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Small-Scale Green Energy Bill

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This Bill Paper seeks to assist the Northern Ireland Assembly, and in particular the Committee for the Economy, in scrutinising the Small-Scale Green Energy Bill. The Paper provides background information contextualising the Bill and an overview and analysis of its clauses. It also considers some of the broader implications arising from of Bill, including potential financial and human rights impacts.

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Key Points

The “Small-Scale Green Energy Bill” (the “SGE Bill”) proposes to promote renewable microgeneration in Northern Ireland (NI) by introducing a mandatory statutory minimum price tariff for exporting micro-generated renewable power into the grid.

The central purpose of the SGE Bill, as introduced, is to place a duty on the Department for the Economy (the DfE”) to make regulations that will make provision for a small-scale renewable energy scheme.

Certain elements of that future scheme are defined within the SGE Bill. Those elements include a definition of microgeneration and a target that “major electricity providers” will source 5% of the electricity the supply from renewable microgeneration by 2025. The SGE Bill also states that major electricity providers will be defined by their market share.

The SGE Bill provides for other elements of the future scheme to be defined by secondary legislation. That is to be developed by the DfE; and will be subject to “affirmative procedure” under the Northern Ireland Assembly’s Standing Orders. Such elements are to include: minimum price tariff levels; length of the life of an agreed contract under the scheme; and, definition of supplier market share to be defined as a “major electricity provider”.

This Paper identifies a number of areas that the Northern Ireland Assembly, including the Committee for the Economy may wish to scrutinise, as it considers the SGE Bill. Those areas - explored in detail throughout the paper - include:

- The decentralisation of the energy market and the growth of energy “prosumers” in Northern Ireland;
- The potential impact on consumer prices;
- The potential capital cost of microgeneration and connection; and,
- The potential falling cost of renewable energy generation.

Possible State Aid and European Union (EU) Directive implications are also considered. Moreover, the Paper highlights some of the potential financial and human rights implications arising from the SGE Bill’s contents, as introduced.

When relying on the Paper, note that is contents are not intended to provide legal advice or opinion.

Executive Summary

Following the closure of the "Northern Ireland Renewables Obligation" to new capacity, new renewable capacity in Northern Ireland may no longer avail of any support government mechanisms.

The "Small-Scale Green Energy Bill" (SGE Bill), as introduced, proposes to promote renewable microgeneration in Northern Ireland (NI). It does so by introducing a mandatory statutory minimum price tariff, which is to be paid to microgenerators which export their power to the grid.

The Bill is introduced within the context of a number of reports that made recommendations regarding renewable energy support schemes in NI. In particular, the "**Report of the Independent Public Inquiry into the Non-domestic Renewable Heat Incentive (RHI) Scheme"**, which recommended that "novel, potentially volatile and untested initiatives" should be "scrutinised thoroughly". The NI Executive response to that report has led to a "review of Business Case and Expenditure Approval Process" within the NI Civil Service.

The SGE Bill's clauses, if enacted, would place a duty on the Department for the Economy (the "DfE"), to make regulations establishing a small-scale green energy scheme for NI. The SGE Bill specifies a number of things that should be included in a future support scheme, but leaves a number of other elements to the determination of the DfE. It also provides for both review and revision of a future scheme, as well as its suspension and revocation.

Consideration of the SGE Bill's clauses throughout Section 2 of this paper raised a number of points, including:

- The SGE Bill defines microgeneration as generation with a capacity of less than 50 kilowatts. This is consistent with existing microgeneration definitions in Great Britain and Northern Ireland.
- The SGE Bill places a target on "major electricity providers", to source 5% of the energy they supply from renewable microgeneration by 2025. It is not clear what the current baseline for this is. The current proportion of renewable microgeneration depends upon both what is considered "renewable microgeneration" and whether it is considered as a proportion of renewable electricity generated or all electricity consumed.
- The SGE Bill states that "major electricity suppliers" are to be defined by a specified market share. The SGE Bill, as introduced, does not specify what proportion of market share is to constitute a major electricity provider. The SGE Bill also does not specify how market share is to be measured. For example, whether market share should be measured by a supplier's share of electricity consumption, or share of electricity connections.

- The SGE Bill outlines a number of technologies that are to be considered for inclusion in the scheme. Four of those technologies – wind, solar, hydro and biofuel – accounted for the totality of renewable electricity microgeneration capacity accredited with the Northern Ireland Renewables Obligation between 2006 and 2016. The fifth category - micro-combined heat and power (CHP) – is not exclusively renewable.
- The SGE Bill does not specify at what level a future scheme's minimum price tariff for microgeneration should be set. It does not state how long microgenerators should receive payments for under the scheme; nor does it specify whether the minimum price tariff is to vary according to renewable generation type. All the above are likely to determine how attractive the scheme will be to potential participants.
- Clause 2 of the SGE Bill, as introduced, made two references to the "Northern Ireland Authority for Energy Regulation"; the former name of the of the current "NI Authority for Utility Regulation" - introduced by the Water and Sewerage Services (Northern Ireland) Order 2006.
- Clause 2 also specifies future regulations are to be subject to "**affirmative resolution"** under NI Assembly Standing Orders. That means such regulations come into force only if the Assembly votes to approve the future statutory rule, following its consideration of the regulations.
- Clause 3 states that any future scheme is to be reviewed "from time to time", and that such a review is to consider "all economic conditions and other circumstances". It also sets out three specific economic conditions that are to be considered. It is not clear as to what "from time to time" means; nor if the three specified economic conditions are to capture all of a future scheme's potential economic impacts.
- Clause 4 provides that a future scheme is to be suspended or revoked, if it has or could have "unintended and harmful consequences" or if it needs to be controlled for any other reasons. The inclusion of this Clause could be viewed as fulfilling Recommendation 2 of the "Report of the Independent Public Inquiry into the Non-Domestic Renewable Heat Incentive (RHI) Scheme", which specifies that policies "driven by unpredictable demand" are to consider "the inclusion of a clearly drafted statutory power to enable swift action to be taken to suspend and/or close the scheme in order to bring it under control".
- Clause 4 also states that the future scheme regulations **may** make provision the NI Assembly to scrutinise the suspension or revocation of the scheme. It does not require that Assembly scrutiny.

Section 3 of the Paper examines some of the broader implications of the Bill, noting:

- The SGE Bill, if enacted, could lead to the development of more decentralised electricity system and lead to growth in "prosumers"[1] in NI. Such an outcome might have a number of benefits for consumers, the environment and the electricity system. Conversely, the Bill may serve to bring about a number of challenges,

[1] Referring to those who both produce and consumer electricity.

including from the integration of renewable capacity on the grid and generator loss of revenue.

- Consumers have historically borne the cost of renewable support schemes in the United Kingdom (UK), as suppliers pass on costs to their customers. Consumers across the UK have borne the cost of the Northern Ireland Renewables Obligation, and will continue to do so until payments under the scheme cease in 2037. In relative terms, the cost attributed to the Northern Ireland Renewables Obligation make up the second smallest component of consumer bills. Should the proposed small-scale renewable energy scheme follow the precedent set by previous renewable support schemes, and result in passing costs to consumers, this could result in increased costs for consumers. In turn, this could negatively impact vulnerable consumers and business competiveness.
- The combined cost of grid connection and other capital outlays associated with the installation of microgeneration are difficult to quantify; not least because grid connection costs are dependent on the type of connection works required. The potential that those costs could be substantial raises the possibility that a future scheme will be accessible only to those with sufficient income to meet the initial capital outlay, but a future scheme's cost, as noted above, will be borne by all consumers.
- The global average unit cost of renewable electricity as measured by "Levelised cost of electricity" has fallen since 2010. It also varies across technology types. The findings here raise questions around minimum price tariff including: what level the tariff should be set at; whether it should vary by technology; and, whether it should digress over time to account for falling generation costs.
- EU State Aid rules continue to apply in Northern Ireland *via* the "Protocol on Ireland/Northern Ireland" under the Westminster EU (Withdrawal Agreement) Act 2020. That application is limited to measures affecting trade in goods and electricity between NI and the EU. State Aid rules cover only aid to economic undertakings. Support for households is not included in their scope. The EU's *industrial de minimis regulation* allows small amounts of aid to be provide to a single undertaking for a range of purposes. The upper limit on this is €200,000, over three consecutive fiscal years.
- The noted "Protocol on Ireland/Northern Ireland" also contains provisions for the continued application of certain European energy market legislation in NI. That legislation applies only in NI, with respect to "the generation, transmission, distribution, and supply of electricity, trading in wholesale electricity or cross-border exchanges in electricity". It does not apply with respect to retail markets and consumer protection. The "Directive (EU) 2019/944 on common rules for the internal market for electricity" is one such piece of legislation that continues to have application in NI. That Directive contains provisions which state, amongst other things, that electricity suppliers "shall be free to determine the price at which they supply electricity". The Committee for the Economy may wish to seek legal advice

on the application of that Directive in NI and the implications of the Directive with respect to the Bill's proposed minimum price tariff.

Section 4 examined potential financial implications arising from the SGE Bill. It noted that the SGE Bill's Explanatory and Financial Memorandum estimated administrative costs of less than £1 million (m) per year, as a consequence of the Bill and the scheme proposed within it. That estimate appears to be in line with the administration costs associated with the Northern Ireland Renewables Obligation. It should be noted that the administration of that scheme was carried out by the "Office of Gas and Electricity Markets" through an agency service agreement between the "Northern Ireland Utility Regulator". It is unclear whether such an agreement could be reached with respect to a future scheme and what the resource implications could be, if a similar agreement is not possible.

Section 5 of the Paper noted that there are potential human rights issues arising from existing obligations to tackle climate change. That section also noted recommendations that policymakers could seek to ensure that the transformations required to address climate change, including those that seek to promote renewable energy, are enacted in an equitable way, particularly in relation to fuel poverty.

When relying on the Paper, note that is contents are not intended to provide legal advice or opinion.

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Introduction

The “Small-Scale Green Energy Bill” (“SGE Bill”) is a Private Member’s Bill (PMB); introduced to the Assembly by the Bill Sponsor - John O’Dowd, Member of the Legislative Assembly (“MLA”) - on 6 July 2021. The SGE Bill contains provisions that if enacted would:

- Place a requirement on major electricity providers and suppliers to provide an obligatory minimum price tariff to microgenerators which export renewable power to the grid;
- Require the Minister for the Economy (the “Minister”) to establish a “small scale green energy microgeneration scheme”;
- Provide the Minister with powers to set and alter the minimum price tariff; and,
- Provide the Minister with power to determine which “providers” are eligible for the scheme by setting a minimum threshold for market share.

This Bill Paper aims to support the Assembly, including the Committee for the Economy (the Committee), when considering the SGE Bill, as introduced. To facilitate, Section 1 of the Paper provides background information, including current levels of renewable energy generation in Northern Ireland (NI), microgeneration support schemes in Great Britain (GB) and a brief summary of the SGE Bill’s key provisions.

Thereafter, Section 2 of the Paper provides an overview of the substantive clauses of the Bill. To further support engagement on the Bill, Section 3 highlights additional issues meriting consideration, including those relating to: the decentralisation of the energy market; consumer prices; grid and other capital costs associated with microgeneration; the unit cost of renewable electricity generation; and State Aid and other EU issues. Section 4 examines financial aspects of the SGE Bill; while Section 5 outlines some human rights considerations. Section 6 concludes, drawing on findings presented earlier in the Paper.

Key potential issues for consideration are presented in blue boxes throughout the paper, to support Members in their plenary and committee capacities.

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1 Background

To contextualise subsequent sections, the below provides background information on the SGE Bill, examining:

- Current levels of renewable generation in NI;
- Previous microgeneration support mechanisms in NI; and,
- Previous and existing support mechanisms in Great Britain (GB).

1.1 Renewable generation in NI

The NI Executive previously set a target of achieving 40% of consumption from renewable sources by 2020, as part of 2010's Strategic Energy Framework. The latest Department for the Economy (DfE) data shows that in the 12-month period from July 2020 to June 2021, 45.4% of electricity consumed in NI was generated from renewable sources. That represented a decrease of 2.3 percentage points on the previous 12-month period of July 2020 to June 2021.[2]

The DfE also estimates that the in the 12-month period April 2020 to March 2021, a total of 84.1GWh of renewable electricity was produced by microgeneration in NI; equivalent to 2.5% of the total estimated renewable electricity generation in this period – 3,412.9GWh. In the same period, a further 44.1GWh of renewable electricity was produced by non-export generators. The combined total for microgeneration non-export generation to 128.3GWh, or 3.8% of renewable energy generation in the period. It is not clear from the source data what proportion of non-export generation is classified as microgeneration.

The DfE is currently developing a "NI Energy Strategy 2050", which is to be published by the end of 2021. A consultation on "policy options for the new Energy Strategy for NI" opened on 31 March 2021, with a closing date of 30 June 2021. In that consultation, the DfE proposed a new renewable electricity target of achieving 70% of electricity consumption from renewable sources by 2030. The DfE also proposed retaining "the flexibility to increase this target to 80% should it prove achievable and cost effective".[3]

The DfE noted in the same consultation document that reaching the 70% by 2030 target would require the addition of renewable capacity in the system. It estimated that between 980 megawatts (MW) and 1,400MW, additional capacity would be required by 2030. That is equivalent to increasing current capacity of 1,645MW by between 58% to 83% during the given time period. The DfE noted too that 2,067MW of capacity is in the "investment pipeline". Additionally, the DfE stated that such an increase in capacity will

[2] Department for the Economy, Electricity consumption and renewable generation in NI: Year ending June 2021 (2 September 2021) https://www.economy-ni.gov.uk/sites/default/files/publications/economy/Issue-20-Electricity-Consumption-Renewable-Generation-Northern-Ireland-July-2020-June-2021.pdf

[3] Department for the Economy, Consultation on policy options for the new Energy Strategy for Northern Ireland, 31 March 2021 https://www.economy-ni.gov.uk/consultations/consultation-policy-options-new-energy-strategy-northern-ireland

result in network development costs of between £230 million (m) and £480m. It further stated such costs are to be "spread amongst the consumer base and developers, depending on generation mix and policies in place".[4]

1.2 Previous and potential future renewable support schemes in NI

The following subsections outline the workings and impact of the previous NI renewable support scheme – the NI Renewables Obligation ("NIRO"). The subsections also look at the recommendation of some recent reports that examine the impact of renewable supports schemes in NI.

1.2.1 The NI Renewable Obligation

NI's success in developing renewable energy was "underpinned" by a support mechanism known as the NIRO, which was introduced in 2005. In Box 1 below, RaISe summarises the NIROs operation:[5]

Box 1: The NIRO

Under the NIRO, electricity suppliers were legally required to provide evidence that a specified quantity of electricity provided to consumers came from renewable sources. Evidence of compliance with this obligation was provided in the form of Renewable Obligation Certificates (ROCs).

