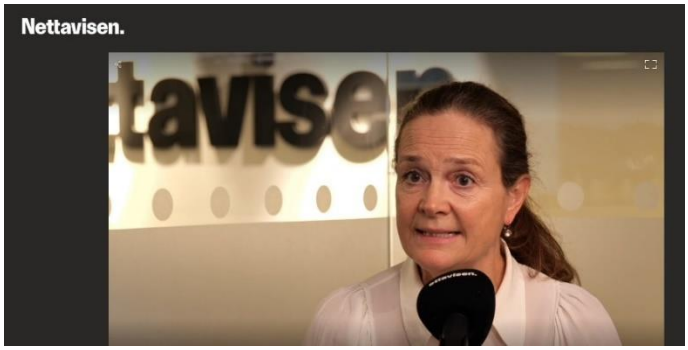
The Norwegian Dilemma

On February 26, 2024, the Norwegian minervanett.no published a highly critical commentary with the title: *"Full short circuit for the Statnett boss".* The comment was based on a 54-minutes interview on nettavisen.no with Statnett's CEO, *Hilde Tonne*[1].

The comment in minervanett.no begins as follows:

Either fundamental characteristics of the Norwegian power market are completely unknown to Statnett CEO Hilde Tonne, or she is lying. None of the parts are compatible with being a top manager at Statnett.



The comment has the following headings:

- *Delusions about exports*
- *Wrong about power prices*
- *Wrong analysis*
- *Wrong attitudes*

The concluding remark: *Maybe Tonne should find another job.*

Was the comment in minervanett.no fair?

Norwegian anger over high electricity prices

2022	Avg. spot price
	€/MWh
NO1	192,28
NO2	210,99
NO3	41,96
NO4	24,49
NO5	191,83
DK1	218,48
DK2	209,63
DE	234,84

Table 1 – Average spot prices 2022 in Norway, Denmark and Germany

Norway is a major exporter of oil, gas and electricity. Norway has always had lower electricity prices than any other country in Europe, but during the gas crisis in 2022, electricity prices in southern Norway rose together with electricity prices in other European countries.

As Norway simultaneously exported electricity, the common opinion among Norwegians is that everything could have been better without international power links. "Norwegian consumers should keep their own cheap electricity".

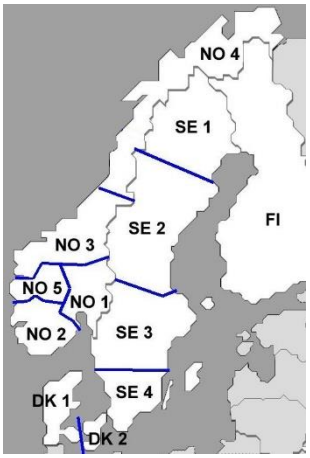


Fig. 1 - Nordic price zones

Therefore, the criticism is directed at the expansion and operation of the interconnectors, which are handled by Statnett. Hilde Tonne had to bear the brunt of this criticism in the interview on nettavisen.no.

Consumers and suppliers of electricity have different interests. Consumers want low prices, while suppliers benefit from high prices. Norway has been a pioneer in the development of

[1] https://www.nettavisen.no/okonomi/statnett-sjef-hilde-tonne-hos-stavrum-og-eikeland-se-hele-intervjuet/v/5-95-1662533

an electricity market which sets prices optimally. Due to the extent of the country, the prices are calculated for 5 price areas (fig. 1).

In the southern Norway, demand from the interconnections to Denmark, Germany, the Netherlands and Great Britain caused electricity prices to approach the level on the continent (table 1).

This is a consequence of the fact that Norway has to follow the rules for electricity trading in Europe. There is little understanding among Norwegian electricity consumers that Norway cannot simultaneously participate in a European market and determine wholesale prices locally.

The reason for the price differences is bottlenecks between the price areas in the Norwegian transmission network. Statnett thus bears part of the responsibility for the problems. However, we do not know whether a stronger Norwegian grid would have resulted in lower prices in the south or higher prices in the north or both.

The bottleneck income

At the beginning of the interview, Hilde Tonne had to explain the bottlenecks and the bottleneck income.

In 2022, the price differences have created large revenues for the network owners on both sides of the bottlenecks.

The criticism is that Statnett makes money from foreign trade, which is at the expense of Norwegian electricity consumers.

Hilde Tonne explains that Statnett uses these revenues for investments in network reinforcements, but she covers a vulnerable flank by mentioning that more could have been invested in the past.

Had Norwegian electricity consumers been better off in the last 30 years without international links?

Hilde Tonne replied that the interconnectors have been an advantage overall because they are used for both import and export. The fluctuations in wind power mean that Norway can often import electricity at a price of zero and below. In dry years, the alternative to imports is electricity rationing.

