Transmission grid tariffs for 2024

Model description and rates

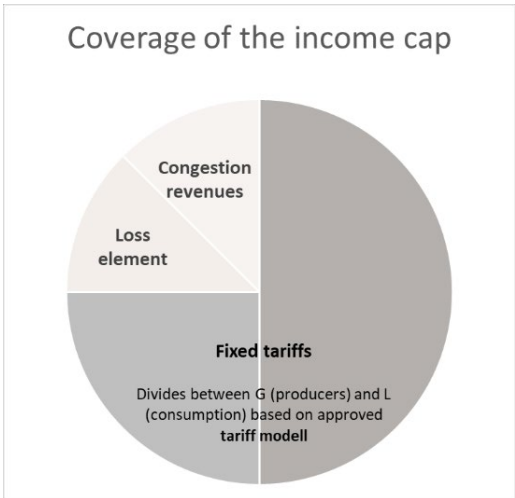
Statnett

Tariffs 2024

Tariff rates for 2024 apply from 1 January 2024 until 31 December 2024.

Basic principles for determining tariff rates

Tariffs shall be structured in accordance with regulations set out in the Norwegian Water Resources and Energy Directorate (NVE) FOR 1999-03-11 no. 302 Regulations governing financial and technical reporting, income caps for network operations and transmission tariffs.



The Norwegian Energy Regulatory Authority (NVE-RME) is the national regulator for the Norwegian electricity and downstream gas market. NVE-RME sets an annual **income cap** that represent the amount of revenue Statnett can collect to cover costs for investment and operation of grid facilities, system operation and transmission losses.

The income cap is collected through tariffs from customers, divided between energy component (cost of loss) and a fixed component, as well as from congestion revenues (bottleneck income). Congestion revenues are revenues that occur when power is transferred between price areas with different prices (bottlenecks) in the power marked. The congestion revenues are divided 50/50 between the Transmission System Operators (TSO) “on each side of the bottleneck”.

The structure of the tariff is intended contribute to the efficient development and utilisation of the network. Based on current regulations, a model has been developed to calculate the size of the payment from each customer and customer group. The structure and changes in the tariff model are discussed with consumer organisations and adopted by Statnett’s Board of Directors.

Tariff income from customers, together with bottleneck income, shall correspond to Statnett's regulated income (income cap). The discrepancy between actual income and regulated income is called *surplus / deficit income*. Through the determination of annual tariff rates, Statnett shall control the balance of surplus / deficit income towards zero. At the end of 2022, the transmission network has a book accumulated surplus income of NOK 10 billion.

The annual tariff rates must be published no later than 30 September of the year before the business year. Then neither income cap, bottleneck income nor income from energy components for the business year is known. The annual tariff rates must therefore be based on forecasts for these elements. After the tariff year, figures for these elements will be known. Deviations between actual figures and forecast figures will be included in the balance surplus / deficit income and will be considered when determining tariffs in recent years.

Description of the tariff model

The tariff model describes how the income cap for the transmission grid is to be distributed between the customers connected to it. The model is designed in accordance with the Norwegian regulations for tariffing.

The regulations set several requirements for the structure of tariffs, including:

- Tariffs should signal effective utilisation and development of the network
- Any differentiation of the tariff between customer groups shall take place based on objective and verifiable network conditions
- Total tariff revenues shall not exceed the income cap of the TSO.

Tariff components

The transmission network tariff consists of a variable component (cost of loss) and a fixed component.

The energy component (cost of loss)

The energy component reflects the load each customer puts on the network system when drawing power from it or feeding power into it. The energy component is calculated based on the actual energy fed into or drawn from the network hour by hour.

System load is reflected through unique *margin loss rates* calculated for each connection point in the transmission grid. Separate marginal loss rates are calculated for daytime, night time and weekends. Daytime is defined as workdays between 6 a.m. and10 p.m.
The calculations are based on projected load flows in the Nordic network. The marginal loss rate is symmetric around zero for feeding and drawing power at each individual connection point.
The marginal loss rates are administratively restricted to ±15 per cent.

The marginal loss rates are published on Statnett's website and distributed to our customers on Fridays before the start of a new week. The rates are available on NettWeb (statnett.no). (Norwegian pages only). When calculating the energy component, the price for the relevant price area is used. Area prices are available on: Market data | Nord Pool (nordpoolgroup.com).