ROCs were issued for free to accredited generators for every Megawatt hour (MWh) of electricity they generated. Generators could then sell those ROCs to electricity suppliers on an open market.

The above provided renewable electricity generators with two income streams – one from electricity sold to the grid, and the second from the sale of ROCs to suppliers. Micro-generators also benefitted from reductions in their energy costs through the onsite consumption of electricity they had generated.[6]

Table 1 below provides a summary of Renewable Obligation Certificates (ROCs) payable to microgenerators. As can be seen from the Table, the number of ROCs received by a generator varied by technology type and capacity. The Table also shows some forms of microgeneration were subject to tariff reductions towards the end of the scheme's intake of new generation.

[4] *Ibid*

[5] Ofgem, Microgenerators in Northern Ireland (accessed 28 September 2020) https://www.ofgem.gov.uk/environmental-programmes/ro/applicants/microgenerators-northern-ireland-micro-niro

[6] *Ibid*

Table 1: NIRO Banding rates for microgeneration from 1 July 2015, ROC/MWh[7]

Technology	2014/15	2015/16	2016/17	
Anaerobic digestion (≤ 500kW)	4	4	4	
Hydro (≤ 20kW)	4	4	4	
Micro-generation (excl. AD, onshore wind, hydro, solar PV)	2	1.9	1.8	
Onshore wind (≤ 250kW)	4	4	4	
Solar photovoltaic (up to 50kW)	4	4	3	2
		Reduced to 3: 1/10/15;& 2: 1/10/16		

Source: DfE (2015)

As the DfE note, the NIRO encouraged investment in what were at the time of its introduction, costly and high-risk technologies:

> *At the time the NIRO was introduced, and throughout much of its lifetime, renewable technologies were not well established and the cost of generating power via renewables sources was substantially higher than for fossil fuel generation. The support provided across the UK and the Republic of Ireland therefore provided financial incentives aimed at overcoming these differences in cost and encouraging investment in emerging and higher risk technologies.[8]*

The NIRO is now closed to new applications. In particular, with respect to microgeneration, it closed to new wind applications on 1 July 2016, and to all other technologies on 1 April 2017. Generators accredited under that Scheme by those dates continue to receive support for a period of 20 years – i.e. from the date of accreditation, or the 31 March 2037, whichever is sooner. [9] The NIRO was, and continues to be, funded by electricity consumers' bill payments.[10]

Figure 1 below shows the cumulative capacity of microgenerators accredited with the NIRO between 2006 to 2016. Over this period, a total of 121.4MW of microgeneration was accredited with the NIRO. This was equivalent to 7.5% of total installed renewable capacity in 2019 (1,610MW). The predominant form of microgeneration installed in NI over this period was solar PV. A total 116.5MW of solar PV generation was installed, equivalent to 95.99% of all microgeneration accredited under the NIRO Scheme. There were also smaller amounts of wind, hydro and bio-fuelled technologies installed over this period.[11]

[7] DfE, ROC Banding levels from 1 July 2015 https://www.economy-ni.gov.uk/sites/default/files/publications/deti/ROC%20-%20MWh%20Banding%20Levels%20from%201%20July%202015.pdf

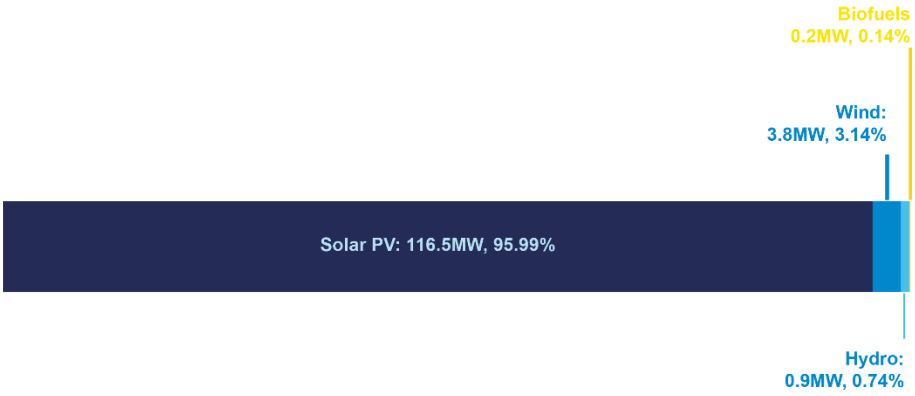
[8] Department for the Economy, Energy Strategy for NI: Consultation on Policy Options (March 2021) https://www.economy-ni.gov.uk/sites/default/files/consultations/economy/energy-strategy-for-NI-consultation-on-policy-options.pdf

[9] Ofgem, Microgenerators in Northern Ireland (accessed 28 September 2020) https://www.ofgem.gov.uk/environmental-programmes/ro/applicants/microgenerators-northern-ireland-micro-niro

[10] DfE, NIRO An Outline of its operation (01 April 2017) https://www.economy-ni.gov.uk/sites/default/files/publications/economy/NIRO-how-it-works.pdf

[11] Ofgem Renewables and CHP Register (data extracted 21 September 2020) https://www.renewablesandchp.ofgem.gov.uk/Default.aspx

Figure 1: Total microgeneration capacity accredited with the NIRO between 2006 and 2016, total = 121.4MW[12]



Source: Ofgem (data extracted 21 September 2020)

Any generation that has come on-stream in NI since the closure of the NIRO has done so without receiving any government financial incentive. The DfE's consultation on policy options for a new energy strategy proposes extending the Contract for Difference[13] (CfD) support scheme currently operating in Great Britain (GB) to NI. That aims to facilitate the delivery of the proposed 70% target by 2030. It is worth noting that the GB CfD Scheme is designed to support larger renewable projects with capacities of 5MW or above.[14]

With regard to microgeneration, the DfE policy options consultation notes that:

> *Following the closure of the NIRO, consumers seeking to generate their own electricity can benefit from an export tariff paid by Power NI for electricity exported to the grid. This is consistent with Great Britain, where a Smart Export Guarantee has been introduced to guarantee a tariff for electricity exported to the grid for small-scale technologies.[15]*

The policy options consultation highlights the pilot solar photovoltaic (PV) scheme in the Republic of Ireland (RoI), which has provided grants to homeowners installing solar PV systems and battery storage. It also highlights the RoI's recent consultation on a Microgeneration Support Scheme. Respondents to the DfE consultation have been asked to comment on the following:

> *Do you believe that financial support should be provided for micro-generation to increase the number of active consumers in Northern*

[12] *Ibid*

[13] Department for Business, Energy and Industrial Strategy, Policy Paper, Contracts for Difference (updated 2 March 2020) https://www.gov.uk/government/publications/contracts-for-difference/contract-for-difference

[14] Department for the Economy, Energy Strategy for NI: Consultation on Policy Options (March 2021) https://www.economy-ni.gov.uk/sites/default/files/consultations/economy/energy-strategy-for-NI-consultation-on-policy-options.pdf

[15] Department for the Economy, Energy Strategy for NI: Consultation on Policy Options (March 2021) https://www.economy-ni.gov.uk/sites/default/files/consultations/economy/energy-strategy-for-NI-consultation-on-policy-options.pdf

Ireland? If so, what should this support look like? If not, what are the alternatives?[16]

It is important to note that whilst no government scheme currently supports microgeneration in NI, renewable microgenerators can receive payment for excess energy exported to the grid. The Utility Regulator's (UR) latest "Quarterly Retail Energy Market Monitoring Report – Quarter 2: April to June 2021"[17] identified nine suppliers operating across NI's domestic, and industrial and commercial (I&C) electricity markets. Of those only Power NI publishes an export tariff on its website.[18] For the period 1 October 2020 to 30 September 2021, Power NI's export tariff was set at 4.59 pence per kilowatt hour. The company's export tariff is set annually by the Utility Regulator.

Potential scrutiny points:

1. Would the DfE provide any further indication of what renewable targets will included in the Energy Strategy; and whether it is envisioned that such targets would include a microgeneration element?
2. Would the DfE outline its current thinking and or plans for renewable energy support schemes in NI, which are to support its future renewable energy targets?

1.1.2 Recommendations regarding NI support schemes

Since the closure of the NIRO, a number of significant reports have been published with regard to energy support schemes in in NI. Those reports have made recommendations relating to the design of future energy support schemes in the region. Given the SGE Bill's intended purpose – to make provision for the establishment of a scheme to promote the microgeneration of renewable electricity – those recommendations should be considered when scrutinising this SGE Bill. In particular:

- **"Report of the Independent Public Inquiry into the Non-domestic Renewable Heat Incentive (RHI) Scheme" (2020) (the RHI Report):**[19] The RHI Report made a number of recommendations with respect the introduction of new policies and initiatives by the NI Executive. Of particular relevance here is Recommendation 2, which stated:

[16] *Ibid*

[17] The Utility Regulators, Quarterly Retail Energy Market Monitoring Report – Quarter 2: April to June 2021 (31 August 2021) https://www.uregni.gov.uk/files/uregni/documents/2021-09/q2-2021-qremm_0.pdf

[18] Note: other suppliers do offer purchase power agreements for the export of electricity, it is not clear in these cases whether such agreements are aimed at microgeneration or larger scale renewable developments. See: 3tpower, click energy and Naturgy.

[19] The Renewable Heat Inquiry: Volume 3, Chapter 56 Summary And Recommendations https://wayback.archive-it.org/11112/20200911100057/https://www.rhiinquiry.org/sites/rhi/files/media-files/RHI-Inquiry-Report-Volume3-Chapter56-Summary-and-Recommendations.pdf

> *Novel, potentially volatile and untested initiatives should in future be scrutinised thoroughly, well ahead of ministerial and business case approval. The Inquiry commends processes such as a 'starting point Gateway assessment' and, at a suitable point, a 'feasibility signoff' completed by the Department's Accounting Officer. With regard to particular policies driven by unpredictable demand, consideration should always be given, before the policy is implemented, to the inclusion of a clearly drafted statutory power to enable swift action to be taken to suspend and/or close the scheme in order to bring it under control.*[20]

On 7 October 2021, the Minister for Finance, outlined the NI Executive's response to the RHI Report and associated action plan. In relation to Recommendation 2 of the RHI Report, that response noted it had been "addressed in work to date" through a "Review of Business Case and Expenditure Approval Process".[21] It also noted that further work was required to "reflect key principles in the guidance relating to policy making, Business Cases, Project Management including Gateway ™ guidance, and risk-management"[22]

- **The NI Audit Office's "Generating Electricity from Renewable Energy"** made a number of recommendations pertinent to the proposed SGE Bill including, Recommendation 1:

> *The Department for the Economy should take a lead role in strengthening and formalising partnership arrangements across all relevant public bodies, to ensure that any future renewable electricity or energy schemes are supported by a more proactive and joined up approach to accreditation, monitoring and enforcement.*[23]

Recommendation 2:

> *In any future schemes which support electricity generated from renewable sources, the supporting legislation should be more specific about permitted uses of the electricity generated, particularly if it is not exported to the grid. It should also include a requirement to demonstrate that, if electricity usage was not being met by renewables, it would otherwise be met by electricity from fossil fuel sources.*[24]

Recommendation 6:

[20] *Ibid*
[21] Department of Finance, Executive Response to the RHI Inquiry and Action Plan (7 October 2021) https://www.finance-ni.gov.uk/publications/executive-response-rhi-inquiry-and-action-plan
[22] *Ibid*
[23] Northern Ireland Audit Office Generating electricity from renewable energy (13 October 2020) https://www.niauditoffice.gov.uk/sites/niao/files/media-files/238502%20Renewable%20Energy%20Report__FinalWEB%20PDF.PDF
[24] *Ibid*

The Department for the Economy should carry out a review of all types of renewable generators to ensure that current levels of financial support and the actual rates of return that are being achieved are compatible with the original projections and State Aid rules. Future schemes should project rates of return across a range of outputs and, in setting any bandings, should assume that investors will usually seek to maximise their returns by choosing the most favourable output within that banding. [25]

- **The NI Assembly Public Affairs Committee's "Report on Generating Electricity from Renewable Energy"** also made a number of recommendations that are potentially significant in the context of the SGE Bill. For example, Recommendation 1:

  … that consideration is given, at the outset of all new energy initiatives by the Department, to identify potential environmental, planning and other risks and ensure these are discussed and mitigated in consultation with other public bodies.

  Recommendation 3:

  … he Department should perform an immediate skillset analysis of its Energy team, to identify and address any current skills gaps with the aim of reducing any overreliance (perceived or real) on private sector consultants and experts.

  Recommendation 5:

  …that in any future energy schemes, the Department should build in a mandatory requirement for investors to confidentially share cost information as part of any accreditation process. This level of transparency would ensure that the rates of return returns being achieved are fair, both to the investor, the consumer and taxpayers.

Potential scrutiny points:

3. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders as to how well the Bill as introduced meets the noted recommendations.
4. In particular, the Committee for the Economy may wish to seek the views of the DfE on how Recommendation 2 of the RHI Report and the subsequent review of NI Civil Service business case and expenditure approval process will guide its scrutiny of the proposed small-scale renewable scheme.

[25] *Ibid*

5. The Committee for the Economy may wish to seek the views of the DfE and other stakeholder as to how any future small-scale renewable energy scheme may be designed in order to meet the above recommendations.

1.2 Previous and current support schemes for Microgeneration in GB

1.2.1 The GB Feed-in tariff

Microgeneration and small-scale generation (with a capacity of 5MW or less) in GB previously had been supported through a "feed-in tariff" (FIT). The scheme, which was introduced on 1 April 2010, provided generators with guaranteed income for electricity generated known as a "generation payment", and a second stream of income for electricity sold to the grid, known as an "export payment".

The GB FIT closed to new applicants on 1 April 2019, *"subject to a number of time limited extensions"*.[26] The closure of the scheme did not affect installations that were already accredited under the scheme at the point of closure. Such installations will continue to receive payments for 20 years after their accreditation.

Tariffs under the GB-FIT are set annually by the Office of Gas and Electricity Markets ("OFGEM"), in line with inflation, as measured by the "Retail Price Index". The tariff system is complex, with a number of variables determining the tariff received. The export tariff varies according to an installation's "eligibility date" or "tariff date". In the latest GB FIT Tariff table, which was is effective from 1 April 2021, a solar photovoltaic (PV) generator installed between April 2010 and 30 July 2012 receives an export tariff of 3.95p/kWh. Solar photovoltaic (PV) generators installed after the 1 August 2012, receive an export tariff of 5.57p/kWh. Other generator types installed between 1 April 2010 to 30 November 2012 receive 3.95p/kWh; and, generators installed after 1 December 2012 receive the higher rate of 5.47p/kWh.

