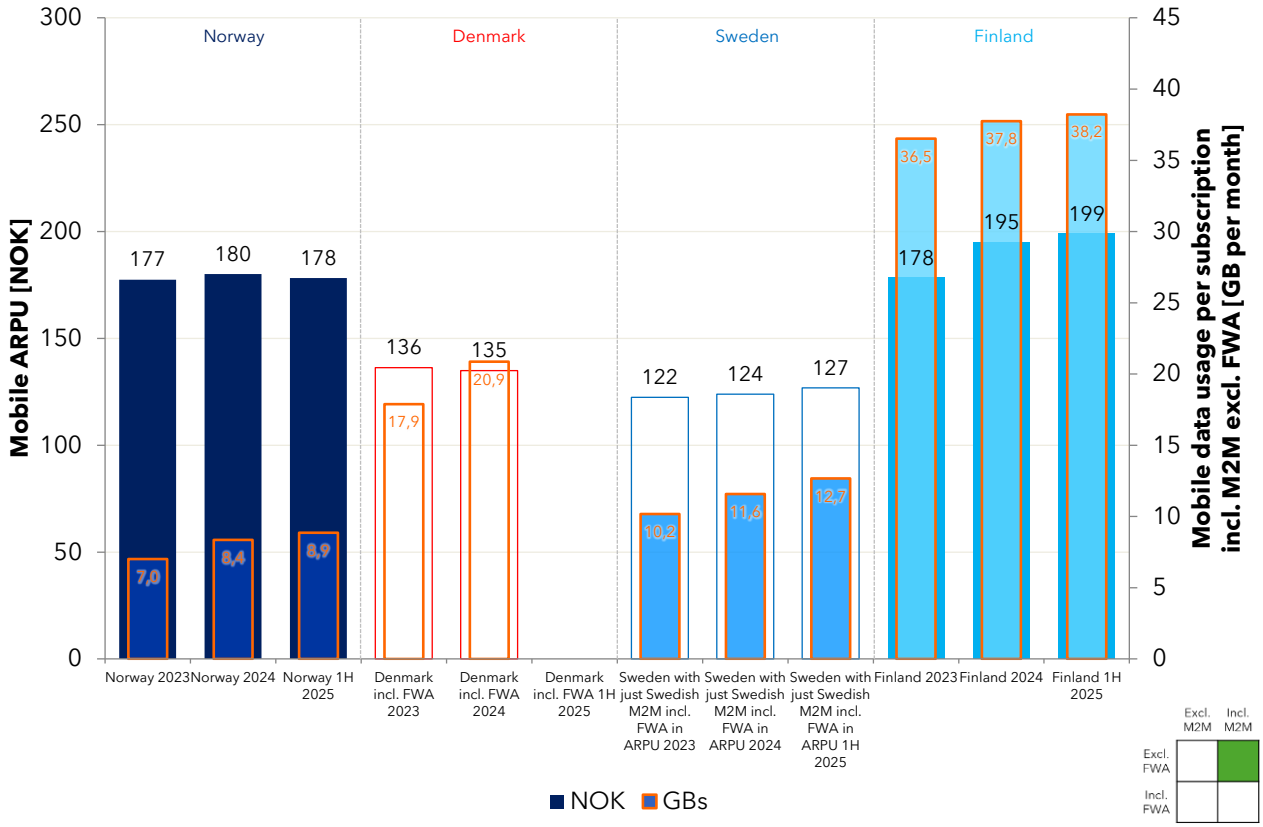

Figure 30. ARPU per mobile subscription incl. M2M excl. FWA vs. the average mobile data usage per subscription incl. M2M excl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. For definitions of indications and assumptions, see the respective ARPU and data usage charts [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

When including M2M but excluding FWA, Norway's ARPU is now lower than Finland's, but Norway's average mobile data usage is much lower. Norway's mobile data usage is also lower than Sweden's.

In the next graph, FWA has been added.

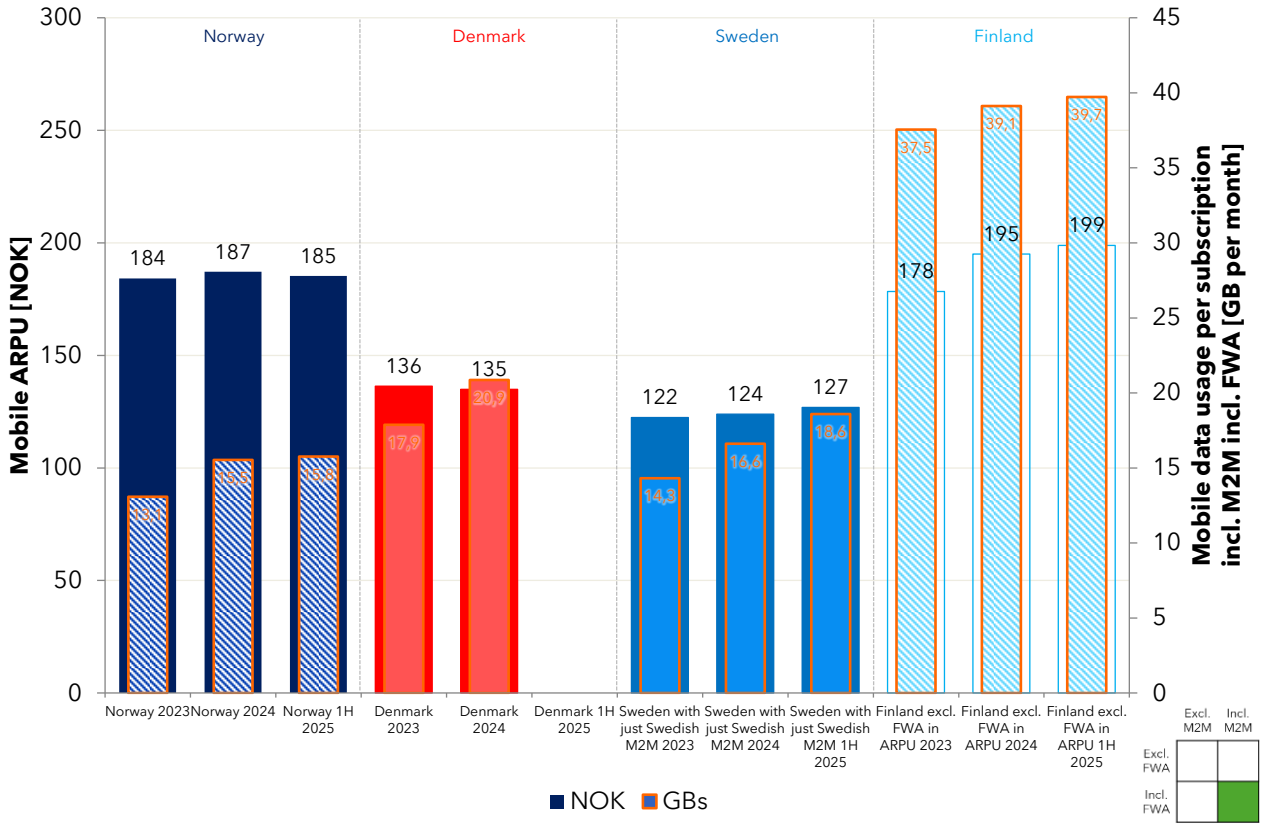

Figure 31. ARPU per mobile subscription incl. M2M incl. FWA vs. the average mobile data usage per subscription incl. M2M incl. FWA for Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. For definitions of indications and assumptions, see the respective ARPU and data usage charts [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operator reports for 1H 2025 for Finland as Traficom does not report revenue for half years, compiled by Tefficient].

Norway's ARPU is here higher than Denmark's and Sweden's ARPU although Norway's estimated average mobile data usage is lower.

When it comes to data usage, Norway is consistently below. Regardless of whether M2M or FWA is counted, Norwegian mobile subscribers use less data than their Nordic neighbours.

As a result, the total mobile service revenue per consumed gigabyte is substantially higher in Norway – between 1.7 and 3.9 times higher than in the other Nordic countries. Norway has moved somewhat closer to the others, though.

The combination of high ARPU and low consumption means that Norwegian mobile users get less data for money than users in Denmark, Sweden, and Finland.

Although data volume remains the key price-defining parameter in our countries, including Norway, there's another factor that might influence value of money: speed.

6.4 Speed for money

Mobile subscriptions with unlimited data are increasing in popularity in Norway, Denmark, and Sweden. In Finland, such subscriptions are already the standard: 87% of mobile subscriptions (excl. M2M) had unlimited data volume in Finland in June 2025.

Just like in Finland, mobile providers in Norway tend to tier their unlimited offerings on maximum available transmission speed in download. This means that the actual download speeds will no longer just depend on the capacity of the mobile networks, it will also depend on how much subscribers pay for their unlimited mobile subscriptions.

We have seen that Norwegian operators – when excluding M2M – have high ARPU although the data usage is low. But maybe that high ARPU is due to mobile subscribers buying plans with high data speeds?

Figure 32 below compares the median download speeds as reported by **Ookla Speedtest**. Ookla uses crowdsourced data based on tests actively done by smartphone users. The throughput measured by these tests is not just affected by the technology, but also the speed tiers (if any) paid for by the customers.

The median download is today fastest in Denmark – last reading 179 Mbit/s – but Norway is positioned as number two with 152 Mbit/s. The median Norwegian download experience is hence faster than Finland with 124 Mbit/ and Sweden with 120 Mbit/s.

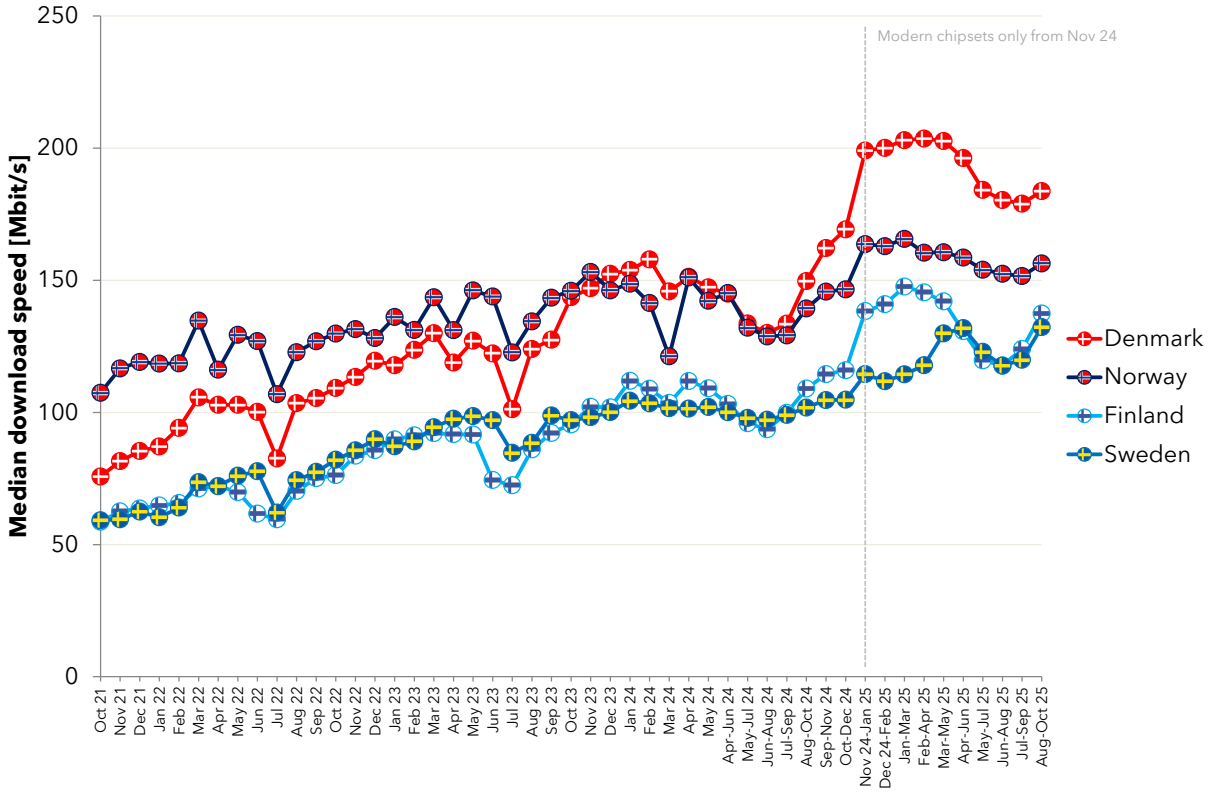

Figure 32. Median mobile broadband download speed for Norway, Denmark, Sweden, and Finland per month Oct 2021-Oct 2025 [source: Ookla Speedtest]. Ookla started to average the values over three months from April 2024 and changed its definition to only include readings from "modern chipsets" in November 2024.

The table below compares these speeds to the ARPU.

	Norway	Denmark	Sweden	Finland
Median download speed, Aug-Oct 2025 [Mbit/s]	156	184	132	137
ARPU excl. M2M excl. FWA, 1H 2025 [NOK]	297	177*	187* **	241***
NOK per Mbit/s	1.90	0.96	1.42	1.76

Figure 33. Comparison of the median download speed and the ARPU per country [source: Ookla Speedtest, Nkom, Digitaliseringsstyrelsen, PTS, Traficom, operators reporting, compiled by Tefficient]. *) Including FWA **) ARPU for 2024 ***) If M2M revenues = 0.

In the lowest row of the table NOK per Mbit/s is calculated showing that Norwegian mobile subscribers pay more per Mbit/s in median download speed than Finnish, Swedish and Danish subscribers (in that order).

In the future, with a growing appetite for unlimited data subscriptions, value for money might stronger correlate to speed than today.

Norwegian subscribers pay more per Mbit/s in median download speed compared to their Nordic peers.

6.5 Additional services for money

Although data volume remains the key price-defining parameter in our countries, including Norway, and speed might become another parameter, there is also a tendency of operators bundling in additional services, typically cybersecurity and streaming, in mobile subscriptions. Such services, if provided without an additional fee, could of course represent value for money too – surely for customers who anyhow would use these services.

In May 2025, Tefficient analysed the value of inclusive cybersecurity and cloud services for Nkom. The box below contains this report's summary on mobile:

"As noted, Norwegian mobile providers are more likely to include cybersecurity and cloud services than some of their Nordic peers. To evaluate whether this could explain the higher subscription prices, the estimated market value of these included services was subtracted from the total subscription price. The results show that **this inclusion only partially accounts for Norway's higher mobile subscription prices**."

Extract from "Nordic survey of cybersecurity and cloud services included or sold with mobile and fixed broadband", 21 May 2025

6.6 Conclusion on value for money – mobile

Section 6.3 shows that the average Norwegian mobile subscriber consumes little data for the money spent on mobile services. Section 6.4 shows that the Norwegian mobile smartphone subscriber pays more per Mbit/s of download speed than subscribers in the other countries. Section 6.5 points to a separate study which concludes that although Norwegian mobile providers more often include cybersecurity and cloud services than Nordic peers, the market value of these services is smaller than the price differential.

There are three price-defining parameters used in Nordic mobile: Data volume, data transmission speed, and inclusive services.

The average Norwegian mobile subscriber has the lowest data consumption per NOK spent. Norway has the highest revenue per data transmission speed unit (Mbit/s). While Norwegian mobile providers more often include cybersecurity and cloud services, these additions only partly explain the high ARPU.

Overall, Norwegian subscribers receive less value for money than those in the other Nordic countries.

7 Market concentration – mobile

Figure 34 shows the distribution of mobile service revenue in Norway between the three MNOs Telenor, Telia and Lyse Tele (Ice) – and other (non-MNO) providers.

