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Small-scale Green Energy Bill – select comparative microgeneration support schemes

Introduction

This Briefing Note supplements the Northern Ireland Assembly Research and Information Service (RaISe) Bill Paper on the Small-scale Green Energy Bill (NIAR 217-21¹). It addresses questions raised by the Committee for the Economy (the Committee) during RaISe's oral presentation of the Bill Paper at the Committee's 17 November 2021 meeting – specifically microgeneration support schemes in other jurisdictions. The Note outlines a selection of such schemes, to examine the:

1. Length of contract offered under those support schemes; and,
2. Threshold used to determine electricity supplier participation in those support schemes where such a threshold applies.

¹ Northern Ireland Assembly Research and Information Service, Small-Scale Green Energy Bill 26 October 2021
<http://www.niassembly.gov.uk/globalassets/documents/raise/publications/2017-2022/2021/economy/7621.pdf>

1 Comparison of microgeneration support schemes across jurisdictions

To address the two points raised by the Committee, Table 1 provides a comparison of a selection of microgeneration support schemes in a range of European jurisdictions. The Table specifically focuses on the length of contract offered in each scheme, and any threshold on electricity supplier participation that is included in the terms of each scheme. Their selection is based on the operation of the given microgeneration support scheme within a specific jurisdiction and the availability of sufficient information in English to allow for a firm conclusion on the two key noted areas of interest.

Table 1 shows that a number of support types have been employed across the jurisdictions examined:

- **Feed-in tariffs**, which provide renewable electricity generators with a guaranteed income for the electricity they generate over a specific contracted period. The rate received is set by government.²
- **Feed-in premiums**, which specify that generators receive a premium on top of the market price of electricity they produce. Under such schemes, the premium may be fixed or sliding. In cases where the premium is fixed, it is paid at a constant level independent of market prices. In the case of a sliding scheme support levels fluctuate in response to changes in electricity market prices.³
- **Renewable energy certificates**, which provide that generators receive a certificates for each specified amount of energy they produce. These certificates are then traded, giving the generator access to two incomes, one from the sale of electricity, the other from the sale of renewable energy certificates.⁴ The Northern Ireland Renewable Obligation (NIRO) was an example of such a scheme.
- **Smart export guaranteed (SEG)**, which recently was introduced in Great Britain (GB), to place an obligation on suppliers with a certain number of customers, in order to provide generators with an export tariff. Under the SEG suppliers can set the level of export tariff and length of contract they offer.⁵

Looking first at the length of contract offered across the jurisdictions examined, it is clear that all examined schemes included some form of time limit on support. The length of that time limit ranges from 12 years for specific technologies under France's feed-in tariff, to 30 years for hydro plants supported under the Czech Republic's feed-in tariff scheme. The comparison also showed that contracts lengths often vary within schemes, with the length of contract dependent on the type of technology to be supported. The GB SEG was an outlier amongst those examined. It was the only

² The European Environment Agency, EEA Glossary, Feed-in tariff (accessed 2 December 2021) <https://www.eea.europa.eu/help/glossary/eea-glossary/feed-in-tariff>

³ Energypedia, feed-in premiums [https://energypedia.info/wiki/Feed-in_Premiums_\(FIP\)](https://energypedia.info/wiki/Feed-in_Premiums_(FIP))

⁴ Thomson Practical Law, Renewable Energy Certificate (access 30 November 2021) [https://uk.practicallaw.thomsonreuters.com/8-520-5422?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/8-520-5422?transitionType=Default&contextData=(sc.Default)&firstPage=true)

⁵ Ofgem, About the Smart Export Guarantee (accessed 30 November 2021) <https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg/about-smart-export-guarantee-seg>

scheme in which the length of contract was to be determined by the supplier, rather than government.

On the question of the threshold used to determine electricity supplier participation in a support scheme; two of the schemes examined included an explicit threshold. These were the GB feed-in tariff and its replacement scheme the GB SEG. In both cases a supplier's mandatory participation in the scheme was determined by customer numbers. In the case of the GB feed-in tariff, the threshold for mandatory participation was 250,000 customers or more.⁶ In the case of the GB SEG, the threshold for mandatory participation was 150,000.⁷ In both cases, suppliers which did not meet the schemes' thresholds could choose to participate voluntarily.

In a further two cases, there were apparent rules around supplier participation. In France, the largely state owned EDF (Électricité de France) is obliged to enter into power purchase agreements (PPAs) with renewable generators; whilst other "actors approved by the state" may voluntarily enter in such agreements. Insufficient information was available in English to determine the criteria that would enable a supplier to become an "actor approved by the state".⁸

Similarly, in Poland "obligated suppliers" are required to enter in to PPAs with microgenerators. Again, insufficient information was available in English to determine the criteria that enabled a supplier to become an "obligated supplier".⁹

In all other jurisdictions examined, no apparent thresholds for supplier participation were found. There were two main reasons for this:

- That all suppliers within the jurisdiction were required to participate. For example, this was the case with the NIRO; or,
- Payments under the scheme were not made by suppliers, but by another actor in the given energy market. For example, the grid operator in Germany, or the Ministry of Energy Utilities and Climate in Denmark.

