

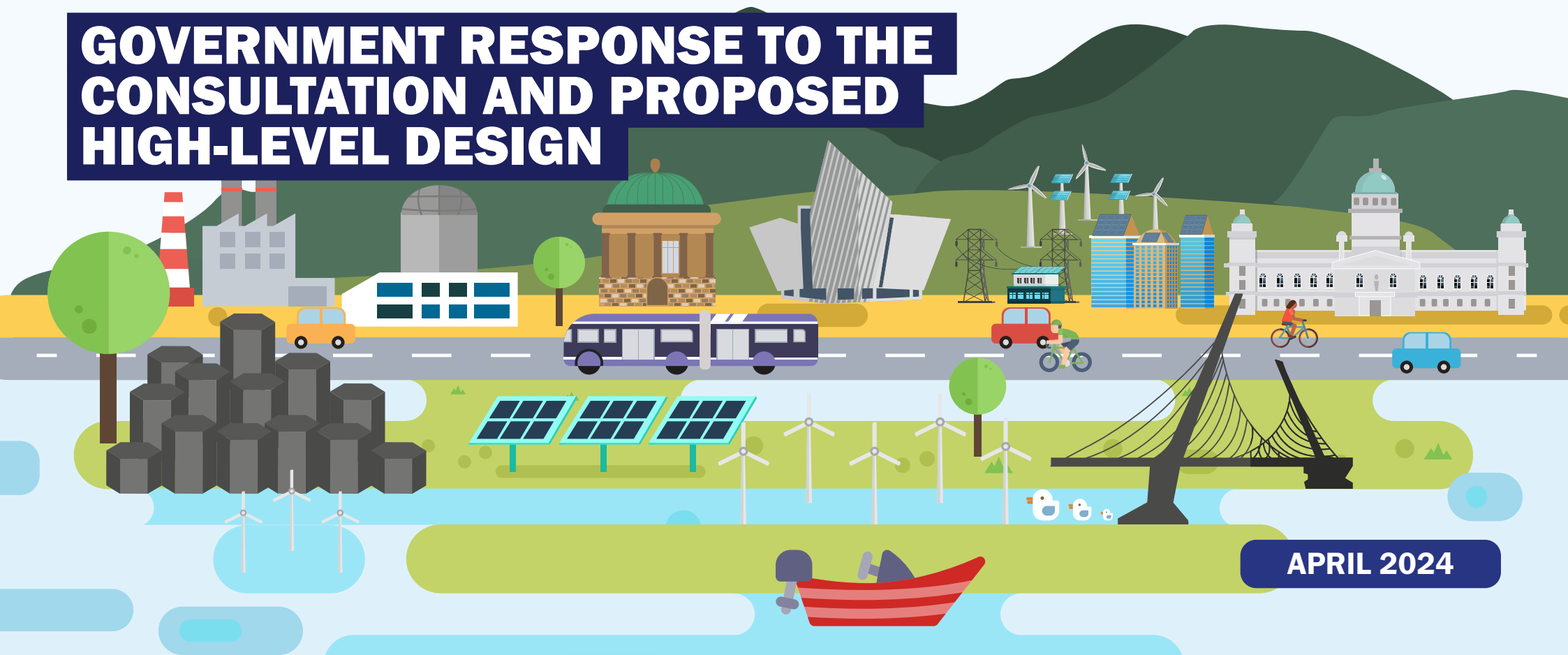


Department for the
Economy
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An Roinn
Geilleagair

DESIGN CONSIDERATIONS FOR A RENEWABLE ELECTRICITY SUPPORT SCHEME FOR NORTHERN IRELAND

GOVERNMENT RESPONSE TO THE CONSULTATION AND PROPOSED HIGH-LEVEL DESIGN



APRIL 2024

Table of Contents

| | |
|--|-----------|
| Introduction | 3 |
| Background | 4 |
| Government Response | 5 |
| Scheme Principles | 5 |
| Scheme Design Type | 5 |
| Eligibility Criteria | 5 |
| Contract Structure | 6 |
| Payment Structure | 6 |
| High-Level Design and Auction Roadmap | 7 |
| Next Steps | 11 |
| Appendix: Government Response to the Consultation | 12 |

Introduction

In February 2023, the Department for the Economy held a consultation on design considerations for a Renewable Electricity Support Scheme for Northern Ireland.

The purpose of the consultation was to enable stakeholders to provide input into the renewable electricity support scheme policy development. This document provides an overview of the feedback received.

Having considered the consultation responses, and with a view to the unique landscape of the Northern Ireland electricity market, this document will also delineate the High-Level Design (HLD) for a new Renewable Electricity Support Scheme for Northern Ireland. Tailored to the region's specific needs, this initial design proposal builds upon the proven success of auction-based support schemes across Great Britain, Ireland, and Europe. The primary aim of the scheme is to encourage investment in local renewable electricity projects whilst also protecting consumers from global price shocks.

