



An Coimisiún
um Rialáil Fóntais
**Commission for
Regulation of Utilities**

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Remuneration of Renewables Self-consumers' exported electricity:

Interim Clean Export Guarantee

Consultation Paper
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CRU Mission Statement

The CRU's mission is to protect the public interest in Water, Energy and Energy Safety.

The CRU is guided by four strategic priorities that sit alongside the core activities we undertake to deliver on the public interest. These are:

- Deliver sustainable low-carbon solutions with well-regulated markets and networks
- Ensure compliance and accountability through best regulatory practice
- Develop effective communications to support customers and the regulatory process
- Foster and maintain a high-performance culture and organisation to achieve our vision

Executive Summary

Electricity customers who install renewable generation on their own site or premises for the primary purpose of meeting some, or all, of their own electricity demand, may have surplus electricity which exceeds their demand and is exported to the electricity network from time to time. Enabling legislation is being finalised which will provide the CRU with the authority to put arrangements in place for remuneration of such excess, exported electricity.

In advance of the enabling legislative framework being in place, the Department for Environment, Climate and Communications has requested the CRU to commence development of a regulatory framework to ensure that these customers (referred to in the Directive and Irish legislation as “renewables self-consumers”) are paid for the surplus electricity which they export, at a rate for each unit exported (referred to as a Clean Export Guarantee or “CEG” tariff) which is reflective of the market value.

The arrangements for the implementation of the CEG must align with the National Smart Metering Programme. The first phase of upgrading electricity meters to smart meters under the programme concluded earlier this year and Phase 2 has now commenced. The programme will culminate in the installation of over two million smart meters to Irish homes and businesses over the three phases, over a six-year period (2019 - 2025).

An overarching requirement of an interim solution which is consulted on in this paper is that a straightforward, practical framework be put in place, such that it can be implemented quickly and easily, and that it does not detract from the design, development and implementation of a more advanced, enduring solution which will be fully integrated into the retail central market systems in Phase 3 of the National Smart Metering Programme (2023 – 2025).

Nevertheless, the CRU and industry face significant challenges in putting a workable framework in place to enable the CEG remuneration to be effected, which is in addition to the exceptional challenges facing the entire energy sector on account of the transition to smart metering technology, the transformative regulatory changes and reforms required under the Clean Energy Package and within an environment of volatile energy market and commodity prices.

This consultation presents the CRU's proposals for interim arrangements which will apply in the period up to the commencement of an integrated, enduring solution, to align with the end of Phase 3 of the National Smart Metering Programme. The CRU seeks feedback on the specific questions raised in this Consultation Paper, and on the contents of the paper more widely.

The CRU will carry out a review of the arrangements for the CEG after one year of operational data is available to the CRU for analysis.

Note that considerations around the introduction of support schemes, including a premium tariff, are a matter for Government and are not addressed in this CRU consultation.

Public/ Customer Impact Statement

Currently, the vast majority of customers with microgeneration installed do not receive any payment for the excess electricity exported to the grid from their homes or premises.

The implementation of the measures proposed in this consultation paper will ensure that electricity customers who generate renewable electricity to meet their own demand but who are exporting some excess electricity on to the grid are receiving fair remuneration for their exported electricity.

These export payments will be of benefit to more than 23,000 existing renewables self-consumers who have installed renewable generation and will provide a fair remuneration for those who install renewable generation into the future.

Interim arrangements are being put in place by the CRU to provide the remuneration to final customers based primarily on the meter export readings provided by smart meters. A smart meter reading may not be available to some customers, until the National Smart Metering Programme has been fully rolled out. For these customers, the remuneration will be based on an estimate of the electricity which they are deemed to export.

At the conclusion of the National Smart Meter Programme in 2025, the interim arrangements will be replaced by a streamlined, enduring solution for the remuneration of renewables self-consumers based on the metered data from smart meters and full integration with centralised retail and wholesale market systems.

This is a critical step in a transformation which will enable all electricity customers to become more active in energy consumption, storage and production.

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Glossary of Terms and Abbreviations

Abbreviation or Term	Definition or Meaning
CEP	Clean Energy for all Europeans Package
CEP	Clean Energy Premium
DECC	Department of the Environment, Climate and Communications
CEG	Clean Export Guarantee
CEGT	Clean Energy Guarantee Tariff
ESBN	ESB Networks
IGG	Industry Governance Group
IRMMS	Interim Retail Market Microgeneration Solution
MRSO	Meter Registration System Operator
MSS	Microgeneration Support Scheme
MRSO	Meter Registration System Operator
NSMP	National Smart Metering Programme
PV	Photovoltaic
REFIT	Renewable Energy Feed-in Tariff
RED	Renewable Energy Directive
RESS	Renewable Energy Support Scheme
SEMO	Single Electricity Market Operator

1. Introduction

1.1 Background

The Clean Energy for all Europeans Package (the 'CEP') promotes consumer empowerment and participation in the energy sector. The package is made up of eight pieces of legislation that all contain conditions and requirements to facilitate the implementation of more renewable generation and assist in the transition towards the use of more clean energy.

