Norwegian Electricity Distribution And Transmission Regulatory Framework: Very Supportive

April 28, 2025

Overview

- We view the regulatory framework that governs Norwegian electricity distribution and transmission networks as very supportive because it is very predictable and has proven to provide operators with long-term visibility, despite the lack of fixed regulatory periods.
- Networks publish their updated tariffs by September 30 each year to reflect the permitted revenues for the coming year that are calculated by the regulator based on a fixed regulatory formula.
- The two-year lag in the recovery of operating costs, which is similar to that of European peers, reduces the stability of regulatory metrics. Additionally, assets under construction are excluded from the regulated asset base (RAB) until the project is operational, which is a weakness, compared with frameworks in Finland and Sweden.
- The recent high share of congestion income that resulted from discrepancies in price zones within Norway and with interconnections has had a significant effect on Statnett, the transmission system operator (TSO). The company reduced its regulated tariff close to zero to compensate for the high inflow of income, which was included in International Financial Reporting Standards revenues but excluded from regulatory revenues.
- The Norwegian economy is among the strongest in Europe, underpinned by a stable and largely predictable policymaking environment, which reduces the risk of sudden and unfavorable changes to the regulating framework, in our view.

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Table 1

Norway--Electricity TSO and DSO regulatory framework

Regulator	Norwegian Energy Regulatory Authority (RME)
Key players	Statnett (A+/Stable/A-1)--electricity TSO
	Elvia (50% owned by Hafslund (A-/Stable)) – Largest electricity DSO
Tariff-setting methodology	Revenue cap model
	30% cost base, 70% cost norm
	2025 WACC (early assumption): 7.2%
	2024 WACC: 7.67%
Regulatory period	No set periods

Table 1

Norway--Electricity TSO and DSO regulatory framework (cont.)

Regulatory assessment	Strong

DSO--Distribution system operator. TSO--Transmission system operator. WACC--Weighted average cost of capital. Source: S&P Global Ratings.

Operator Profiles

The regulator in Norway (AAA/Stable/A-1+) is the Norwegian Energy Regulatory Authority (RME). It sets allowed revenues for TSOs and distribution system operators (DSOs), which include about 90 companies.

Statnett SF (A+/Stable/A-1) is a state-owned TSO that operates about 97% of all transmission lines, including interconnectors. It operates 11,000 kilometers of high-voltage power lines and external interconnectors with the U.K., Germany, the Netherlands, Denmark, and Sweden.

Hafslund AS (A-/Stable) mainly operates power generation, district heating, and electricity networks. As the second-largest hydropower generator in Norway, the company has a strong domestic market position and generates approximately 18.5 terawatt hours annually. It owns 50% of Eidsiva, which is the largest electricity DSO in Norway.

Assessment Factors

Regulatory stability: Robust and transparent

Unlike Sweden and Finland, the Norwegian regulatory framework for electricity networks does not have any regulatory periods. However, it has a track record of exhibiting good cost recovery and meaningful return on invested capital, which we view positively. Additionally, costs are linked to inflation, which plays a significant role in the current inflationary environment. We note, however, that the recovery of operating costs is delayed by two years.

The regulator publishes all data, benchmarking results, and revenue cap calculations on its website annually. This increases the transparency of the methodology and data used in the calculation of permitted revenues.

Revenue cap process:

- The RME publishes on its website the "notified" permitted revenues for all grids for the year n+1 in November of year n, after which networks set their tariffs accordingly for the year n+1.
- In February of n+2, the RME publishes the final permitted revenues, which consider actual prices, inflation, and the weighted average cost of capital (WACC) that was used to calculate the "notified" revenue cap. The difference between "notified" permitted revenues and final permitted revenues is settled in n+3.

Example

In February 2025, the RME issued the updated revenue cap for 2024 and announced the final revenue limits for grid companies, totaling Norwegian krone (NOK) 39.3 billion. This is NOK2.6 billion lower than the amount the NVE announced in November 2023. The decline resulted from:

- High inflation and lower borrowing costs for grid companies than the NVE had assumed when calculating the "notified" permitted revenues. This resulted in an update of the estimated benchmark rate of return to 7.67%, compared with 8.16% previously, and reduced final revenue limits by NOK1.4 billion.
- Lower power prices for 2024 than the NVE had assumed when calculating the "notified" permitted revenues, decreasing final revenue limits by NOK1.2 billion.