Norwegian climate targets require that 30 TWh of new green energy be procured by 2030. Hilde Tonne finds it hard to believe that this will succeed in Norway, but Statnett works on this premise. It is difficult to build new production in Norway, and Norway is heading towards an energy deficit after 2027. Southern Norway in particular will then become dependent on supplies from abroad.

Norway has become an integral part of Europe. It has become Norway's role to house electricity-consuming industries. This is something that Norway lives on. Statnett must ensure access to the transmission network for everyone. Any restriction must be based on political decisions.

Onshore wind power can improve the overall energy balance on the Norwegian electricity market. New transmission lines must be built in preparation for a possible expansion with wind power. To the criticism of building lines without security for the need, Hilde Tonne says that it is the question of the chicken or the egg. There will be no wind power without security for transmission.

Do politicians understand the consequences of their policies?

Hilde Tonne thinks that Norwegian energy politicians have a good understanding of the power system. She emphasizes two matters:

1 - Norway has made a lot of money from the energy crisis in 2022, and despite the increased electricity price, Norwegian consumers had cheaper electricity than consumers in Sweden and in all other European countries.
2 - In Sweden and Denmark, the people want wind power to be built on land. This is not the case in Norway, because wind energy is perceived as too expensive. But the time when energy is free in Norway is over. The green transition will require great determination from the politicians.

It is an exaggeration that people in Denmark demand more wind power on land.

Question: Cheap electricity is a strong desire for Norwegians. Couldn't that be secured by avoiding electricity export?

Hilde Tonne points out that Norway lives by exporting energy, but she predicts that the demand for oil and gas will drop. Even in Norway, you will have to replace local combustion by something that is supplied through a power grid.

It will require large investments in transmission and preferably at the forefront of demand. It is urgent. 2030 is today and 2050 is tomorrow. It is the task of the politicians to decide on the necessary new facilities.

The creation of added value must take place locally, where the electricity is produced, and the municipalities must be allowed to develop as power municipalities and reap the benefits.

Will nuclear power be introduced before 2050?

Hilde Tonne is convinced that safer nuclear power and better solutions for the storage of nuclear waste will have been developed by 2050. Based on Finnish experience, she sees high cost and long lead times for nuclear power.

However, she emphasizes that more research must be done in nuclear power and she also mentions the future possibility of smaller and more flexible types of nuclear power plants.

Will Norway experience prioritized grid access after 2030?

Norway has a strong tradition of striving for socio-economic solutions. This applies to the large state-owned companies and also Statnett. This means that you have to look at both costs and benefits. Possible loss of benefits must also be taken into account, e.g. if companies move to Sweden. We do not have examples of overinvestment in the transmission network, but the opposite may have occurred. Statnett must therefore take the lead with investments.

Statnett has a queue of companies waiting for network access. Without investments in Norwegian networks, Sweden will have lower electricity prices than Norway in 2030. With the current planning, both Sweden, Finland and Denmark will have a power surplus in 2030, but not Norway and especially not the southern Norway.

Whether new and old companies choose to invest in Norway or Sweden depends both on electricity prices and network access. It is important for Norway to continue to be able to serve companies, as otherwise it will go backwards for the Norwegian economy.

Wind power creates a volatile electricity market.

Wind power varies between 0% and 100%, and this creates the large price variations. Precisely that requires grid reinforcements and large investments in automated balancing. Hilde Tonne emphasizes that precisely balancing is a main task for Statnett.

The unregulated wind power must be balanced with dispatchable production, which Norway is lucky enough to have in the form of hydropower and large water reservoirs. It even provides opportunities for export and additional income.

What will the future electricity prices be like in Southern and Northern Norway?

Balancing will be especially difficult in Northern Norway. If it gets dark, there are two options:
1 - Gas power as a backup allows Statnett to take greater risks
2 - Increased flexibility with customers in the form of "agreements on terms"

That discussion is becoming more and more concrete in Finmark. There will also be a significant expansion with wind power in Finmark. The necessary changes will require an early and continuous dialogue.

Should the concession on Skagerrak 1 and 2 be extended?

Foreign connections are crucial parts of balancing the Norwegian power system. It is therefore difficult to imagine reducing their capacity. There are various options for the future development of the connection to Denmark, which are currently being discussed with the Danish system operator, Energinet.

A balancing act

In the interview, Hilde Tonne defended the market system, the international trade and Norway's political decision-makers. She strongly argues for new investments in the Norwegian transmission system because she expects an increase in electricity consumption and because she fears that poorer grid access could cause Norwegian companies to move abroad.

The increased electricity consumption will, on average, result in a negative power balance in Norway from 2027. As the opportunities to expand Norwegian hydropower are small, Hilde Tonne wants to pave the way for onshore wind power by building the necessary connection network in advance.

I don't see how she could have done anything else. Therefore, I also consider the sharp criticism to be inappropriate and an expression of the polarization of the current Norwegian debate.