One of the Directives of the CEP currently being transposed into Irish law is the recast Directive on the promotion of the use of energy from renewable sources (EU) 2018/2001 (commonly referred to as 'REDII'). This Directive contains provisions which require Member States to design enabling regulatory frameworks to facilitate the participation of individual consumers in the energy market.

The Directive identifies these participating consumers as 'renewables self-consumers', as defined in Box 1 below.

BOX 1

REDII defines '**renewables self-consumer**' as:

...a final customer operating within its premises located within confined boundaries or, where permitted by a Member State, within other premises, who generates renewable electricity for its own consumption, and who may store or sell self-generated renewable electricity, provided that, for a non-household renewables self-consumer, those activities do not constitute its primary commercial or professional activity.

Under Article 21 paragraph (2)(d) of REDII, renewables self-consumers, individually or through aggregators, are entitled to:

'receive remuneration, including, where applicable, through support schemes, for the self-generated renewable electricity they feed into the grid, which reflects the market value of that electricity and which may take into account its long-term value to the grid, the environment and society'.

Under the 2019 Climate Action Plan and the 2020 Programme for Government, Ireland is committed to supporting the development of microgeneration and the implementation of a solar strategy to assist meeting our 2030 renewable energy ambitions. The Department of the Environment, Climate and Communications (DECC) is developing a Microgeneration Support scheme (MSS) which will deliver a range of measures to support microgeneration in Ireland out to 2030 to meet these commitments and the requirements of the recast Renewable Energy Directive (REDII). The first of these measures is to put into place arrangements which will provide all renewables self-consumers and renewable energy communities remuneration for the electricity which they export to the network.

However, in the short term, the CRU is being tasked by Government with responsibility for the detailed design of a regulatory framework to remunerate renewables self-consumers for the market value of their exported electricity. This is referred to as a Clean Export Guarantee (CEG)¹.

BOX 2

Clean Export Guarantee

The Clean Export Guarantee (CEG) is a mechanism which provides for the remuneration of renewables self-consumers for the surplus electricity which they export to the electricity network, at a rate for each unit exported (referred to as a CEG tariff) which is reflective of the market value.

In 2020, the CRU published an information paper² on microgeneration to inform its work on the topic in future. In that paper, the CRU identified three key principles: –

1. The CRU's approach is to facilitate customers that want to contribute to decarbonisation, enabling a reasonable, market-based price for exports, while avoiding unfair outcomes for customers that do not have the means or opportunity to invest in microgeneration themselves.
2. The CRU wants to support and encourage engaged customers to manage their own demand in an affordable and low-carbon way.
3. The CRU wants to ensure that the network, system operation and market costs associated with the provision of a reliable, safe and secure supply of electricity continue to be attributed in an equitable and transparent way between customers with and without microgeneration.

The CRU's framework, which will take into account the above principles and Government policy, will include interim arrangements for the administration and implementation of the CEG outside of the Central Market Systems for electricity in order to enable renewables self-consumers to be paid for excess renewable electricity they export to the grid. The authority to design, establish and publish a framework to give effect to the entitlement of renewables self-consumers for this remuneration will be conferred upon the CRU through the transposition of Articles 21 and 22 of the Renewable Energy Directive (REDII) into Irish law. This consultation is predicated on the entry into force of a Statutory Instrument (SI), which has been submitted by the Department to the Office of the Parliamentary Counsel (OPC) with a view to transposing these articles into Irish law at the earliest opportunity.

As noted, the CRU considers that these arrangements must align with the phased delivery of the National Smart Metering Programme (NSMP), which will see the installation of over two million smart meters in three phases, over a six-year period (2019 - 2025). Smart services are also being introduced in a phased manner, with an enduring microgeneration solution³ scheduled for delivery at the end of Phase 3 of the NSMP which will be fully integrated into the retail and wholesale

¹ The CEG applies to all renewables self-consumers. Note that existing definitions of microgeneration, particularly including DECC's and ESBN's, are within the scope of "renewables self-consumers", as is defined in RED II.

² Refer to CRU paper "Microgeneration Information" [CRU20174](#)

³ Refer to CRU Information Note "Update on the Smart Meter Upgrade" ([CER17279](#))

Central Market Systems used by suppliers, ESNB and SEMO. The CRU will consult on the policy for the enduring fully integrated microgeneration solution during 2022, with a target for delivering the enduring microgeneration policy by December 2022⁴. In the meantime, the CRU is working with ESB Networks and Suppliers to progress an ‘interim’ microgeneration solution for the intervening period.

Considerations around the introduction of support mechanisms, including premium tariffs, are a matter for Government and are not within the scope of this CRU consultation.

In parallel with the continued roll out of smart meters, the CRU will continue its wider work on the implementation of the Clean Energy Package, in line with the timeline set out in the CRU’s “*Consultation on Energy Communities and Active Consumers*” ([CRU21028](#)).