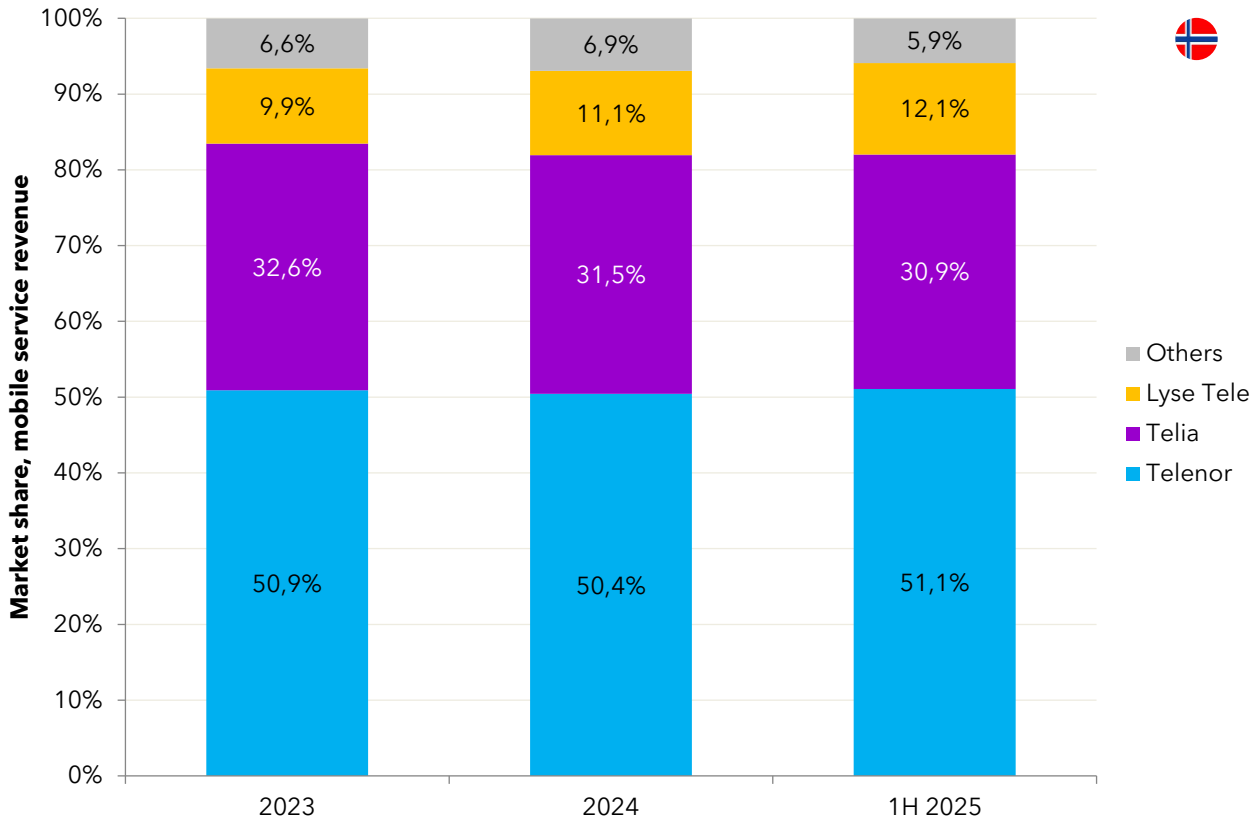

Figure 34. Market share in mobile service revenue, Norway [source: Nkom].

Telenor's mobile service revenue market share is leading, **51.1%** in 1H 2025, and has, after a longer period of decline, grown in the first half of 2025 compared to the value for the full year of 2024. Telenor's market share is particularly strong in the business segment in which it holds 56% market share.

Telia's market share is in decline whereas Lyse Tele's continues to increase. Other providers lost market share in 1H 2025 compared to 2024.

Denmark's mobile service revenue distribution is shown below. This is based on the reporting of operators as the authority does not report this per provider. Since Nuuday and Norlys do not report, 1H 2025 figures can't be calculated.

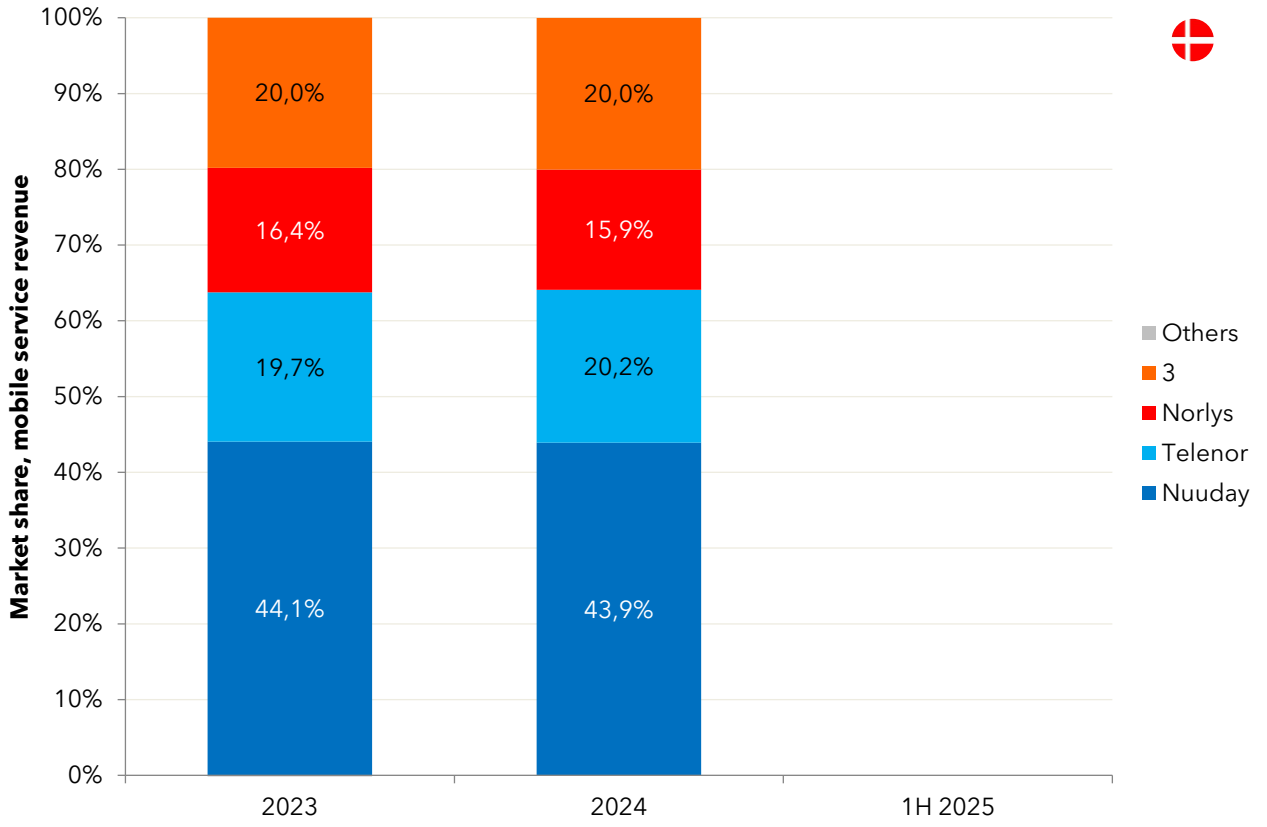

Figure 35. Market share in mobile service revenue, Denmark [source: Operator reports as Digitaliseringsstyrelsen does not break down revenue per operator; the 'Others' revenue can't be calculated and is included in Norlys – as the country residual since Norlys does not report].

Denmark has four mobile network operators[21] (MNOs) and the incumbent operator Nuuday (former TDC) had in 2024 a more limited market share, **43.9%**, than Telenor Norway. The graph for Sweden follows below.

[21] Two of them, Telenor and Norlys, are sharing a common radio network.

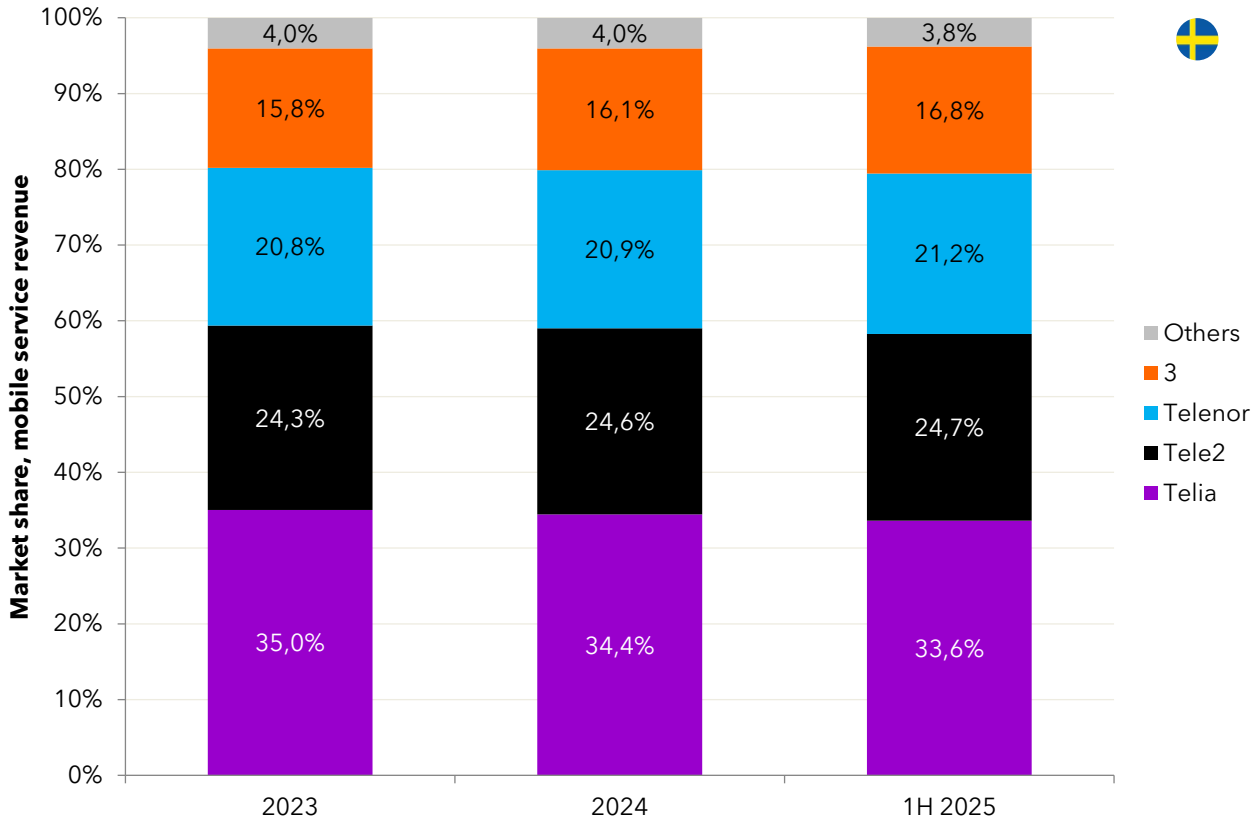

Figure 36. Market share in mobile service revenue, Sweden [source: PTS].

Like Denmark, Sweden has four MNOs[22]. The incumbent in Sweden, Telia, had a **33.6%** revenue market share in the first half of 2025. Telia has lost market share mainly to '3'.

Finally, the graph for Finland:

[22] Two of them, Telenor and Tele2, share a common radio network.

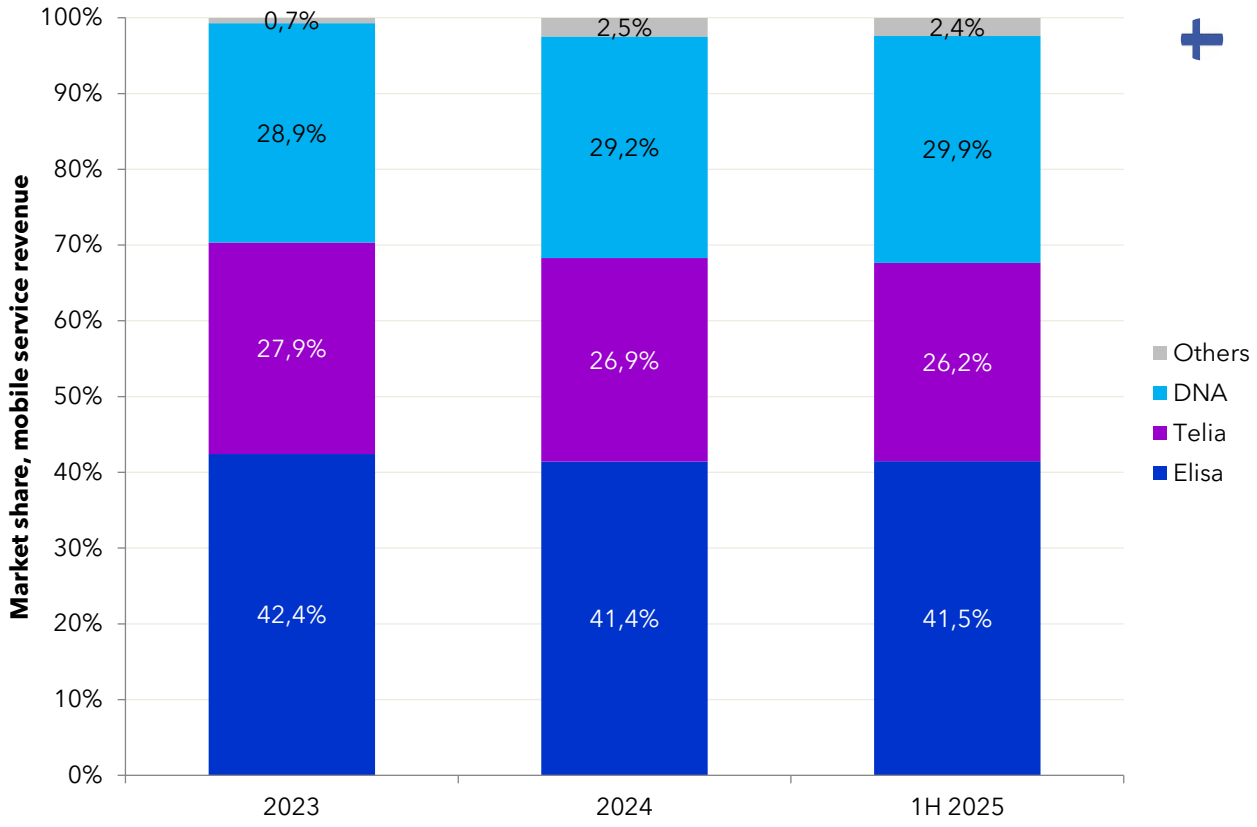

Figure 37. Market share in mobile service revenue, Finland [source: Traficom for total revenue 2023 and 2024 – for 1H 2025 operator reports as Traficom doesn't report revenues for half years. 'Others' revenue in 1H 2025 assumed to be half of 2024].

The largest operator in Finland[23], Elisa, had a **41.5%** market share in the first half of 2025. DNA gains market share mainly at the expense of Telia. Like Norway, Finland is a three MNO market[24], but Elisa has a more limited market share compared to Telenor Norway.

The table below summarises the market shares of the incumbent in each market – and calculates the concentration index HHI for the individual mobile markets.

[23] Elisa here assumed as the Finnish incumbent as it has the largest revenue market share. Unlike the other markets, Finland has not had a nationwide incumbent as the fixed networks rather were local monopolies.
[24] Two of them, Telia and DNA, share a common radio network in the Northern and Eastern parts of Finland.

What is HHI?

The Herfindahl-Hirschman Index is a simple and widely applied economic concept that often is used in regulation and antitrust matters. It is defined as the sum of the squares of the market shares of the companies competing in a market. A monopoly would thus get an index of $100^2 = 10000$ which is the maximum value and depicts a fully concentrated market.

Where the line should be drawn between a moderately concentrated and a highly concentrated market is obviously debatable but the U.S. Department of Justice has in its latest merger guidelines stated that a HHI value above 1800 should be considered highly concentrated.

The mobile business, with its limited number of licences, is often having much higher HHI values than 1800, though.

	Revenue market share of incumbent MNO 2024	Herfindahl-Hirschman Index (HHI) 2024 [0-10000][25]
Norway (3 MNOs)	50.4%	3708 (-87)
Denmark (4 MNOs)	43.9%	2988 (-11)
Sweden (4 MNOs)	34.4%	2500 (-17)
Finland (3 MNOs)	41.4%	3299 (-119)

Figure 38. Comparison of incumbent market shares in mobile service revenue, Norway, Denmark, Sweden, and Finland – as well as HHI for the whole mobile market, 2024 (change from 2023 within parentheses) [source: Nkom, Digitaliseringsstyrelsen/operators, PTS, Traficom, compiled by Tefficient].

The Norwegian mobile market is **more concentrated** than the other markets. This is true both when comparing the revenue market share of the incumbent as well as when comparing the HHI. The HHI has though decreased 87 points between 2023 and 2024. The HHI values decreased in all four countries.

The fact that Norway only has three MNOs isn't the sole explanation to its high HHI; Finland too has three MNOs and although the Finnish HHI is higher than in Denmark and Sweden, it's lower than in Norway. When looking at the revenue market share of the largest operator in Finland, Elisa, it had 41.4% in 2024, a number in between the incumbents of the two four-MNO markets Denmark (43.9%) and Sweden (34.4%).

Telenor's contribution to the HHI of Norway is **69%** (2544 of 3708 HHI points). In comparison, Nuuday's contribution to the Danish HHI is 65%, Telia's is 47% to the Swedish HHI and Elisa's is 52% to the Finnish HHI.

[25] 'Others' is treated as one which increases HHI a bit in all markets

The Norwegian mobile market is more concentrated than the other Nordic markets. This is not simply due to the number of MNOs; Telenor's revenue share alone accounts for 69% of the country's HHI. Although concentration is decreasing, Norway remains the most concentrated among the Nordics.

It is Tefficient's view that market concentration remains the most credible explanation to the high mobile ARPU in Norway.

8 Fixed broadband ARPU

We have used official data from the four national authorities Nkom, Digitaliseringsstyrelsen, PTS and Traficom to calculate the average service revenue per fixed broadband subscription[26] per month – normally referred to as **ARPU** within the industry.

To satisfy like-for-like comparisons although Nordic authorities report statistics following different standards and granularity, we have in total made four fixed broadband ARPU graphs to also have comparisons in both NOK and in purchasing power adjusted NOK. The graphic below shows for which country the calculated ARPU is the highest.