This paper outlines the wider policy objectives of the new scheme, the intended features underpinning the auction design and compensation mechanism, as well as an illustrative auction roadmap of renewable generation to be procured under the support scheme by 2030. The HLD included in this document reflects a combination of the independent analysis conducted, or commissioned, by the Department for the Economy, as well as the feedback received from stakeholders through the public consultation process and the direct engagement conducted over the course of the HLD development.

The Department intends to conduct further analysis on all aspects of the HLD presented here to validate its suitability and effectiveness. Technical modelling will shape the final auction design, while a financial impact assessment will evaluate the implications on consumers. The HLD should therefore be regarded as a preliminary proposition only. The final scheme design will take into account this upcoming analysis and any additional input from key stakeholders.

Following this publication the Department will continue to develop the Detailed Design of the scheme in conjunction with the bodies and agencies that will be taking on the responsibility for administering and regulating the scheme and auctions. Any agreed arrangements with other bodies will be incorporated in the Detailed Design to be developed throughout the remainder of 2024.

Finally, it is important to note that the final design of the scheme will be subject to State Aid approval. The Detailed Design of the scheme will therefore be developed in conjunction with and feed into the notification process.

Background

The Department for the Economy published the Energy Strategy for Northern Ireland in December 2021. The vision of the Strategy sets out how we will achieve net zero carbon and affordable energy by 2050. The Climate Change Act (Northern Ireland) 2022 then established the 2030 target of at least 80% of electricity consumption to come from renewable sources.

The introduction of a renewable electricity support scheme, providing a robust route to market for renewable developers, was identified as the primary enabler to the achievement of the 80% target. Such a scheme would also support trade and investment in Northern Ireland, driving improvements in wealth, prosperity, and living standards across the country. By establishing the main mechanism for encouraging investment in renewable electricity in Northern Ireland, a new support scheme would be the catalyst to lower carbon emissions and grow the green economy.

In February 2023, the Department published the consultation on Design Considerations for a Renewable Electricity Support Scheme for Northern Ireland. The consultation gathered feedback from key stakeholders and provided valuable insights that shaped the HLD.

In October 2023, the Department contracted Aurora Energy Research to provide the required technical expertise and support the drafting of the HLD. Aurora has so far conducted analysis of potential design options to define the optimal scheme structure for Northern Ireland and encourage sufficient investment in renewable electricity generation to meet the 80% by 2030 target. Following industry and key partner engagement in the form of stakeholder interviews and workshops in January 2024, Aurora presented a set of preliminary recommendations that have helped formulate the HLD. Aurora's report is published alongside this document.

With the publication of the Government response to the consultation, along with the HLD, the Department aims to deliver against the Energy Strategy commitments and mark the first step towards the announcement of the detailed scheme design and the terms and conditions that will apply to the first auction.

Government Response to Consultation

As introduced above, the Department for the Economy held a consultation on Design Considerations for a Renewable Electricity Support Scheme for Northern Ireland between February and April 2023.

The purpose of the consultation was to enable stakeholders to provide input into the support scheme policy development. A total of 54 responses were received during the consultation. Respondents have been broken down by categories as illustrated below:

- 29 energy sector representatives
- 14 public/third sector representatives
- 3 environmental representatives
- 1 business consumer
- 7 domestic consumers

Here we present a brief overview of the feedback received. A more detailed breakdown by question is presented in the Appendix.

Scheme Principles

Three principles guiding the objectives of the scheme were proposed by the Department:

1. Incentivise sufficient renewable electricity generation to ensure that at least 80% of electricity consumption is from renewable sources by 2030.
2. Ensure that consumers pay a fair price for electricity produced locally and that prices are more stable.
3. Encourage a wide range of renewable sources to diversify the technology mix to support security of supply.

All respondents were in agreement with the scheme principles and highlighted the importance of balancing the competing priorities of each principle.

Scheme Design Type

A Contract for Difference (CfD) scheme was agreed by the majority of participants to be the preferred approach to supporting renewable generation as CfD schemes are already employed internationally, have been historically successful in supporting large amounts of renewable generation, and are likely to be well understood by prospective market participants.

It was also agreed by the majority of participants that the scheme should be voluntary. The main justification provided was that a mandatory migration to a CfD scheme for legacy projects would significantly alter the business model upon which renewable assets were financed. Respondents also highlighted that the legal processes required to implement and enforce a mandatory scheme would be complex and potentially open to challenge, likely impacting the timeline for implementation of the scheme. A number of respondents also noted that a support scheme should not pose a barrier to alternative routes to market, such as Corporate Power Purchase Agreements (CPPAs).