The level of generation payment received is subject to even greater complexity[27], with the tariff dependent on:

- An installation's "eligibility date" or "tariff date";
- The type of technology installed; and,
- The installations capacity.

In the case of solar PV, further variables affect the tariff level, including the installation type (for example, if it was on a new build or retrofitted) and the installations energy efficiency. For example, a standard solar PV installation of between 10kW and 50kW in

[26] Ofgem, Feed-in tariffs, FAQ Scheme Closure (June 2020) https://www.ofgem.gov.uk/system/files/docs/2020/09/scheme_closure_v4.pdf

[27] Given the complexity of the GB FIT tariff system it is not possible to summarise it in its entirety in this paper. Full details of the 1 April 2021 tariff structure are available https://www.ofgem.gov.uk/publications/feed-tariff-fit-tariff-table-1-april-2021

capacity, with tariff date of between 01 April 2018 and 31 March 2019, receives the following payment under the current tariff schedule:

- 0.16p/kWh if the installation was of a lower efficiency rating;
- 3.75p/kWh if the installation was of a medium efficiency rating; or,
- 4.17p/kWh if the installation was of a higher efficiency rating.

Had the same standard solar PV installation a tariff date of between 01 April 2015 and 31 March 2016, the payments it receives under the current tariff schedule are:

- 0.99p/kWh if the installation was of a lower efficiency rating;
- 4.68p/kWh if the installation was of a medium efficiency rating; or,
- 5.20p/kWh if the installation was of a higher efficiency rating.

Tariff rates under the above are subject to "degression", meaning rates are decreased for newer installations.[28] The rationale for degression was to factor in the decreasing cost of renewable technologies overtime.[29] Degression accounts for the difference in tariff rates over time in the example outlined above.

A "deployment cap" also placed a limit on the total capacity, which could receive a particular FIT tariff in each tariff period. Separate deployment caps were introduced for each technology type and tariff band (for example, installation capacity). If a cap was reached before the end of a tariff period, no further installations are to be accredited during that period.[30]

Potential scrutiny point:

6. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders as to whether degression and deployments caps should feature as part of any future small-scale renewable energy scheme's design.

1.2.2 The Smart Export Guarantee

The feed-in tariff is to be replaced by the "Smart Export Guarantee" ("SEG"). Under the SEG, certain electricity suppliers are obliged to offer a tariff and make payment to small-scale low carbon generators for electricity exported to the grid. The scheme is open to Solar PV, wind, hydro and anaerobic digestion generators with a capacity of 5MW or less, and micro combine heat and power generators with a capacity of 50kW of less. Under the scheme, SEG Licensees are obligated to provide SEG payments to generators.[31]

[28] Ofgem, Feed-in Tariffs FAQ (April 2017) https://www.ofgem.gov.uk/sites/default/files/docs/2017/04/fit_factsheet_v3.pdf
[29] Feed-in tariffs, Tariff Degression (accessed 30 September 2021) https://www.fitariffs.co.uk/FITs/principles/degression/
[30] Ofgem, Feed-in Tariffs FAQ (April 2017) https://www.ofgem.gov.uk/sites/default/files/docs/2017/04/fit_factsheet_v3.pdf
[31] Ofgem, About the Smart Export Guarantee (accessed 23 September 2020) https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg/about-smart-export-guarantee-seg

There are two types of SEG Licensees: mandatory SEG Licensees are suppliers with at least 150,000 domestic electricity customers; and, voluntary licensees are suppliers with fewer than 150,000 customers but who elect to participate in the scheme.[32] For the first year of operation, 1 January 2020 to 31 March 2021, there are 18 SEG Licensees; 17 mandatory and one voluntary.[33]

SEG Licensees determine the rate they will pay generators, the contract length and other terms. Ofgem notes that *"whilst wholesale electricity prices can sometimes fall below zero, SEG Licensees must always offer a tariff that remains above zero".*[34] As SEG payments are set by SEG Licensees, Ofgem recommends that generators *"shop around to find the best deal for them".*[35] Annex 1 provides an overview of the SEG tariffs offered by the 17 of the 18 SEG Licensees. The tariffs range from a low of 1p/kWh to 5.5p/kWh Only E.ON and its parent company Npower differentiate by technology, offering 5.5p/kWh for solar PV and 3p/kWh for other technologies.

The UK Government's move away from the feed-in tariff and towards the Smart Export Guarantee, reflects decreasing renewable generation costs and a desire to minimise costs to consumers. It also was driven by a desire to ensure that:

> *…small-scale low carbon electricity generation* [is] *brought forward through competitive, market-based solutions.*[36]

It should be noted that at the EU level, there has been similar move towards market-based approaches. In its 2020 guidance for renewable support schemes, the European Commission recommends that:

> *…financial support for renewable should be limited to what is necessary and should aim to make renewable competitive in the market.*[37]

And that:

> *…support scheme should be flexible and respond to falling production costs. As technologies mature, schemes gradually removed. For instance, feed in tariffs should be replaced by feed in premiums and other support instruments that incentivise producers to respond to market developments.*[38]

[32] Ofgem, SEG, Electricity Suppliers (accessed 23 September 2020) https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg/electricity-suppliers

[33] Ofgem, SEG Suppliers List (accessed 223 September 2020) https://www.ofgem.gov.uk/publications-and-updates/seg-supplier-list

[34] Ofgem, About the Smart Export Guarantee (accessed 23 September 2020) https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg/about-smart-export-guarantee-seg

[35] Ofgem, SEG Generators (accessed 23 September 2020) https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg/generators

[36] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/807393/smart-export-guarantee-government-response.pdf

[37] https://ec.europa.eu/energy/topics/renewable-energy/support-schemes_en

[38] *Ibid*

Potential scrutiny point:

7. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders as to whether a similar market-based approach to microgeneration is suitable in a NI context.

2 Overview and analysis of the SGE Bill

The following section provides an overview and analysis of the SGE Bill's substantive clauses. The analysis is supported by data from a range of sources, including the DfE and the Utility Regulator.

2.1a Overview Clause 1: Establishment of the scheme

Clause 1 of the Bill, as introduced, places a duty on the DfE to make regulations establishing a small-scale green energy scheme for NI. It also sets out some specifications with regard to what is to be included in such regulations.

Clause 1(2) specifies that the regulations must require "major" electricity suppliers to provide a minimum price tariff for micro-generated renewable electricity exported to the NI electricity grid. It also specifies that the regulations are to set targets that are to require "major" electricity providers to source a specific proportion of the electricity the supply from renewable sources by a specific date.

Clause 1(3) also specifies that future regulations must include provisions that:

- Determine which NI electricity suppliers are deemed "major" based on "market share";
- Define "micro-generated renewable" power;
- Set or enable to the setting of the minimum price tariff;
- Allow for the participation of community projects in the scheme; and,
- Enable the enforcement of the minimum price tariff, targets and "other" provisions of the regulations.

A number of these elements are subsequently defined elsewhere in Clause 1. Significantly, Clause 1(4) sets out that 5% of the energy supplied by "major electricity suppliers" must be from micro-generated renewable energy by 2025. Clause 1(5) defines microgeneration as generation with a capacity of 50 kilowatts (kw) or less. It also sets out a range of renewable generation types that the DfE should consider when defining "renewable power":

- Wind power;
- Solar power;
- Combined heat and power (micro-CHP) technology;
- Biofuel and;

- Hydroelectric (hydro) power.

The remaining sub-clauses of Clause 1 would place additional requirements on the DfE, as follows:

- Clause 1(6) states that that DfE must have regard to three "small-scale green energy objectives" when designing the regulations:
  - Reducing dependency on non-renewable electricity supplied in NI;
  - Reducing harmful emission from farms and other businesses; and,
  - Increasing the geographical and sectoral diversity of renewable energy input to the NI grid.
- Clause 1(7) requires that the DfE must have regard to two pieces of existing legislation when designing the regulations:
  - The Electricity (Single Wholesale Market) (Northern Ireland) Order 2007; and,
  - The Renewable Obligation Order (Northern Ireland) 2009.

2.1 Consideration of Clause 1: Establishment of the scheme

In general, the Clause 1 requires the DfE to create a small-scale green energy scheme, but allows the DfE a degree of flexibility with regard to the specifics of such a scheme, which is to be introduced *via* secondary legislation. That flexibility is not absolute; the SGE Bill goes someway to define specific aspects of the scheme. In this respect, the Bill:

- **Defines microgeneration as generation with a capacity of less than 50kw.** Defining microgeneration in this way has precedent in a UK context: Article 27 of the Renewables Obligation Order (NI) 2009[39] defined microgenerators as generating stations which have *"not had a declared net capacity in excess of 50 kilowatts at any time after 31 March 2009".* In GB, Article 82 of the Energy Act 2004 defines microgeneration in relation to electricity as a generator with a capacity of up to 50kW.[40]
- **Sets a target of ensuring 5% of electricity supplied by major "electricity providers" is sourced from renewable microgeneration by 2025.** To put this into context, according to the latest published data from the DfE at the time of writing, microgenerators accounted for 2.5% of the **renewable electricity** produced in NI between April 2020 and March 2021. When non-exporting renewable generation is included the proportion rises to 3.8% of the renewable electricity produced in NI. It, however, a is not clear from the source data that the proportion of non-exporting renewable energy came from microgeneration, as opposed to larger forms of generation.

[39] Renewable Obligation Order (NI) 2009, Article 27 https://www.legislation.gov.uk/nisr/2009/154/article/27/made
[40] Energy At 2004, Article 82 https://www.legislation.gov.uk/ukpga/2004/20/section/82

The SGE Bill sets a target that **5% of all electricity supplied by major electricity providers** be from renewable microgeneration by 2025. It is not possible to accurately calculate the current level of microgeneration supplied by major electricity providers, not least because the final definition of "major electricity provider" and the final definition of "renewable microgeneration" are not yet available. These are amongst the elements of the proposed scheme that are left to the DfE to determine *via* regulations - see below for details. Based on the available data, however, the following can be noted:

- In 12-month period April 2020 to March 2021, the total electricity consumed in NI was 7,359GWh. That figure was based on aggregated "actual and estimated meter readings across both domestic and non-domestic sectors" in NI. It included all electricity consumed in NI, regardless of where it was generated, i.e. it includes imported electricity. As such, that estimate goes beyond just "major electricity providers" in NI.[41]
- In the same period, 84.1GWh[42] of electricity was produced by renewable microgeneration; equivalent to **1.1% of all electricity consumed** in NI between April 2020 and March 2021.
- A further 44.1GWh[43] of renewable electricity was generated by non-export generators in the same 12-month period. **Combined microgeneration and non-export generation equalled 128.2GWh of electricity, equivalent to 1.7% of total electricity consumption in that period**. The source data does not clarify what make proportion of non-exporting renewable energy was generated by microgeneration.

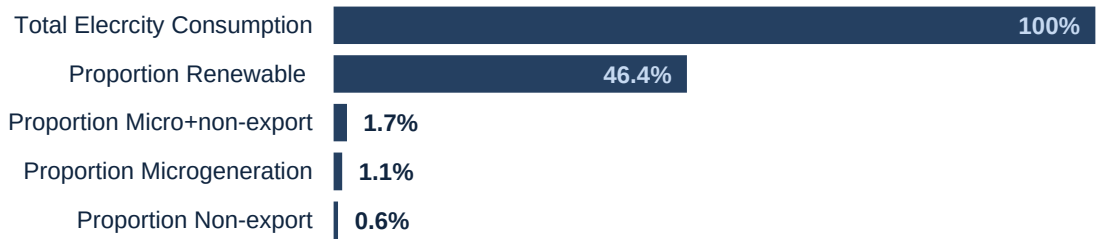
Figures 2 and 3 illustrate the relative contribution of microgeneration and non-exporting generation to total electricity consumption and total renewable generation, during the 12-month period April 2020 to March 2021.

[41] Department for the Economy, Electricity consumption and renewable generation in NI: Year ending March 2021 (3 June 2021) https://www.economy-ni.gov.uk/sites/default/files/publications/economy/Issue-19-Electricity-Consumption-and-Renewable-Generation-in-Northern-Ireland-April-2020-to-March-2021.pdf

[42] Department for the Economy, Electricity consumption and renewable generation in NI: Year ending June 2021 (2 September 2021) https://www.economy-ni.gov.uk/sites/default/files/publications/economy/Issue-20-Electricity-Consumption-Renewable-Generation-Northern-Ireland-July-2020-June-2021.pdf

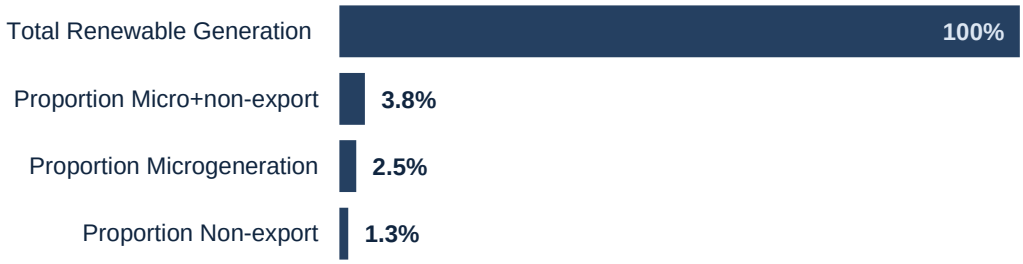
[43] *Ibid*

Figure 2: Estimated contribution of microgeneration and non-exporting generation to *total electricity consumption* during the 12-month period April 2020 to March 2021[44]



Source: DfE (2021)

Figure 3: Estimated contribution of microgeneration and non-exporting generation to *total renewable electricity generation* during the 12-month period April 2020 to March 2021[45]



Source: DfE (2021)

On 28 September 2021, during the Assembly's Second Stage debate on the SGE Bill, when addressing the Bill's 5% microgeneration target, the Minister for Economy stated that 3.8% of energy is currently from microgeneration. The Minister's statement was not clear as to what that 3.8% was a proportion of – i.e. 3.8% of renewable electricity generated in NI or 3.8% of electricity consumed in NI.[46]

Potential scrutiny points:

8. In light of the above the Committee for the Economy may wish to seek the views of the DfE and other stakeholders as to whether the 5% target is appropriate given current and anticipated future context in NI.

9. The Committee for the Economy also may seek views of the DfE and other stakeholders about the noted percentage, and whether the target should be set as a proportion of energy supplied, energy consumed or renewable energy generated.