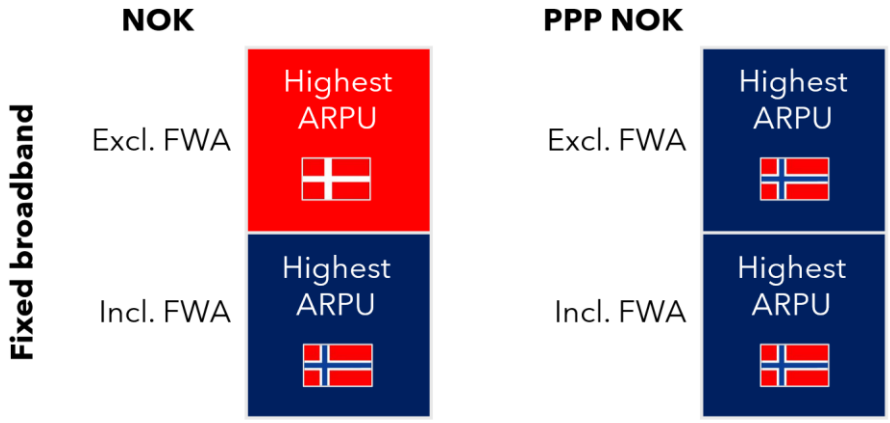

Figure 39. Summary of the four fixed broadband ARPU comparison cases. Due to insufficient data granularity, all countries can't be represented in each box. See the four upcoming ARPU graphs for exact definitions and assumptions.

In three out of the four cases, Norway has the highest ARPU. Denmark has the highest ARPU if excluding FWA – but only in the pure NOK case without purchasing power adjustment.

Figure 40 below shows the ARPU excluding FWA in NOK[27].

As usual, regulatory data is not entirely harmonised. FWA revenue and subscriptions can't be excluded for Finland[28]. The Finnish revenue is also including revenues from fixed voice services[29].

[26] Average number of subscriptions in the period calculated as the average of the number of subscriptions at the start of the period and the number of subscriptions at the end of the period.
[27] Using the average of the daily exchange rate from ECB. For 2023: 0.65217 DKK per NOK, 1.00472 SEK per NOK, 0.087529 EUR per NOK. For 2024: 0.64140 DKK per NOK, 0.983102 SEK per NOK, 0.085992 EUR per NOK. For 1H 2025: 0.63981 DKK per NOK, 0.951571 SEK per NOK, 0.085757 EUR per NOK.
[28] Since the Finnish regulatory, Traficom, applies a strict definition of FWA, leading to less than 62k broadband subscriptions being classified as FWA, the impact is likely not significant.
[29] With a very low usage of fixed voice in general, the impact is likely not significant.

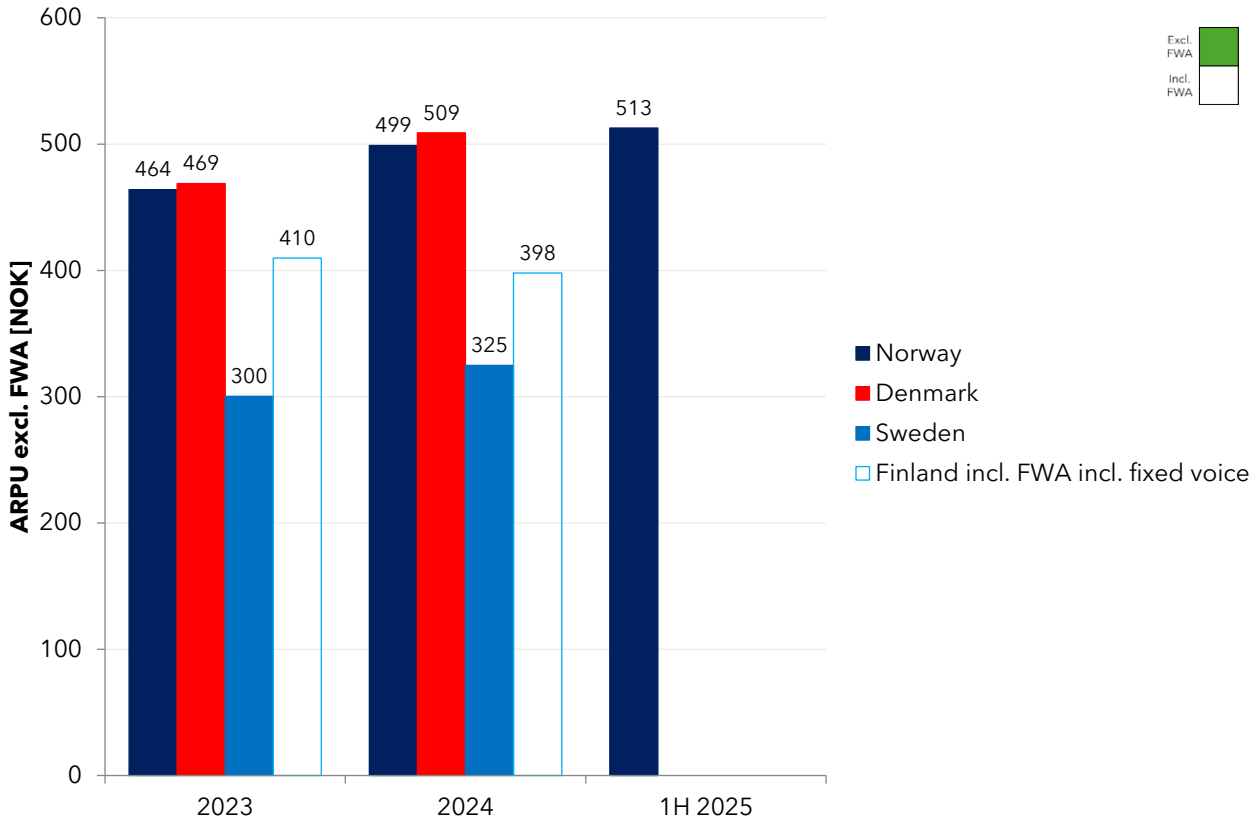

Figure 40. Comparison of fixed broadband ARPU excl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Finland is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom].

Norway's fixed broadband ARPU was **499 NOK** in 2024, higher than in 2023 (464 NOK) and increasing further into 1H 2025 (513 NOK) for which there is no peer group data. During our comparison period, the increase in Norwegian ARPU was 11%. This is faster than the development of the Norwegian consumer price index which increased 6% between 2023 (year average) and the average of January-June 2025.

Denmark had the highest ARPU in 2023 and 2024. Sweden had an ARPU lower than Norway. Denmark and Sweden have the same increasing trend as Norway from 2023 to 2024. The weakening of the NOK makes the ARPU growth of the other countries look stronger, but there's ARPU growth in Denmark and Sweden also in local currencies.

To compensate for the differences in overall purchasing power, the ARPUs of Denmark, Sweden and Finland have been recalculated into purchasing power parity NOK (PPP NOK), see Figure 41.

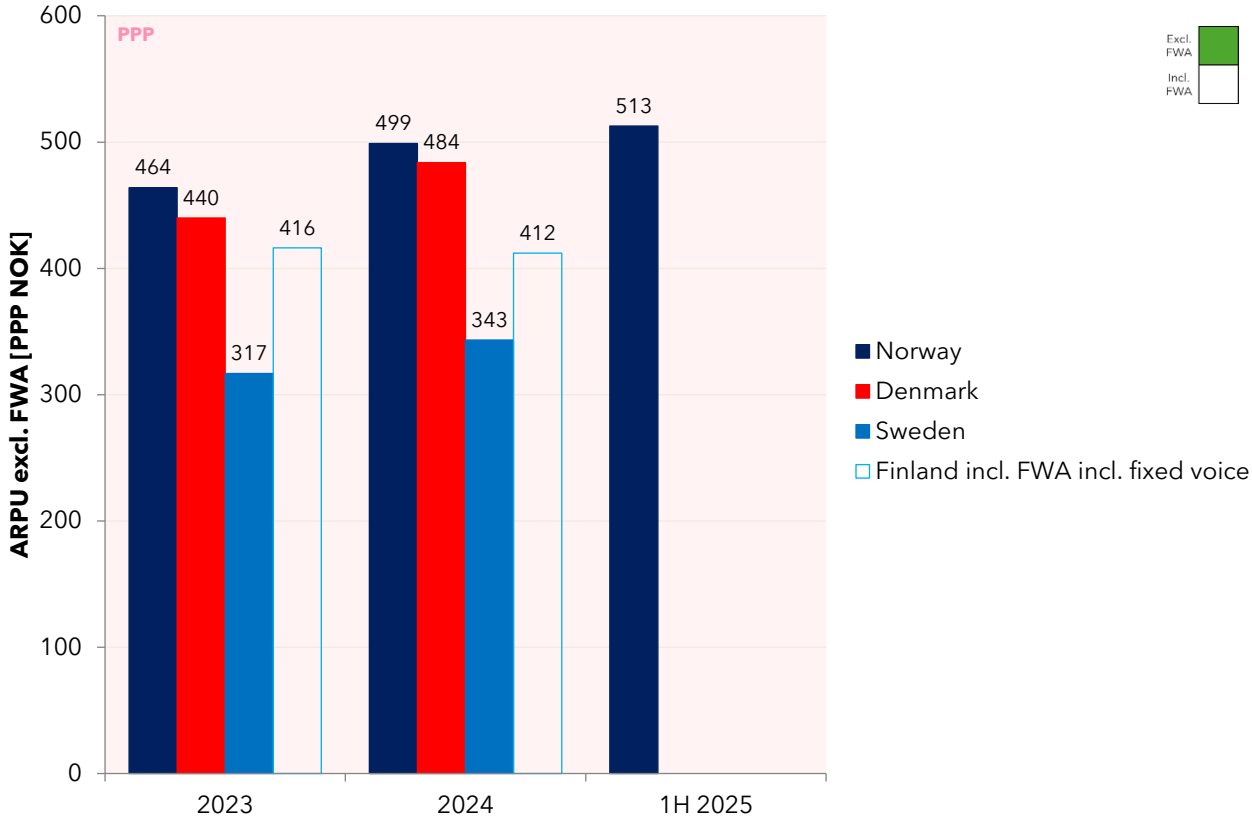

Figure 41. Comparison of PPP fixed broadband ARPU excl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Finland is just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom].

The PPP adjustment does not affect Norway, but changes the positions of Denmark, Sweden, and Finland. In PPP terms, Norway had the highest fixed broadband ARPU.

The Norwegian revenue per fixed broadband subscription excluding FWA is, before and after compensation for differences in purchasing power, higher than in Sweden. Denmark has higher ARPU than Norway in NOK but with compensation for differences in purchasing power, Norway gets the highest ARPU.

Let's now include FWA revenues and subscribers and see how that changes the ARPU levels. Regretfully this leaves out Denmark and Sweden since FWA revenues aren't reported and hence can't be included. The comparability has though increased vs. Finland since FWA is included there. The issue of fixed voice revenues being included in Finland is still there, though.

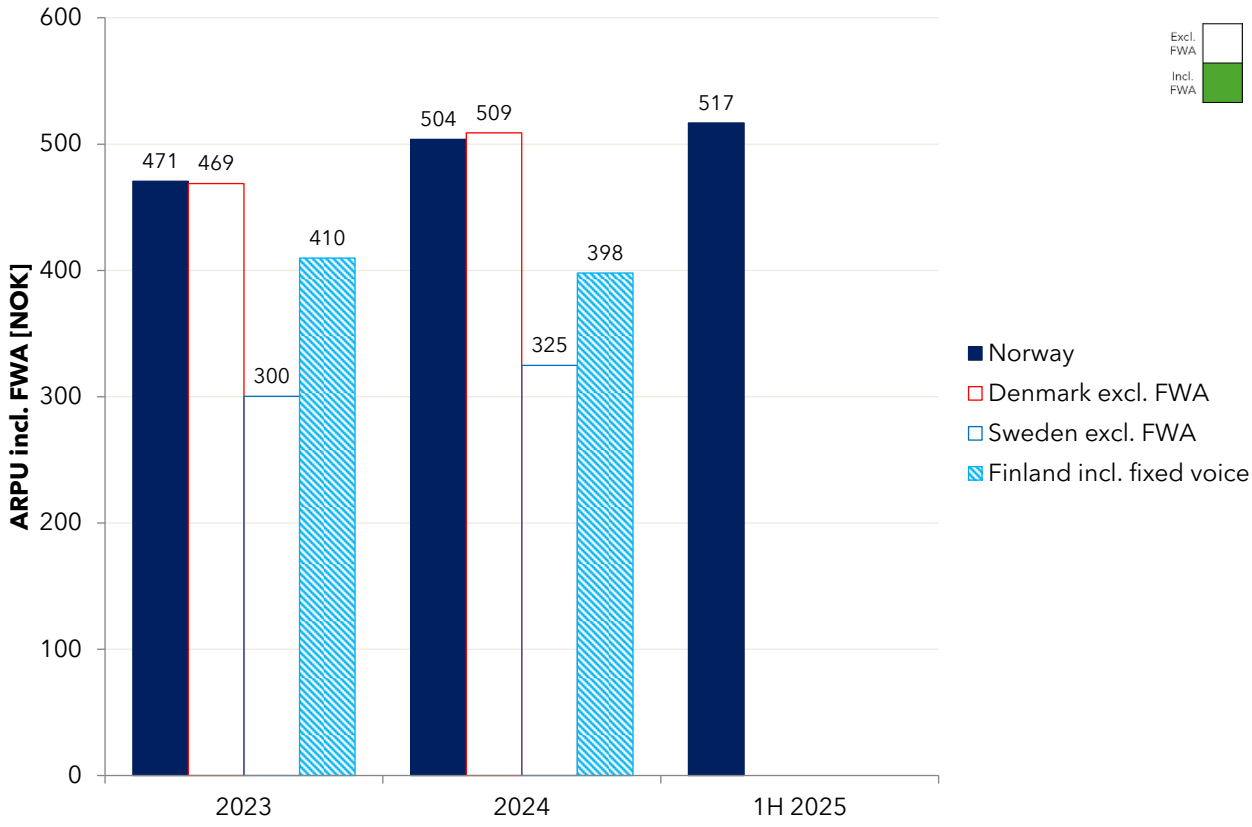

Figure 42. Comparison of fixed broadband ARPU incl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Denmark and Sweden are just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom].

Norway's fixed broadband ARPU incl. FWA was **504 NOK** in 2024, more than in 2023 (471 NOK) and increasing further into 1H 2025 (517 NOK) for which there is no peer group data. During our comparison period, the increase in Norwegian ARPU was 10%. Finland provides the most correct comparison point here, and its ARPU incl. FWA is lower than Norway's and decreasing. The weakening of the NOK makes the ARPU of Finland look a bit stronger than it is. Finland's ARPU decline in EUR terms is quite fast, -5%.

The next graph is recalculated into purchasing power parity NOK (PPP NOK).

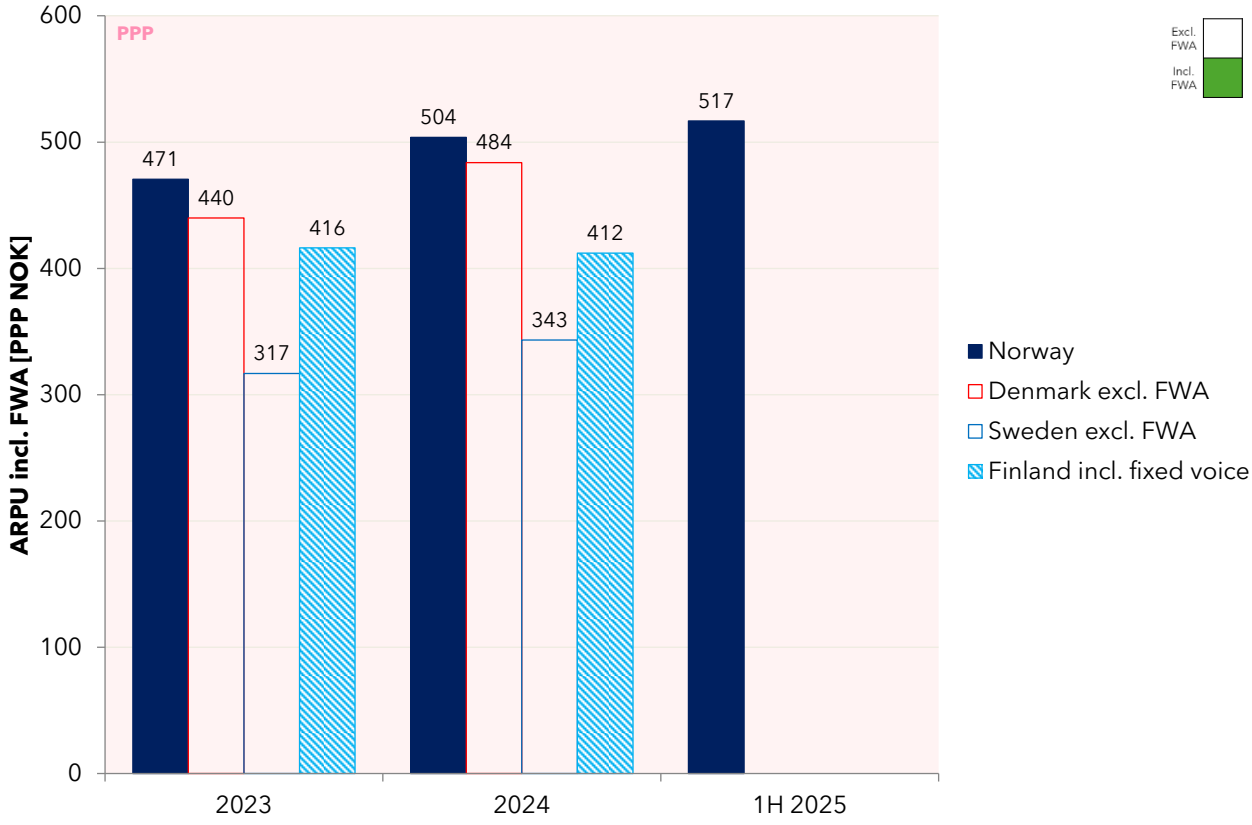

Figure 43. Comparison of PPP fixed broadband ARPU incl. FWA in Norway, Denmark, Sweden, and Finland 2023, 2024, and 1H 2025. Denmark and Sweden are just indicated due to insufficient input data [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom].