1.2 Scope of CEG and CRU’s responsibilities

In advance of the enabling legislative framework being in place, the Department has requested the CRU to commence or continue work on the following specific tasks:

Task for which the CRU is responsible	Refer to Section
Implement an enabling framework , as set out in the Regulations that will give effect to the recast Renewable Energy Directive in relation to ensuring renewables self-consumers receive remuneration for exported electricity.	3
Engage with industry to develop and implement an interim microgeneration settlement solution that will facilitate the gathering and sharing of export meter volume data from smart meters by ESNB with suppliers and with the wholesale electricity market.	2.1 2.2
Establish how the tariffs will be implemented and communicate to industry and the general public in line with the CRU’s Regulatory procedures the method of assessing the appropriate tariff value to be introduced and how to define an export tariff which is reflective of market prices if the market rates offered by suppliers are lower than expected.	5
Establish and publish eligibility criteria for the Clean Export Guarantee.	4
Determine a methodology to establish export volumes to be eligible for remuneration for renewables self-consumers in the absence of metered export volumes .	2.2 2.3
Give consideration to the timing of smart meters roll-out to maximise access to the CEG on a metered basis for renewables self-consumers.	2.1

⁴ CRU Information Paper on Phase 2 Scope of the NSMP ([CRU21074](#))

The scope of the framework for CEG which is being developed by the CRU is limited to an interim solution based on the provision of export data to suppliers outside of the retail electricity market Central Market Systems.

In addition to the CEG concept, DECC's consultation on a Microgeneration Support Scheme included considerations around additional financial support mechanisms to promote microgeneration by increasing the financial viability of installations for consumers. This included consideration of mechanisms such as grants to support the installation costs and a premium tariff for exported electricity. **Considerations around the introduction of support schemes, including a premium tariff, are a matter for Government and are not addressed in this CRU consultation.**

1.3 Related Documents

- CRU consultation and call for evidence on Energy Communities and Active Consumers [CRU20099](#)
- CRU's Microgeneration Information Paper [CRU20174](#)
- ESNB's Microgeneration Framework Consultation, May 2020: [LINK](#)
- DECC Microgeneration Support Scheme (MSS) Consultation, January 2021: [LINK](#)

Information on the CRU's role and relevant legislation can be found on the [CRU's website](#).

1.4 Structure of this paper

Section 1 (this section) introduces Clean Export Guarantee and clarifies the scope of this paper and the overarching context of the National Smart Metering Programme.

Section 2 provides information on two scenarios: 1) where a customer's metered export data is available; and 2) where metered export data is not available. Where a customer's metered export data is not available, a formula for calculating an estimate (a *deemed export quantity*) is proposed.

Section 3 provides details surrounding proposed arrangements for the settlement of suppliers' financial positions, resulting from the CEG arrangements.

Section 4 considers issues around the eligibility of customers for remuneration for their exported electricity.

Section 5 outlines the proposed competitive approach of setting a CEG tariff in a deregulated retail market and the provision for setting a floor price by the CRU, if needed.

Section 6 provides – for information only – some updates on connection policy as relates to micro- and mini- generation.

Appendix provides worked examples for the calculation of Deemed Export Quantity.

1.5 Responding to this paper

Comments and feedback on the proposals and questions raised in this Consultation are welcome from interested stakeholders and individuals. This Consultation will be open until 29 October 2021.

Responses to the CRU should be e-mailed to CleanExportRemuneration@CRU.ie.

Note that considerations around the introduction of support schemes, including a premium tariff, are a matter for Government and are not addressed in this CRU consultation.

2. Remuneration

2.1 Centrality of metered export data

In February 2021 the CRU responded to the Department's consultation on a Microgeneration Support Scheme. The CRU proposed to the Department that remuneration for exported electricity should be on the basis of the metered quantity of electricity which is exported to the grid. i.e. only for those renewables self-consumers who have a smart meter installed. However, the CRU acknowledges that some renewables self-consumers, who already have microgeneration installed may have meter types that are not eligible for smart meters at this time under the NSMP. These customers would be disadvantaged as they would be ineligible - for a potentially lengthy period of time - to receive such remuneration. This said, the CRU maintains the strong view, reflected in its response to the Department's consultation on a Micro-generation Support Scheme in January 2021 that the optimal design, and the intent of the Clean Energy Package is that only export that is metered should be remunerated. The NSMP is the vehicle through which a fully-metered solution can be delivered.

In order to determine appropriate remuneration in the absence of an export meter – or where an export meter reading is unavailable - an estimation must be made of each customer's exported electricity. In some jurisdictions, including Northern Ireland and Great Britain, a “deeming” mechanism has been used, whereby an estimation (the “Deemed Quantity”) is made of the exported electricity. Experience of using this mechanism in other jurisdictions has prompted some concerns around accuracy and both NI and GB are in the process of moving away from a deemed approach.

Despite the recognised shortcomings of a deemed approach, the CRU, following close engagement and agreement in principle with the Department, proposes that all renewables self-consumers be remunerated for their exported excess electricity at the earliest possible opportunity.