Statnett collects permitted revenues from congestion revenues and customer tariffs (grid fee), which include an energy part and a fixed part.

- Congestion revenues: These revenues arise when power is transferred between bidding zones with different electricity prices. The congestion revenues that accrue to Statnett are passed on to customers through a tariff reduction.
- Energy part: This is calculated based on the actual energy delivered to the grid or withdrawn from the grid each hour at each point of connection. The system load is reflected through unique marginal loss rates that are calculated for each exchange point in the transmission grid at daytime, night-time, and during weekends. The marginal loss rates are published on Statnett's website every Friday.
- Fixed part: The tariff rates for the fixed part are generally set for one year at a time, and Statnett must publish the tariffs for the coming year before Oct. 1.
- --Production part: Producers are tariffed, based on how much power they deliver to the grid. The tariff basis is the "average annual production over the last 10 years," published on the RME's website, in øre per kilowatt hour (kWh). Since EU regulators capped the feed-in tariff at €1.2 per megawatt hour (MWh), the tariff rate for producers will remain unchanged, regardless of whether Statnett's revenue cap increases.
- --Consumption part: Consumption is tariffed, based on how much power is consumed during the peak load hour. The tariff basis is the "average withdrawal during the peak load hour over the last five years," published on the RME's website, in NOK/kW. The consumption tariff increases if Statnett's revenue cap increases.

Tariff-setting procedures and design: Transparent and efficient

The RME regulates network companies by using an incentive-based revenue cap model. Each year, the RME determines how much revenues each DSO and TSO can collect from its customers through tariffs by calculating permitted revenues based on which each company sets its tariff for the upcoming year. Actual revenues from tariffs might not always equal permitted revenues, which could lead to excess revenues or a deficit. Excess revenues must be reimbursed to customers with interest, while deficit revenues should be recovered in a timely manner though a tariff increase.

$$\text{Permitted revenues} = 30\% \times \text{cost base} + 70\% \times \text{cost norm} \times \text{efficiency score}$$

Cost base:

- The company's individual costs of operations and maintenance related to the grid and adjusted for inflation;
- Network losses, which are measured in MWh (electricity price in year n-2, multiplied by the price of power in year n);
- Cost of energy not supplied in year n-2;
- Depreciation of the RAB; and
- Return on assets (RAB multiplied by WACC).

Cost norm: This includes costs the company would have incurred if the electricity grid had been maintained, developed, and operated at average efficiency. The cost norm is based on the cost-base factor and adjusted for the company's efficiency. From a credit perspective, we view this as positive, because well organized and efficient companies are allowed higher returns. The cost norm incentivizes companies to improve their efficiency to receive a high efficiency score, thereby avoiding a revenue cap deduction. We note that some costs are 100% pass-through and exempted from norm (e.g., property tax, transit tariffs etc).

RAB calculation: We view as a relative weakness of the framework that assets under construction are excluded from the RAB until the projects are operational. That said, interest costs related to these projects are allowed for capitalization and an additional 1% is added to the RAB to cover assets under construction.

WACC calculation:

$$\frac{1.5\% + \text{inflation} + 0.875 \times 5\%}{1 - \text{tax rate}} \times 40\% + (\text{five-year swap rate} + \text{margin}) \times 60\%$$

Table 2

WACC parameters

(%)	Review	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Equity	Every five years	40	40	40	40	40	40	40	40	40	40	40	40	40
Leverage	Every five years	60	60	60	60	60	60	60	60	60	60	60	60	60
Risk-free rate (f)	Every five years	2.5	2.5	2.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Inflation rate (v)	Annually	1.7	2.18	2.25	2.53	2.33	1.98	2.23	2.13	2.23	3.83	4.58	3.45	3.03
Equity beta* (f)	Every five years	0.875	0.875	0.875	0.875	0.875	0.875	0.875	0.875	0.875	0.875	0.875	0.875	0.875