Also in PPP terms, Norway had a higher fixed broadband ARPU than Finland when including FWA.

The Norwegian revenue per fixed broadband subscription including FWA is, before and after compensation for differences in purchasing power, higher than in Finland.

9 Value for money – fixed broadband

9.1 Technology for money

The previous section showed that the average Norwegian fixed broadband customer often pays more per month than fixed broadband customers of the other Nordic countries. Is it because Norwegian fixed broadband customers are subscribing to more "modern" technologies? We will in this section do our best to answer those questions based on official data.

Let's compare the technology mix, starting with Norway.

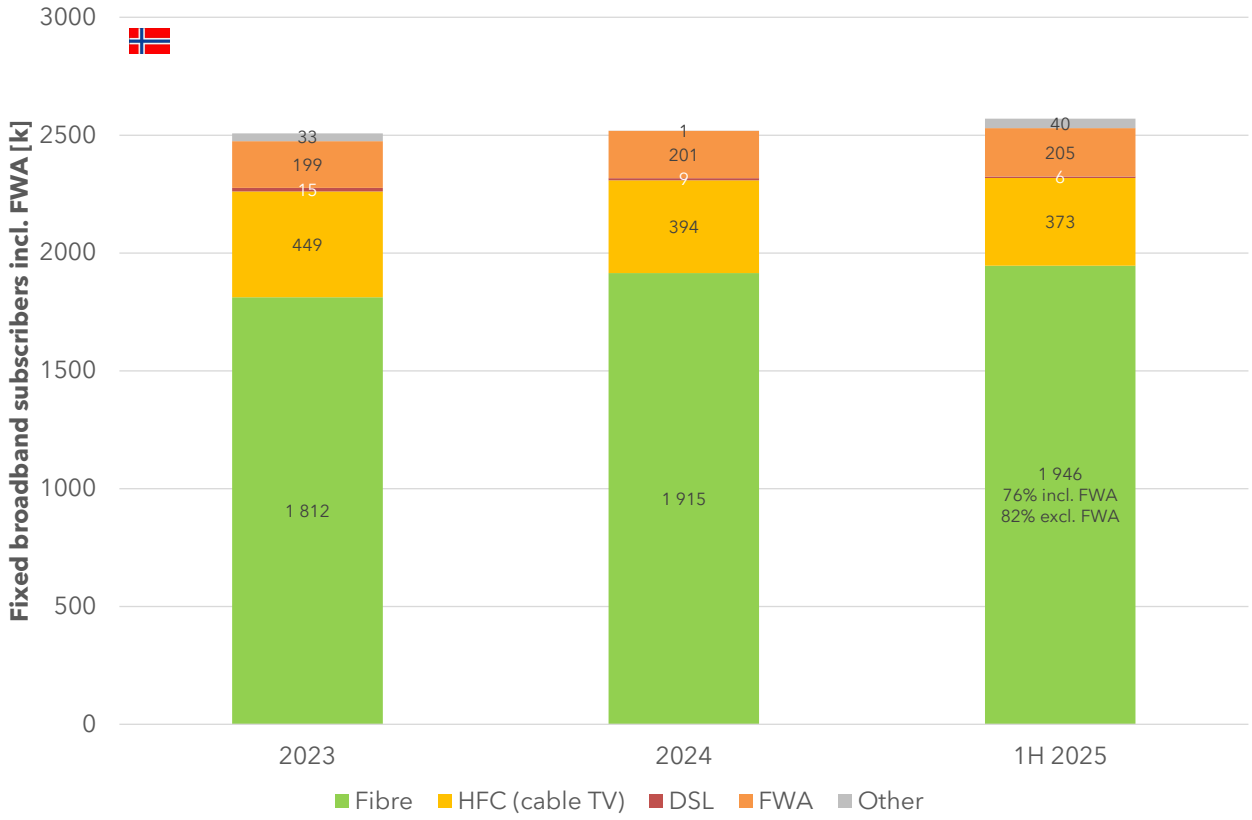

Figure 44. Broadband subscriptions per technology incl. FWA, Norway, 2023, 2024, and 1H 2025 [source: Nkom].

In June 2025, Norway had close to 2.6 million fixed broadband subscriptions including FWA. Fibre subscriptions had grown to more than 1.9 million of these. HFC (cable TV) declined quite quickly and there were just 6k DSL subscriptions left. FWA had grown to 205k subscriptions.

It makes sense to regard a high share of subscriptions on fibre as an indication of a "modern" technology mix. In June 2025, Norway's share of broadband subscriptions being fibre was 76% if including FWA and 82% if excluding FWA. In an international comparison, this is a high share, but in a Nordic comparison it is not the highest.

Denmark clearly has a less "modern" technology mix. The graph for Denmark includes an estimate of FWA in 2024 as that was the first time Digitaliseringsstyrelsen reported the number of mobile data-only

4G/5G subscriptions with a monthly allowance of 1 TB or more – a value that could serve as an approximation of FWA. Digitaliseringsstyrelsen will no longer be reporting half years, hence 1H 2025 is missing.

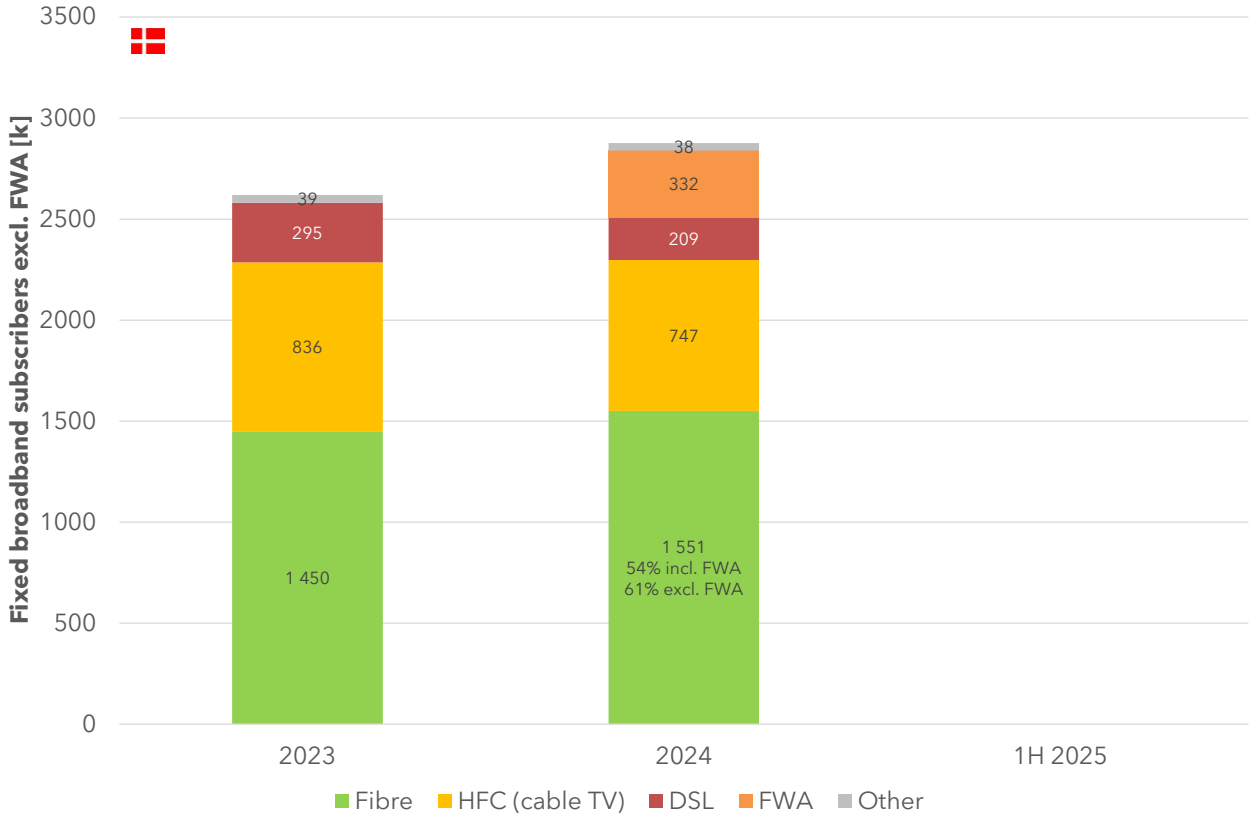

Figure 45. Broadband subscriptions per technology incl. an approximation of FWA for 2024, Denmark, 2023, and 2024 [source: Digitaliseringsstyrelsen].

In the end of 2024, Denmark had close to 2.9 million fixed broadband subscriptions including estimated FWA. Fibre subscriptions had grown to almost 1.6 million of these. HFC (cable TV) declined quite quickly in 2024 and there was still a relatively large base of DSL subscriptions, 209k, which sets Denmark apart from its neighbouring countries.

In December 2024, Denmark's share of broadband subscriptions being fibre was 61% if excluding FWA and 54% if including FWA. It is the lowest share among our peer group markets and it's somewhat surprising as Denmark's proportion of households passed with fibre was 90% in 2024 – almost as high as Norway's 91% and higher than Sweden's 86% (Finland was behind with 68%).

If a high share of broadband subscriptions being fibre is what defines "modern", then Denmark has the least modern technology mix. But we can see in Figure 40 that Denmark, before adjusting for purchasing power, had the highest broadband ARPU.

Sweden has a slightly more "modern" technology mix than Norway with 77% fibre if including FWA and 84% if excluding FWA. Sweden has close to 4.7 million fixed broadband subscriptions where fibre has 3.6

million. HFC stands up well in Sweden while there were just 13k DSL subscriptions left in June 2025. FWA – with a more relaxed definition than Norway and Finland – counted 378k subscriptions.

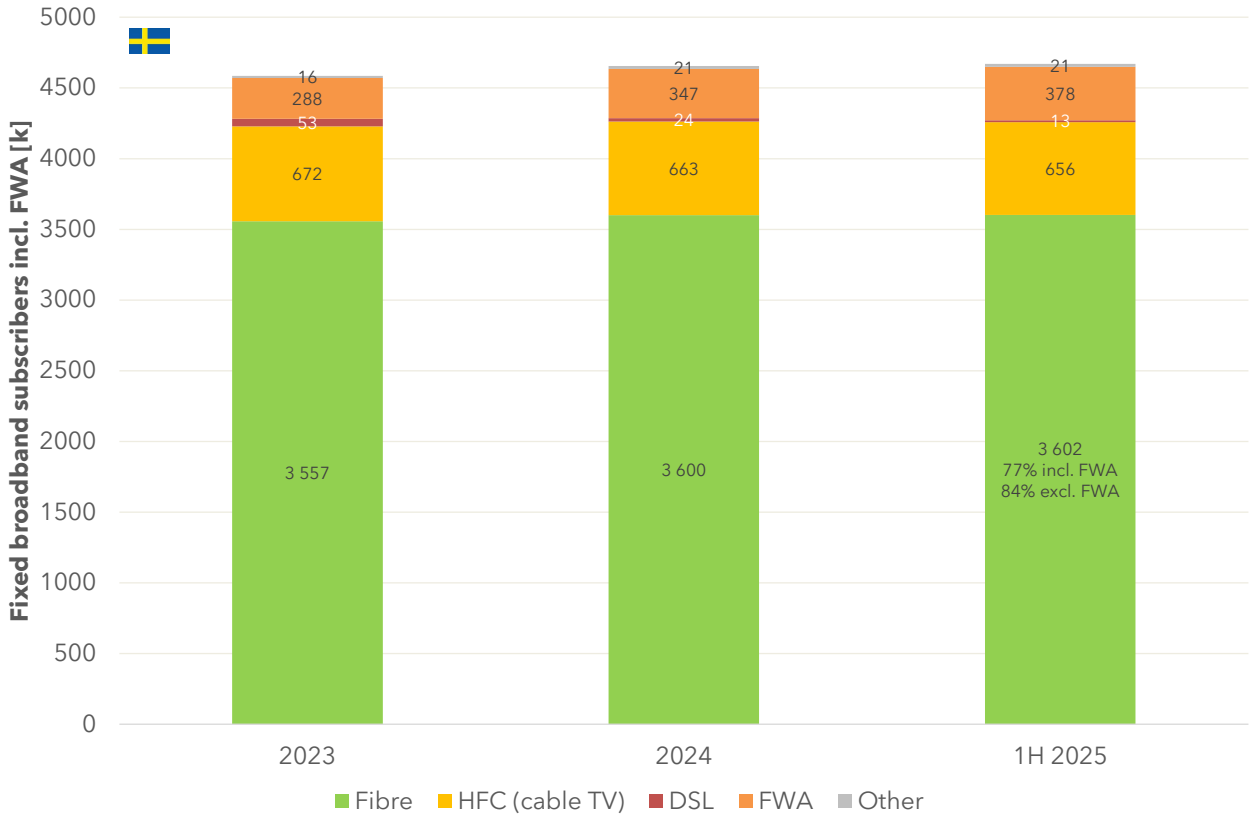

Figure 46. Broadband subscriptions per technology incl. FWA, Sweden, 2023, 2024, and 1H 2025 [source: PTS].

Finally, Finland with just close to 2.1 million fixed broadband subscriptions as many households rely entirely on mobile data (without being counted as FWA as regulator Traficom applies a strict definition on FWA).

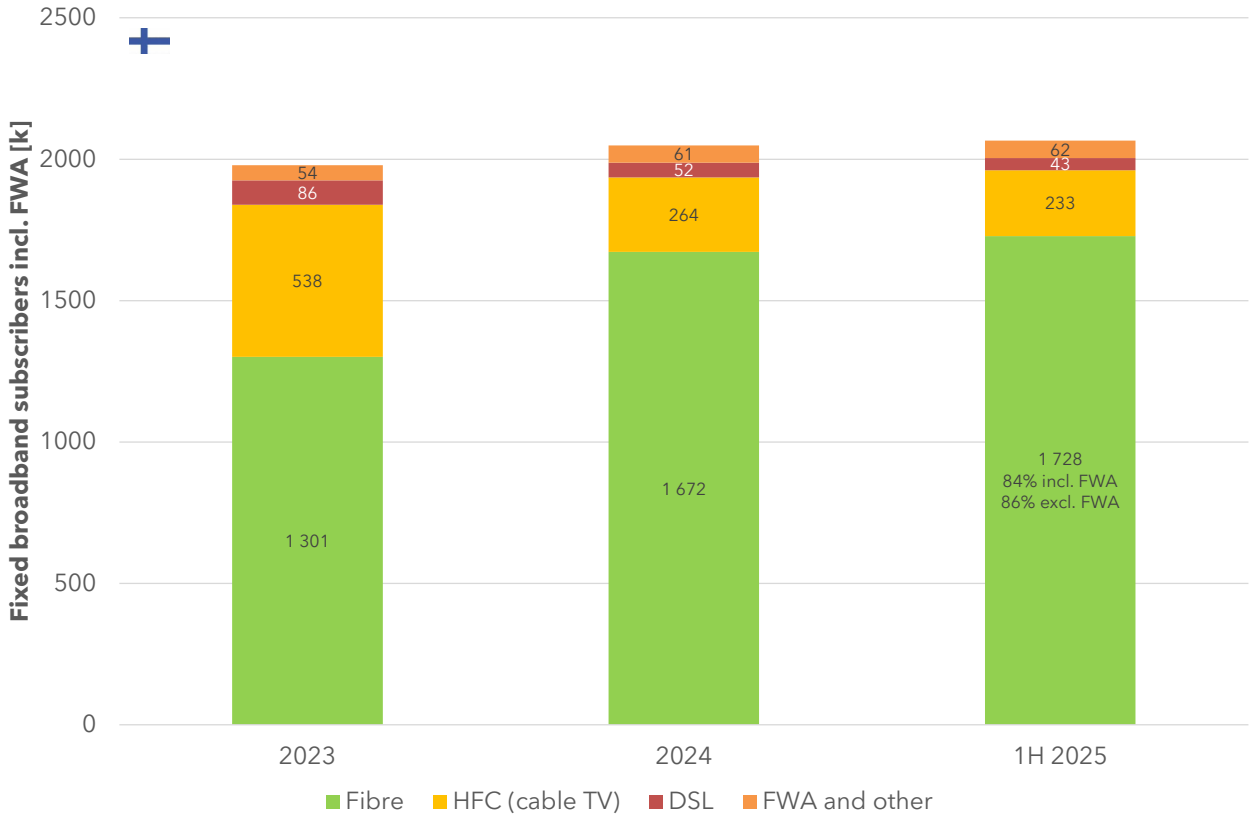

Figure 47. Broadband subscriptions per technology incl. FWA, Finland, 2023, 2024, and 1H 2025 [source: Traficom].