The CRU proposes that customers are paid based on smart metered export quantities, where possible, and that an estimation of the quantity of exported electricity (refer to Sections 2.3 and 2.4) will be used as a proxy only for customers whose meter types that are not eligible for smart meters at this time under the NSMP. This is only a transitional measure until the full smart meter roll-out is complete. It is the CRU's interpretation of the draft legislation that the need for the deemed approach will cease on completion of Phase 3 of the National Smart Meter Programme, when all customers will have received a smart meter, which will record their export and import, and therefore there will be no customers for whom metered export volumes would not be readily available.

On this basis, the CRU proposes to require a meter be installed for all customers who are eligible under the NSMP before they can become eligible for remuneration for their export. The CRU understands that good progress is already being made by ESBN to ensure that all such eligible renewable self-consumers, that have completed the necessary NC6 forms, will have a smart meter installed in the next number of months.

The CRU therefore encourages all renewable self-consumers to complete an NC6 form⁵ and to contact ESNB to request an accelerated smart meter installation. The CRU will ensure that ESNB installs a smart meter within four months of the renewables self-consumer's request for a smart meter installation, irrespective of whether or not the customer's geographical area is within a designated smart meter deployment planning area.

For customers who are not eligible for a smart meter in the current deployment phase of the smart meter roll-out, the CRU proposes to apply a deemed calculation to these customers' export until such a time when metered export data becomes available.

Question 2.1	Do you agree with this proposal? Please include any additional rationale or basis for your view.
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2.2 Provision of metered export data and deemed export quantities by ESNB

The CRU proposes that the default arrangement relating to the provision of data is that, where smart meter export data are available to ESNB, the data will be made available to the customer's registered supplier by ESNB.

In the absence of a smart metered export quantity for exported electricity, the CRU proposes that a "Deemed Export Quantity" will be calculated by ESNB based on a formula, as proposed in Section 2.3 below, and made available to the customer's registered supplier by ESNB, at a frequency and granularity as yet to be determined by the Interim Retail Market Microgeneration Settlement Working Group. Any adjustment or reconciliation of the Deemed Export Quantity shall originate from ESNB and such volumes may not be adjusted or amended by suppliers.

For the interim CEG solution, the frequency and granularity characteristics of the metered data and deemed export quantities representing the exported electricity for each renewables self-consumer must be provided by ESNB solely to the registered supplier of the renewables self-consumer.

In terms of data-granularity, the CRU notes that there is not a wide range of potential options in terms of data provision by ESNB – either aggregate daily totals, or settlement period data (30 minute data). At this point the CRU is not aware of suppliers' plans as regards the design of export tariffs. However, the CRU understands that suppliers are likely to offer fixed tariffs in the initial period but will move in time to more dynamic tariffing models (for export and import), to maximise the customer benefit of exporting at high-price times. It should be noted however that there is no apparent obstacle to a supplier seeking to offer either a dynamic or alternatively a profiled export tariff from the outset. On this basis, and as part of the enduring microgeneration solution to be developed during 2022, ESNB's systems will need to be designed to make settlement period data available to suppliers. The CRU considers that it would be most efficient if as many features of the

⁵ [micro-generation-notification-form-\(nc6\).pdf \(esbnetworks.ie\)](https://www.esbnetworks.ie/micro-generation-notification-form-(nc6).pdf)

enduring solution could be reflected in the interim solution to minimise costs for suppliers, ESBN and ultimately consumers.

As noted, the modalities of data provision are to be defined as part of the Interim Retail Market Microgeneration Settlement Working Group. In the wholesale electricity market, prices are determined for each half hour period. The CRU’s initial view is that provision of data at a settlement period (30 minute) basis is needed to ensure customers’ rights to an export payment can be properly given effect to, as is required by Directive 944/2019, REDII and Irish law, Furthermore, the CRU is of the view that access to granular export data is also needed to allow each supplier to carry out optimum forecasting of its customers’ electricity needs in the wholesale market without leaving the supplier exposed to what are referred to as system imbalances. Such system imbalances lead to consumer costs as they need to be managed by system operators. In a worst case scenario, these imbalances can lead to system stability risks at high levels of microgeneration penetration on a system, It is likely that customers will also want their suppliers to be able to provide them with up-to-date data on their exports to the grid: this granular data will be central to this.

The CRU is cognisant that questions of data provision come with associated questions on personal data and data privacy. While the CRU recognises that granular export data from a premises can be considered personal data, as per ESBN’s Data Protection Impact Assessment⁶ and Ofgem’s similar review of the Smart Metering programme in Great Britain⁷ the CRU is of the view that export data presents a lower overall risk as compared with import data as regards revealing personal information about a consumer. This is on the basis that export data is significantly less indicative of consumers’ behaviour (e.g. presence in the home as specific hours; use of large-consumption devices) and usually more reflective of the prevailing weather. Similarly, temporal variations in the amounts of electricity exported by individual customers may also be influenced by a range of other factors, such as the presence of a storage device or immersion diverter, or electric vehicle, making it even more difficult to determine a customer’s behaviour patterns from export.