Eligibility Criteria

Respondents were largely in agreement that there should be a minimum capacity for eligibility, with most responses suggesting between 0.5MW and 5MW as the minimum threshold, in line with existing schemes in Great Britain and Ireland. Controllability and SEM participation of new assets were also noted as key factors to consider when determining the minimum capacity.

Respondents generally agreed that microgeneration could continue to make a substantial contribution to reaching the Climate Change Act (Northern Ireland) 2022 targets. However, there was broad consensus that a dedicated support scheme would be necessary to efficiently support microgeneration.

There was large consensus from respondents that incentivisation within the support scheme should be tailored by technology type by implementation of a pot structure. Although this was identified as a crucial feature to diversify the technology mix, it was also recognised that the majority of supported projects would likely be lower cost, more established technologies, such as onshore wind and solar.

Participants were largely in consensus that the cost of funding community benefits would likely be priced into bid prices and passed on to consumers. However, recognising the importance of involving communities, it was emphasised that their active participation is essential for a successful transition to a more sustainable future. Moreover, communities hosting renewable projects should reap benefits from their contribution to carbon neutral electricity generation that benefits all of Northern Ireland.

Finally, there was wide agreement that Planning Permission and a Grid Connection Offer should be required for projects to be eligible. It was also noted by respondents that these requirements are essential to protect customers from non-delivery or overly speculative bids. However, it was warned that a balance must be found, and that additional requirements beyond Planning Permission and a Grid Connection Offer may deter achievable projects, resulting in reduced competition in the auction process.

Contract Structure

Most participants agreed that the optimal frequency for access to the scheme would be between 1 and 2 years, and that the preferred contract length would be between 15-20 years. Technology specific contract lengths were also suggested as an alternative, although it was recognised that it would add complexity to the administration of the scheme.

A clear roadmap for upcoming auctions was also widely identified as critical to providing enough predictability for developers to manage risk, in turn resulting in lower bids and costs to consumers.

Payment Structure

The most suitable price clearing process was agreed by the majority of participants to be pay-as-clear. However, it was noted that auctions need to be sufficiently competitive for this approach to be effective, and that the risk of speculative low bidding remains.

It was also largely agreed that strike prices should be indexed to inflation as this helps minimise revenue uncertainty over the lifetime of the contract for generators. The reduced revenue risk is then expected to translate into lower bids.

High-Level Design and Auction Roadmap

To support and inform the drafting of this publication the Department for the Economy engaged Aurora Energy Research to make recommendations on the optimal design for a renewable electricity support scheme in Northern Ireland. Aurora have drawn from their in-house modelling capabilities of power markets, as well as extensive stakeholder engagement, to gather the necessary evidence in support of the scheme design put forward here.

An initial literary review, built on works previously commissioned by the Department and related public consultation, confirmed that a two-way CfD scheme would be the most appropriate and effective mechanism to encourage investment in large scale projects in Northern Ireland.

Further techno-economic analysis was then employed to assess the current pipeline of renewable projects in the planning system in Northern Ireland. The results show that currently there is sufficient investment interest in renewable projects here to meet the 2030 targets. However, competition among prospective scheme participants may be less intense than in neighbouring regions, such as Great Britain and Ireland. This is due to the fact that the volume of generation from projects in the pipeline in Northern Ireland is forecast to only marginally exceed the volume of generation requiring support. As a consequence, carefully setting the key parameters of the scheme design will be crucial to ensuring that consumers pay a fair price for enabling the power sector transition to renewable sources.

In particular, defining the most appropriate methodology for setting the maximum strike price will be the primary tool to ensure that the cost of support remains within budgetary constraints, while still allowing sufficient room for a return on investment that is attractive to developers. As part of this work, a clear understanding of electricity generation costs is fundamental.

The Department will therefore be looking for transparency on actual costs incurred by developers, while considering the technical specifications and unique requirements of each generation technology based in Northern Ireland. The resulting levelised costs, a measure of the average cost per MWh generated over the full lifetime of a plant, will then be used as inputs for setting the maximum strike price. However, it is important to note that market conditions will also play a role in setting this price, and relevant information from prospective scheme participants will be necessary to help the Department produce accurate cost assumptions for pipeline projects. Stakeholder engagement and information sharing with industry will therefore be an essential component of this phase.

An illustrative roadmap, outlining a potential timeline and volumes of renewable generation to be supported in order to meet the 80% target, is also included in this publication. It should be stressed that the auction roadmap presented here is not final, and the eligible technologies and volumes of renewable generation to be supported, as well as the timing of each auction, are subject to change.

This is particularly true for offshore wind. The Energy Strategy Action Plan 2022 committed the Department to a target of 1GW of offshore wind capacity from 2030, with a view to accelerating deployment where possible.