More than 1.7 million of these are fibre. The fibre share made a big jump in 2024 mainly because of multi-dwelling units with HFC (cable TV) being converted to fibre-to-the building (FTTB). 43k DSL subscribers remained in June 2025 and the HFC base contracted further.

Interestingly, if a high share of broadband subscriptions being fibre is what defines "modern", then Finland now has the most modern technology mix across our markets with 84% of fixed broadband subscriptions being fibre when including FWA and 86% when excluding FWA.

The table below compares the share of fibre in the fixed broadband base with the ARPU. The figures are for 2024 so that all countries can be compared for the same period.

2024	Fibre share of fixed broadband base (excl. FWA)	Fixed broadband ARPU (excl. FWA)
Norway	83%	499 NOK
Denmark	61%	509 NOK
Sweden	84%	325 NOK
Finland	84%	398 NOK*

Figure 48. Comparison of fibre's share of the fixed broadband base (excl. FWA) and the fixed broadband ARPU (excl. FWA) for Norway, Denmark, Sweden, and Finland [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, compiled by Tefficient]. *) Incl. FWA and fixed voice.

The share of fibre in the fixed broadband base has no bearing on the ARPU: Norway, Sweden, and Finland have the same share but different ARPU. The country with the lowest share, Denmark, has the highest ARPU (if not considering purchasing power).

Technology mix does not explain ARPU differences. Norway has a high fibre share, but so do Sweden and Finland, despite their lower ARPUs. Denmark has the lowest fibre share but the highest ARPU, suggesting that technology alone does not drive the price differences.

9.2 Speed for money

The broadband ARPU of a country is perhaps rather a reflection of the broadband speeds? Fixed broadband subscriptions are, after all, priced based on the maximum throughput.

The thesis is: The higher the ARPU, the faster the speeds.

Unlike the authorities in Denmark, Sweden, and Finland, Norway's Nkom does not report the share of fixed broadband subscriptions per sold speed tier directly. But the Norwegian figures can be derived from the Nordic/Baltic statistics[30] which is issued once a year.

Before breaking it down further, we can compare the share of fixed broadband subscriptions sold with a download speed of at least 100 Mbit/s, see Figure 49. 1H 2025 data is not reported for Norway and Denmark.

[30] https://statistik.pts.se/telekom-och-bredband/nordic-baltic-telecom-market/

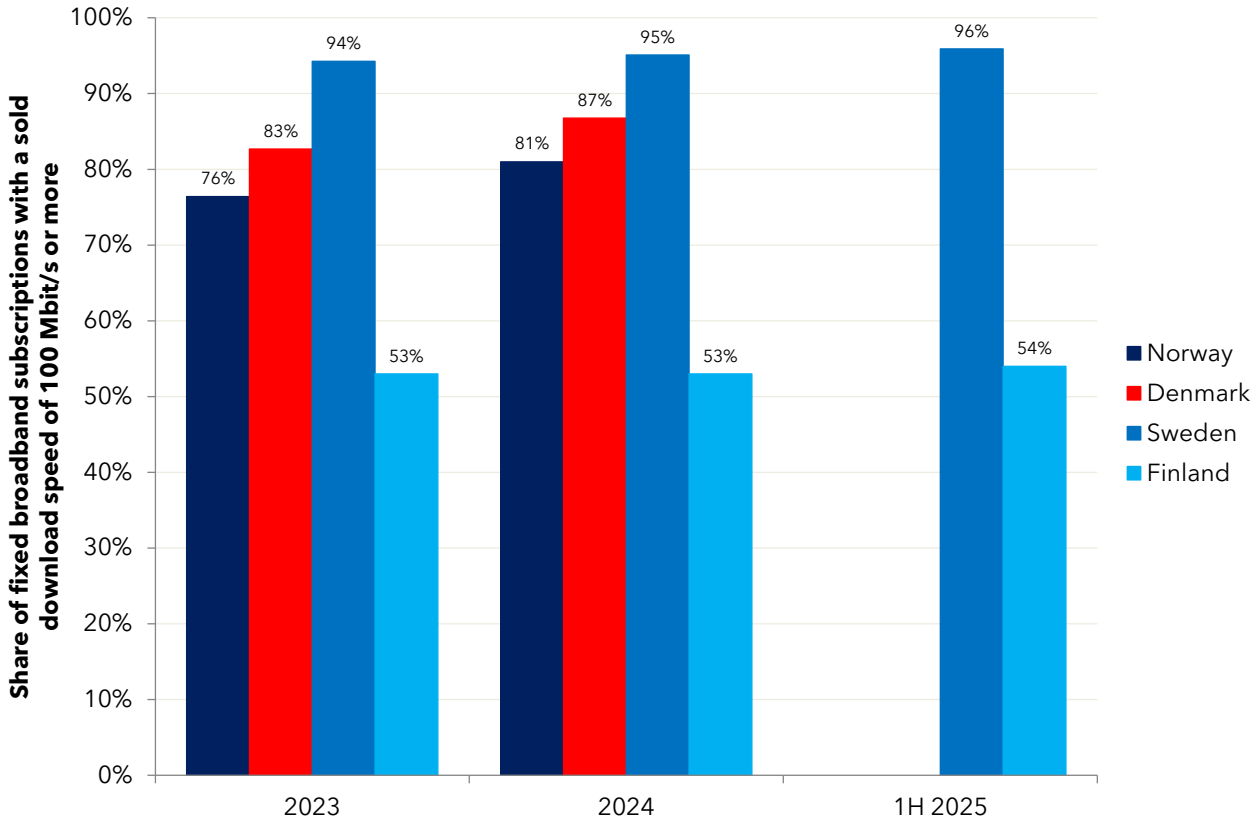

Figure 49. Comparison of the share of fixed broadband subscription base being sold with a download speed of 100 Mbit/s or more in Norway, Denmark, Sweden, and Finland [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom].

In June 2025, 96% of Swedish fixed broadband subscriptions had been sold with a download speed of 100 Mbit/s or more. Denmark's figure for 2024 was 87%. Norway was third with 81% in 2024 while Finland was last with just 54% of fixed broadband subscriptions being sold with a download speed of 100 Mbit/s or higher in June 2025.

Based on this, the high fixed broadband ARPU of Norway can't be explained by that Norwegian fixed broadband customers subscribe to higher download speeds. The Swedish ARPU is lower although the "100 Mbit/s or more" share is higher.

A close-to-Nordic-average share of Norwegian fixed broadband customers subscribed to 100 Mbit/s or faster services in 2024. The Swedish ARPU is lower although its "100 Mbit/s or more" share is higher. This indicates that Norway's comparatively high broadband ARPU cannot be explained by faster connections.

There's additional speed tier information available, see Figure 50. Note that the data for Norway and Denmark is for 2024, but the latest available.

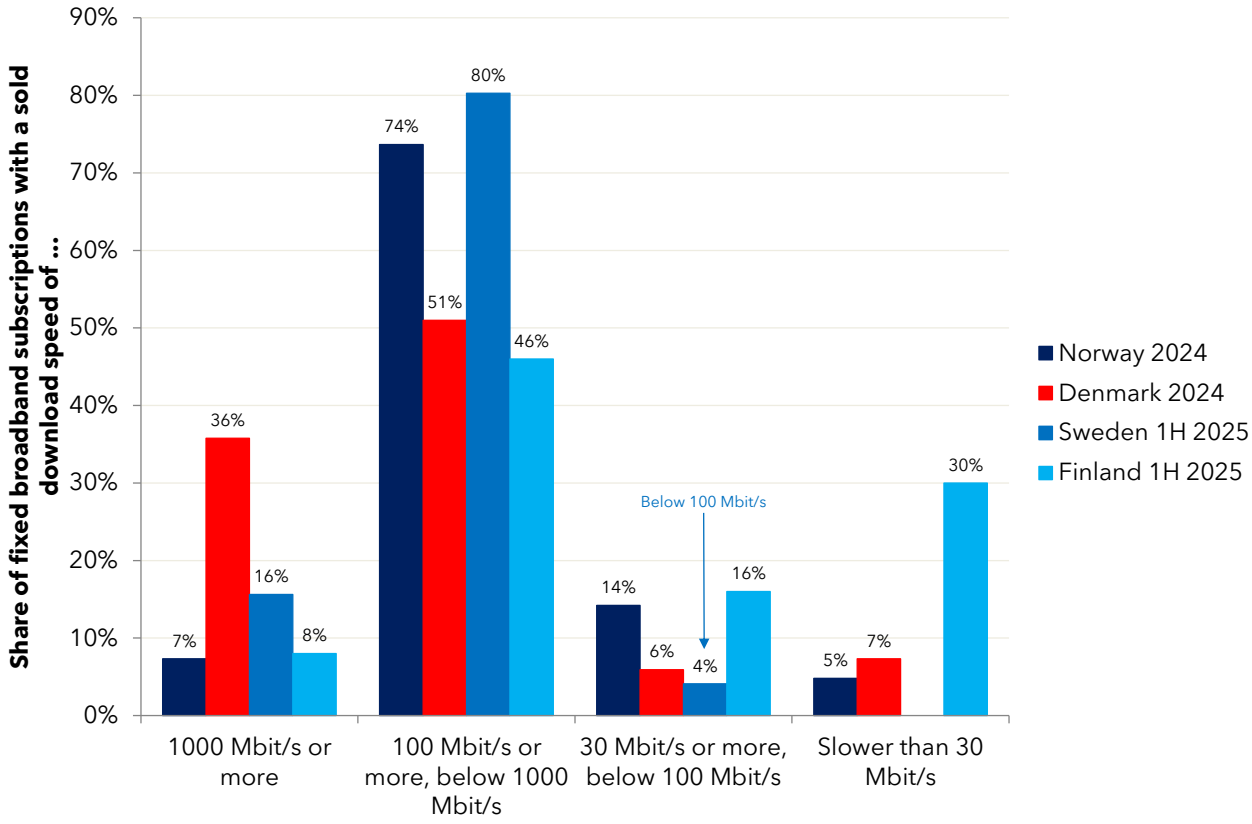

Figure 50. Comparison of the share of fixed broadband subscription base being sold with a download speed of x Mbit/s in Norway, Denmark, Sweden, and Finland [source: Digitaliseringsstyrelsen, PTS, Traficom]. The latest available data is used which means 1H 2025 for Sweden & Finland and 2024 for Norway & Denmark.

Two countries stand out when it comes the speed distribution:

- Denmark has an unusually high share, 36%, of the fixed broadband base subscribing to 1000 Mbit/s or higher speeds by the end of 2024 (no 1H 2025 statistics will be reported for Denmark). But as shown in Figure 45, Denmark also has the highest remaining share of subscription base on DSL which means that a relatively high share of the base, 13% (6%+7%), is subscribing to speeds slower than 100 Mbit/s. Since broadband is priced on speed, it's somewhat logical that Denmark has the highest ARPU (in NOK) with a high 36% of base subscribing to gigabit speeds.
- Finland has an unusually high share, 30%, of the fixed broadband base subscribing to speeds slower than 30 Mbit/s. Finland clearly has the least modern speed tier distribution.

Compared to these countries, Norway has a more concentrated speed distribution with 74% at 100 Mbit/s or more, but still below 1000 Mbit/s. Only 7% of the Norwegian fixed broadband base subscribed to 1000 Mbit/s or more in 2024, much lower than Denmark, but also lower than Sweden.

80% of the Swedish base subscribed to speeds of 100 Mbit/s or more, but still lower than 1000 Mbit/s, in June 2025. Compared to Denmark, a smaller share subscribes to the highest, 1000 Mbit/s or more, speed tier - but there are also significantly less below 100 Mbit/s, just 4%[31].

[31] PTS has stopped reporting the "slower than 30 Mbit/s" tier.

Summarising this speed for money section, we conclude that Norwegian fixed broadband customers averagely, alongside Danish customers, pay the most in the Nordics. Norwegians do however not receive the full value from it expressed as the share of subscriptions with a download speed of 100 Mbit/s or more. 1000 Mbit/s subscriptions are also rarer in Norway compared to Sweden and, particularly, Denmark.

In terms of speed for money, Norwegian customers do not come out best. Norway has the third-highest share of subscriptions at 100 Mbit/s or above but the second-highest ARPU. Its share of gigabit subscriptions is lower than in Denmark and Sweden. This indicates that Norway's comparatively high broadband ARPU cannot be explained by faster connections.

This section has so far been studying the purchased, maximum, speeds. But in a similar way as for mobile, see section 6.4, we could also turn to Ookla Speedtest for actual speeds.

Ookla uses crowdsourced data based on tests actively done by broadband users. The throughput measured by these tests is not just affected by the technology, but also the speed tiers paid for by the customers.

Let's compare the latest available median download throughput of our four countries:

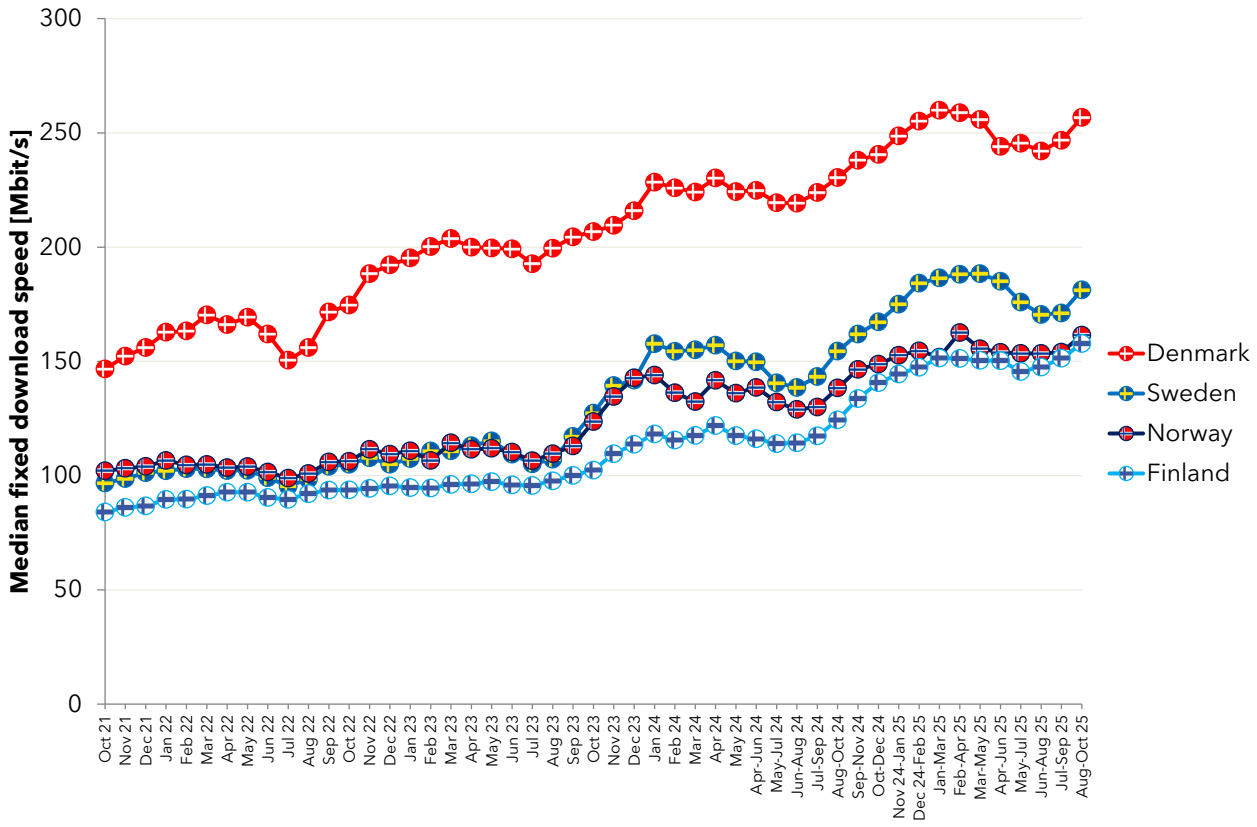

Figure 51. Median fixed broadband download speed across all technologies and subscription types for Norway, Denmark, Sweden, and Finland per month Oct 2021-Oct 2025 [source: Ookla Speedtest]. Ookla started to average the values over three months from April 2024.