Fixed components

The tariff's fixed components are intended to ensure that the TSO can generate its total income cap. Cost allocation and differentiation between customer groups must take place in accordance with network-based, objective and non-discriminatory criteria.

When determining the fixed tariff component, a distinction is made between feed in (generation/production) and drawing (load/consumption).

The fixed component for producers (feed in tariff) is energy-based. *(MWh*).
The feed-in tariff rate for 2024 is set at NOK 14.7 / MWh, of which NOK 2.5 / MWh comprises related system operating costs.

The fixed component for consumers is power based (MW). The tariff for consumption is set at NOK 270 / kW for 2024.
Due to very high congestion revenues, the tariff for withdrawals (consumption) was reduced from NOK 325/kW to NOK 0/kW from 1 April 2022 to end of 2023.

Production tariffs

Basis for calculation

The production tariff is calculated based on average annual production for the last 10 years. (GWh). Tariffs for 2024 are based on data for the period 2013–2022.

The basis for calculating the production tariff is referred to as “ex-power station”, i.e. produced volume less the power station’s consumption and step-up transformation. For pumped-storage hydropower plants, gross production will be included in the basis for calculation.

The data set has been established based on reported annual values from the individual producer or customer in the transmission network. The data is automatically retrieved from submitted values.

New production units

New production units that will feed in transmission or regional networks will lack historical data. For such units, the *expected* annual production stated in their operating licence is used as the basis for calculating the production tariff for the start-up year and the following two calendar years. Subsequently, actual production data will be used to calculate the production tariff.

New production units will be charged from the month in which they start up. Information about new units must be submitted to Statnett as early as possible before start-up.
Wind farms are usually constructed in stages. The basis for calculating the production tariff in the first few years must therefore be agreed separately for each wind farm.

Surcharge for coverage of system operating costs

The feed-in tariff includes a surcharge for system operating costs from 2014 onwards.
The surcharge for 2024 will be NOK 2.5/MWh. The rate in 2023 was NOK 1.5/MWh.

Consistent feed-in tariff

The transmission network's feed-in tariff shall be used at all grid levels. This means that the power-producer must pay the same feed-in tariff regardless of whether the power is fed directly into the transmission network or whether it is fed via high voltage (HV) and low voltage (LV) distribution networks.
Revenue from feed-in tariff to the high voltage distribution network shall be transferred to overlying networks (i.e., the transmission network), while revenues feed-in tariff to the low voltage distribution network shall be used to cover costs in the low voltage distribution network.

Consumption tariffs

Basis for calculation

The consumption tariff is calculated based on the customer's power consumption (MW) during the system's peak hour. A description of "peak hour" is available at Topplasttimer | Statnett (Norwegian pages only).

Power consumption is calculated for each connection point in the transmission network. The calculation is made by taking measured net power exchange during the peak load hour corrected for production during the peak load hour (Pp). All exchange data (net MW in/out) is automatically retrieved from meters connected to the system, while all production facilities must report production during peak load (Pp) behind each connection point.

The consumption tariff is calculated based on average consumption (MW) during the peak load hour over the last 5 years. The years 2019–23 form the basis of the tariff for 2024.

Establishment of new consumption or significant change in existing consumption

In the event of the establishment of a new large individual consumption or in the event of significant and permanent changes in consumption within the five-year period, Statnett shall be notified well in advance. Statnett will, in consultation with the customer, find a representative settlement basis for consumption. The settlement basis will be corrected from the month new / changed business is established. Corrected settlement basis will be set as a peak load for the last 5 years.

Consumption co-localised with power production (k-factor adjustment)

The consumption tariff is reduced for connection points where power is also *fed in* into the network. The adjustment is made using a correction factor (k-factor). The size of the correction factor depends on the ratio between feed-in and consumption at the connection point. A limit for how low the k-factor at one connection point may be is set to 0.6. The maximum reduction resulting from co-localisation is thus 40 per cent.

A k-factor is calculated for each connection point in the transmission network. The calculated k-factor for a connection point is used to adjust the amount charged for all consumption at that connection point, regardless of whether it is defined as high consumption, other consumption or flexible consumption.