Table 2

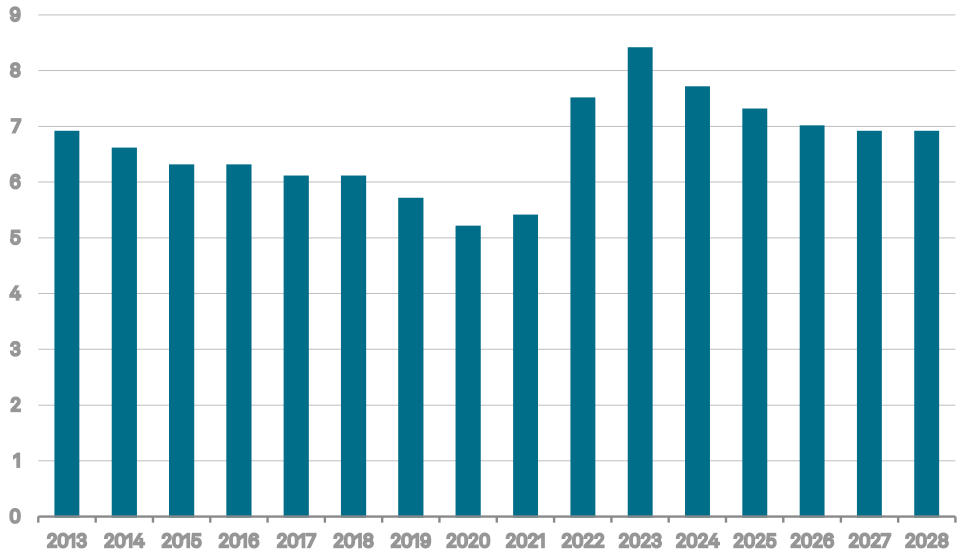
WACC parameters (cont.)

Market risk premium (f)	Every five years	5	5	5	5	5	5	5	5	5	5	5	5	5
Tax rate (v)	When necessary	28	27	27	25	24	23	22	22	22	22	22	22	22
Cost of equity (nominal, pre-tax)		8.58	9.06	9.13	9.41	9.21	8.86	8.11	8.01	8.11	9.71	10.46	9.33	8.91
Five-year swap rate (v)	Annually	2.59	2.19	1.44	1.18	1.48	1.87	1.79	0.89	1.46	3.04	3.8	3.85	3.51
Credit risk premium (v)	Annually	0.97	0.56	0.75	1	0.65	0.63	0.77	0.87	0.57	1.11	1.2	0.97	0.97
Cost of debt (nominal, pre-tax)		3.56	2.75	2.19	2.18	2.13	2.5	2.56	1.76	2.03	4.15	5	4.82	4.48
WACC (nominal, pre-tax)		**6.9**	**6.6**	**6.3**	**6.3**	**6.1**	**6.1**	**5.7**	**5.2**	**5.4**	**7.5**	**8.4**	**7.7**	**7.3**

*Equity beta is a constant value and not measured in percentages. f--Fixed. v--Variable. WACC--Weighted average cost of capital.

Chart 1

WACC evolution
WACC [nominal, pre-tax (%)]

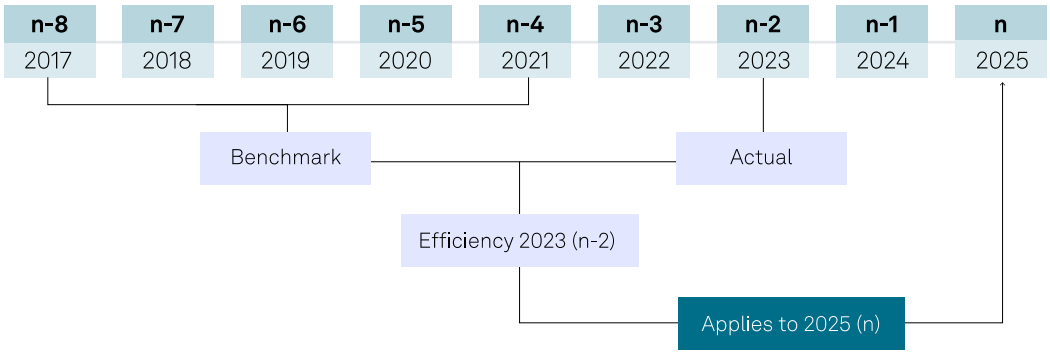


WACC--Weighted average cost of capital. Source: S&P Global Ratings.