The CRU recognises that granular export data may exhibit some characteristic of personal data. However, on balance, there appears to be clear policy requirements for this information to be made available. Cognisant that such data will be processed by ESBN and by suppliers in full compliance with the applicable data protection regulations, there appears to be little risk to citizens on account of their export data being made available to their registered supplier,

Question 2.2 (a)	Do you agree with this proposal? Please include any additional rationale or basis for your view.
Question 2.2 (b)	Do you think that settlement should occur at some other interval? Please provide your rationale for any alternative suggestion.

⁶ ESBN: “Smart Metering Data Protection Impact Assessments” [\[Link\]](#).

⁷ Ofgem: “Access to half-hourly electricity data for settlement purposes: Data Protection: Impact Assessment” Version 2, June 2019 [\[Link\]](#).

2.3 Determination of Deemed Export Quantity

As noted in Section 2.1, a small number of customers will have meters of a type that are not eligible for a smart meter. For these customers a deemed export quantity will be used as a short term interim measure.

ESBN's existing recording of microgeneration details via the NC6 form under its Install & Fit process does not record or validate certain details relating to microgeneration installations (such as: technology type; installed generation capacity, presence of a battery and its capacity, etc.) of the microgeneration equipment which is installed at each customer's site. This presents a challenge for CRU in defining an estimated export level from renewables self-consumers' premises.

Considering that there is currently a lack of informative interval data to inform the CRU to allow the development of a more accurate calculation, and in the interests of avoiding complexity and the facilitation of a swift implementation for the Interim CEG, the CRU proposes a simple formula for the determination of the Deemed Export Quantity, as set out in Box 3 below.

In the absence of metered export data and the aforementioned attributes of each installation, the CRU proposes to use the MEC⁸ value recorded via ESBN's *Inform and Fit* NC6 form (or other form

BOX 3

Deemed Export Quantity is an estimation, based on the below formula, of exported electricity: it is to be used as a proxy for metered export data, where metered export data is not available.

Deemed Export Quantity = MEC x Capacity Factor x Export Factor x Provision Interval

Where:

- **Deemed Export Quantity** is the quantity of electricity, in kWh, which is determined to be exported, as calculated using this formula.
- **MEC** is a capacity value in units of kW, It is representative of the generation capacity of the installed generation equipment, as declared via ESBN's NC6 form.
- **Capacity Factor** is the ratio of average electricity produced to the theoretical maximum possible if the installed capacity was generating at a maximum for a full year.
- **Export Factor** is the amount of electricity (expressed as a percentage of electricity produced) deemed to be exported, where the metered data is not available.
- **Provision Interval** is the number of hours in the period for which cumulative export quantities are to be calculated and to be made available to suppliers by ESBN.

Note that a number of worked examples are set out in the Appendix to this document.

⁸ As applies to Inform and Fit and the NC6 form, MEC means Maximum Export Capacity and relates to the capability of the generator to export to the grid, as assessed by ESB Networks. In the context of NC6 (and hence CEG) the amount of power exported is limited by the rating of the inverter connecting the generation, so that generation output – and hence MEC – is taken as the inverter rating which are usually sized to match the installed generation.

as may apply to greater capacities) as a key element in the formula for the determination of a Deemed Export Quantity.

The Export Factor is to be applied to all technology types of micro and mini generation installation where the volume of exported electricity is not measured by an export meter or smart meter. The export factor in the UK⁹ is set at 50% for 2021. However, the CRU's view is that this level of deemed export is not suitable for application in Ireland for a number of reasons.

- EU and Irish government policy relating to the facilitation of microgeneration is not geared towards incentivising the export of electricity onto the network, but rather to promote and facilitate the installation of microgeneration at a customer's premises to a level which substantially meets the customer's own demand.
- A key driver of installations of PV in Ireland has been the building regulations, notably *Technical Guidance Document L - Conservation of Fuel and Energy – Dwellings*. On average, 40% of newly built houses in Ireland in 2019 have included PV installations and this is expected to rise to 50% for 2020. The CRU notes that the building regulations have been very effective in incentivising PV in new-build (since 2011), though at a smaller scale than a scale which might increase the amount of self-consumption. The capacities of PV in these schemes are typically less than 2kW: on average about 1.2kW, sized to comply with the building regulations.
- Analysis of the installed base of microgeneration from ESNB indicates that 90% of all microgeneration has been installed in Ireland during the 5-year period 2016-2020, with an average installed MEC during this period of 2.2 kW. Ricardo's advice to Government suggests that 3kW is a good threshold to deliver a 70% self-consumption target (and 30% export) without incentivising the export of electricity onto the network. Consequently, the vast majority of existing installations – with export capacity of 2.2kW, on average – would be expected to export even less than 30% of the electricity produced.

The CRU proposes an Export Factor of 35% to be applied in all cases for the purpose of calculation of Deemed Export Quantity, to reflect the lower levels of installed capacity compared to NI and GB to-date.

The Capacity Factor is proposed to be set at 9.7% for all technology types. This is the average capacity factor of photovoltaic panels, as established by Ricardo¹⁰ as part of their work the Department in the context of the Department's Microgeneration Support Scheme Consultation. As the technology type is not recorded via the NC6 form, the capacity factor of photovoltaics will be applied to all installations as the vast majority¹¹ of microgeneration installations in recent years in Ireland have been PV.