[44] Based on data from Issue 19: April 2020 to March 2021 and Issue 20: July 2020 to June 2021 of the Department for the Economy's Electricity Consumption and Renewable Generation statistics http://www.economy-ni.gov.uk/articles/electricity-consumption-and-renewable-generation-statistics

[45] *Ibid*

[46] Northern Ireland Assembly Official Report 28 September 2021 http://aims.niassembly.gov.uk/officialreport/report.aspx?&eveDate=2021/09/28&docID=350783#3635166

10. The Committee may wish to seek the views of the DfE and other stakeholders as to how well the SGE Bill, as introduced, meets the noted recommendations in this area.

- **Sets out a number of technologies that should be considered for inclusion in the scheme.** That list includes a number of common renewable technologies. As seen from Figure 1 above, four of those technologies – wind, solar PV, hydro and biofuel – accounted for the totality of renewable electricity microgeneration capacity accredited with the NIRO between 2006 and 2016. The list also includes micro-CHP (combined heat and power). The Energy Savings Trust (EST) notes that domestic micro-CHP systems "are usually powered by mains gas or liquefied petroleum gas; both of which are fossil fuels. The EST adds, however, that the combined generation of both heat and power ensures that micro-CHP may be considered a low carbon technology because combined generation heat and power is more efficient than generating each separately. The EST also notes that the technology can be powered by biofuels, such as biodiesel.[47] Is it also worth noting in its "Public Consultation on a Micro-generation Support Scheme in Ireland", the RoI's "Department of the Environment, Climate and Communications" ("DECC") distinguished between micro-CHP and "renewable micro-CHP", with the latter excluding "oil, solid fuel, natural gas and other non-renewable fuels" because they do not "reduce primary energy of CO_2 [carbon dioxide]".[48]

[47] The Energy Saving Trust, Micro combined heat and power (access 13 October 2021) https://energysavingtrust.org.uk/advice/micro-combined-heat-and-power/

[48] Government of Ireland, Public Consultation on a Microgeneration Support Scheme in Ireland (2021) https://assets.gov.ie/118534/ac826470-1d60-41a6-9e06-91cfb3a9709e.pdf

Potential scrutiny points:

11. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders as to whether the current list of renewable energy technologies is sufficient.

12. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders as to whether the reference to micro-CHP should be amended to read "renewable micro-CHP".

- **Sets out three "small-scale green energy objectives"** that the DfE must have regard for when designing a future small-scale renewable energy support scheme. The objectives seek to: reduce NI's dependency on non-renewable electricity; reduce emissions from farms and business; and, increase the "geographical and sectoral diversity of renewable energy" fed into the NI grid. The Committee for the Economy may wish to seek views on the appropriateness of these small-scale green energy objectives. Particularly on how a future scheme may be designed to ensure the objectives are met. For example, on the third objective, which aims to diversify renewable electricity generation in NI. Figure 1 above illustrates that the solar PV was by far the most common of microgeneration accredited under NI's previous microgeneration support scheme – the NIRO's. That runs contrary to the general renewables picture in NI, where wind is the most common form of generation – in the period July 2020 to June 2021. It accounted for 83.6% of all renewable electricity in NI.[49]

Potential scrutiny points:

13. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders as to what is the correct mix of mix of microgeneration for NI going forward; and how a scheme could be designed to deliver that mix.

14. The Committee for the Economy may wish to seek views on whether additional objectives may be appropriate here, especially considering the potential impact on consumers, as explored in greater detail in Section 3 below.

- **Sets out that the DfE must ensure that any small-scale compatible with existing law and with the Single Electricity Market (SEM) in NI and the ROI.** In doing so, the SGE states that the DfE must ensure the scheme is compatible with the Electricity (Single Wholesale Market) (NI) Order 2007 (SEM Order) and the Renewable Obligation Order (NI) 2009 (NIRO Order). Neither the SGE Bill, nor its accompanying "Explanatory and Financial Memorandum" ("EFM"), provide any further clarity on how such compatibility might be ensured. The Committee may wish to note, in particular that the Section 9 of the SEM Order states that the principle

[49] Department for the Economy, Electricity consumption and renewable generation in NI: Year ending June 2021 (2 September 2021) https://www.economy-ni.gov.uk/sites/default/files/publications/economy/Issue-20-Electricity-Consumption-Renewable-Generation-Northern-Ireland-July-2020-June-2021.pdf

objective of the DfE when carrying out "electricity functions in matters which it considers materially affect, or are likely materially to affect, the SEM", is to:

> *…protect the interest of consumers of electricity in Northern Ireland and Ireland supplied by authorised persons, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities with, the sale or purchase of electricity through the SEM.*[50]

Potential scrutiny points:

15. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders as to how the scheme proposed in the SEG Bill could be designed in such a way as to ensure that the scheme is protecting consumers' interest and promoting competition.

16. The Committee for the Economy also may wish to seek views on what other aspect of the SEM Order the scheme should comply with.

17. The Committee for the Economy may wish to seek views on what aspect of the NIRO Order the scheme should comply with.

The SGE Bill states the regulations that would be brought under the Bill would specify a number of key definitions:

- **The level at which the minimum price tariff should be set**: although the Bill requires the DfE to set a minimum price tariff for electricity exported to the grid, it does not specify what that tariff should be. Previous support schemes for microgeneration, such as the NIRO in NI and the FIT in GB varied support according to technology. In this context, it is worth noting again that the Bill's "small-scale green energy objectives" state that the Bill should be designed in such a way as to encourage the diversification of renewable generation in NI. Elsewhere in the Bill, at Clause 2(1), the DfE is empowered to set different minimum price tariffs for "different purposes". For example, different purposes might include facilitating the diversification of NI's renewable portfolio, or accounting for the generation cost of different renewable generation technologies.
- Should the SGE Bill be enacted, and thereafter the DfE design and introduce a small-scale renewable electricity scheme, microgenerators would benefit from receiving a minimum price for excess electricity sold to the grid and from reducing electricity cost due to the self-consumption of self-generated electricity. The price at which the DfE sets the minimum price tariff could impact a microgenerators' decision as to whether they use the electricity onsite, or whether they export. In a scenario where the minimum price is higher than the cost saving of onsite consumption, that could send a signal to scheme users to prioritise export over consumption. This issue was considered by the RoI's Department for Energy, Climate and

[50] Electricity (Single Wholesale Market) (NI) Order 2007 s9(1) https://www.legislation.gov.uk/nisi/2007/913/article/9

Communications (DECC) in its high-level design of a proposed "Clean Export Premium". One of the DECC design principles was encouraging self-consumption under the scheme. As such, the high-level design proposes that the rate paid for exported microgeneration is less than the rate microgenerators pay for electricity from the grid. Additionally, it proposes a limiting export to the grid to 30% of electricity generated. The Committee for the Economy may wish to seek views on whether a future NI scheme should be similarly weighted towards consumption and whether primary legislation is the appropriate manner in which to do that.

Finally, it should also be noted that the Bill as introduced proposes one of a number of options available to policy makers seeking to incentivise microgeneration use. As noted in Section 1, microgenerators currently may avail of Power NI's existing export tariff. Additionally, NI could follow adopt GB's "Smart Export Guarantee", which obliges some electricity suppliers to offer an export rate to microgenerators, but allows the suppliers themselves to set the rate, rather than setting it through legislation.[51]

Potential scrutiny points:

18. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders on whether the proposed scheme should offer different minimum price tariffs that vary according to technology.

19. The Committee for the Economy also may wish to seek views on whether the future scheme should be designed to encourage self-consumption or generation export.

20. The Committee for the Economy may wish to seek views on alternative ways to support microgeneration growth in NI.

- **The length of time generators will receive minimum price tariff under the proposed scheme:** Clause 2 of the SGE Bill states that the regulations "may make provisions about contract terms". It does not specify the length of time generators are to be entitled to receive the minimum price tariff for. The NIRO entitled generators to receive support under the scheme for 20 years or until 2037, whichever is sooner.[52] The GB FIT provided support for 20 years.[53] Under the SEG scheme, contract length is determined by suppliers.[54] The length of contract offered is likely to be significant, as it, alongside the level of minimum price tariff offered, are key determinants of how attractive the proposed scheme could be to generators.

[51] Ofgem, About the Smart Export Guarantee (accessed 23 September 2020) https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg/about-smart-export-guarantee-seg

[52] Department for the Economy, Northern Ireland Renewable Obligations – How it works (1 April 2017) https://www.economy-ni.gov.uk/sites/default/files/publications/economy/NIRO-how-it-works.pdf

[53] Ofgem, Feed-in tariffs, FAQ Scheme Closure (June 2020) https://www.ofgem.gov.uk/system/files/docs/2020/09/scheme_closure_v4.pdf

[54] Ofgem about the Smart Export Guarantee (accessed 19 October 2021) https://www.ofgem.gov.uk/environmental-and-social-schemes/smart-export-guarantee-seg

Potential scrutiny point:

21. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders as to what length of contract is appropriate under the proposed scheme.

- **The precise level of market share that would qualify an electricity supplier as a "major electricity" supplier.** The SGE Bill, as introduced, states that a future scheme must include provisions which enable the determination of which electricity suppliers are deemed "major electricity providers" and that this be determination be based market share. It does not state what proportion market share would lead to a supplier been classified as a "major" supplier; not does it specify how market share is measured.

  On the first of these points, the Bill Sponsor briefed the Committee for the Economy on 13 October 2021, stating the preferred market share level during consultation on the Bill was 5%.[55] The second point, of how market share is defined, is significant because it could determine which companies would be included in the "major supplier category". That is shown below, using the 5% threshold preferred at consultation to illustrate this point.

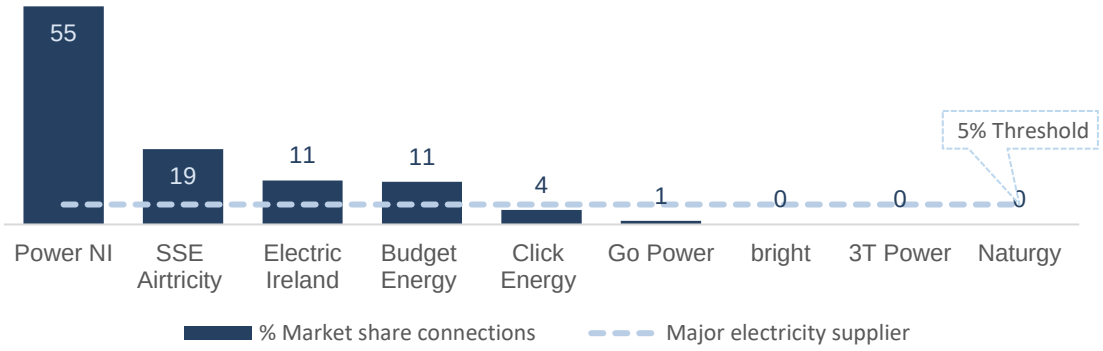
  The Utility Regulator includes two measures of market share in its "Retail Market Monitoring: Quarterly Transparency Report" – share of connections and share of consumption.[56] Figure 4 ranks NI's electricity suppliers by market supply based on share of connections at the end of June 2021. Based on this ranking, four companies meet a 5% threshold. However, when market share is defined by consumption share, as shown in Figure 4, five companies meet that threshold.

  Significantly, Go Power moves from having just 1% market share when measured by connections, to 9% when measured by consumption. It is also important to note that market share is not stable in all cases. For example, Budget Energy's market consumption share has fluctuated between 4% and 5% of the last six quarters. Questions arise as to what point in time is market share measured, and what happens if a company's market share drops below, or increases to, 5% for a short, or sustained period of time.

[55] Northern Ireland Assembly, Official Report: Minutes of Evidence, Committee for the Economy, meeting on Wednesday, 13 October 2021, Small-Scale Green Energy Bill: Mr John O'Dowd MLA http://aims.niassembly.gov.uk/officialreport/minutesofevidencereport.aspx?AgendaId=28853&eveID=14670

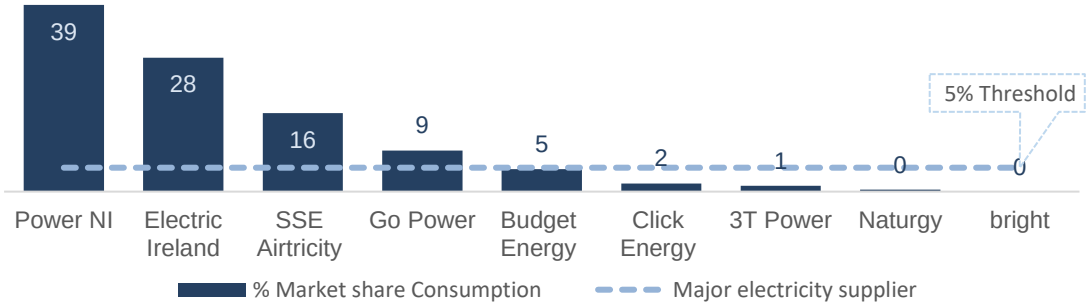
[56] The Utility Regulator Retail Market Monitoring: Quarterly Transparency Report Quarter 2: April to June 2021 (31 August 2021)

Figure 4: NI Electricity % market share end of June 2021 – share of connections



Source: Utility Regulator (2021)

Figure 5: NI Electricity % market share end of June 2021 – share of consumption



Source: Utility Regulator (2021)

Potential scrutiny points:

22. The Committee for the Economy may wish to seek the views of the DfE and other stakeholder as to what proportion of market share the major electricity supplier market share should be set at.

23. The Committee for the Economy may wish to seek views as how market share should be measured.

24. The Committee for the Economy also may wish to seek views as to how the scheme could be designed in such a way as to ensure reflect fluctuations in individual provider market share.

25. The Committee for the Economy also may wish to seek views on whether an approach similar to the GB's SEG scheme, which allows suppliers to voluntarily participate for the scheme when they do not meet the scheme's specified participation requirements.

- **The final list of technologies that fall within the scheme's definition of renewable**: as noted above, the SGE Bill sets out a range of technologies that the DfE should consider, including its definition of renewable. The Bill is not definitive on that regard, leaving the DfE some flexibility with regard to the final list.

2.2a Clause 2: Scheme regulations: supplementary

Clause 2 of the SGE Bill places further parameters on future microgeneration support scheme, as follows:

- Clause 2(1) allows DfE to include different minimum prices for "different purposes" in the scheme, make provision in relation to contract terms, and provide for other terms and conditions.
- Clause 2(2) allows the DfE to confer enforcement and other functions on the "NI Authority for Electricity Regulation".
- Clause 2(3) requires the DfE to consult with the "NI Authority for Electricity Regulation", as wells as a range of other relevant bodies on the scheme.
- Clause 2(4) provides that future regulations will be subject to affirmative resolution.