⁶ Ofgem, Feed-in Tariffs: Guidance for licensed electricity suppliers (10 September 2020) www.ofgem.gov.uk/publications/feed-tariffs-guidance-licensed-electricity-suppliers

⁷ Ofgem, About the Smart Export Guarantee (accessed 30 November 2021) <https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg/about-smart-export-guarantee-seg>

⁸ Ministère de la Transition Écologique Renewable energy support systems (23 July 2021) <https://www.ecologie.gouv.fr/dispositifs-soutien-aux-energies-renouvelables>

⁹ Norton Rose Fulbright, A guide to support for Policy renewable energy sources following the 2018 amendments (November 2018) <https://www.nortonrosefulbright.com/en-pl/knowledge/publications/5932a770/a-guide-to-support-for-polish-renewable-energy-sources-following-the-2018-amendments>

Table 1: Comparison of threshold for supplier participation and length of contract for support in microgeneration support schemes in Europe¹⁰

Jurisdiction	Support scheme	Capacity	Threshold for supplier participation	Length of contract
Great Britain	Smart Export Guarantee	Up to 5 megawatts (MW) for solar, wind, hydro and anaerobic digestion. Up to 50 kilowatts (KW) for micro combined heat and power (CHP).	Participation is mandatory for suppliers with 150,000 domestic customers. Suppliers which do not meet the threshold for mandatory participation may voluntarily participate.	To be determined by the supplier
Great Britain	Feed-in tariff (closed to new applicants, but payments continue)	Up to 5MW for solar, wind, hydro and anaerobic digestion. Up to Micro 2KW for CHP.	Participation is mandatory for suppliers with 250,000 domestic customers. Suppliers which do not meet the threshold for mandatory participation may voluntarily participate.	20 years (10 for micro CHP)
Northern Ireland	Micro-Northern Ireland Renewable Obligation NIRO - closed to new applicants, but payments continue)	Less than or equal to 50kW for solar, wind, hydro and anaerobic digestion.	Non-applicable, " ...each electricity supplier supplying electricity in Northern Ireland " is required to meet renewable obligation under the scheme.	20 years
Austria	Feed-in tariff (to be replaced by feed-in premium at the end of 2021, subject to European Commission approval)	All renewable technologies included in principle. Solar installations must exceed 5KW and hydro plants are eligible up to 2MW.	Non-applicable, renewable electricity is purchased by the " Clearing and Settlement Agency " (CSA) at the feed-in tariff level set by the government. The CSA is a private enterprise set up under the Green Electricity Act 2012. The electricity purchased by the CSA is then sold to traders which sell it on the wholesale market.	13-15 years (depending on technology)

¹⁰ Compiled by RaISe, references to original source of information are hyperlink within table text.

Jurisdiction	Support scheme	Capacity	Threshold for supplier participation	Length of contract
Czech Republic	Feed-in tariff	Varies by technology: - Wind <= 100kW; - Solar <= 30kW; - Geothermal <=100kw; - Hydro <=10MW; - Biomass <=100kW; and, - Biogas - no stated upper threshold, but must be CHP.	Non-applicable payments under the scheme are made by the grid operator.	20 years (30 for hydro plants)
France	Purchase obligation contracts (feed-in tariff)	<=100kw	EDF and local distributions are obliged to purchase electricity from renewable generators, but state "approved" organisation may choose to enter into a purchase obligation with a producer. No further detail on the state approval process could be located. As of November 2020, an additional 13 suppliers were approved to purchase electricity from renewable generators.	12-20 years (depending on technology)
Poland	Feed-in tariff	<=50kW	"Obligated suppliers" are required to enter into power purchase agreements, with microgenerators to purchase electricity. Further details on what qualifies as supplier as an "obligated supplier" could not be located for purposes of compiling this Note.	15 years
Germany	Feed-in tariff	<=100kw	Not applicable. Feed-in tariff is paid by the grid operator.	10 years
Denmark	Premium Tariff	Technology dependent: - Solar <=6kW - Wind <=25kW - Hydro <=6kW	Premium payable by the Danish Ministry of Energy, Utilities and Climate.	Technology dependent: - Solar: 10 years; - Wind: 12 years; and, - Hydro: 10 years.

Source: Compiled by RaiSe (December 2021, relying on source material embedded here as hyperlinks.)