The k-factor is calculated using the following formula:

$$\mathrm{k} = \frac{F_s^{tot}}{P_t + F_s^{tot}}, \qquad if\ the\ formula\ gives\ k < 0{,}6, k\ is\ set\ to\ 0{,}6$$

F_s^{tot}: Total of all customers' average consumption at the connection point in MWh/h during the peak load hour over the previous 5 years.

P_t: Total available winter output at the point.

Available winter output (P_t)

- Hydropower plants: The highest output that can be produced during a continuous 6-hour period under highest winter consumption. Normal water flows for run-of-river power stations and normal reservoir levels for reservoir-based power stations are assumed, both in reference to the third week of the year.
- Wind farms: 25 per cent of installed capacity
- Thermal power stations: 100 per cent of installed capacity

Tariff groups – consumption

When tariffing consumption, a distinction is made between large consumption and other consumption.
Large consumption is individual companies with power consumption over 15 MW and annual energy consumption over 100 GWh.

The structure and calculation of tariffs for the individual groups are described in more detail below.

Tariffs for other consumption

Other consumption includes all consumption (withdrawals from the network) that is not included in the definition of large consumption.

The tariff basis for other consumption is the average power consumption during the peak load hour per connection point over the last 5 years, multiplied by the k-factor of that point.

Annual cost is calculated using the following formula:

Average consumption during peak load (MW) * k-factor
for the connection point * tariff rate for consumption

The customer's basis for calculation and cost per year are displayed on the login page at NettWeb. (Norwegian pages only)

Tariffs for large consumption

Large individually consumption pays a lower tariff rate to the transmission network than other consumption. Differentiation of tariffs between network customers is accepted according to the legal regulations. The differentiation must be based on "objective, non-discriminatory criteria".

All individual companies that fall within the scheme (15 MW / 100 GWh) will achieve equal tariff reduction (%) in relation to other consumption. The tariff reduction is set at 50%.

Definition of large consumption

Individual customers with power consumption larger than 15 MW/h and with an annual consumption of more than 100 GWh qualify for a reduced tariff.
In this context, *individual customer* means a company that has the same registration number and is located at the same site. The facility may draw power from several connection points in the central network, but it must be at one site or one “production line”. Industrial parks, etc., are therefore not included in the definition of large consumption.

Registration of facilities that qualify for a reduced tariff

In order to qualify for the large consumption tariff, the customer must ensure that all relevant facilities are always registered in Statnett’s billing system. In this context, customer means large individual consumers directly connected to the transmission network or regional networks with large single consumers connected to their networks.

Information about new facilities, along with the required documentation, must be sent to Statnett by e-mail.

Establishment of new consumption or significant change in existing consumption

New plants with expected consumption above 15 MW / 100 GWh will be tariffed from the month they start up. New large consumption will be settled in the start-up year based on an agreed forecast for energy consumption and the customer's maximum power consumption. Then the top load data from the last available year is used. For each year thereafter, one and one year is added to the average until there is an average based on 5 years of peak load data.

Change in existing large consumption

In the event of a significant and permanent change in consumption for existing facilities, Statnett must be notified well in advance. Statnett will, in consultation with the customer, clarify a new and representative settlement basis. The settlement basis will be corrected from the month the change in the business is established.

Change in consumption which means that the customer no longer qualifies for a reduced tariff

In the event of changes that indicate that expected consumption will be below 15 MW / 100 GWh over a longer period, the right to a reduced tariff will lapse with immediate effect.
The customer must notify Statnett of significant changes in energy / power consumption. Statnett will, in consultation with the customer, clarify and adjust the settlement basis with effect from the relevant time.

Basis for calculating fixed tariff for large consumption connected to transmission network

The basis for the fixed tariff for large single consumers is calculated in the same way as for other consumption, i.e., based on the customer's power output in the system's peak load. Settlement basis 2024 is calculated based on peak load data for the years 2019-2023.

Basis for calculating fixed tariff for large consumption connected to distribution network

Network companies that have large individual consumers connected to their network must report on special codes to Statnett or ensure that Statnett has access to the hourly values via Elhub.

Customers that have electric boilers or recycling plants

The basis for calculating the fixed tariff components for 2024 is the customer's power consumption during the system's peak load for the years 2019–2023.