2.2b Consideration of Clause 2: Scheme regulations: supplementary

As noted in subsection 2.1, the power to include different price for different purposes may enable the DfE to design the scheme to achieve certain priorities. As discussed in that subsection, this could include offering different minimum price tariffs based on technology type. That could aim to encourage diversification in generation and to reflect the varying cost of renewable technologies.

Potential scrutiny point:

26. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders on what "different purposes" the DfE may seek to deliver through the inclusion of different minimum prices in the final scheme design.

Clause 2 contains a potential drafting error. The Clause twice references the "NI Authority for Energy Regulation". This is a former name of the "NI Authority for Utility Regulation" (also known as the "Utility Regulator"). This name change occurred when the former regulator took on the functions of water regulation and was secured *via* Section 3 of the Water and Sewerage Services (NI) Order 2006. That Order states:

> *The body corporate established by Article 3 of the Energy Order* [the Energy Order (Northern Ireland) 2003] *as the Northern Ireland Authority for*

Energy Regulation shall hereafter be known as the Northern Ireland Authority for Utility Regulation.[57]

Additionally, Section 48 of Schedule 2, amended the definition of authority in Section 2 of the Energy Order. It amended the definition by replacing "NI Authority for Energy Regulation", with the "NI Authority for Utility Regulation".[58]

Potential scrutiny point:

27. The Committee for the Economy may wish to consider whether amendment of Clause 2 to reflect the name change introduced by the Water and Sewerage Service (NI) Order 2006 is appropriate.

Clause 2 also specifies future regulations are to be subject to "**affirmative resolution".** This means they only come into force if the Assembly votes to approve them. This is opposed to negative resolution, where a statutory rule automatically comes into force when a specified date is reached, unless the Assembly brings and votes for a Prayer of Annulment motion.[59]

2.3a Clause 3: Review and revision

Clause 3 provides for the review and revision of any future small-scale green electricity scheme, i.e.:

- Clause 3(1) requires the DfE to review the operation of the scheme from "time to time";
- Clause 3(2) requires the DfE to have regard to "all economic conditions and other circumstances" when carrying out a review, including:
  - Macro-economic conditions;
  - Unit cost prices of renewable energy; and,
  - The financial stability and performance of electricity providers; and,
- Clause 3(3) states that the DfE must revise the scheme by making new scheme regulations when the DfE considers revision "necessary or appropriate".

[57] Water and Sewerage Services (Northern Ireland) Order 2006 s3 https://www.legislation.gov.uk/nisi/2006/3336/part/II/crossheading/the-northern-ireland-authority-for-utility-regulation

[58] *Ibid* Schedule 2, s48

[59] Northern Ireland Assembly, Statutory Rules FAQ http://www.niassembly.gov.uk/assembly-business/covid-19-statutory-rules/faq/

2.3b Consideration of Clause 3: Review and revision

The review and revision clauses included in the Bill would enable the DfE to examine the functioning of the small-scale renewable scheme once the scheme is operational.

Potential scrutiny points:

28. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders regarding how the DfE would apply the phrase of the phrase "from time to time", when implementing the Bill, if enacted as introduced.

29. The Committee for the Economy also may wish to seek views on whether the additional "economic conditions" could be added to the three specific conditions listed in the Bill as introduced. Based on the discussion of the minimum price tariff level in subsection 2.1 of this Paper, along with the findings in subsection 3.2 below, additional conditions potentially could include the electricity unit price paid by consumers in domestic and commercial markets.

2.4a Clause 4: Suspension and revocation

Clause 4 of the SGE Bill requires the DfE to suspend or revoke the scheme where:

- Any aspect of the scheme is having, or is likely to have, unintended and harmful consequences; or,
- Urgent action needs to be taken "to control the operation of the scheme regulations for any other reason".

Provision made under Clause 4 of the Bill "must require the provision of information to the Assembly" and "may make provision for scrutiny (before or after suspension or revocation) by the Assembly.

2.4b Consideration of Clause 4: Suspension and revocation

The Clauses here should be read in the context of Recommendation 2 of the RHI Report, which stated:

> *With regard to particular policies driven by unpredictable demand, consideration should always be given, before the policy is implemented, to the inclusion of a clearly drafted statutory power to enable swift action to be taken to suspend and/or close the scheme in order to bring it under control.*[60]

Clause 4 also states that future regulations **must** require that information on a suspension or a revocation of the scheme is to be provided to the Assembly. Whether

[60] The Renewable Heat Inquiry: Volume 3, Chapter 56 Summary And Recommendations https://wayback.archive-it.org/11112/20200911100057/https://www.rhiinquiry.org/sites/rhi/files/media-files/RHI-Inquiry-Report-Volume3-Chapter56-Summary-and-Recommendations.pdf

the Assembly's scrutiny of a suspension or a revocation is built into future regulations, however, is optional. The Clause states that scheme regulations "**may**" make provision for Assembly scrutiny.

Potential scrutiny points:

30. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders on what the phrase "unintended and harmful consequences" could entail within the context of the proposed scheme.

31. The Committee for the Economy also may wish to seek views as whether Assembly scrutiny of any suspension or revocation of a future scheme should be a mandatory part of that scheme's design.

2.5 Final provisions: clauses 5 to 8

The final provisions of the SGE Bill, as set out in Clauses 5 to 8, state that the DfE may "give guidance about" the small-scale green energy scheme and "the pursuit of small-scale green objective", amongst other things. Those clauses also include a number of definitions and set out the commencement timeframe and short title if enacted.

3 Potential implications of the SGE Bill

The following section seeks to identify some of the broader potential implications of the SGE Bill, as introduced. The section highlights additional issues meriting consideration, including those relating to:

- Decentralised energy systems and energy "prosumers;
- Potential impact on electricity consumers;
- Grid connection and other costs;
- Renewable electricity prices;
- Potential State Aid implications; and,
- Internal Market in Electricity.

3.1 Decentralised energy systems and energy "prosumers"

Encouraging microgeneration could lead in part to NI's energy generation becoming more decentralised. A decentralised or a distributed energy system is defined as:

> *Energy that is generated close to where it will be used, rather than at an industrial plant and sent through the national grid. Decentralised systems*

typically use renewable energy sources, including small hydro, combined heat and power (CHP), biomass, solar and wind power.[61]

Developing such a system may be seen as a means through which energy use is "democratised".[62] It also may change the relationship between energy producers and consumer, creating a different category of energy user known as a "prosumer" or "Active Consumers"[63]. Prosumers both produce and consume electricity, and benefit from reduced energy costs. They may fall into a number of categories, including residential, community or cooperative, commercial and public sector.[64]

As well as benefitting the individual or organisation, encouraging prosumers also may result in wider positive impacts. The International Energy Agency noted that that growth in residential solar PV prosumers may result in a number of benefits; including:

- Avoided system loss: by generating energy on site prosumers may avoid energy loss that occurs when energy is delivered through the transmission and distribution system due to inefficiencies;
- Deferred or avoided distribution and transmission capacity: the IEA state that onsite generation can "avoid or delay the need for investments in the transmission and distribution capacity by relieving upstream constraints or avoiding the need for system expansion, especially in countries with summer peak loads;
- Resilience: prosumers with storage system can provide back-up power in the event of grid disruptions;
- Increased competition in the electricity market; and,
- Reduced emissions.[65]

The same study also noted a number of potential barriers or challenges, including:

- The challenge and cost of integrating increased renewable capacity onto electricity systems;
- A potential loss of Generator revenue;
- A potential loss of government income from a decrease in sales tax on electricity;[66] and,

[61] Edie decentralised energy (accessed 18 October 2021) https://www.edie.net/definition/Decentralised-energy/33

[62] IPPR A distributed energy future for the UK: An essay collection Part One: Setting the Challenge, 1. Meeting the socio-economic criteria (September 2018) https://www.ippr.org/files/2018-09/a-distributed-energy-future-for-the-uk-september18.pdf

[63] Both terms refer to energy users who both produce and consume electricity, see for example https://www.energy.gov/eere/articles/consumer-vs-prosumer-whats-difference

[64] European Parliament Research Service, Electricity 'Prosumer' (November 2016) https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/593518/EPRS_BRI(2016)593518_EN.pdf

[65] International Energy Agency, Residential Prosumers -Drivers and Policy Options (RE-Prosumers) (June 2014) http://iea-retd.org/wp-content/uploads/2014/06/RE-PROSUMERS_IEA-RETD_2014.pdf

[66] In NI Vat is paid at 5% on electricity used for domestic purposes. This can rise to 20% for business depending on how much the business consumes daily. https://powerni.co.uk/globalassets/business/pdfs/power-ni---vat-and-your-electricity-bill-leaflet-2014.pdf

- Increased costs or cost-shifting, as experienced by electricity consumers.[67]

Potential scrutiny points:

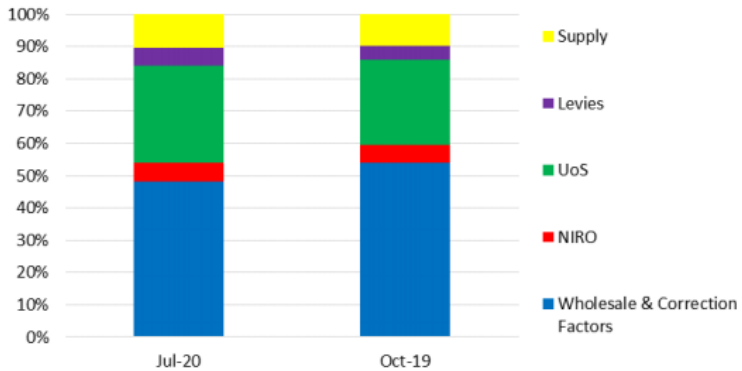
32. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders on whether the proposed scheme is the most appropriate way of realising the identified potential benefits associated with prosumers and decentralisation.

33. The Committee for the Economy also may wish to seek views as how the challenges associated with decentralisation and the growth of prosumers could be mitigated through a future scheme's design.

3.2 Potential impact on electricity consumers

The central purpose of the SGE Bill is to promote renewable microgeneration in NI. As noted in Section 1 above, microgeneration and other renewable generation had previously been incentivised through the NIRO. The cost incurred by suppliers of meeting the requirements of the NIRO were passed onto consumers. Electricity consumers continue to pay for the cost of suppliers meeting their obligations under the NIRO. This is demonstrated by Figure 5 below, which provides a detailed breakdown of the various elements that make up the price paid by customers of NI's largest electricity supplier, i.e. Power NI. As can be seen from that Figure, the largest element of Power NI consumer prices stems from the wholesale element, followed by the use of system (UoS) charges[68]. The cost of the NIRO is the second smallest component of bills, with other levies[69] contributing the smallest amount:

Figure 6: Breakdown of Power NI's July 2020 tariff compared with a breakdown of the previous tariff costs[70]



Source: Utility Regulator (2020)

[67] International Energy Agency, Residential Prosumers -Drivers and Policy Options (RE-Prosumers) (June 2014) http://iea-retd.org/wp-content/uploads/2014/06/RE-PROSUMERS_IEA-RETD_2014.pdf

[68] Use of System charges are the cost of transmission of electricity through the NIE Ltd network to homes and businesses.

[69] Levies include the chares for the System Support Services and the Public Service Obligation

[70] Utility Regulator, Electricity Tariff Briefing (12 May 2020) https://www.uregni.gov.uk/sites/uregni/files/media-files/Utility%20Regulator%20Electricity%20Tariff%20Briefing%20Paper%20Final.pdf

The NI Audit Office estimated in the 2020 report "Generating electricity from renewable energy", that the total cost to all UK suppliers of the NIRO over its entire lifespan – 1 April 2005 to 31 March 2037 – to be £5 billion.[71] ROCs issued under the NIRO were tradable across the UK. As such, the NIRO was part of a wider system of renewable support, the cost of which were borne by *all* UK consumers. It also important to note that:

> *… the cost of supporting renewable electricity to the average NI domestic consumer is approximately one third of that paid by the average GB domestic consumer. This is because GB has a wider range of support mechanisms, including ROCs, and also because NI negotiated a lower annual supplier obligation level than GB, due to higher levels of consumer vulnerability and fuel poverty.*[72]

If the proposed scheme follows the precedent set by the NIRO, it is likely that cost of that scheme also is to be passed onto consumers. Such an eventuality should be considered in the context of rising energy prices, and the impact those rises could have vulnerable domestic customers and industrial and commercial (I&C) customer competitiveness. It is also worth noting that the proposed scheme differs from the NIRO in two significant ways. First, unlike the NIRO, which supported a broad range of generation capacity levels, the proposed scheme is to be limited to generation of under 50kW. Second, unlike the NIRO which was part of wider UK system of support, the proposed scheme is to be confined to NI meaning its costs will be borne by a narrow consumer base. Both these factors, as well as the level of minimum price tariff and payment terms that form part of the scheme's design, are to determine the costs falling on suppliers and passed onto consumers.

3.2.1 NI domestic electricity prices

To provide some context to the above, Figure 6[73] below compares the price paid by NI medium domestic consumers,[74] in pence per kWh (p/kWh), including all taxes, with the price paid across the UK, the RoI and EU countries during the first six months of 2020. As can be seen from the Figure, NI consumers pay the seventh lowest p/kWh for the electricity of the countries examined. The price paid by NI consumers is below that of the EU median and that of the UK as a whole and that of the RoI.

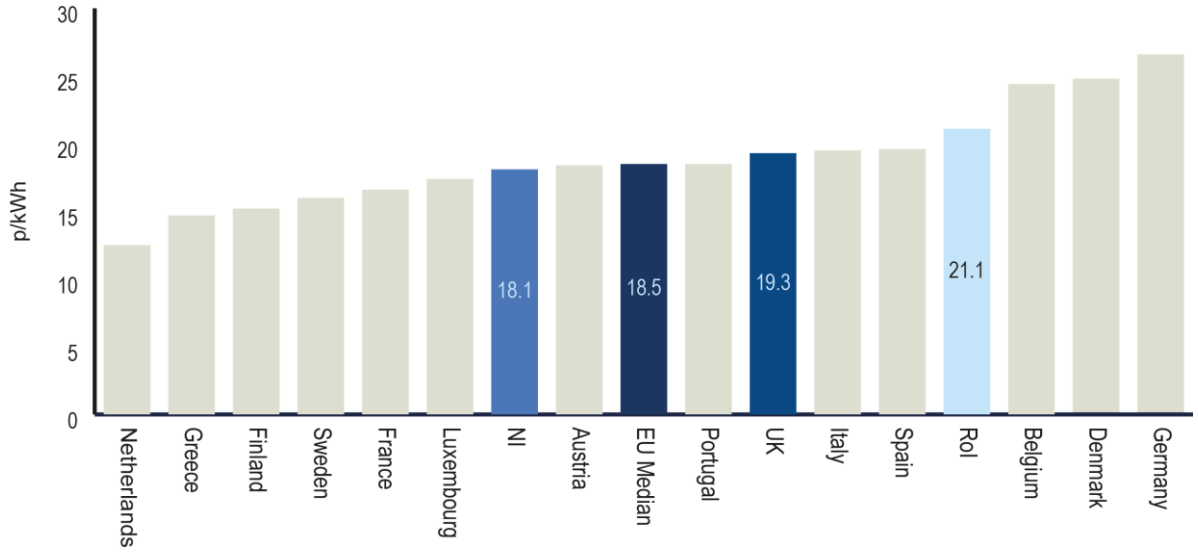
[71] Northern Ireland Audit Office Generating electricity from renewable energy (13 October 2020) https://www.niauditoffice.gov.uk/sites/niao/files/media-files/238502%20Renewable%20Energy%20Report__FinalWEB%20PDF.PDF

[72] *Ibid*

[73] Given the time period examined, the prices in Figure 3 do not show the effect of recent increases in the price of gas, which is a major electricity generation fuel in NI.