⁹ Determination by the UK's Secretary of State for Business, Energy & Industrial Strategy: [LINK](#)

¹⁰ Ricardo's analysis of the UK residential Feed-in-Tariff system for microgeneration identifies that domestic rooftop PV schemes achieved a capacity factor of approximately 9.7%. Source: Ricardo Economic and Policy Advice to DECC, 12 October 2020.

¹¹ More than 97% of installations in NI and GB are photovoltaic. Source: Ricardo's report to DECC.

The Export Factor and other elements of the Deemed Export Formula will be reviewed as part of the CRU's review of the operation of the CEG arrangements, after the CRU has access to 12 months' export and operational data for analysis.

It is the CRU's view that the deemed calculation should in principle not leave a customer any better off or worse off than if their export was capable of being metered. This means that when performing its review after 12 months of operation of the CEG, the CRU will consider how the deemed calculation has compared to sites with smart meters in place. The CRU's review at that point in time will likely consider whether changes are needed to any of the input parameters to ensure that the deemed calculation is as accurate as possible, when compared to metered sites.

Question 2.3 (a)	Do you agree with this proposal? Please include any additional rationale or basis for your view.
Question 2.3 (b)	Do you think that the Export Factor should be an alternative value? Please provide your rationale for any alternative suggestion.

3. Settlement Solution

3.1 Context

ESBN operate the electricity retail market systems which facilitate the transfer of information – including meter readings - on customers’ consumption and export of electricity from ESBN to the electricity supply companies operating in the retail market. These centralised retail market systems are a core component of retail market competition in Ireland and are undergoing significant changes to facilitate the introduction of smart metering. The change to these systems to give effect to the remuneration of renewables self-consumers for their exported electricity via the Clean Export Guarantee is being developed in a phased manner which – in the shorter term - will entail putting in place interim arrangement for remuneration but will lead to an enduring solution with fully adapted retail systems by the end of Phase 3 of the National Smart Metering Programme¹².

The interim solution is being put in place in order to expedite the remuneration of all renewables self-consumers for their exported electricity. Therefore, there is a need to provide as simple a solution as possible, which can be developed and implemented quickly, but which delivers a fair remuneration to renewables self-consumers.

3.2 Wholesale market settlement process

The wholesale market settlement process is the mechanism for each supply company to recoup – at market rates - the monies, in aggregate, paid out by the supplier to remunerate its own customers (i.e. renewables self-consumers) for the electricity which they export to the grid. This mechanism for the recompense of suppliers is effected by centralised wholesale market systems and is of concern for suppliers rather than for renewables self consumers.

On a periodic basis, information will be made available by ESBN for the quantity of export (both metered and deemed) purchased over a certain designated period for each Supplier Unit. There are a number of potential ways this information could be used for wholesale market settlement so that Suppliers see a benefit for their purchase of exported electricity – in aggregate - from their customers.

The detailed arrangements for the settlement of suppliers are to be developed and confirmed through the Interim Retail Market Microgeneration Settlement Working Group,

The CRU proposes that the arrangements for wholesale market would occur at M+13. This is in line with practice in Northern Ireland, and also provides time for design and implementation of a solution to ensure appropriate credit being applied to suppliers for both metered and deemed volumes of export from their registered renewable self-consumers, from the day that the requirement is implemented into Irish law.

¹² The following paper on Phase 2 of the NSMP also includes information on Phase 3:
<https://mk0cruieqjtk6utoah.kinstacdn.com/wp-content/uploads/2021/07/CRU21074-CRU-Information-Paper-on-Phase-2-Scope-of-the-NSMP.pdf>

Question 3.2 (a)	Do you agree with this proposal? Please include any additional rationale or basis for your view.
Question 3.2 (b)	Do you think that settlement should occur at some other interval? Please provide rationale for any alternative suggestion.

3.3 Transitional arrangements

Eligibility for CEG remuneration will commence from the date of enactment by the legislation (“Day 1”) for all eligible customers with renewable technology installed and declared (i.e. NC6 form completed and submitted to ESNB, as applicable), and - where relevant - a smart meter is installed.

The CRU understands that ESNB will be capable of making the granular interval export data¹³ and 24hr cumulative export data available to suppliers from Day 1.

The CRU anticipates a need – subject to the enabling legislation - for remuneration to be made by suppliers for the transition period back to Day 1.

The CRU’s proposed approach is for suppliers to be able to access export data extending back to Day 1 stored on the ESNB systems. However, it is possible that Suppliers’ respective ad-hoc retail systems will not immediately be ready to manage export data for Day 1 and to effect remuneration to exporting customers. Hence, the expectation is that the first customer statement of export remuneration from each supplier will include the retrospective payment, together with the current absolute meter reading for export corresponding to Day 1, or later day when the smart meter is first installed.

The granularity of such export data and the frequency of provision by ESNB is proposed by the CRU to be no different to the solution for the interim solution, as per Section 2.2 of this consultation.