Whilst the Department and key stakeholders continue to refine the timeline for offshore wind delivery, at this stage in development, it is not possible to confirm the scale and timing of offshore renewable generation deployment in Northern Ireland. Therefore, for the purpose of the HLD presented here, the contribution from offshore wind has not been included.

We recognise the importance of a route to market for offshore delivery and these considerations will continue to be part of the development process for the support scheme in line with the work on the critical path timeline for offshore renewable energy, being undertaken by the Offshore Renewable Energy Action Plan (OREAP) Steering Group.

Finally, Aurora has provided the Department with an early estimate of the additional cost placed on annual household electricity bills to fund the scheme. Although the figures presented are for illustrative purposes only, the cost per unit of supported generation (£/MWh) provides a metric to compare the cost of supporting each technology type, with the relationship between technologies unlikely to change drastically in the short term. The total cost of support (£/household/year) is instead highly dependent on overall volumes of supported generation, as well as the proportion of generation from less established technologies than solar and onshore wind. The Department will continue to work with Aurora to refine these cost estimates and establish the optimal balance between the additional benefits of a more diverse generation source and the higher cost they place on consumers.

Although the preliminary analysis conducted so far forecasts an additional cost to consumers from supporting renewable electricity projects, a CfD mechanism will still provide protection from excessive market volatility. As in recent years high natural gas prices have significantly contributed to the rapid increase in wholesale electricity prices, consumers may benefit monetarily from the symmetric hedging provided by CfD contracts.

CfDs also lead to a reduction in financing costs and reduce electricity price risks for developers, allowing additional projects to be realised. As the proportion of electricity generated from renewable sources increases, the smaller the impact of the marginal gas power plants on determining the price of all electricity sales. As a consequence, the cost of support from CfDs is, to an extent, expected to be mitigated by falling wholesale electricity prices. The Department will continue to work with Aurora to quantify the beneficial impact a support scheme will have on wholesale electricity prices ahead of the publication of the Detailed Design.

The High-Level Design, summarising the scheme design features and auction roadmap as proposed by the Department, is included below.

High-Level Design Summary:

| Eligibility | Proposed Criteria |
|------------------------------|--|
| Eligible Technologies | <ul style="list-style-type: none"> Onshore wind Geothermal Solar PV Anaerobic digestion Offshore Wind Landfill gas Hydro Energy from waste Tidal & wave Biogas Hybrid sites (RES + BESS) Biomass |
| Eligibility Criteria | Planning permission and grid connection offer. |
| Minimum Size | <p>Analysis to date suggests a minimum size of 5MW.</p> <p>Stakeholder engagement indicated an industry preference to reduce the minimum size.</p> <p>Further analysis will therefore focus on the impact and potential options to reduce the minimum size.</p> |
| Existing sites | Analysis required to determine whether existing sites could be made eligible, especially in case of complete repowering. |

| Auction Design | Proposed Criteria |
|-----------------------------|---|
| Pot Structure | <ul style="list-style-type: none"> Pot 1: onshore wind and solar Pot 2: all remaining technologies except offshore wind Pot 3: offshore wind <p>Further modelling may influence the pot structure above, which will remain flexible in order to meet the specific goals of each auction.</p> |
| Pot Size | Fixed by energy volume to be procured. |
| Maximum Strike Price | Technology specific maximum strike prices disclosed ahead of auctions. |
| Auction Frequency | Biennial. |
| Pricing Mechanism | Pay as Clear. |
| Delivery Year | 2 years after the auction, long stop date 1 year after delivery year. |
| Community Benefits | Further analysis required to assess the impact of additional costs placed on consumers. |

| Contract Design | Proposed Criteria |
|-----------------------------------|---|
| Contract Length | 15 years. |
| Indexation | <p>Strike price 100% linked to inflation.</p> <p>(Further analysis required to establish the appropriate index).</p> |
| Dispatch Down Compensation | <p>Compensation for oversupply and curtailment.</p> <p>Stakeholder feedback highlighted constraint levels. Given the potential impact on bid prices further analysis will be conducted to explore the implications of compensating for constraints.</p> |
| Non-Delivery Penalties | Financial penalties (bid bonds and performance bonds). |
| Floor Price | Cease support in any period when the wholesale price is negative. |
| Reference Price | I-SEM Day-ahead hourly price. |
| Funding Source | Additional analysis to be conducted to evaluate funding options via taxation or levy. |

Scale of the challenge:

By 2030 electricity demand in Northern Ireland is expected to increase by 20% from today’s levels, reaching more than 10TWh in [SONI’s Central Scenario](#)¹. Around 5TWh of additional renewable electricity generation is required to meet the 80% target in 2030.