Perhaps surprisingly, Denmark – with the lowest share of fibre subscriptions – has the highest median download throughput[32]. The speed discrepancy to Norway doubled to almost 100 Mbit/s during the period shown in Figure 51. A key reason to it is that the Danish cable TV networks are well distributed and generally deliver high fixed broadband download speeds. The level of competition in Denmark has increased with new players (and TDC NET) rolling out fibre while gradually expanding open fibre concepts allowing for several providers to sell internet on top of each physical fibre network. Cable TV-based internet is also widely available on the wholesale market in Denmark while, at the same time, FWA is offered as a low-price alternative.

Finland has historically had the slowest fixed broadband but has now almost closed the gap on Norway driven by a quick expansion of fibre reach and take-up.

Norwegian fixed broadband connections are fast – the median value was **161 Mbit/s** in Aug-Oct 2025 – but the median Danish fixed broadband connection is much faster: 257 Mbit/s. The table below compares these speeds with the broadband ARPU in NOK.

	Median download throughput, Aug-Oct 2025, Ookla [Mbit/s]	Fixed broadband ARPU (excl. FWA), 2024
Norway	161	499 NOK
Denmark	257	509 NOK
Sweden	181	325 NOK
Finland	156	398 NOK*

Figure 52. Comparison of the median download throughput in Aug-Oct 2025 and the fixed broadband ARPU (excl. FWA) for Norway, Denmark, Sweden, and Finland [source: Ookla, Nkom, Digitaliseringsstyrelsen, PTS, Traficom, compiled by Tefficient]. *) Incl. FWA and fixed voice.

Denmark has the highest ARPU but also the fastest median throughput by a wide margin. Norway's ARPU is almost as high as Denmark's, but the median download throughput is almost 100 Mbit/s slower. Sweden has 20 Mbit/s faster median download than Norway, but an ARPU which is just 65% of Norway's.

Since fixed broadband is priced on download speed, a fixed broadband buyer will always weigh speed against price, and it is logical to think that the average Norwegian broadband user has chosen to subscribe to a lower throughput tier to save a few NOK.

Denmark, in particular, has a much faster median speed while maintaining only a slightly higher ARPU than Norway. Sweden and Finland also have high median speeds but significantly lower ARPUs. This indicates that Norway's comparatively high broadband ARPU cannot be explained by faster connections.

[32] Denmark was number 15 in the world (of 156 countries) in August-October 2025. Sweden was #37, Norway #40 and Finland #42.

9.3 Additional services for money

Although maximum download broadband speed is the ultimate price-defining parameter in our countries, there is a tendency of operators bundling in additional services, typically cybersecurity and streaming, also in fixed broadband subscriptions. Such services, if provided without an additional fee, could of course represent value for money too – surely for customers who anyhow would use these services.

In May 2025, Tefficient analysed the value of inclusive cybersecurity and cloud services for Nkom. The box below contains this report's summary on fixed broadband:

> "Due to limited data granularity, it is not possible to subtract provider-specific values of included cybersecurity and cloud services in Denmark, Sweden, and Finland. However, in Norway, Nkom has calculated individual agreement-specific ARPU figures. With Telia as the only provider that includes cybersecurity and cloud services (with a market value larger than 0) in fixed broadband subscriptions, the analysis concludes that this fully explains why Telia's ARPU is higher than that of some competitors. **However, because such services are rarely included in Norwegian fixed broadband overall, they do not account for Norway's high national ARPU – particularly in comparison to Sweden.**"
>
> *Extract from "Nordic survey of cybersecurity and cloud services included or sold with mobile and fixed broadband", 21 May 2025*

9.4 Conclusion on value for money – fixed broadband

Section 9.1 shows that Norway's relatively high fixed broadband ARPU isn't because Norway has a more "modern" technology mix than its Nordic peers. Section 9.2 shows that Norwegian fixed broadband customers have bought subscriptions with a speed mix with less very high, gigabit, speeds compared to Denmark and Sweden. It also shows that the actual median download throughput in Norway is 100 Mbit/s lower than in Denmark and 20 Mbit/s lower than in Sweden. Section 9.3 above points to a separate study which concludes that Norwegian fixed broadband providers rarely include cybersecurity and cloud services, which does not improve value for money.

There are two price-defining parameters used in Nordic fixed broadband: Data transmission speed and inclusive services. Technology mix is not seen to have an impact.

Norway has about as high ARPU as Denmark but the speed mix in Denmark contains a much higher share of gigabit subscriptions. The median download speed in Denmark is about 100 Mbit/s higher than in Norway.

Norwegian fixed broadband is slightly slower than in Sweden, but the Swedish fixed broadband ARPU is only 65% of Norway's.

Finland's fixed broadband catches up on Norway and the median speed differential is today small. Finland's broadband ARPU is 80% of Norway's.

Norwegian providers also bundle cybersecurity and cloud services less frequently than their Nordic peers.

Taken together, Norwegian fixed broadband customers get less value for money than customers in Denmark, Sweden, and Finland.

10 Market concentration – fixed broadband

Similar to mobile, see section 7, a market concentration analysis will now be done for fixed broadband. Whereas the mobile market is a national market – mobile providers offer their services nationwide – not all fixed broadband providers address customers nationwide. Some are regional or even local. Understanding market concentration on a local level is a tall task that this report does not cover.

In countries with open fibre concepts, i.e. Sweden, Denmark, and Finland, this is less of an issue as a customer can subscribe to a broadband service from, in principle, any provider (ISP) regardless of who owns the underlying fibre access network. In Norway where most fibre networks not yet are open[33], the nationwide HHI approach following is more problematic as only the larger providers could be said to be available nationwide. We still follow through here to have a comparison between the countries – and offer a comparison to mobile market concentration. Over time, as more Norwegian fibre networks open, this will become less of an issue.

Figure 53 below shows the revenue market shares of the largest Norwegian fixed broadband providers.

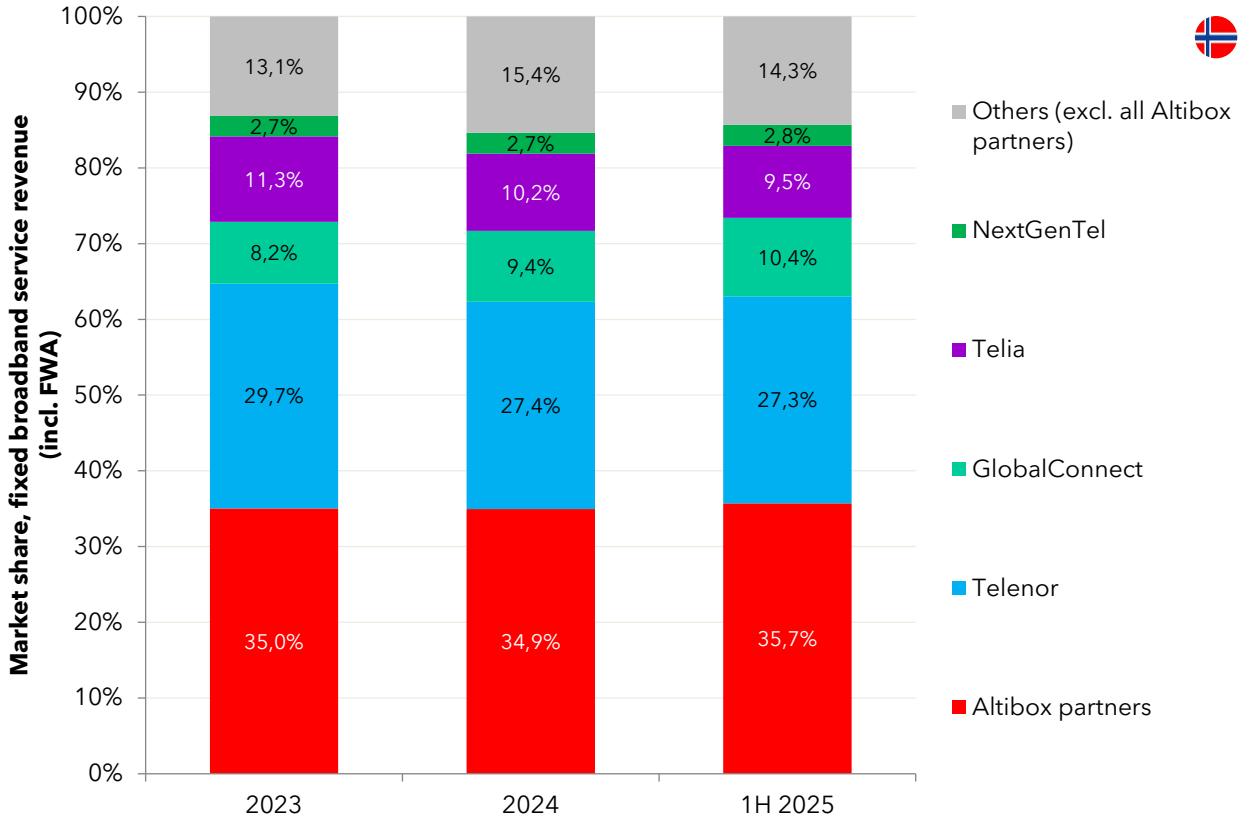

Figure 53. Market share in fixed broadband service revenue (incl. FWA), Norway [source: Nkom].

[33] Nkom proposed in March 2025 that SMP designated providers could avoid regulation by opening their fibre networks: https://nkom.no/aktuelt/foreslar-a-avregulere-bredbandsmarkedet. Telenor's fibre network is today open for wholesale partners.

If summing up the 30 Altibox partner companies[34], Altibox is having the leading market share in fixed broadband: **35.7%** in the first half of 2025.

Telenor follows with 27.3% - a market share that has contracted since Telenor's decommissioning of the copper network.

GlobalConnect overtook Telia in market share in 1H 2025 to become the new number three with 10.4%. Telenor has made an agreement to acquire GlobalConnect's consumer business in Norway[35], but this transaction is not yet approved by the Norwegian authorities. If approved, Telenor would likely overtake Altibox and become the largest provider in fixed broadband revenue.

The market share for Telia was 9.5% in 1H 2025. NextGenTel had 2.8%. All the other, smaller, providers collectively had 14.3%.

Since the Danish authority Digitaliseringsstyrelsen does not break down the fixed broadband revenue per provider – and since the Danish operators do not report such a detailed breakdown, Denmark's market share graph is based on fixed broadband subscriptions – for the providers broken out in Digitaliseringsstyrelsen's reporting[36].

[34] It could be argued that the Altibox partner companies should not be regarded as one. Their offering and pricing are not always identical, and they can act as independent companies. Having said that, the different Altibox partners are not competing, but have their own regional coverage areas in which they meet no competition from other Altibox partners.
[35] https://www.mynewsdesk.com/globalconnect/pressreleases/globalconnect-has-signed-an-agreement-to-divest-its-b2c-business-in-norway-to-telenor-3395962
[36] Hiper has been added to Nuuday, since it is a brand within Nuuday. DKTV is owned by TDC NET which is a separate company under the same ownership as Nuuday. Fastspeed as been broken out of Others in 2024 but was not in 2023.

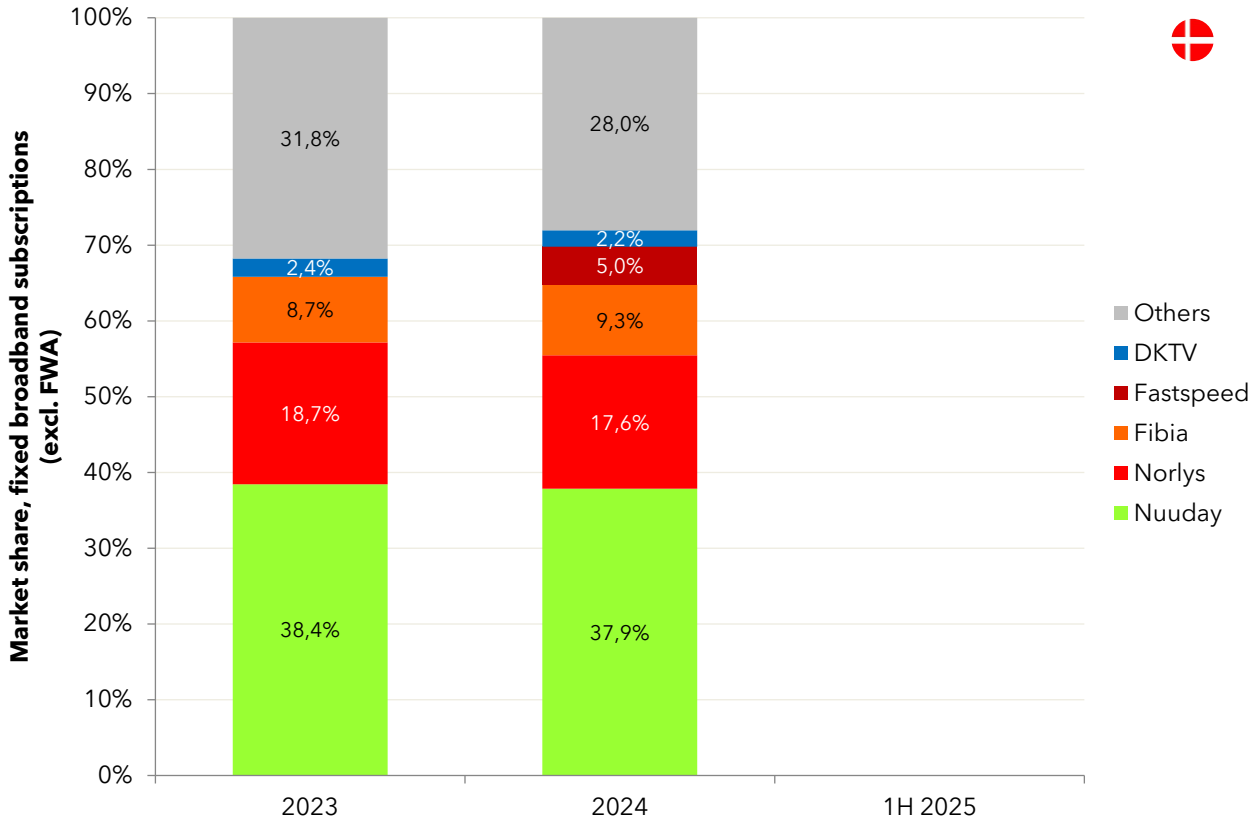

Figure 54. Market share in fixed broadband subscriptions (excl. FWA), Denmark [source: Digitaliseringsstyrelsen]. 1H 2025 is not reported.

The former incumbent Nuuday (ex-TDC) had a significant subscription market share of **37.9%** in 2024. If adding TDC NET-owned DKTV's 2.2%, it becomes yet higher, 40.1%. The second-largest provider was Norlys with 17.6%. Fibia was third with 9.3% while Fastspeed had 5.0%. Fastspeed was not broken out in the reporting of 2023 but included in "Others" then.

The graph for Sweden follows below. Just like with Norway, reported official data allow a graph based on revenue.

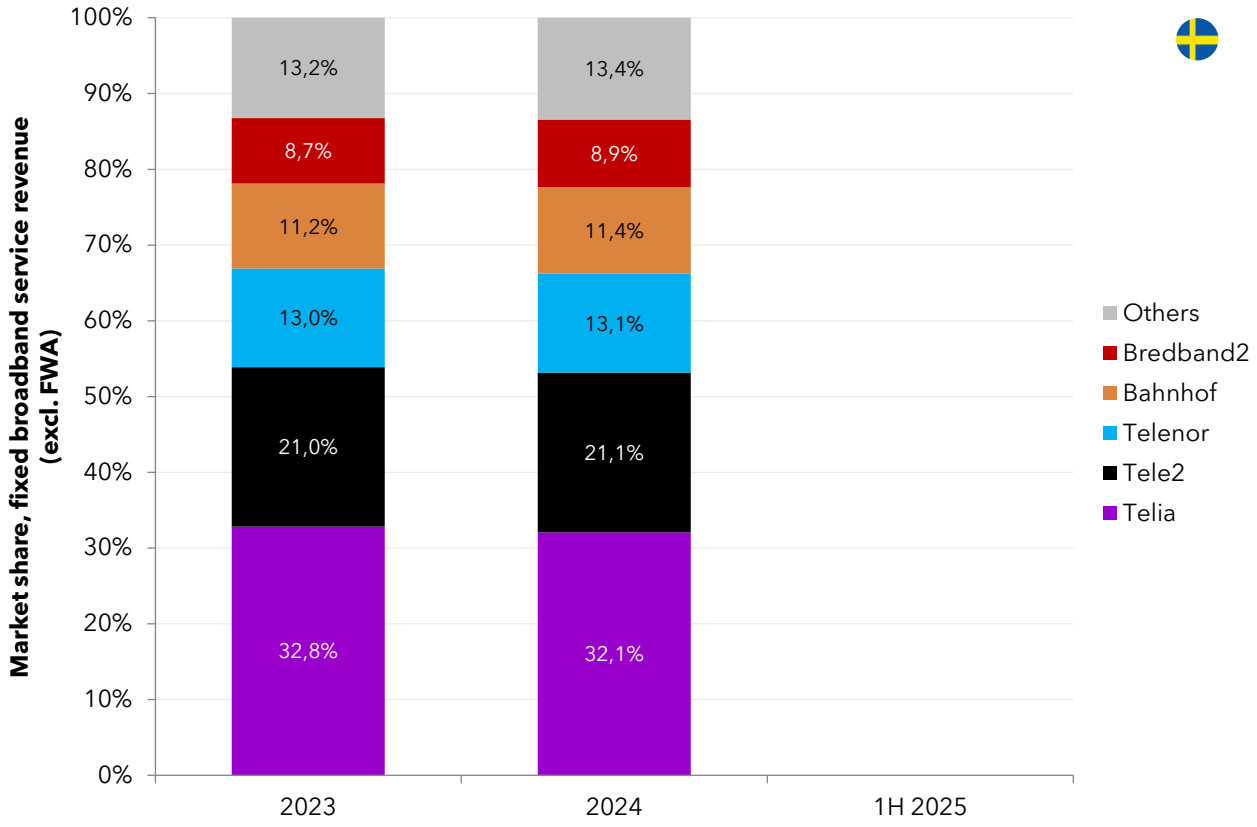

Figure 55. Market share in fixed broadband service revenue (incl. FWA), Sweden [source: PTS]. 1H 2025 revenue is not reported for fixed broadband.