Question 3.3	Do you agree with this proposal? Please include any additional rationale or basis for your view.
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¹³ Export Data here is nominally metered data, but is the calculated Deemed Export Quantity where metered data is not available.

3.4 Switching to a new supplier

A connection for a renewables self-consumer has a single MPRN associated with a single smart meter, which records both import and export separately. Therefore, the import is tied with the export. Consequently, the customer can only switch demand and export together. For this interim CEG solution, it will not be possible to have one supplier for import/demand and a different supplier/service-provider for exported electricity.

A more flexible switching arrangement will be considered for the enduring CEG Solution as part of the enduring microgeneration policy under the NSMP.

3.5 Suppliers' statement of remuneration

The CRU proposes that suppliers must provide a record to their customers of the quantity of exported electricity which they are being remunerated for, the start and end dates to which the meter reading or deemed quantity of exported electricity applies, and the export-tariff rate which the supplier has offered and contracted with its customer. For the interim solution, the CRU proposes arrangements which can be implemented quickly, Therefore, the CRU proposes that these export details may be incorporated by suppliers by adding export details to the existing customer bills, which cater for imported electricity. Alternatively, these details may be in the form of a separate export remuneration statement from the supplier at intervals yet to be defined as part of the IRMMS WG.

4. Eligibility for remuneration via CEG

The CRU proposes that a renewables self-consumer is eligible for remuneration for exported electricity if the following criteria are met:

- the renewables self-consumer must be exporting electricity to the network;
- the renewables-self consumer has informed ESNB via a declaration using the NC6 form¹⁴ that they have installed microgeneration;
- if the renewables self-consumer's meter type is eligible for a smart meter installation, under the NSMP, they must have a smart meter installed to meter their exported electricity; and
- if the renewables self-consumer's meter type is not eligible for a smart meter installation, under the NSMP at this time, they will be eligible for remuneration based on a deemed export calculation.

If a customer with installed microgeneration is unsure as to whether they have a MEC (or whether an MEC has been declared to ESNB on their behalf, such as via the NC6 form) they should contact ESNB at networkservicesbureau@esb.ie.

As noted, the CRU is of the view that all remunerated export volume should be metered and that the deemed approach is only a short-term interim measure. Once a customer's meter type is eligible for a smart meter installation, the customer will be contacted by ESNB to arrange the installation of their smart meter. The CRU is of the view that consideration would need to be given as to whether settlement on a deemed basis should continue, where a customer delays or avoids the installation of their smart meter.

Question 4 (a)	Do you agree with the CRU's proposals regarding eligibility for remuneration? Please include any additional rationale or basis for your view.
Question 4 (b)	Do you think that other eligibility criteria should apply? Please provide rationale for any alternative suggestion.

¹⁴ For the majority of customers this is an NC6 form, but for certain customers this may be an NC% or NC7 form, etc.

5. CEG tariff and review of CEG operation

5.1 Setting CEG tariff and provision for a floor tariff

The monthly average Day-Ahead Market (DAM) price for electricity on the wholesale market has experienced significant volatility over the past number of years. Since the commencement of the revised Single Electricity Market arrangements in October 2018, the monthly average DAM has fluctuated in the range €24/MWh to €143/MWh, as is illustrated in Figure 5.1.