- For customers with **electric boilers**, measured power consumption (MW) will include consumption for electric boilers.
- For customers with **recycling plants**, measured power consumption (MW) will be deducted from own production.

The owner of a recycling plant is not considered a producer and consequently does not pay a feed-in tariff.

Calculation of annual tariff costs for large consumers

Annual tariff costs are calculated using the customer's tariff basis (MW) multiplied by the tariff rate for large consumers.

The tariff basis for large consumption is the average power consumption during the peak load hour per connection point over the last 5 years, multiplied by the k-factor of that point.
The tariff rate for large consumers will be 50 per cent of the fixed tariff for consumption for the actual year.

Annual cost is calculated using the following formula:

Average consumption during peak load (MW) *k-factor for the connection point * (tariff rate for consumption*0,5)

The basis for calculating the customer's consumption, individual reduction and total cost per year are displayed on the login page at NettWeb. (Norwegian pages only)

Tariffs for reactive power

Withdrawal of reactive power can be a problem for the operation of the transmission network. Tariffing of reactive power shall contribute to the installation of compensation systems where there is a need for this.

Settlement basis reactive effect

For each quarter, the 90th percentile of the reactive exchange is calculated. The settlement basis is set at the highest quarterly 90th percentile. By using this methodology, it is ensured that the customer is held responsible for the level of reactive withdrawal for which they are responsible.

Invoicing of reactive effect

Based on hourly values, the 90th percentile is calculated from the quarter's measured reactive exchange. This will form the basis for quarterly invoicing. Invoicing in the previous quarter will be considered if the later quarter shows higher withdrawals. This means that only excess withdrawals from previous invoice bases will be tariffed. See example below:

Quarter	90-persentil	Basis	Basis for quarterly invoice	Comments
Q1	20	**20**	20-10 = **10**	10 MVAr is included in general tariffs
Q2	50	50-20 = **30**	**30**	Excess withdrawals ir. Q1
Q3	45	**0**	**0**	Withdrawals lower than Q2
Q4	30	**0**	**0**	Withdrawals lower than Q2

Other guidelines for tariffing reactive exchanges are:

- It shall be measured at all exchange points towards the transmission network.
- Where customers operate a coherent network, we will look at the customer's net exchange.
- Pure production points are not tariffed.
- A deduction of 10 MVAr is made on the invoice basis which will be included in the general tariffs. For continuous networks, 15 MVAr has been deducted.

In the case of long-term connection images where Statnett, as system manager, imposes a higher reactive withdrawal on customers than 10 MVAr (15 MVAr for continuous networks), the customer is asked to contact Statnett for a revised settlement basis.

Miscellaneous

Billing

- The energy component is invoiced weekly
- Fixed tariff components are invoiced monthly
- Reactive power is invoiced quarterly

Deadline for reporting and controlling billing data

The fixed tariff components are based on several data (annual production, power consumption during peak load, annual power consumption etc.). The data is retrieved automatically where possible and through separate reporting from customers.

Settlement data per customer will at all times appear on the customer portal Nettweb. (Norwegian sites only)
Settlement data must be posted on the customer portal no later than 1 October of the previous year.

Tariff rates for 2024

The energy component

The energy component is the product of the applicable margin loss rate, area price and net consumption/feed-in at the relevant exchange point hour by hour.

As a result of very high power prices in 2022 with high energy costs for consumers, a ceiling has been set on the power price that forms the basis for calculating the energy component. The ceiling should not be set lower than 35 øre/kWh.

This has a duration until the end of 2024.

Energy component (NOK) = area price (NOK/MWh) * margin loss rate (%) * energy consumption/feed-in (MWh)

Margin loss rates are calculated weekly. These are distributed and posted on Statnett's website by Friday at 12 noon of the week before the new rates are applicable.

Fixed components

The 2024 tariff rates for fixed components are as follows:

	Tariffs 2024
Consumption	NOK 270/kW
Tariff reduction for large consumption	50%
Producers - Feed-in tariff	NOK 12,4/MWh
Producers - Surcharge for system services (production)	NOK 2,5/MWh
Reactive power > 10 MVAr (15 MVAr for continuous networks)	NOK 40/kVAr

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