The incumbent in Sweden, Telia, had **32.1%** revenue market share in 2024. Due to the copper sunset, Telia has lost market share. The copper phase-out is now more or less finished in Sweden; there were just 13k DSL subscriptions left in June 2025. Tele2 is second largest with 21.1%, followed by Telenor with 13.1%, Bahnhof with 11.4%, and Bredband2 with 8.9%. Other, smaller, providers had 13.4% of revenues in 2024.

Finally, the graph for Finland. Like with Denmark, regulatory or operator data does not allow a calculation of fixed broadband revenue. It is therefore based on subscriptions for the providers broken out in Traficom's reporting.

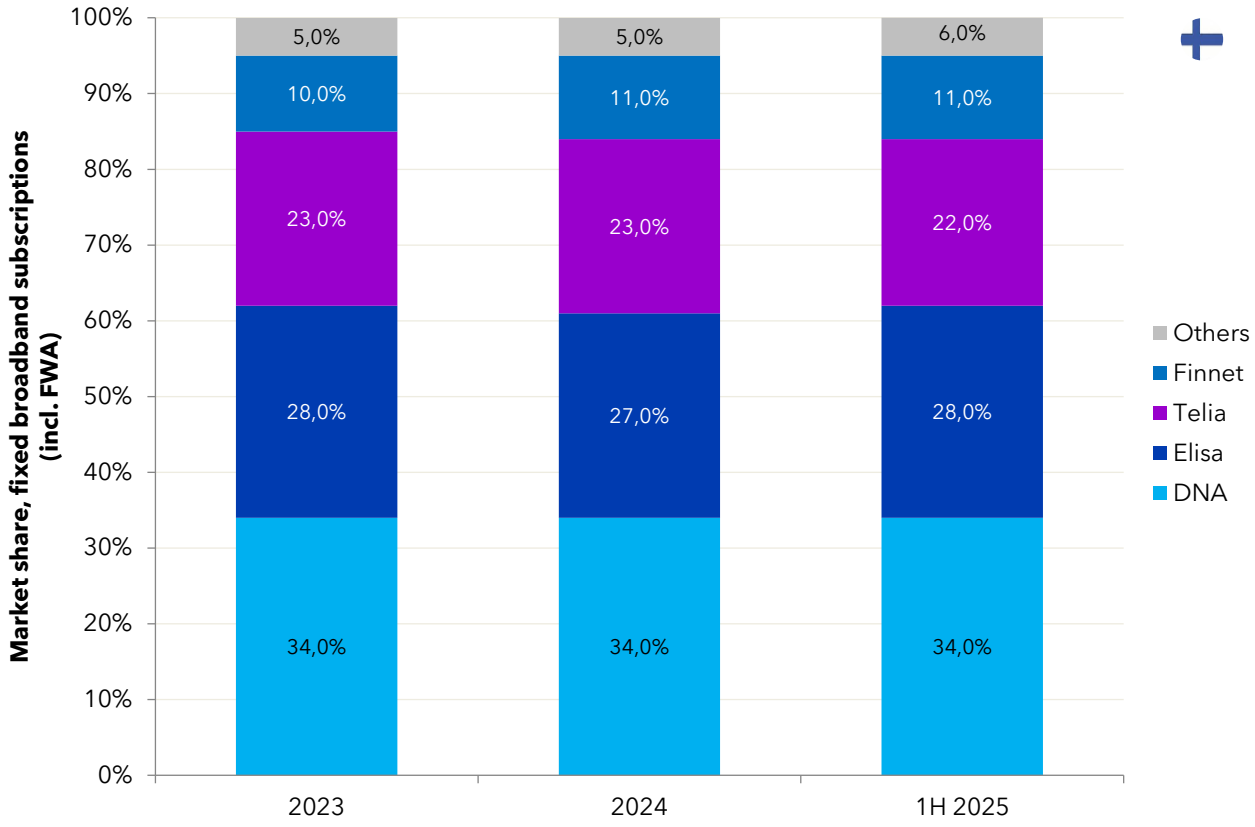

Figure 56. Market share in fixed broadband subscriptions (incl. FWA), Finland [source: Traficom].

The largest operator in Finland, DNA, had a fixed broadband subscription market share of **34%** in June 2025. The second-largest, Elisa, had 28%, while Telia was third-ranked with 22%. Finnet had 11% and others 6% respectively.

The table below summarises the market shares of the incumbent in each market – and calculates the concentration index HHI for the individual fixed broadband markets.

	Market share of largest player 2024	Herfindahl-Hirschman Index (HHI) 2024 [0-10000][37]
Norway - revenue	34.9% (Altibox)	2406 (-76)
Denmark - subscriptions	37.9% (Nuuday)	2620 (+8[38])
Sweden - revenue	32.1% (Telia)	2034 (-32)
Finland - subscriptions	34.0% (DNA)	2560 (-34)

Figure 57. Comparison of incumbent market shares in fixed broadband revenue or -subscriptions for Norway, Denmark, Sweden, and Finland – as well as HHI for the whole fixed broadband market, 2024 (change from 2023 within parentheses) [source: Nkom, Digitaliseringsstyrelsen, PTS, Traficom, compiled by Tefficient].

The Norwegian fixed broadband market is – if treating Altibox as one – quite typically concentrated for a Nordic market. This is true both when comparing the revenue market share of the largest player as well as when comparing the HHI. The HHI has also decreased 76 points since 2023.

Altibox's contribution to the HHT of Norway is **51%** (1221 of 2406 HHI points). In comparison, Nuuday's contribution to the Danish HHI is 55%, Telia's is 51% to the Swedish HHI and DNA's is 45% to the Finnish HHI.

Market concentration in fixed broadband in Norway is roughly in line with the Nordic average. Altibox's revenue share accounts for 51% of Norway's HHI, comparable to the largest players in the other markets. Concentration has declined somewhat since 2023, both in Norway and in Sweden and Finland.

Although a full market concentration analysis of local fixed broadband markets likely would come to a different conclusion for a few local markets, it is, in Tefficient's view, not primarily market concentration that explains the high fixed broadband ARPU in Norway. On a national level, the concentration in Norway is roughly the same as the other Nordic markets.

In Tefficient's view there are instead three other factors that partially could explain the relatively high fixed broadband ARPU in Norway:

- Most fibre networks yet aren't open, limiting the number of selectable providers for subscribers. In Denmark, Sweden, and Finland, open fibre networks are (or is becoming) the norm.

- Fixed wireless access (FWA) typically isn't offered at an address where the same Norwegian provider can deliver fibre of HFC (cable TV), thus reducing the competitive impact of FWA. Some providers act like that also in the other countries, but there are also many allowing the customer to freely select between available technologies.

[37] 'Others' is treated as one which increases HHI a bit in all markets.
[38] If Fastspeed is considered included in 'Others' both in 2023 and 2024.

- FWA subscriptions aren't priced as cheaper broadband options in Norway[39] thus reducing the competitive impact of FWA further. In the other countries, FWA is often cheaper than fibre broadband. In addition, providers in Denmark, Sweden, and Finland seldom mandate the use of an outdoor-mounted FWA unit – which principally is the only offered option in Norway. The costs of the outdoor unit – and the cost of installing it – contribute to making Norwegian FWA even less attractive from a price point of view.

[39] See section 15 in https://www.regjeringen.no/contentassets/311eeb54f87341d187b04361c7f62038/assessment-of-norwegian-fixed-broadband-pricing-in-a-nordic-context-by-tefficient-5-sep-2024.pdf.

11 EBITDA margin per operator

In sections 5 and 8, it was concluded that Norwegian providers generally enjoy high mobile ARPU and high fixed broadband ARPU. Does this trickle down to high profitability too?

First, we will look at what remains of revenue after having paid recurring operating costs (OPEX and CoGS[40]): The adjusted EBITDA (earnings before interest, tax, depreciation, and amortisation). The adjusted EBITDA margins of the integrated operations of the major operators in Norway, Denmark, Sweden, and Finland are shown in Figure 58[41].

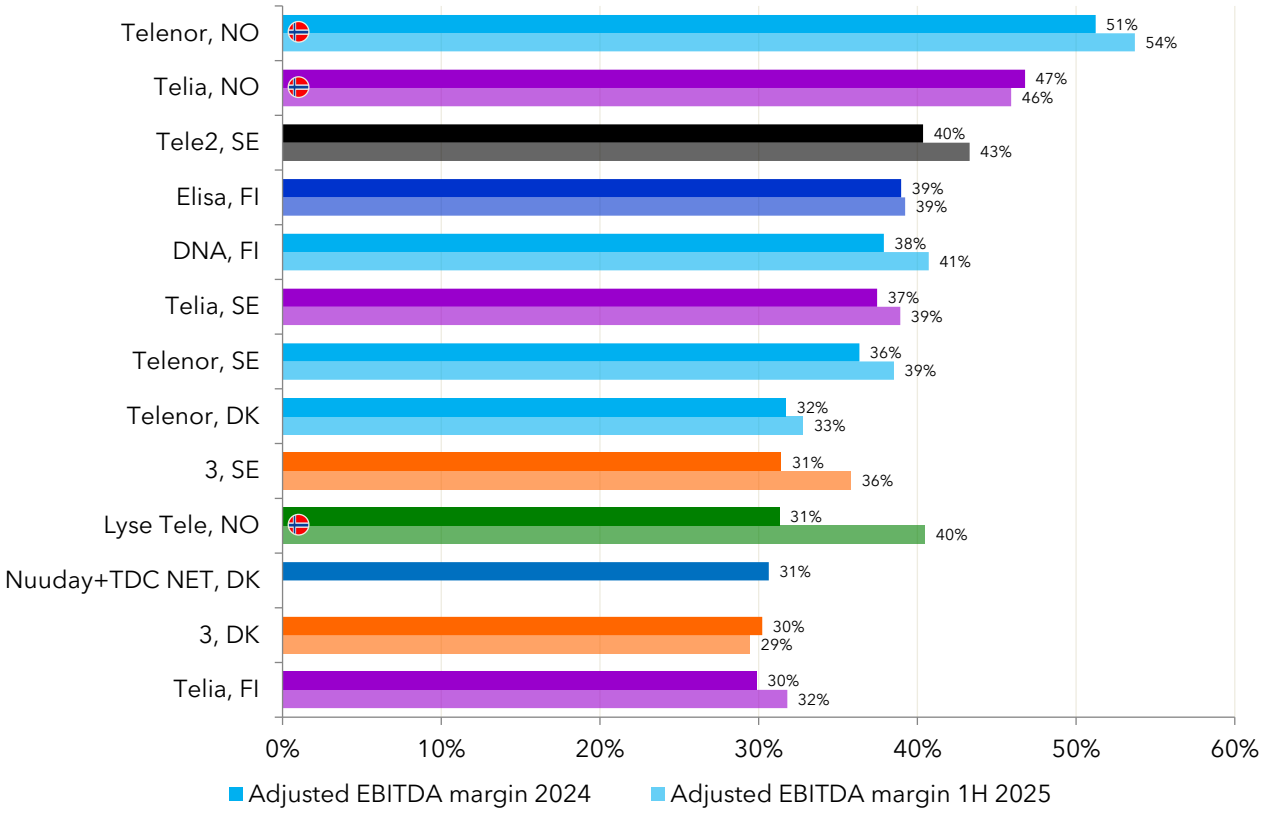

Figure 58. Adjusted EBITDA margin for the major operators in Norway, Denmark, Sweden, and Finland 2024 and 1H 2025. Two providers are pure mobile: 3 Sweden and 3 Denmark, while the others have both mobile and fixed business. Nuuday and TDC NET are two separate companies under the same ownership, but to make it comparable with other operators, their figures have been summed up. Since Nuuday from now on only reports annually, there's no value for Nuuday+TDC NET for 1H 2025 [source: operator reports, compiled by Tefficient].

The two established Norwegian operators, **Telenor** and **Telia**, have the highest adjusted EBITDA margins in these four countries. This is true both for 2024 and 1H 2025.

Lower down in the chart (sorted on 2024 margins), we identify **Lyse Tele** that acquired the mobile operator Ice in 2022. The EBITDA margin of Lyse Tele was 31% in 2024 but increased to 40% in the first

[40] Cost of goods sold.
[41] Norlys (that in 2024 acquired Telia Denmark) can't be covered due to insufficient level in reporting.

half of 2025. These values are lower than Telenor and Telia, but roughly at the Nordic median if excluding Telenor Norway and Telia Norway.

The high Norwegian ARPU trickles down to high adjusted EBITDA margins – particularly for Telenor and Telia.

Neither Telenor Norway nor Telia Norway shows signs of high operating costs; their adjusted EBITDA margins are best in class. Lyse Tele has a lower margin, roughly at the Nordic median when the two larger Norwegian operators are excluded.

12 EBITDA-CAPEX (cash flow approximation) margin per operator

There are other costs than recurring operating costs, though. We also need to take investments (CAPEX[42]) into account. Figure 59 compares the CAPEX to revenue ratios for our operators. In 2024, **Lyse Tele** was the operator that invested the most in CAPEX given the revenues it had – 39%.

TDC in Denmark is today split between the "ServCo" Nuuday and the "NetCo" TDC NET but we have here summed them up to be able to compare it with the other operators. Nuuday+TDC NET used 22% of its revenues on CAPEX in 2024 which makes it second-ranked.

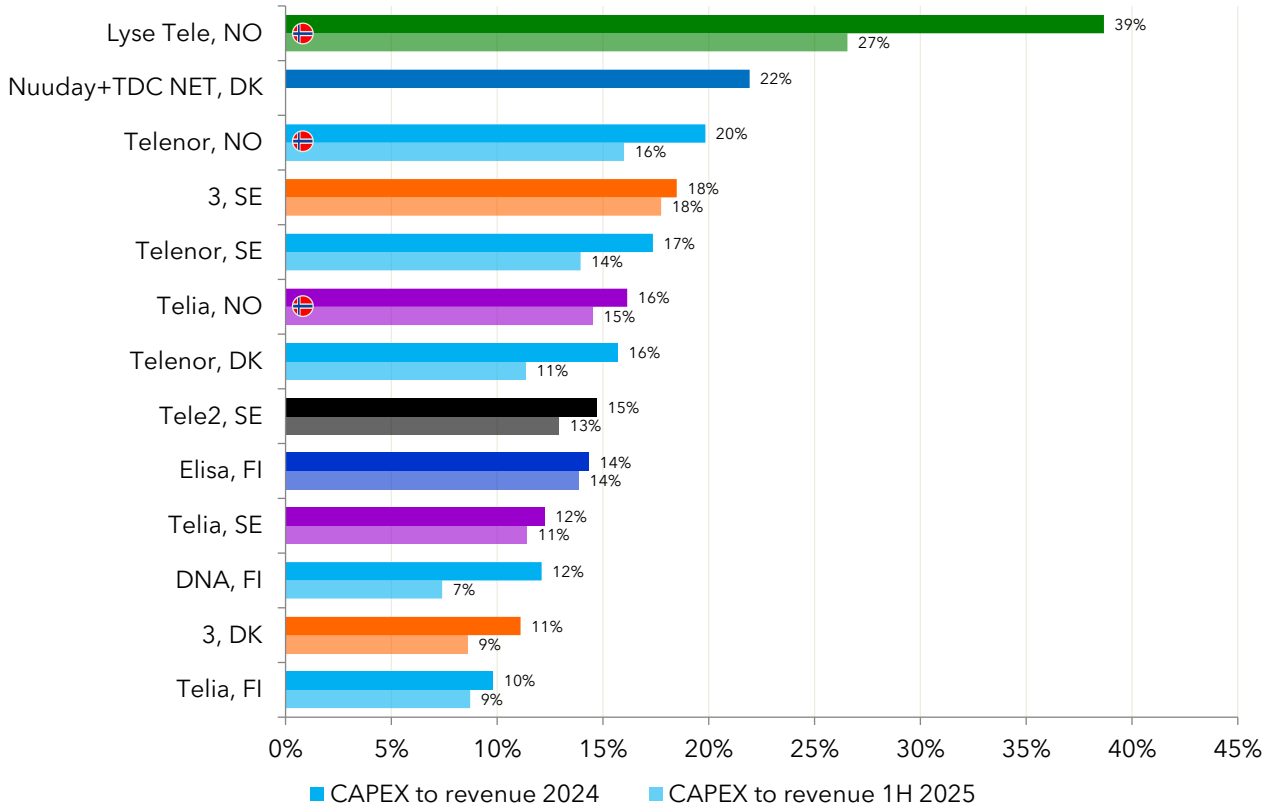

Figure 59. CAPEX to revenue for the major operators in Norway, Denmark, Sweden, and Finland. Two providers are pure mobile: 3 Sweden and 3 Denmark, while the others have both mobile and fixed business. Nuuday and TDC NET are two separate companies under the same ownership, but to make it comparable with other operators, their figures have been summed up. Since Nuuday from now on only reports annually, there's no value for Nuuday+TDC NET for 1H 2025 [source: operator reports, compiled by Tefficient].