Based on observed trends in historical merchant renewables financing, Aurora forecast that 1.5TWh could be met by non-supported generators. Around 3.5TWh of generation are therefore expected to require support. However, it should be noted that there is considerable uncertainty around the forecast demand in 2030. The generation volumes that must be procured through the scheme could vary by ±1 TWh depending on differing electrification scenarios in SONI’s predictions. Further work will be undertaken by the Department as part of the development of the Detailed Design to refine the above estimates and validate that the appropriate amount of renewable generation is supported through the scheme.

Proposed auction roadmap:

The below chart shows preliminary auction timelines and volumes for the first two auctions. Only projects procured in these first two auctions are expected to become operational before 2030.

The total volume of generation supported through the first two auctions, in addition to a smaller portion of non-supported renewable generation, is estimated to meet the 80% target in 2030.

| Auction | Auction Year | Delivery Year | Volume Pot 1 & 2 | Volume Pot 3 | Main Objectives |
|---------|--------------|---------------|----------------------|--------------|---|
| 1 | ~2025/26 | ~2027 | 1,000 GWh (~500 MW) | 0 GWh | <ul style="list-style-type: none"> Procure projects at advanced stages of development. Procure ~30% of the supported energy volumes required to meet 2030 target, mainly through Pot 1. |
| 2 | ~2027 | ~2029 | 2,500 GWh (~1250 MW) | TBD | <ul style="list-style-type: none"> Procure remaining ~70% of supported energy volumes required to meet 2030 target. Increase procurement volume of Pot 2 to diversify the supply mix. |
| TBD | ... | ... | ... | ... | ... |

1 [EirGrid, SONI. All-Island Generation Capacity Statement 2023-2032, 2023.](#)

Next Steps

Following this publication, the Department will continue with the development of the scheme design. In particular, Aurora will assist the Department by conducting extensive modelling of several aspects of the auction mechanism and the Northern Ireland electricity market, as well as a financial impact assessment to determine the potential financial implications of the scheme on consumers' bills.

Such analysis is required in order to corroborate the preliminary analysis completed to date. This will confirm whether the auction roadmap presented here is feasible based on known market constraints, is capable of meeting the 2030 target, and is cost effective for local consumers.

Should any of the planned additional analysis produce results that are in contrast to the HLD presented here, an alternative will be announced as part of the Detailed Design. Feedback from stakeholders will be key to this next phase of scheme design development. As such, engagement on the Detailed Design and Terms and Conditions of the scheme will take place throughout the remainder of 2024, in preparation for the announcement of the first auction.

Finally, in order to implement a support scheme in Northern Ireland, the functions, roles, and bodies that make up the institutional framework need to be established. To achieve this objective, the Department will continue to collaborate with potential delivery partners to determine the most suitable institutional arrangements for all aspects of the scheme. This will include overseeing the allocation process, contract allocation, resolving eligibility disputes, managing and regulating supplier obligations, and providing metered data.

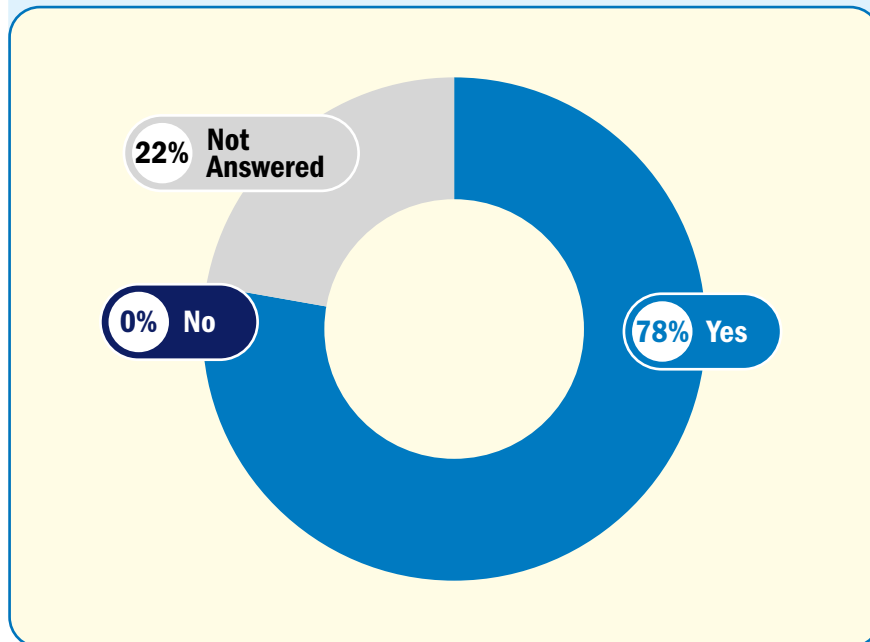
Appendix

Below is a summary of the feedback to the Consultation on Design Consideration for a Renewable Electricity Support Scheme for Northern Ireland published by the Department for the Economy in February 2023.