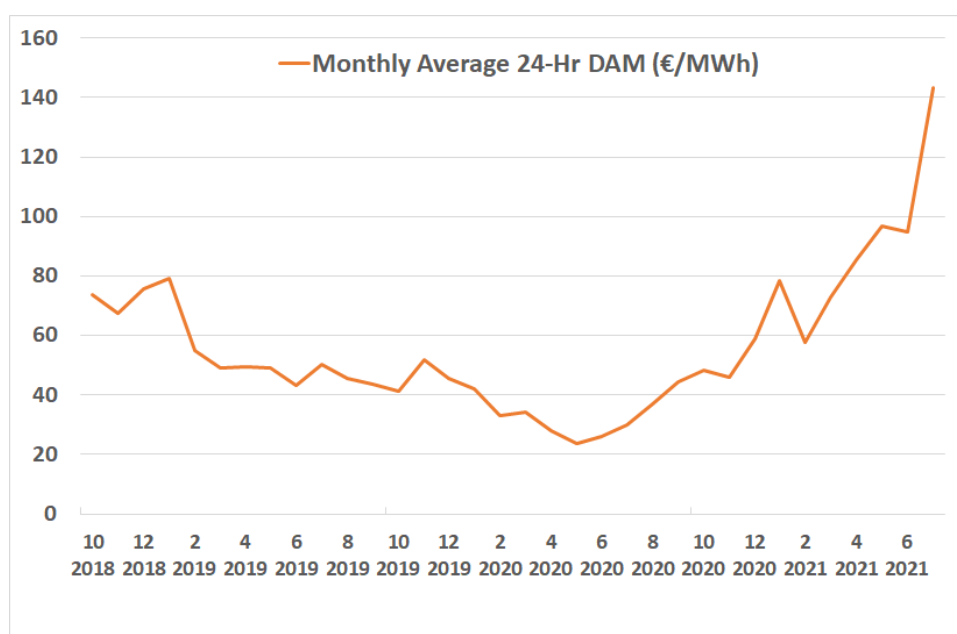


Figure 5.1: Trend in monthly average wholesale electricity price in the SEM

Liberalisation of the Irish electricity sector commenced in 1999. Since the deregulation of the Irish retail electricity market in 2011, customers can choose between suppliers who are free to compete with their own prices. The CRU recognises that suppliers may wish to develop innovative and competitive offerings which reflect the market value in different ways (such as reduced import tariffs, additional services, etc.) and that the tariffs which suppliers offer their customers depend on the pricing and hedging strategies of each individual supplier. The imposition of a floor tariff by the CRU would not be consistent with the principles of liberalisation and deregulation. Therefore, the CRU proposes that a competitive approach will also apply to the tariff for exported electricity. Under this approach, each supplier is free to set its individual CEG export tariff, subject to exceeding zero Euro cent/kWh.

5.2 Review of arrangements for CEG

The CRU will carry out a review of the arrangements for the implementation of the CEG remuneration after one year of operational data is available to the CRU. As part of this review, the CRU will – amongst other things - monitor the export tariffs offered by suppliers and assess whether there are sufficient grounds for improving the accuracy of the formula for deriving the Deemed Export Quantity or adjusting the input parameters. The CRU will consider whether measures need to be put in place to ensure that remuneration reflects the market value, as is required by REDII. This may include obliging suppliers to offer a tariff which must exceed a floor price, as may be determined by the CRU, if warranted.

Question 5.2	Do you agree with CRU's proposal to review the CEG arrangements? Please include any additional rationale or basis for your view.
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6. Grid Connection

6.1 Introduction

Information on grid connection is provided here for context and to inform stakeholders: it is not being consulted on as no connection policy issues are being dealt with as part of this consultation.

In the context of grid connection, “microgeneration” has historically related to capacities in the range 0 - 6kW for single phase electrical connections and in the range 0 - 11kW for three phase connections. These categories also fall within the scope of “renewables self-consumers”.

6.2 Microgeneration “Inform and Fit” (0 - 6/11kW)

Customers are required to connect microgeneration installations in accordance with ESBN’s “*Inform and fit*” principle, whereby the customer informs ESBN of the intention to connect a microgenerator using a dedicated NC6 form found on ESBN’s website. If ESBN decide that a technical study is necessary, ESBN has 20 working days to notify the customer. If the customer does not receive any communication from the ESBN within the 20 days then the customer may proceed with the installation of the microgenerator.

6.3 Mini-Generation Grid Connection (>6/11kW - 50kW)

ESBN have recently developed a pilot grid connection process for installations with an installed capacity rating greater than 6kW up to 50kW single phase and an installed capacity rating greater than 11kW up to 50kW three phase (collectively termed “Mini-Generation”). CRU expect the submission of the pilot process shortly. Subject to approval, the CRU expects the new application route to be in place in Q4 2021. Further details will be published on the ESBN website in due course.

7. Next Steps

In advance of the enabling legislative framework being in place, the CRU will continue to engage with key stakeholders to develop details of the interim solution for the remuneration of renewables self-consumers for their exported electricity. This will include ongoing engagements with ESBN and with industry via the IRMMS Working Group and the IGG.

The CRU will consider the responses to this consultation, which is open until 29 October, and plans to publish its decision in November, subject to the enabling legislation being in place.

A customer's eligibility for remuneration commences from the date of enactment of the legislation which gives effect to the CEG framework, or as may be stipulated in the legislation.

An enduring policy for settlement of microgeneration will be delivered by December 2022.

Appendix: Sample calculations of Deemed Export Quantity

Example 1: where the "Provision Interval" is 12 months (= 8760 hours)

Input parameter to formula	Entry for Customer X	Comment
MEC (kW)	1.8	As notified to ESBN using the NC6 form
Capacity Factor	0.097	i.e. 9.7%, or as decided by the CRU.
Export Factor	0.35	i.e. 35%, or as decided by the CRU.
Provision Interval (hours)	8760	To be decided by the CRU: 12-month interval is selected for explanatory purpose in this example.

Deemed Export Quantity = MEC x Capacity Factor x Export Factor x Provision Interval

Deemed Export Quantity = 535.3 kWh (= 1.8 X 0.097 x 0.35 x 8760).

Example 2: where the "Provision Interval" is 6 months (= 4380 hours)

Input parameter to formula	Entry for Customer Y	Comment
MEC (kW)	3.0	As notified to ESBN using the NC6 form
Capacity Factor	0.097	i.e. 9.7%, or as decided by the CRU.
Export Factor	0.35	i.e. 35%, or as decided by the CRU.
Provision Interval (hours)	4380	To be decided by the CRU: 6-month interval is selected for explanatory purpose in this example.

Deemed Export Quantity = MEC x Capacity Factor x Export Factor x Provision Interval

Deemed Export Quantity = 446.1 kWh (= 3.0 X 0.097 x 0.35 x 4380).