Efficiency score determination: For Statnett, the efficiency score is calculated based on the comparison of its costs in n-2 with the average costs in year n-3 until n-7, adjusted for network size. This is because, historically, Statnett was benchmarked against European TSOs but, due to geographical constraints differentiating Norway from EU countries, the RME has decided to use Statnett's own unit cost as a benchmark. As such, Statnett must now compete with its past efficiency to maintain a high efficiency score.

Chart 2

Efficiency score calculation for Statnett



Source: S&P Global Ratings.

Each DSO's efficiency score is assessed annually, which incentivizes companies under the framework to improve their efficiency. The benchmark is a ranking process, which measures DSOs' comparative cost bases and adjusts for environmental factors.

Congestion Income

The temporary regulation on the use of congestion revenues entered into force on Nov. 1, 2022. The scheme is intended to help ensure that grid customers in areas with high power prices do not have to pay higher grid tariffs because of high grid loss costs. Congestion revenues can cover costs related to grid losses above 35 øre/kWh.

Statnett's congestion income, reported as regulated revenue, reached €4.4 billion (NOK48 billion) over 2021-2024. On top of congestion income, Statnett received a total of NOK21.6 billion in revenues from grid and energy tariffs, totaling about NOK70 billion in revenues over 2021-2024. This compares with total permitted revenues of NOK65.3 billion over the same period. We therefore estimate that Statnett had an excess of NOK4.7 billion in reported revenues at year-end 2024 that it will return to the system by adjusting grid tariffs or through a direct cash payment to DSOs.

Statnett's reported revenues over 2021-2024 exceeded the amount of permitted revenues that was calculated based on the regulatory formula. To offset this, Statnett reduced grid tariffs close to zero between April 2022 and December 2023, and transferred some congestion income to DSOs, so that they could cover their own increased expenses of NOK5.9 billion in 2022, NOK2.6 billion in 2023, NOK781 million in 2024, and NOK449 million in first-quarter 2025.

The balance of accumulated higher/lower revenues is to be adjusted toward zero over time by Statnett, through tariff changes. Excess revenues must be reimbursed to customers, while deficit revenues may be recovered.

Table 3

Evolution of the accumulated higher revenue balance

(Mil. NOK)	2018	2019	2020	2021	2022	2023	2024	2025f
Regulated revenues from tariffs	7,937	8,474	7,956	8,178	4,765	2,593	6,700	6,700
Congestion income	961	587	2,408	5,658	22,662	9,943	11,062	18,042
Other grid revenues	243	581	397	576	453	496	704	1,000
Payment to grids	--	--	--	--	(5,918)	(2,568)	(781)	(449)
(i) Total revenues from grid operations	9,138	9,641	10,761	14,412	21,962	10,464	17,685	25,293
(ii) Permitted	8,776	10,432	9,969	12,062	15,154	16,279	17,533	18,231
(iii) = (i)-(ii) Difference permitted - actual	362	(791)	792	2,350	6,808	(5,815)	152	7,062
Provision for interest higher/lower revenue (-/+), not recognised	--	--	--	--	160	306	261	--
Accumulated higher revenue x (balance at Jan. 1 + (iii))	59	(732)	60	2,659	9,627	4,118	4,531	11,593

f--Forecast. NOK--Norwegian krone. Source: S&P Global Ratings.

Financial stability: Full cost recovery and reasonable return subject to efficiency and a two-year lag

Similarly to other European frameworks, the recovery of costs and volumes in the Norwegian regulatory framework is subject to a two-year time lag in:

- The recovery of operational costs that are adjusted for inflation. The total cost deviation is distributed among the companies using their share of the sectors total RAB. This mechanism does not apply to Statnett;
- Volume of grid losses (although no time lag on power prices for said transmission losses);
- The cost of capital recovery. To remove this time lag, the difference between the actual cost of capital (depreciations and return on assets) in the revenue cap year n and the cost of capital in year n-2 are included; and
- System service costs.

Regulatory independence and insulation: High level of independence

RME is the independent regulatory authority in Norway. It is responsible for the regulation of DSOs and Statnett. We consider RME to be independent, based on Norway's stable political base and no track record of government interference.

This report does not constitute a rating action.