[74] Consumers with an annual consumption of between 2,500 and 4,999kWh

Figure 7: Domestic price comparison with EU – medium domestic consumer unit prices including all taxes – January to June 2020[75]



Source: Utility Regulator (2021)

Turning to vulnerable consumers, analysis carried out by the DfE suggests NI households spend around 7% of their disposable income on energy, with electricity the second largest component of this (approximately £12 per week, or 22% of total fuel costs), after motor fuel costs. The DfE note that in NI:

> *…a household is defined as being in fuel poverty if, in order to maintain a satisfactory level of heating (21°C in the main living room and 18°C in other occupied rooms), it is required to spend in excess of 10% of its household income on all fuel use.*

The Department for Communities notes that that current rate of fuel poverty is approximately 22% of households.[76]

On the subject of fuel poverty, it is worth noting the November 2020 "Energy Strategy Micro Inquiry" Report published by the Committee for the Economy, which highlighted the need to protect consumer interest during any transition to renewable energy. The Report stated that respondents to that Inquiry raised concern that "raising bills will indeed push more vulnerable people into fuel poverty".[77]

The issue of protecting vulnerable customers was discussed during the Bill's Second Stage debate on 28 September 2021. The Bill Sponsor noted that the protection of

[75] Utility Regulator, Retail Market Monitoring: Quarterly Transparency Report – Quarter 2: October to December 2020 (26 February 2021) https://www.uregni.gov.uk/sites/uregni/files/media-files/2021.02.26%20Q4%202020%20QTR%20-%20Final.pdf

[76] Department for Communities, Fuel Poverty (accessed 18 October 2021) https://www.communities-ni.gov.uk/topics/housing/fuel-poverty

[77] Committee for the Economy - Energy Strategy Micro Inquiry report (23 November 2020) http://www.niassembly.gov.uk/assembly-business/committees/2017-2022/economy/reports/energy-strategy-micro-inquiry/

such is something which could be built into the design of any future microgeneration scheme.[78]

Potential scrutiny points:

34. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders on how a future microgeneration scheme's design could protect vulnerable consumers and the business competiveness.

35. The Committee for the Economy may wish to ask the Department for Communities whether it has an estimate of the proportion of NI households at risk of falling into fuel poverty.

3.2.2 NI Industrial and Commercial electricity prices

Figure 7 below provides further context on electricity prices in NI, by comparing the price paid per kWh of electricity I&C consumers in NI, with prices paid by I&C consumers across the UK and the EU, during the first sixth months of 2020.[79] The comparison is shown across the following I&C categories:

- Very small I&C consumers, defined as consumers with an annual capacity of under 20MWh;
- Small I&C consumers, defined as consumers with an annual capacity of between 20MWh and 499MWh;
- Small-Medium I&C consumers, defined as consumers with an annual capacity of 500MWh to 1,999MWh;
- Medium I&C consumers, defined as consumers with an annual capacity of 2,000MWh to 19,999MWh; and,
- Large to very larger Very small I&C consumers, defined as consumers with an annual capacity of over 20,000MWh.[80]

As can be seen from Figure 7, very small NI I&C pay the seventh lowest price per unit of electricity across the EU and the UK. NI's I&C prices tend to become less competitive as I&C consumption levels grow. For context, it is worth noting the very small and small I&C account for 98.6% of I&C connections in NI, with very small I&C consumers accounting for 68.6% of all I&C connections.[81]

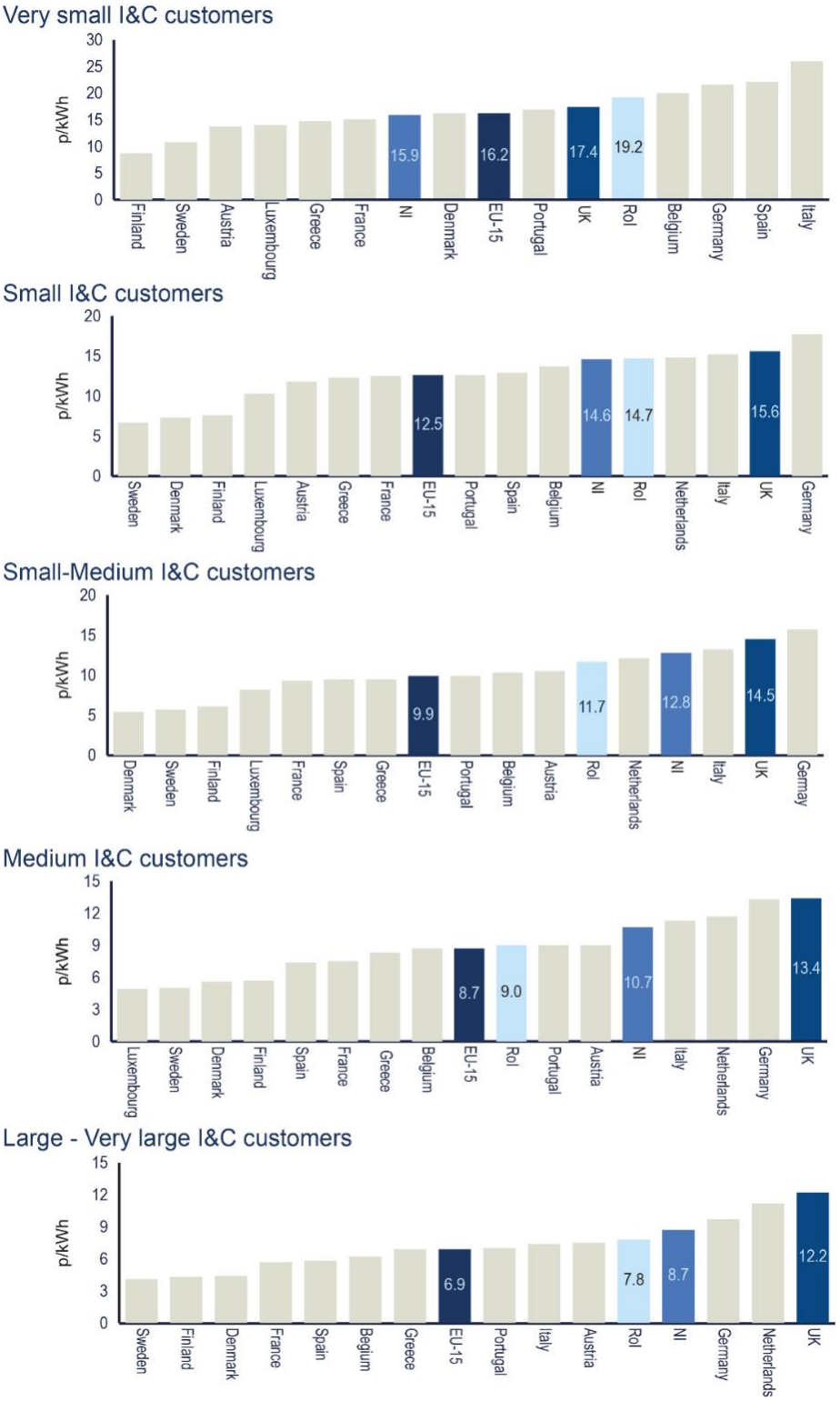
[78] Northern Ireland Assembly Official Report 28 September 2021 http://aims.niassembly.gov.uk/officialreport/report.aspx?&eveDate=2021/09/28&docID=350783#3635166

[79] Given the time period examined, the prices in Figure 6 do not show the effect of recent increases in the price of gas, which is a major electricity generation fuel in NI.

[80] Utility Regulator, Retail Market Monitoring: Quarterly Transparency Report – Quarter 2: October to December 2020 (26 February 2021) https://www.uregni.gov.uk/sites/uregni/files/media-files/2021.02.26%20Q4%202020%20QTR%20-%20Final.pdf

[81] *Ibid*

Figure 8: Comparison of NI I&C unit prices with UK and EU, prices exclude VAT, but include other taxes – January to June 2020[82]



Source: Utility Regulator (2021)

[82] *Ibid*

3.3 Grid connection and other costs

During the SGE Bill's Second Stage debate, MLAs discussed the costs associated with connecting renewable energy to the grid. On this, the Bill Sponsor commented that:

> *My Bill does not directly refer to any cost connections, but, as a consequence of microgeneration, there will be cost connections. I do not know whether the Bill has the scope to allow us to tackle that, but it is something that needs to be challenged… The Committee may come to the conclusion that my Bill needs to be amended to cover that matter, but it certainly forms part of the discussion.*[83]

"NI Electricity Networks" ("NIEN") is responsible for connecting microgeneration to the distribution grid. The process followed depends on the type of installation that requires connection. Two processes exist:

- A "G98/NI stage 1" process, which is intended for "single installations at a single site at an area"; and,
- A "G98/NI stage 2" process, which is intended for "multiple installations at multiple sites within a close geographical area" and "sites within 500m of one another having microgeneration installed by the same area by the same organisation and within 28 days". [84]

On the cost of a generation connection, NIEN state that:

> *The cost will reflect the work we have to carry out to meet your requirements. We have to take a number of factors into account including the generation export capacity requested, the position of the generator on our network and whether or not we have to reinforce our network to provide your connection.*
>
> *All works and costs are specific to your site requirements. Our charging methodology will give details of how this will affect your application.*[85]

NIEN's current charging methodology notes that an "authorised generator" seeking an "offer of terms of connection will be required to pay a Connection Application Fee" (CAF). That fee will depend on the type of connection required, and increases according to generation capacity. According to the charging methodology, customers seeking "a connection agreement for the parallel operation of a total installed capacity of less than or equal to 20kW" will be required to pay a CAF of £566. That increases to

[83] Northern Ireland Assembly, Official Report: Minutes of Evidence, Committee for the Economy, meeting on Wednesday, 13 October 2021, Small-Scale Green Energy Bill: Mr John O'Dowd MLA http://aims.niassembly.gov.uk/officialreport/minutesofevidencereport.aspx?AgendaId=28853&eveID=14670

[84] Northern Ireland Electricity Networks Microgeneration (G98/NI) (accessed 18 October 2021) https://www.nienetworks.co.uk/connections/generation-connections/micro-scale#panel1tab1

[85] Northern Ireland Electricity Networks, Generation Connections (accessed 18 October 2021) https://www.nienetworks.co.uk/help-advice/faqs/generation-connections

£1,697 for the parallel operation of a total installed capacity of between 20kW and 150kW. [86]

"Authorised generators" also are required to pay:

- The "reasonable cost of installing new and /or modified Connection Assets";
- A proportion of the "reasonable cost of installing" new shared connection assets;
- The "reasonable cost of decommissioning any assets resulting from the connection; and,
- Costs incurred by NIEN in undertaking any connection works relating to the connection, such as cost incurred from gaining planning consent or external legal costs.[87]

Customers who are not "authorised generators" are required to pay a similar range of costs. In all cases, the:

> *…work to be done and the Connection Charge payable will inevitably depend on the requirements of the customer seeking the connection, on the condition of the assets at the point of connection, on the planning and security standards applicable and on any other relevant matters…*[88]

Schedules 4 to 12 set out a range of potential costs. Those Schedules are too detailed to recreate here, but include a range of possible costs that are worth noting for purposes of informing Assembly scrutiny of this Bill, including cost associated with traffic management, excavation and reinstatement of tarmac or grass, etc., and obtaining land rights. Such costs fall into the category of "small services". The costs listed also cover more expansive and expensive works. Such costs could include, for example, the cost of extending the low voltage overhead lines. It is unclear as to the extent to which such costs are incurred in a typical "microgeneration" connection.[89]

In addition to connection costs, other potential costs also should be considered. Such costs could include the cost of purchasing and installing the generation equipment, the cost of purchase and installation of an import/export meter,[90] and the cost associated with planning fees,[91] if required. The combined impact of such costs has the potential to make the set-up costs of renewable microgeneration capital heavy. This in turn could limit the numbers of individuals who are able to avail of the scheme. Additionally, should the costs of minimum price tariff be passed onto the consumer, as has happened in previous renewable support schemes, the situation could arise whereby

[86] Northern Ireland Electricity Networks, Current Statement of Charges for Connections (effective from 15 July 2020) https://www.nienetworks.co.uk/documents/connections/socc-july-2020-update-submitted-to-ur-changes-acce.aspx
[87] *Ibid*
[88] *Ibid*
[89] *Ibid*
[90] Northern Ireland Electricity Networks Microgeneration (G98/NI) (accessed 18 October 2021) https://www.nienetworks.co.uk/connections/generation-connections/micro-scale#panel1tab1
[91] Department for Infrastructure planning fees and forms (accessed 18 October 2021) https://www.infrastructure-ni.gov.uk/articles/planning-fees-and-forms

all consumers are supporting the capital investments of those consumers with the available money to cover the initial capital outlay. This point was raised by the Minister for the Economy during the Second Stage debate on the Bill. The Bill Sponsor noted that protection for vulnerable consumers could be built into any future scheme's design.[92]

Potential scrutiny point:

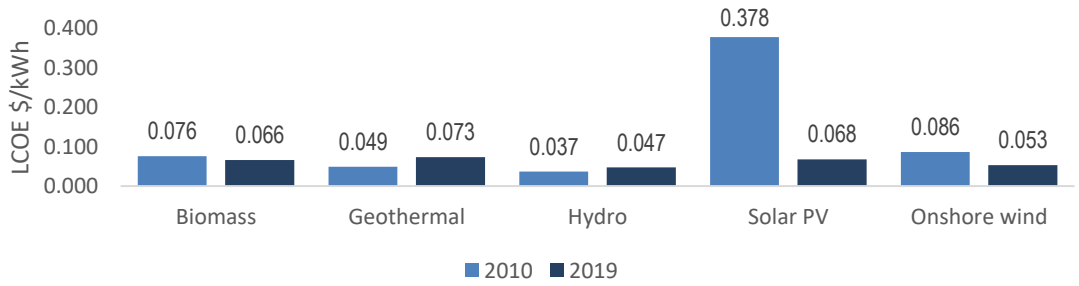
36. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders on how the scheme's design could incorporate the protection of vulnerable consumers.