The feedback has been summarised and broken down by question.

Principles:

Q1: Do you agree with the above principles?



The majority of respondents (78%) agree with the principles of the support scheme, while 22% of respondents did not answer.

Q1: Supplementary question: Please provide evidence, where possible, to support your response.

There were three main trends in the responses, summarised below:

1. A need to reinvigorate the NI renewables market

It was recognised that a support scheme for Northern Ireland is vital to re-invigorate the market and reverse the stagnation in renewable electricity developments observed since the NIRO scheme closed in 2017.

2. A balance between the principles will need to be struck

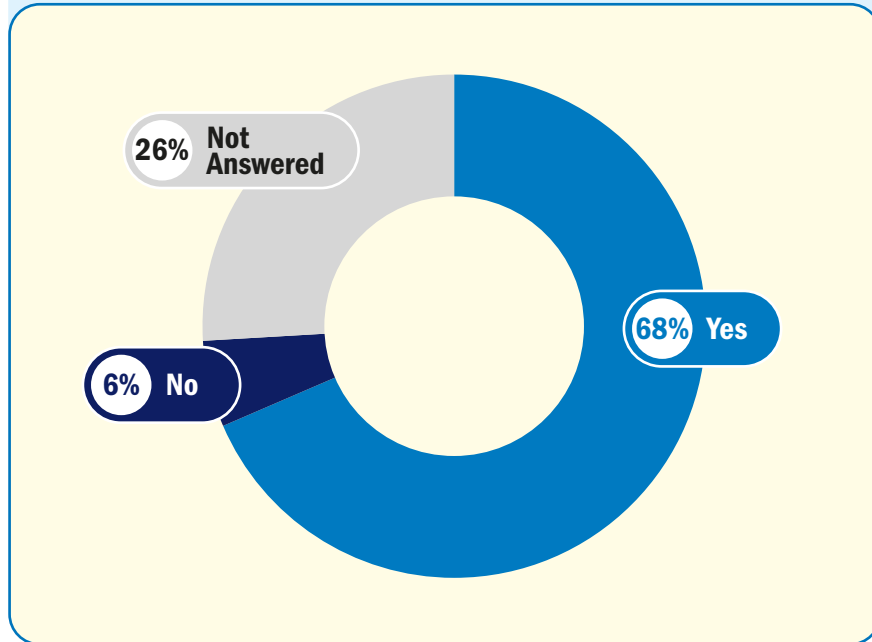
CfDs can reduce the cost of capital for projects whilst providing investor confidence, and ultimately lead to lower consumer costs. However, a balance needs to be struck between competing principles.

3. Need to stabilise energy prices

It was noted that a scheme will reduce NI's reliance on imported gas, which would further protect consumers from volatile global energy markets. It was also stated that any scheme implemented should look beyond 2030 and consider how to drive the 2050 target of 100% renewable electricity consumption.

Theme 1: Scheme Design Type

Q2: Do you agree that a Contracts for Difference (CfD) scheme should be the preferred approach to supporting renewable electricity generation in Northern Ireland?



The majority of respondents (68%) agree that a CfD scheme should be the preferred approach. 26% of respondents did not answer this question. The remaining respondents did not agree.

Q2: Supplementary question: Please provide evidence, where possible, to support your response.

There were three main trends in the responses, summarised below:

1. Building on the work and knowledge GB and ROI Schemes

CfD schemes are used internationally and are likely to be well understood by prospective market participants. It was also noted that learning lessons from the successes and challenges faced in the implementation of the GB and ROI schemes would ensure a scheme tailored to NI could come to fruition quickly and efficiently.

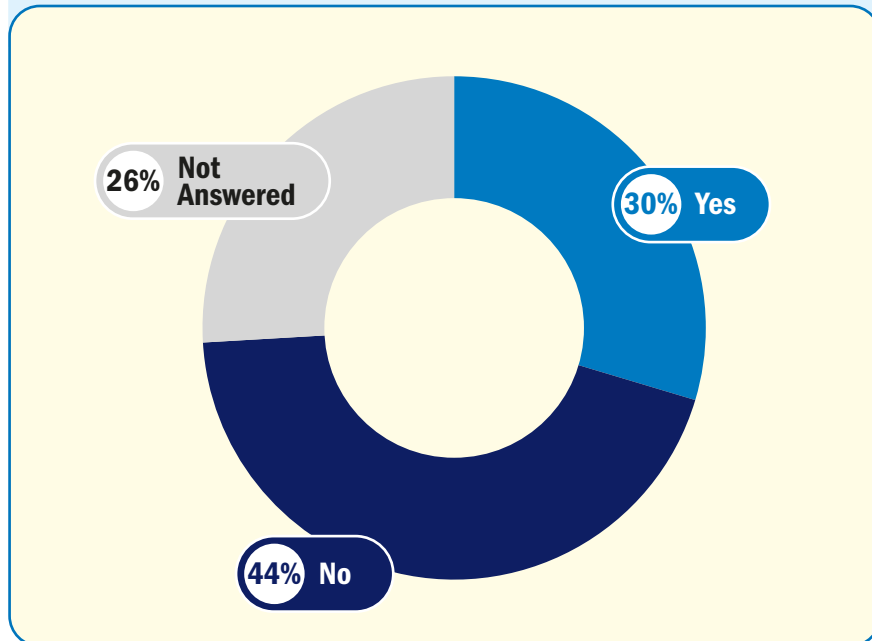
2. De-risking for investors and consumers