As CAPEX levels traditionally are higher in the second half of a year than in the first half, we refrain from concluding on the 1H 2025 values to instead comment the full year figures.

Third-ranked **Telenor** Norway invested 20% of its 2024 revenues. **Telia** Norway is also investing a bit more than what is common in the Nordics; 16% of revenues in 2024. Since all Norwegian operators end up in the upper part of the chart, there's merit in the claim that Norwegian operators invest more.

[42] Excluding license, spectrum, and lease.

When it comes to CAPEX, there's official data from the country authorities. The CAPEX to revenue ratios for the countries have been calculated in Figure 60. Due to different breakdowns and definitions in the country reporting, the pure fixed and mobile CAPEX and revenues have been used (i.e. 'other' CAPEX is omitted). The ratios shown are vs. fixed+mobile *retail* revenue as that is the common ground in the reporting of the Nordic authorities.

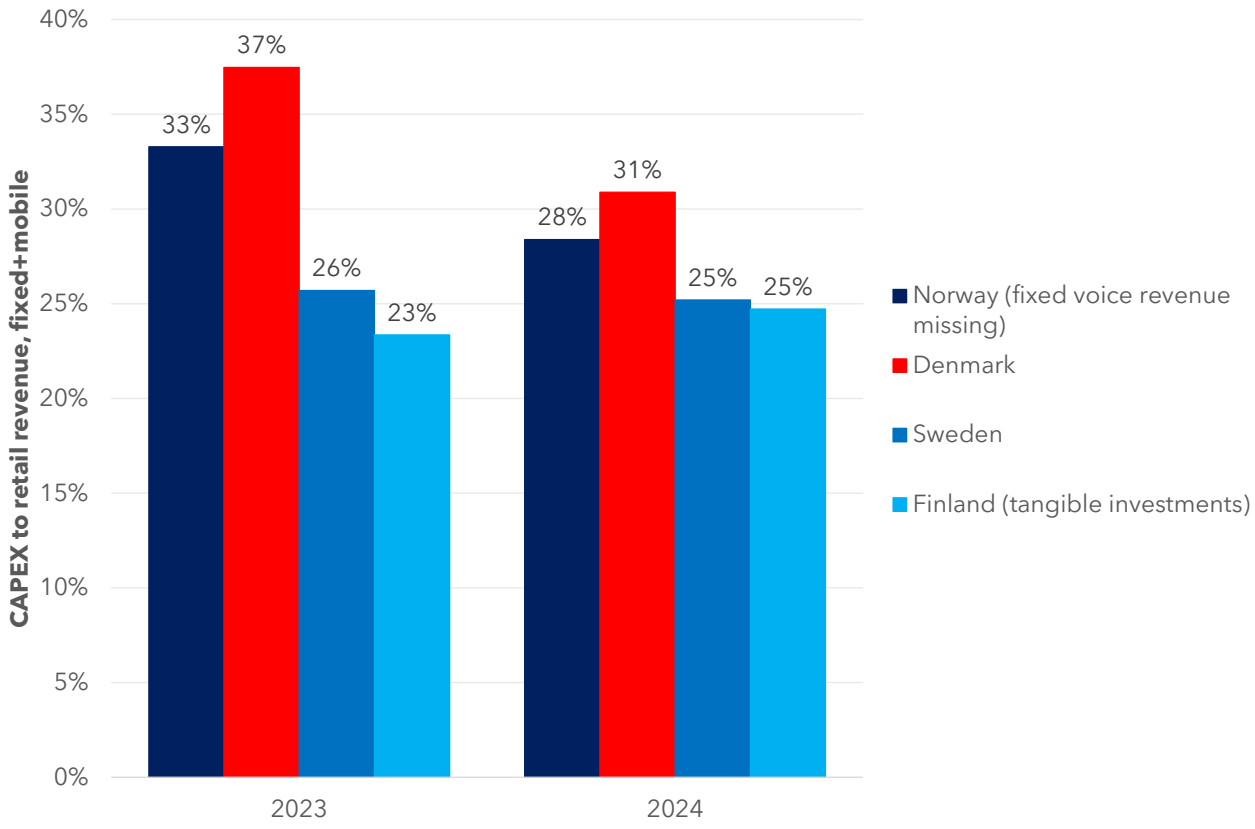

Figure 60. CAPEX to revenue for fixed+mobile (excluding 'other' as not defined in the same way) in Norway, Denmark, Sweden, and Finland. Fixed voice revenue is not included for Norway as not reported; this lifts the Norwegian ratios somewhat. Finland reports two investment figures: Total and tangible, but since only tangible is broken down on fixed and mobile, it has been used here. [source: Nkom, Digitaliseringsstyrelsen, PTS/Trafa, Traficom, compiled by Tefficient]. 1H 2025 not shown as not reported anywhere.

In both 2023 and 2024, Denmark had the highest CAPEX to revenue ratio. Norway was second-ranked both years[43]. Sweden and Finland had the lowest CAPEX to revenue ratios, but Finland's grew from 2023 to 2024 as the only country.

All Norwegian operators invest more – measured as a share of revenue – than the Nordic median. On country level, Norway is second-ranked after Denmark.

Does the generally high CAPEX in Norway then negatively influence the cash flow of the operators? Here we make an approximation when subtracting the CAPEX from the adjusted EBITDA and calling it the cash flow. It shows what remains of revenue after having paid OPEX/CoGS and CAPEX.

[43] The ratios for Norway are slightly exaggerated as the retail fixed voice revenue isn't included as not broken out from 'other'.

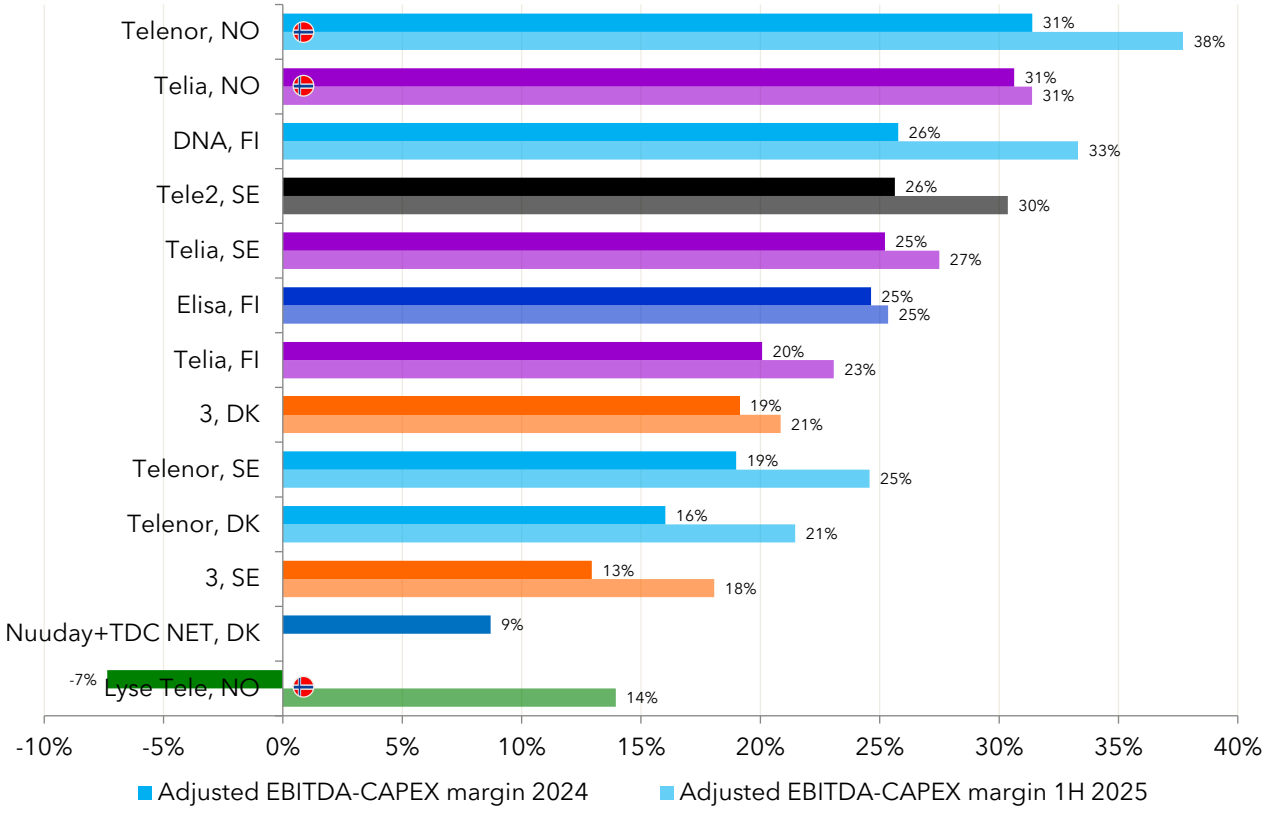

Figure 61. Adjusted EBITDA-CAPEX margin for the major operators in Norway, Denmark, Sweden, and Finland. Two providers are pure mobile: 3 Sweden and 3 Denmark, while the others have both mobile and fixed business. Nuuday and TDC NET are two separate companies under the same ownership, but to make it comparable with other operators, their figures have been summed up. Since Nuuday from now on only reports annually, there's no value for Nuuday+TDC NET for 1H 2025 [source: operator reports, compiled by Tefficient].

At the top of the graph (again ranked after 2024 numbers), we find **Telenor** Norway and **Telia** Norway. So, although they both spend more of their revenue in CAPEX than the median Nordic operator, their leading adjusted EBITDA margins are so high that it returns the highest EBITDA-CAPEX margins.

At the other end of the chart, we find **Lyse Tele**. Although its EBITDA margin isn't bad, its very high CAPEX to revenue made its EBITDA-CAPEX negative in 2024. In that year, Lyse Tele invested more in CAPEX than its business generated in EBITDA. If the first half of 2025 is representative for the whole of 2025, Lyse Tele's 1H 2025 figure is however showing an improvement into positive cash flow.

Even with high investments, both Telenor Norway and Telia Norway maintain the highest EBITDA-CAPEX margins in the region, indicating no pressure from excessive combined operating costs and investment levels. Lyse Tele, however, faces a different situation: In 2024, its CAPEX exceeded its EBITDA, meaning it was unable to cover investments from operating cash flow. First half 2025 brought a stronger cash flow.

13 Summary and conclusion

In summary, the findings of this edition of the analysis are:

Mobile

ARPU

- In six out of the eight like-for-like comparison cases, Norway has the highest ARPU.
- The exception is when M2M is included and FWA excluded, where Finland now surpasses Norway – also after adjusting for purchasing power.

Data for money

- When it comes to data usage, Norway is consistently below. Regardless of whether M2M or FWA is counted, Norwegian mobile subscribers use less data than their Nordic neighbours.
- As a result, the total mobile service revenue per consumed gigabyte is substantially higher in Norway – between 1.7 and 3.9 times higher than in the other Nordic countries. Norway has moved closer to the others, though.
- The combination of high ARPU and low consumption means that Norwegian mobile users get less data for money than users in Denmark, Sweden, and Finland.

Speed for money

- A similar pattern appears when looking at speed. Norwegian subscribers pay more per Mbit/s of median download speed compared to their Nordic peers.

Value for money

- The average Norwegian mobile subscriber has the lowest data consumption per NOK spent. Norway has the highest revenue per data transmission speed unit (Mbit/s). While Norwegian mobile providers more often include cybersecurity and cloud services, these additions only partly explain the high ARPU.
- Overall, Norwegian subscribers receive less value for money than those in the other Nordic countries.

Market concentration

- The Norwegian mobile market is also more concentrated. This is not simply due to the number of MNOs; Telenor's revenue share alone accounts for 69% of the country's HHI. Although concentration is decreasing, Norway remains the most concentrated among the Nordics.

Fixed broadband

ARPU

- Norway also has high ARPU levels in fixed broadband. In three out of four like-for-like comparisons, Norway has the highest ARPU.
- Denmark now comes out on top when FWA is excluded and no purchasing power adjustment is applied.

Technology for money

- Technology mix does not explain these differences. Norway has a high fibre share, but so do Sweden and Finland, despite their lower ARPUs. Denmark has the lowest fibre share but the highest ARPU, suggesting that technology alone does not drive the ARPU differences.

Speed for money

- In terms of speed for money, Norwegian customers do not come out best. Norway has the third-highest share of subscriptions at 100 Mbit/s or above but the second-highest ARPU. Its share of gigabit subscriptions is lower than in Denmark and Sweden.
- Denmark, in particular, has a much faster median speed while maintaining only a slightly higher ARPU than Norway. Sweden and Finland also have high median speeds but significantly lower ARPUs.
- This indicates that Norway's comparatively high broadband ARPU cannot be explained by faster connections.

Value for money

- Norway has about as high ARPU as Denmark but the speed mix in Denmark contains a much higher share of gigabit subscriptions. The median download speed in Denmark is about 100 Mbit/s higher than in Norway.
- Norwegian fixed broadband is slightly slower than in Sweden, but the Swedish fixed broadband ARPU is only 65% of Norway's.
- Finland's fixed broadband catches up on Norway and the median speed differential is today small. Finland's broadband ARPU is 80% of Norway's.
- Norwegian providers also bundle cybersecurity and cloud services less frequently than their Nordic peers.
- Taken together, Norwegian fixed broadband customers get less value for money than customers in Denmark, Sweden, and Finland.

Market concentration

- Market concentration in fixed broadband in Norway is roughly in line with the Nordic average. Altibox's revenue share accounts for 51% of Norway's HHI, comparable to the largest players in the other markets. Concentration has declined somewhat since 2023, both in Norway and in Sweden and Finland.

Financial performance

EBITDA

- Across both mobile and fixed services, Norwegian operators generally operate with strong financial performance. Neither Telenor Norway nor Telia Norway shows signs of high operating costs; their adjusted EBITDA margins are best in class.
- Lyse Tele has a lower margin, roughly at the Nordic median when the two larger Norwegian operators are excluded.

CAPEX

- Norwegian operators also invest more – measured as a share of revenue – than the Nordic median. On country level, Norway is second-ranked after Denmark.

Cash flow approximation (EBITDA-CAPEX)

- Even with these high investments, both Telenor Norway and Telia Norway maintain the highest EBITDA–CAPEX margins in the region, indicating no pressure from excessive combined operating costs and investment levels.
- Lyse Tele, however, faces a different situation: In 2024, its CAPEX exceeded its EBITDA, meaning it was unable to cover investments from operating cash flow. First half 2025 brought a stronger cash flow.

Conclusion

Norway continues to stand out in the Nordics with its high mobile and fixed broadband ARPU. However, other markets are slowly closing some of the gap.

Despite Norway's high ARPU, customers do not consume more mobile data or access services at higher speeds. On the contrary, mobile data usage in Norway remains lower than in neighbouring countries, and the increase in both mobile and fixed broadband speeds is slower than in the rest of the region. Norwegian mobile customers are more often provided with inclusive cybersecurity or cloud services, which explains part of the ARPU difference. In fixed broadband, however, Norwegian providers include such services less frequently than their Nordic peers. Overall, Norwegian customers receive weaker value for money than customers elsewhere in the Nordics.

In mobile, market concentration in Norway remains high, although it is gradually decreasing. In Tefficient's view, market concentration continues to be the most credible explanation for Norway's high mobile ARPU.

For fixed broadband, the situation is different. National-level market concentration is close to the Nordic average, and therefore does not, on its own, explain Norway's relatively high fixed broadband ARPU. Instead, three other factors likely contribute: First, many fibre networks in Norway are not yet open. Second, fixed wireless access (FWA) is generally not offered at addresses where the same provider can deliver fibre or HFC (cable TV). Third, Norwegian FWA subscriptions are not positioned or priced as

lower-cost broadband alternatives, unlike in other Nordic markets. Together, these conditions help sustain higher ARPU levels in Norway's fixed broadband segment.

Financially, Norwegian operators stand stronger than elsewhere in the Nordics and continue to improve. The investment level in Norway is high, but Telenor Norway and Telia Norway still maintain the highest cash flow margins in the region, indicating that they can comfortably afford this level of CAPEX. Lyse Tele invested heavily in 2024, but its first-half 2025 figures show a stronger financial cash flow.