3.4 Renewable electricity prices

The cost of renewable electricity generation is a further area of consideration. Figure 8 below, which is sourced from the "International Renewable Energy Agency" ("IRENA"), compares the global weighted "Levelised cost of electricity" ("LCOE") in 2010 to 2019. A basic formulation of an LCOE is total life cycle costs/ total lifetime energy production, where life cycle costs include investment expenditure, operations and maintenance and any fuel expenditure associated with the technology. The calculation does not include any financial support that may be offered to renewable energy developers. Estimates of LCOE allow for comparison across different technologies. The LCOE is presented in US Dollars per Kilowatt hour of electricity produced ($/Kwh). The figures are based on all sizes of technologies, and are not confined only to microgeneration. As such, the figure should be viewed as indicative of wider trends in renewable technology prices globally.[93]

Figure 8 below shows that the majority of renewable generation types have shown a decrease in LCOE over the nine-year period. The largest decrease in LCOE occurred in solar PV technology, which fell from 0.378$/kWh in 2010 to 0.068$/kWh in 2019.

Figure 9: Global average weighted LCOE of renewable energy technologies 2010 vs 2019[94]



Source: IRENA (2020)

[92] Northern Ireland Assembly Official Report 28 September 2021 http://aims.niassembly.gov.uk/officialreport/report.aspx?&eveDate=2021/09/28&docID=350783#3635166

[93] IRENA Renewable power costs in 2019 https://www.irena.org/publications/2020/Jun/Renewable-Power-Costs-in-2019

[94] *Ibid*

Figure 8 outlines the falling and LCOE of renewable technologies. It also demonstrates how costs vary according to technology type. Both may have implications for the design of any future small-scale renewable energy scheme. In particular, they may have implications for the minimum price tariff, as set out in Clause 2 of the SGE Bill as introduced; and the power to vary that tariff for "different purposes", as set out in Clause 3. The falling cost of renewable electricity raises the question as to whether the scheme design should include provision to allow the degression of the minimum price tariff. As noted in Section 1 of this Paper, that was a feature of the GB FIT and was included to factor in the decreasing cost of renewable technologies overtime.[95]

Potential scrutiny point:

37. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders on how a future scheme could be designed to reflect the falling and variable cost of generating renewable electricity.

3.5 Potential State Aid implications

The "Protocol on Ireland/Norther Ireland" (the "Protocol"), that forms part of the Withdrawal Agreement between the UK and the EU, following the UK's exit from the EU, ensures the continued application of EU State Aid rules within NI in certain circumstances. Commenting on the continued application of State Aid in NI, the DfE included the following statement on its website at the time of writing:

> *… measures which affect trade in goods and electricity between NI and the EU when aid is within the scope of Article 10 of the Northern Ireland Protocol. The State aid provisions of Article 10 will, in practice, primarily apply to aid for manufacturers and sellers of goods located in NI that trade with the EU.*
>
> *State aid may be present whenever state resources are used to provide assistance that gives undertakings (organisations that are engaged in economic activity) an advantage over others.*
>
> *State aid can distort competition, which in turn can be harmful to consumers and companies in the EU, so it is generally discouraged by the European Commission.*[96]

With regard to the proposed small-scale renewable support scheme and State Aid, it is important to note that aid to an organisation that does not engage in economic activity is not considered State Aid. For example, energy efficiency grants to households or individuals are not considered State Aid. By the same logic, it is unlikely that the

[95] Feed-in tariffs, Tariff Degression (accessed 30 September 2021) https://www.fitariffs.co.uk/FITs/principles/degression/
[96] Department for the Economy, Introduction to State Aid (accessed 19 October 2021) http://www.economy-ni.gov.uk/articles/introduction-state-aid

elements of the proposed scheme that apply to domestic electricity generators are not to be considered State Aid.[97]

Aid granted to economic actors must meet a number of criteria, if it is to be classified State Aid. Those criteria include:

- The assistance must be provided with, or through State resources;
- The assistance gives one or more undertaking an advantage over its competitors;
- The assistance distorts or has the potential to distort competition; and,
- The assistance affects trade between Member States.

Even if all of the above criterion are met, the overall amount of aid granted also is to determine whether that aid is considered State Aid that distorts competition. The EU's *industrial de minimis regulation* allows small amounts of aid to be provided to a single undertaking for a range of purposes. The upper limit on this is €200,000 over three consecutive fiscal years. Aid to the agriculture sector is capped at €15,000 over three consecutive fiscal years.[98]

The DfE advise in its State Aid guidance (dated 11 August 2017) states that:

> *A decision to use the de minimis regulation for State aid cover must be taken with caution, and with a complete understanding of the regulatory requirements.*[99]

Adding that:

> *To ensure as much transparency as possible, the European Commission encourages Member States to use Block Exemption Regulations (such as the General Block Exemption Regulation (GBER)) to provide State aid cover where appropriate. Many State aid advisors would therefore suggest that you consider use of the Block Exemption Regulations in preference to the de minimis regulation, where this is possible.*[100]

Potential scrutiny point:

38. The Committee for the Economy may wish ask the DfE whether the proposed small-scale renewable energy scheme has potential State Aid implications.

3.6 Internal Market in Electricity

The Protocol aligns NI to various aspects of EU law that is relevant to wholesale electricity markets. That includes, but is not limited to, the "Directive 2009/72/EC of the

[97] Department for the Economy, State Aid: A beginner's guide for Public Bodies in Northern Ireland (11 August 2017) https://www.economy-ni.gov.uk/sites/default/files/publications/economy/state-aid-beginners-guide-public-bodies-northern-ireland.pdf

[98] *Ibid*

[99] *Ibid*

[100] *Ibid*

European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity" ("IME 2009"). Importantly, Article 13 of the Protocol also provides that EU law applicable in NI *via* the Protocol's provisions is to continue to apply when amended or replaced. This is distinct from the Protocol arrangements for new EU law introduced in areas covered by the Protocol. New EU law that falls within the scope of the Protocol is not automatically applicable in NI. Instead, the application of such new EU law is decided upon by through the working of the Protocol's Joint Committee.[101]

This is significant in the context of the IME 2009, as that instrument was "revised and replaced" by the "Directive (EU) 2019/944 on common rules for the internal market for electricity" ("IME 2019").[102] The IME 2019 was adopted in June 2019, but did not become effective until 1 January 2021. The IME 2019 is not listed in the Annexes to the Protocol, as one of the pieces of EU law continues to apply in NI following the UK's withdrawal from the EU. However, as it replaced the IME 2009, the IME 2019 and its application is to come within the scope of Article 13 of the Protocol.

It is important to note that EU energy legislation remaining applicable in NI by way of the Protocol does so in so far as:

> *… they apply to the generation, transmission, distribution, and supply of electricity, trading in wholesale electricity or cross-border exchanges in electricity.*
>
> *Provisions relating to retail markets and consumer protection shall not apply.*

Within this context, the IME 2019 includes a number of provisions that may have implications for the SGE Bill. As raised during the Second Stage debate, Article 5 of the IME 2019 states:

> *Suppliers shall be free to determine the price at which they supply electricity to customers. Member States shall take appropriate actions to ensure effective competition between suppliers.*[103]

The IME 2019 includes scope to derogate from Article 5 for specific purposes. EU Member States have the power to "apply public interventions in the price setting for the supply of electricity to energy poor or vulnerable household customers", with a view to protecting those categories of consumers. Importantly, the IME 2019 does not include similar provisions with respect to supporting renewable microgeneration or renewable electricity more generally.

[101] *Ibid* Article 13

[102] Directive (EU) 2019/944 on common rules for the internal market for electricity https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019L0944

[103] Northern Ireland Assembly Official Report 28 September 2021 http://aims.niassembly.gov.uk/officialreport/report.aspx?&eveDate=2021/09/28&docID=350783#3635166

The IME 2019 also seeks to encourage "active customers". Its preamble states:

> *All consumers should be able to benefit from directly participating in the market, in particular by adjusting their consumption according to market signals and, in return, benefiting from lower electricity prices or other incentive payments. The benefits of such active participation are likely to increase over time, as the awareness of otherwise passive consumers is raised about their possibilities as active customers and as the information on the possibilities of active participation becomes more accessible and better known.*[104]

The preamble goes on to state that consumers should be able "consume, to store and to sell self-generated electricity to the market and to participate in all electricity markets by providing flexibility to the system, for instance through energy storage", but notes that:

> *… legal and commercial barriers exist, including, for example, disproportionate fees for internally consumed electricity, obligations to feed self-generated electricity to the energy system, and administrative burdens, such as the need for consumers who self-generate electricity and sell it to the system to comply with the requirements for suppliers, etc. Such obstacles, which prevent consumers from self-generating electricity and from consuming, storing or selling self-generated electricity to the market, should be removed while it should be ensured that such consumers contribute adequately to system costs. Member States should be able to have different provisions in their national law with respect to taxes and levies for individual and jointly-acting active customers, as well as for household and other final customers.*[105]

To achieve this, the IME 2019 includes provisions which seek to protect "active customers" from:

> *…disproportionate or discriminatory technical requirements, administrative requirements, procedures and charges, and to network charges that are not cost-reflective.*[106]

It also states that active customers are "entitled to sell self-generated electricity, including through power purchase agreements".

The IME 2019 also has some potential overlap with the SGE Bill's community energy provisions. It makes provisions for what is termed "citizen energy communities". It

[104] Directive (EU) 2019/944 on common rules for the internal market for electricity https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019L0944

[105] *Ibid*

[106] *Ibid*

states that EU Members provide an enabling framework for "citizen energy communities", stating that such frameworks should provide those communities with:

> *…rights and obligations, which are possible to deduce from other, existing rights and obligations, such as the freedom of contract, the right to switch supplier, the responsibilities of the distribution system operator, the rules on network charges, and balancing obligations.*[107]

The IME 2019 also allows for citizen energy communities to become distribution systems operators.

There is potential ambiguity on the application of these provisions in a NI context. As noted above, the Protocol states that the EU law on electricity markets applies in NI through the Protocol in relation to "generation, transmission, distribution, and supply of electricity, trading in wholesale electricity or cross-border exchanges in electricity". It also states that provisions that concern retail markets and consumer protection do not apply with respect to NI. Where the "active consumer" and "citizen energy communities" concept fits in here remains unclear, as the concept straddles a number of aspects of the energy market. In this respect, the active consumer concept potentially includes both consumer rights ***and*** generation. The citizen consumer potentially overlaps with consumer rights ***and*** distribution.

Potential scrutiny points:

39. The Committee for the Economy may wish to seek legal advice on the general application of the IME 2019 in NI.

40. The Committee may wish to seek legal advice on whether Article 5 of the IME 2019 prevents the introduction of a minimum price tariff for exported renewable electricity in NI, as specified in Clause 1 of the Bill, if enacted as introduced.

4 Financial implications of the SGE Bill

The SGE Bill's EFM states that:

> *It will be the major electricity provider or supplier which is responsible for paying micro-generators.*

As explored in Section 3 of this Paper, previous schemes have adopted a similar approach, with the cost of incentivising renewable electricity borne by suppliers and historically passed on to consumers, rather than tax payers.

The EFM goes on to argue that the scheme's impact on public expenditure is likely to be limited to administrative expenditure. It states:

[107] *Ibid*

> *While it is difficult to project demand for the scheme due to the set-up of the electricity market, the Member believes that the Bill will not give rise to any significant additional public expenditure. On the basis of comparable renewable schemes and depending on the design of the scheme that the Minister may bring forward, it is estimated the administrative expenditure associated with the bill's objectives would be less than £1million per annum.*

The above quote notes that demand for the scheme is likely to determine its ultimate administrative costs. A number of elements are likely to influence demand for the scheme, including the level the minimum price tariff is set at, as explored in Section 2 above, and the capital costs associated with purchasing items such as renewable energy generation equipment and grid connection.

As noted in Section 1 of this paper, the NIRO was introduced in 2005. It was closed to all new applicants as of 2017. Payments, however, continue to be made under the scheme until 2037. The NI UR has a statutory responsibility for the NIRO.[108] It manages the NIRO; administered by the Office of Gas and Electricity Markets (Ofgem) through an agency service agreement between the UR and Ofgem.[109] Figure 10 below provides a summary of the annual cost Ofgem incurred as a result of its administration of the NIRO from 2005-06 and 2019-20. That information was sourced from Ofgem accounts for each year from 2010-11 to 2019-20.[110] Information for the years 2005-06 to 2009-10 was provided by the UR upon RaISe's request.[111]

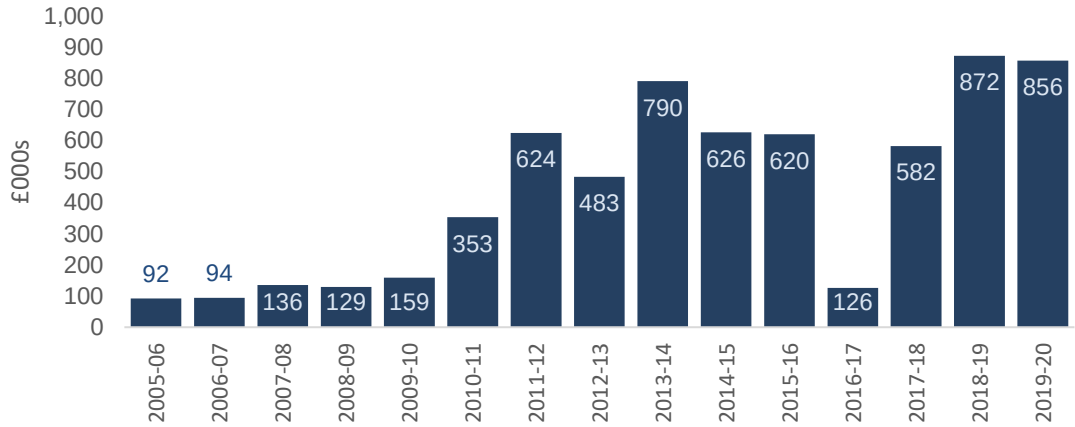
[108] See Article 18 of the Renewable Obligation Order (Northern Ireland) 2005 https://www.legislation.gov.uk/nisr/2005/38/article/18/made

[109] The Utility Regulator, sustainability https://www.uregni.gov.uk/sustainability#:~:text=The%20Utility%20Regulator%20has%20statutory,Ireland%20Renewable%20Obligation%20(NIRO).&text=The%20NIRO%20is%20managed%20by,services%20agreement%20between%20both%20parties. (accessed 18 May 2021)

[110] Ofgem, Annual Report and Accounts 2010-11 to 2019-20 are available https://www.ofgem.gov.uk/about-us/corporate-policy-planning-and-reporting/annual-report-and-accounts#block-views-publications-and-updates-block (accessed 18 May 2021)

[111] Email from the Utility Regulator received 17 May 2021. Note figures for 2005-06 and 2006-07 are held on file by the Utility Regulator but cannot be verified by Utility Regulator Accounts as the regulator's "systems do not show invoices from this far back". Figures for these years are included for illustrative purposes only.