CfDs protect consumers when wholesale electricity prices are high while also giving developers price certainty. Coupled with a strong and stable regulatory environment, this can reduce the cost of capital for projects whilst providing investor confidence, and ultimately lead to lower consumer costs.

3. Auction-based Mechanism

It was noted that an auction mechanism is the most common for setting the price of a CfD. Alternatively a 2-way CfD could be set via an administrative strike price, should there be insufficient competition to hold a successful auction. Other alternatives suggested were Forward CfDs and Hurdle CfDs.

Q3: Do you think that participation in a renewable electricity support scheme should be mandatory for all generators to ensure a longer-term fair and stable price for NI consumers?



The majority of respondents (44%) stated that participation in a scheme should not be mandatory. 30% of respondents agreed that it should be mandatory, while 26% did not answer this question.

Q3: Supplementary question: Please provide evidence, where possible, to support your response.

There were three main trends in the responses, summarised below:

1. Encouraging Competition

Respondents noted that mandatory participation risks distorting competitive forces and would no longer be a truly market-based approach which could also distort entry, exit and repowering signals leading to economic inefficiency.

2. Transitioning from the NIRO

It was noted that withdrawing existing support mechanism in favour of a new support scheme would be destabilizing to the market. Investors need long-term certainty, and withdrawing a scheme mid-term would significantly reduce investor confidence in any future schemes.

3. CPPAs

A number of respondents highlighted that a support scheme should not act as a barrier to CPPAs. CPPAs reduce the cost of capital for investors in a similar way to CfDs, and contribute to accelerating decarbonisation without directly impacting consumers' bills.

Theme 2: Eligibility Criteria

Q4: What should be the minimum capacity for new sites to be eligible for a renewable electricity support scheme for Northern Ireland? Please provide evidence, where possible, to support your response.

The majority of respondents suggested a minimum requirement between 0.5MW and 5MW in line with the ROI and GB schemes.

There were six main trends in the responses, summarised below:

1. Controllability and SEM Participation

It was proposed that eligibility for the support scheme should be dictated by their market participation model rather than the size of the facility. This would ensure that participants are exposed to the wholesale market price and make themselves available for central dispatch. Currently participation to the SEM is mandatory for generators with a Maximum Export Capacity (MEC) greater than 10MW, and voluntary for generators with a MEC greater than 5MW.

2. Administrative Burden

A minimum capacity that is too low may increase the administrative burden of the scheme without materially helping to reach targets. It also might drive the need for increased reinforcement on the Low Voltage distribution network.

3. Competitive Auctions

If the minimum capacity is set too high, it could discourage competition in auctions, as many projects would not be eligible. A number of respondents questioned whether NI had a sufficiently large enough pipeline of projects to align with the GB scheme in having a 5MW threshold.

4. Small-Scale Projects

It was emphasised that smaller scale projects should not be overlooked, and it was stated that projects with a capacity lower than 5MW represent 23% of NI's total renewable generation capacity. A number of respondents expressed concern for microgeneration and the need for support for households and small businesses. However, it was recognised that a separate scheme would be needed.

