



## A date-based stop rule in 2030 serves a killing blow to the elcertificate price

*After a long wait, market participants and analysts were taken by surprise when the Swedish and Norwegian regulators suggested a date-based stop rule for the elcertificate market this Tuesday. The news sent the elcertificate price down by 18%. However, with rapidly declining wind power costs and positive prospects for future power prices, projects are profitable without elcertificates and THEMA expects the current high investment rate to continue. As a result, the target of 46.4 TWh of new capacity will be reached early in the 2020-ies and we expect a large overinvestment pushing elcertificate prices towards zero.*

### A market-based support scheme leads to an uncertain subsidy level

Sweden and Norway have had a joint market for electricity certificates (elcertificates) since January 1<sup>st</sup>, 2012. The common market was based on the Swedish elcertificate system, dating back to 2003. The elcertificate market constitutes a market-based support scheme. The target for the scheme has been to increase renewable energy production by a total of 28.4 TWh in the two countries combined from 2012 to the end of 2020, and thus contribute to the countries' targets according to the EU Renewable Energy Directive.

In a market-based support system the subsidy level is determined by supply and demand. The theory underlying the elcertificate market is that the elcertificate price would counteract variations in power prices. With falling power prices, elcertificate prices should rise to provide sufficient revenues to allow wind to be built, i.e. covering the marginal Levelized Cost of Energy (LCOE) range of wind power. That is not however, what has happened. Instead, elcertificate prices have been lower and more volatile than expected and have followed the downward movement in the power price. The main drivers for this development have been falling costs of wind power and a large surplus of elcertificates in the market.

In 2016, Norway decided not to extend targets for elcertificates beyond 2020. In June 2017, Norway and Sweden signed an agreement allowing Sweden to unilaterally extend the elcertificate market by ten years and simultaneously increase the investment

target by 18 TWh to 46.4 TWh. According to the agreement Sweden must implement a mechanism to end the market, a so-called stop rule. The design of the stop rule must be in place by the end of 2020.

### The proposed stop rule

The Norwegian Water Resources and Energy Directorate (NVE) presented what they consider to be the most important criteria for the stop rule design at their wind conference in June:

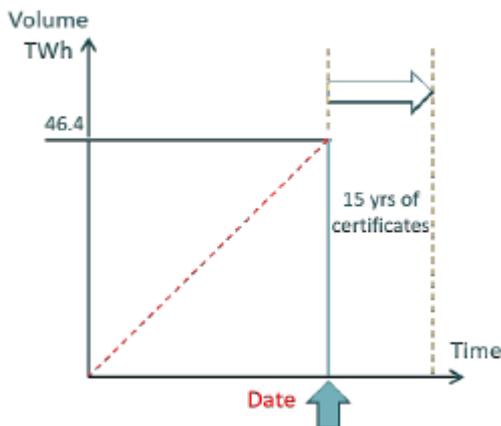
1. Target fulfilment: At least 46.4 TWh renewable generation realised within the elcertificate system
2. Predictability: Transparent whether a project will receive certificates
3. Buildout pace: The rule must handle a high buildout pace
4. Norway independent: The rule should apply regardless of changes in the Norwegian framework for renewable energy
5. Simple and principle based: Based on simple and clear principles rather than the regulator opinions.

Based on these criteria, NVE and The Swedish Energy Agency both recommend the simplest form of a date stop rule, which simply defines a date after which new projects no longer have the right to receive certificates. This stop rule is schematically illustrated in Figure 1. A similar stop rule applies to the common

Swedish-Norwegian elcertificate market (31.12.2021), and still applies to Norwegian projects.

The government has set the annual demand for elcertificates through the quota curve. Projects need to be online (commence operation) before 31/12-2030 in order to be eligible to elcertificates. Eligible projects receive elcertificates for their production for 15 years after start of generation.

Figure 1 Schematic illustration of a date stop in the Swedish extension of the elcertificate market



While an obligation to buy is placed on consumers, the investors decide if and when to invest. The regulators publish quarterly updates on commissioned volumes and projects under construction to inform investment decisions. Thus, it is up to investors to judge how far we are from the targeted volume of 46.4 TWh.

### Overinvestments and collapsing elcertificate prices will be the result of a date stop in 2030

The proposed date stop meets all but the third criteria and involves an uncertainty related the total volume in the market. If the current investment level is sustained, the target will be reached as early as 2021. As the date stop is set for 2030, the chance of a scarcity of elcertificates will disappear, and prices are expected to collapse.

So why would the regulators choose a stop rule that is likely to lead to a market collapse? The Swedish Energy Agency's assessment is that the target of 46.4 TWh of renewable electricity generation will be achieved without intervention in the market. As we already are very close to reaching the target, based on capacity already in the market, as well as new projects under construction and known investments decisions, all analysts would agree with this statement. The regulator further writes: "Therefore, there is no reason for implementing a stop mechanism aimed at keeping the price of elcertificates up by balancing supply and demand for elcertificates". This statement is challenged by many market players. They argue that a price collapse will hurt the pioneers in the market, the firms which invested in wind power in the initial stages of the system when wind power costs were high and

income from elcertificates was key to making profitable investments.

The counter argument is that the elcertificate system is a market-based support scheme with an uncertain subsidy level. Those investing in the market have been aware of this uncertainty and have voluntarily taken the associated risk. The regulators have also been clear that they do not see it as their task to secure a certain price level in the market. In fairness, the argument has also been used by the regulators in the past, and adjustments in the quota curve have been based on a predefined mechanical approach to secure a stable and transparent market framework.

Further, the Swedish Energy Agency's analysis shows that the surplus of electricity certificates will be extensive after 2020 because of early investments in renewable electricity generation. Predictions are that, regardless of the chosen stop mechanism, elcertificate prices would be low until the surplus is removed. This would, according to the regulator, also apply to a volume-based stop rule due to the current large surplus of elcertificates. The surplus could however be reduced by moving volumes from the latter part of the quota curve to the front end.

### Summing up

The proposal from the regulators is now submitted for public consultation with a deadline on April 5th, 2019, before a final suggestion is sent to the Swedish parliament. If the parliament adopts the proposal, the market will be overinvested, and prices are likely to rapidly approach zero. This will first and foremost challenge the profitability of existing, early investments that rely on income from elcertificates. The result can be bankruptcies for smaller wind investors and an increasing market for selling old (stranded) wind projects.

Nevertheless, new investments will most likely continue to come online as many new projects today are profitable without income from elcertificates. Fast technological progress in combination with new entrants with lower return expectations have contributed to the current overinvestment. Thus, there is no risk that the target will not be met.

The risk for investors has been larger than expected. Experience shows that market-based support schemes do not necessarily behave as theory predicts. In future, we might therefore expect market players to be more reluctant to be early movers in market-based support schemes, where rapid technological developments may be expected to lead to falling subsidy levels.

The hearing process on the proposed stop rule has already started, and market players can submit their views to the governments by April 5<sup>th</sup> 2019.

*For more information, please contact Marius Holm Rennesund (mhr@thema.no)*