

Conclusions of the National Audit Office

Feed-in tariff as an instrument for subsidising wind power

The Act on Production Subsidies for Electricity Produced from Renewable Energy Sources (1396/2010) entered into force in spring 2011. The aim was to create a subsidy scheme that would lead to a sufficiently rapid increase in renewable electricity production, improve the competitiveness of renewable energy sources in relation to fossil fuels and help Finland to diversify its electricity production. It was also hoped that the subsidy scheme would make Finland more self-sufficient in energy. The act contains provisions on production subsidies, which are currently paid from state funds to electricity produced from wind power, biogas, wood-based fuels and forest chips. The feed-in tariff paid to the producers of wind electricity was reviewed in the audit. The purpose of the audit was to examine and assess the legislative drafting process concerning the feed-in tariff system and the cost-effectiveness of the subsidy scheme.

The aim in the legislative drafting process was to implement the EU-wide energy and climate targets and the targets approved at national level

The drafting process was initiated in 2008 in accordance with the targets laid down at EU level and included in the Government Programme. The timetable was tight and the problem in the drafting process was how to select the right type of subsidy and how to assess the effectiveness of the subsidy scheme. The Government was not able to draw on the experiences of other countries when deciding on what type of subsidy to use and how to assess its effectiveness. The production of wind electricity in Finland was effectively started from zero. Increasing the production of electricity from renewable energy sources on the basis of national legislation in internationally steered and regulated market can only have limited effects and the effects are also difficult to anticipate. However, the subsidy scheme has helped Finland to become a producer of wind electricity and the production targets set are likely to be achieved. Furthermore, the proportion of renewable electricity production of all electricity generated in Finland is now at the level set out in the targets.

Budget-funded model was chosen even though a working group had proposed a fee-based model

The working group appointed in 2008 to prepare a proposal for a subsidy scheme drafted a model that would have been funded with fees collected from electricity users. This also remained the position of the working group after the proposal had been circulated for comments. In its final report in 2009, the working group stated that a more comprehensive legislative drafting process would be required before the Government can submit its proposal to Parliament. Based on an expert opinion and an opinion issued by the Constitutional Law Committee, the Government decided to submit a proposal to Parliament in which the subsidy scheme is funded from the state budget. It was also considered that a budget-funded scheme would be easier to administer and that it would be more unambiguous from the perspective of the EU legislation. The cost estimates were based on the

calculations produced by the working group. Under the Government proposal, the subsidies would be paid for 12 years and, to encourage a rapid growth in Finland's wind power capacity, it was also decided that higher target prices would be paid until the end of 2015.

The adoption of a budget-funded model and target prices meant that another statutory expenditure item was added to the state budget.

[The working group prepared its proposal thoroughly but the prerequisites for building wind power were inadequately assessed](#)

The Government proposal for increasing the use of renewable energy sources was based on a thoroughly prepared proposal by a working group, which had also been circulated for comments. However, after the act had entered into force, wind power projects encountered numerous obstacles that concerned environmental issues and permit matters. As result, there were substantial delays in the construction of wind power capacity. The way in which the planned legislation would relate to the authorities in other administrative branches was not considered by the working group or in the Government proposal. The matters concerning the issuing of permits and the number of permits to be issued only came to the fore after the act had entered into force.

[A scheme based on target-priced feed-in tariff shifts the market price risk to taxpayers and weakens cost-effectiveness](#)

It is becoming clear that subsidising wind power with a feed-in tariff based on target prices is more expensive than originally expected. In its proposal, the Government estimated that the subsidies would total between 1.7 and 2.5 billion euros, depending on the trends in the market price of electricity. A substantial and possibly permanent fall in the market price (from about 50 to 30 euros per megawatt hour) may lead to a situation where the total subsidies will exceed three billion euros during the subsidy period ending in 2030. So far, Finnish wind electricity producers have received about 300 million euros in subsidies. Finland's wind power capacity has grown tenfold since 2009 and it totalled about 1,550 megawatts at the end of 2016.

When the market prices are low, the proportion paid as subsidies will remain high, which means that the scheme will not encourage cost-effective electricity production. Conversely, higher market prices will mean lower subsidies and more cost-effective energy production. Market prices, wind power capacity and windiness (which may vary by as much as 20 per cent each year) are the factors determining how much wind electricity production subsidies will be paid from state funds between 2017 and 2030.

For electricity producers, feed-in tariff is a secure source of subsidy but from the perspective of the management and steering of central government expenditure, it is an inflexible arrangement. During the subsidy period, it will be nearly impossible to review the scheme from the perspective of its costs and appropriateness if conditions change.

[The Government presented Finland's new energy and climate strategy in 2016](#)

The Government presented Finland's new energy and climate strategy in November 2016. According to the strategy, Finland will work to achieve its energy and climate policy targets concerning renewable energy and self-sufficiency in electricity and heat production by

increasing the use of bioenergy. Except for the investments coming under the existing subsidy schemes, no further investments will be made in wind power or solar energy. In its strategy, the Government proposes a new production subsidy based on competitive tendering.

Recommendations of the National Audit Office

1. Ensuring the adjustability of the subsidy scheme should be a consideration during the preparatory stage so that the scheme would be more cost-effective and serve as a stronger steering instrument. When the aim is to have a cost-effective subsidy scheme that can be applied as an effective steering instrument, the scheme should include tools that allow its use as a steering instrument during the subsidy period.
2. When subsidy schemes are developed, consideration should also be given to alternative subsidy arrangements and to incentives that do not increase central government spending.