Figure 10: Costs incurred by Ofgem as a result its administration of the NIRO 2005-06 to 2019-20



Source: Ofgem, Utility Regulator (complied by RaISe 2021)

Figure 10 above shows that the cost associated with NIRO did not exceed £1m per annum over the period examined. It also shows that although NIRO's costs have fluctuated during the given time period; the general trend has been upward. The UR has stated the following on fluctuations in those figures:

> *The fluctuations occur because UR pays a portion of Ofgem's total cost of administering the NIRO. The portion that UR cover is dependent on the number of Northern Ireland suppliers and Northern Ireland Generators that are in the scheme as a proportion of the total number of suppliers and generators in the RO UK wide. This can go up and down.*[112]

As noted in the introduction to this Section, the NIRO is similar to the microgeneration scheme proposed in the SGE Bill– i.e. in terms of the NIRO's intention, which was to incentivise the development of renewable electricity. The two schemes are not equivalent, however. A number of important differences exist between the two schemes, **warranting caution** when relying on previous NIRO costs as the basis to estimate future microgeneration support scheme costs. **Those differences include**:

- The NIRO was designed to incentivise renewable electricity across a wide-range of capacity sizes, from microgeneration to large-scale generation (in excess of 5MW of capacity). The proposed microgeneration scheme is more limited in its scope, proposing support to only those renewables installations with a capacity of 50kW or below. As noted by the UR in the quote above, a key driver of the costs of administering the NIRO was the number of generators in the scheme. As such, the limited scope of the proposed microgeneration support mechanism, relative to the NIRO, may result in lower administration costs; and,
- The NIRO was administered by Ofgem on behalf of the UR. Ofgem also administered the GB Renewable Obligation ("GBRO"). That allowed renewable obligation certificates to be traded across the UK. It also meant the UR could benefit

[112] Email for the Utility Regulator to RaISe, 14 May 2021

from an already existing administration infrastructure that Ofgem has in place to support the GBRO. The proposed microgeneration support scheme, if introduced, would represent a departure from the GB position. As explained in Section 1, the UK had previously supported small-scale renewable generation (generation with a capacity of 5MW of less) through a feed-in tariff, which is to be replaced by a "Smart Export Guarantee". Should NI depart from the rest of the UK on this, it is unclear whether a similar agreement could be reached with Ofgem, which would authorise Ofgem to administer the proposed microgeneration scheme on behalf of the DfE. In addition, if Ofgem is unable to provide such support, it is unclear as to what costs would be incurred by the DfE to set up the structures needed to administer a new microgeneration support scheme.

Potential scrutiny point:

41. The Committee for the Economy may wish ask the DfE to clarify whether a future small-scale renewable scheme could be administered by Ofgem as was the case for the NIRO

42. If this is not the case, the Committee for the Economy may wish to ask the DfE for an estimate of the cost to replicate those Ofgem's administrative functions within the DfE or the UR.

It is important to note too, that whilst the data in Figure 10 represent Ofgem's costs for administering the NIRO, those costs do not represent the costs that were incurred by the NI "public purse", due to the way in which the NIRO costs were and are funded. As noted in Box 1 earlier in this paper, the NIRO obliges electricity suppliers to purchase ROCs from generators, to demonstrate that they sourced a specified amount of their electricity from renewable sources. Where suppliers do not present a sufficient number of ROCs to meet their obligation in the reporting period (one year), they must pay an equivalent amount into a buy-out fund. Since 2009, this buy-out fund has been used to fund Ofgem's costs for running the NIRO. There has been one exception to this; in 2016-17 a shortfall in the buyout fund, caused by unusual weather conditions, meant that there was an insufficient amount in the fund to cover the administration cost. The DfE paid £10,926 towards that shortfall in 2018.[113] As such, the actual cost to the "public purse" of the NIRO has been negligible since 2009.

Potential scrutiny point:

43. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders on whether the proposed microgeneration support scheme could seek to utilise similar methods to ensure that the cost incurred by the public purse for the scheme would be minimised.

[113] Email for the Utility Regulator to RaISe, 17 May 2021

5 Human Rights and Equality Considerations

Support mechanisms for incentivising renewable electricity production in NI can be seen as a step towards meeting international human rights obligations to tackle climate change. The United Nations *Paris Agreement*[114] (the "Agreement"), which is a **legally binding international treaty,** was adopted by 196 Parties on 12 December 2015, entering into force on 4 November 2016. Its goal has been to **limit global warming** to below 2 degrees Celsius (**preferably to 1.5 degrees Celsius**), when compared to pre-industrial levels. Its aim is to ultimately achieve a climate neutral world by the mid-century.[115]

The Agreement includes commitments from all countries to reduce their greenhouse gas emissions and calls on countries to strengthen their commitments over time. The Agreement was signed by the UK and ROI on 22 April 2016, and ratified on the 18 November 2016 and 4 November 2016.[116]

Implementation of the Agreement requires **economic and social transformation** based on the best available science, with a **5- year cycle** of increasingly elaborate climate action carried out by countries.[117] In order to achieve that objective, the Agreement commits all States parties to "prepare, communicate and maintain successive nationally determined contributions" to reducing greenhouse gas (GHG) emissions.[118] Countries are obliged to submit their plans for climate action known as "**nationally determined contributions" ("NDCs")**.[119]

The move towards renewable energy technologies and supplies to reduce GHG emissions is fundamental.[120] The United Nations "Environment Programme" highlights that the promotion of renewable energy sources is a high-potential mitigation opportunity that could deliver significant GHG emission reductions.[121] In addition, that Programme advances that renewable energy to enhance energy security and independence, reduce air pollution, improve public health and support adaptions goals. Therefore, the legislative enhancement and subsequent development of renewable energy sources, to work towards complying with the obligations documented in the Paris Agreement.

While the need to reduce climate change is imperative to ensure citizens' right to a safe and healthy environment, moving to a more sustainable energy economy needs to be

[114] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/558182/Paris_Ag_Cm_9338_WEB_Accessible.pdf

[115] https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

[116] https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en

[117] https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

[118] A. Boyle, Climate Change, The Paris Agreement and Human Rights, (2018) International & Comparative Law Quarterly 67 p 759

[119] Article 4 (2) The Paris Agreement https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/558182/Paris_Ag_Cm_9338_WEB_Accessible.pdf

[120] NRDC, Renewable Energy is Key to Fighting Climate Change (26 July 2016) https://www.nrdc.org/experts/noah-long/renewable-energy-key-fighting-climate-change

[121] https://unfccc.int/resource/climateaction2020/tep/thematic-areas/renewable-energy/index.html

done in a way that is fair to everyone.[122] One concern regarding the SMG Bill as introduced is that financing microgeneration commonly is done through consumer bills and there is a possibility of increased costs for consumers under the Bill, including those already experiencing fuel poverty.

It should be noted that approximately 22% of NI households live in fuel poverty.[123] For many, this means living below the poverty line and experiencing higher bills due to poor levels of energy efficiency. This is often exacerbated by winter conditions, with thousands of people living in properties which are considered dangerous or unfit for colder seasons.[124]

As noted by the NI Public Health Agency ("PHA"),[125] the inability to adequately heat a home both causes and contributes to worsening health and wellbeing. Research has documented detrimental impacts on both physical and mental health, which are markedly harmful for particular groups. Such research stated that those most "at risk" include those with: an illness exacerbated by the cold (cardiovascular conditions); respiratory conditions; disabilities; chronic or terminal health conditions (a stroke or cancer); with young or dependent children in a household; pregnant women; low income and older people 65+yrs.[126] In addition, studies highlight that there is a relationship between "Excess Winter Deaths" ("EWDs"), low thermal efficiency of housing and low indoor temperatures.[127]

The NI Fuel Poverty Coalition assert there is also increasing evidence to show that children living in cold homes are more than twice as likely to suffer from a variety of respiratory problems than children living in warm homes. Exposure to cold can increase the level of minor illnesses, such as colds and flu, and exacerbate existing conditions such as arthritis and rheumatism.[128]

Poverty (in this case fuel poverty) can affect the enjoyment of several human rights protections, including the right to life, freedom from inhuman and degrading treatment, adequate housing, food and health.[129] These protections are found in international, regional and domestic legal instruments such as the "European Convention on Human Rights" ("ECHR")[130] and the "International Covenant on Economic, Social and Cultural Rights" ("ICESCR").[131]

[122] Green Peace, the Just Transition (accessed 26 October 2021) https://www.greenpeace.org.uk/challenges/just-transition/
[123] Department for Communities, Fuel Poverty (accessed 26 October 2021) https://www.communities-ni.gov.uk/topics/housing/fuel-poverty
[124] Fuel Poverty Coalition, Manifesto for Warmth 2021 http://fuelpovertyni.org/wp-content/uploads/FPC-Manifesto-for-Warmth-2021.pdf
[125] Public Health Agency, Fuel Poverty (accessed 26 October 2021) https://www.publichealth.hscni.net/directorate-public-health/health-and-social-wellbeing-improvement/fuel-poverty
[126] *Ibid*
[127] Fuel Poverty Coalition, Manifesto for Warmth 2021 http://fuelpovertyni.org/wp-content/uploads/FPC-Manifesto-for-Warmth-2021.pdf
[128] *Ibid*
[129] European Commission, Energy Poverty Hub https://www.energypoverty.eu/news/fuel-poverty-through-human-rights-lens
[130] European Convention of Human Rights https://www.echr.coe.int/Documents/Convention_ENG.pdf
[131] International Covenant on Economic, Social and Cultural Rights https://www.ohchr.org/en/professionalinterest/pages/cescr.aspx

The right to an adequate standard of living is a human right guaranteed by the Article 11 of the ICESCR.[132] It includes the right to adequate housing. In order for the right to adequate housing to be fulfilled, housing must protect inhabitants from rain, damp and cold.[133]

As noted in the Preamble of the Paris Agreement:

> *Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity.* [134]

While it is essential to reduce GHG emission through environmental initiatives, consideration should be given to not burdening low-income families with the cost of financing developments. From a human rights perspective, the cost of climate change incentives should not exacerbate poverty levels of the most vulnerable in our society. Therefore, the cost of such an initiative should be considered when balancing human rights obligations in the context of the SGE Bill as introduced.

Potential scrutiny point:

44. The Committee for the Economy may wish to seek the views of the DfE and other stakeholders (including the Human Rights Commission) on how the scheme design could reflect the human rights considerations outlined above.

6 Concluding remarks

As introduced, the SGE Bill seeks to support the development of renewable microgeneration in NI by placing a duty on the DfE to introduce a small-scale renewable energy scheme. A key feature of that scheme is for it to include a minimum price tariff payable to microgenerators which export their renewable energy to the grid.

The SGE Bill defines specific elements of what that future scheme is to include. Those elements include a definition of microgeneration and a target that "major electricity providers" are to source 5% of the electricity supply from renewable microgeneration by 2025. The Bill also states that major electricity providers are to be defined by their market share.

[132] *Ibid*
[133] Department for Communities Fuel Poverty Strategy https://www.communities-ni.gov.uk/publications/fuel-poverty-strategy
[134] Preamble of the Paris Agreement https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/558182/Paris_Ag_Cm_9338_WEB_Accessible.pdf

Other aspects of the scheme design, including the level at which the minimum price tariff is to be set, the length of contracts under the scheme, and the specific level of market share a supplier must reach in order to be defined as a major electricity provider are to be determined by the DfE and introduced *via* secondary legislation. That legislation is to be subject to affirmative action, meaning the Assembly will be required to vote to pass that regulation, if the Bill is enacted as introduced. That will provide the Assembly with the opportunity to scrutinise the final shape of the scheme's design.

Throughout this Paper, a number of potential issues for consideration have been identified. Those issues included:

- The Bill could lead to an increase of prosumers in NI. That could have benefits for consumers, the grid and emission, but could also lead to challenges.
- The proposed scheme may place further upward pressure on electricity prices and negatively impact vulnerable consumers and increase the costs to NI businesses.
- The combined cost of grid connection and other capital outlays associated with the installation of microgeneration are difficult to quantify. If substantial, that would limit access to the scheme and result in all consumers subsidising those consumers with the income to meet initial capital costs.
- The LCOE of renewable electricity is falling and varies according to technology type. Questions arise as to how the minimum price tariff could be designed to reflect those findings.
- Due to the continued application of EU Law in NI due to the Protocol, the proposed scheme may have State Aid implications. It also may have compatibility issues with regard to the IME 2019.
- The SGE Bill's EFM states that the Bill's administrative cost would not exceed £1m per annum. Data from the Utility Regulator shows that this estimate is in line with the administration costs associated with the NIRO. It, however, is important to note here the difference in scope between the proposed scheme and the NIRO. As such, previous administration expenditure associated with the NIRO are limited in that they only are indicative.
- There are potential human rights issues arising from obligations to tackle climate change in an equitable way, which merit additional consideration, in particular those relating to fuel poverty, given current rising fuel prices.

Annex 1: Smart Export Guarantee suppliers

Supplier	SEG Rate (p/kWh)	Licensee status
Avro Energy	3	Mandatory
British Gas	3.2	Mandatory
Bulb	5.38	Mandatory
E	1	Mandatory
EDF Energy	3.5	Mandatory
E.ON	5.5 solar, 3 other technologies	Mandatory
Green Star Energy (part of Shell Energy Group)	3.5	Mandatory
Npower (part of E.ON Group)	5.5 solar, 3 other technologies	Mandatory
Octopus Energy	5.5	Mandatory
OVO Energy	4	Mandatory
Scottish Power	4	Mandatory
Shell Energy	3.5	Mandatory
SSE (part of OVO Group)	3.5	Mandatory
The Utility Warehouse	2	Mandatory
Utilita	3	Mandatory
Green Network	3.5	Mandatory
SO Energy	5	Mandatory
Symbio Energy	Unavailable	Voluntary

Source: Compiled by RaISE (2020, links in table)