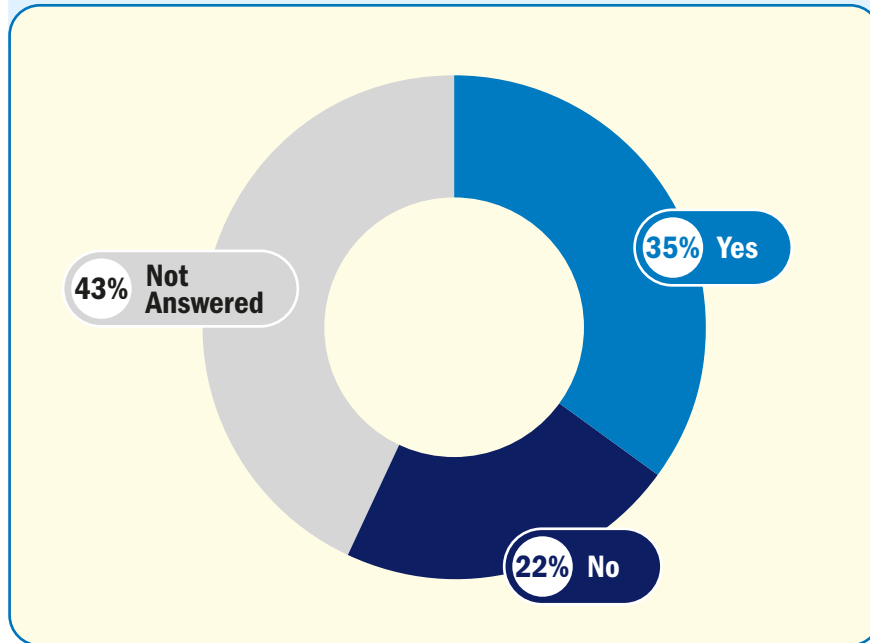
5. Technology Specific Capacity

Some respondents highlighted that there should be thought given to either banding or technology specific capacity requirements (this is expanded on in Q4b).

6. Community Impact

It was also noted by respondents that there needs to be control regarding the cumulative impact of numerous installations in any particular area, especially with regard to visual and noise impact, and impact on wildlife.

Q4b: Do you think the minimum capacity for eligibility should be technology specific?



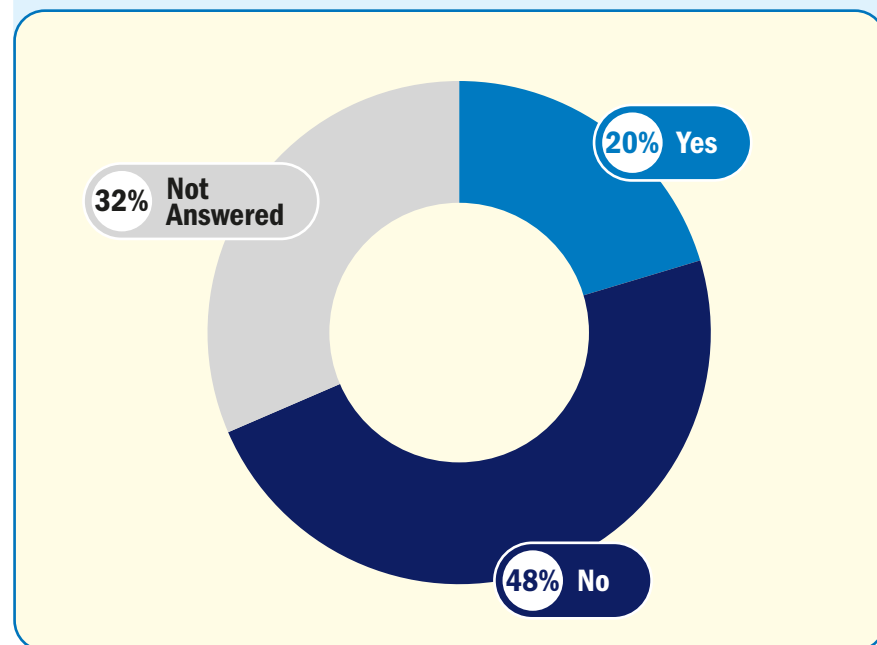
The majority of respondents (43%) did not answer this question. 35% agree that the minimum capacity for eligibility should be technology specific, while 22% do not.

Q4b: Supplementary question: Please provide evidence, where possible, to support your response.

The majority of respondents agreed that there should be technology specific capacity requirements, especially for emerging technologies such as tidal, which are relatively immature and may be better suited to operate at different sizes compared to solar and onshore wind.

However, it was highlighted that the criteria for controllability and SEM participation are technology agnostic, and therefore the minimum capacity requirement should aim to remain technology neutral.

Q5: Do you agree that incentivising small-scale and microgeneration would not make a substantial contribution to reaching the Energy Strategy targets?



The majority of respondents (48%) did not agree that incentivising small-scale and microgeneration would not make a substantial contribution, while 20% did agree. 32% of respondents did not answer this question.

Q5: Supplementary question: Please provide evidence, where possible, to support your response.

There were four main trends in the responses, summarised below:

1. Dedicated Scheme for Small-scale and Microgeneration

While it was agreed by the majority of respondents that small-scale and microgeneration would make a contribution, it was acknowledged by most that this would best be addressed through a dedicated scheme (this is expanded on in Q5b).

2. Community Awareness

Respondents noted that supportive small-scale and microgeneration could help raise consumer awareness and promote proactive engagement in the energy transition.

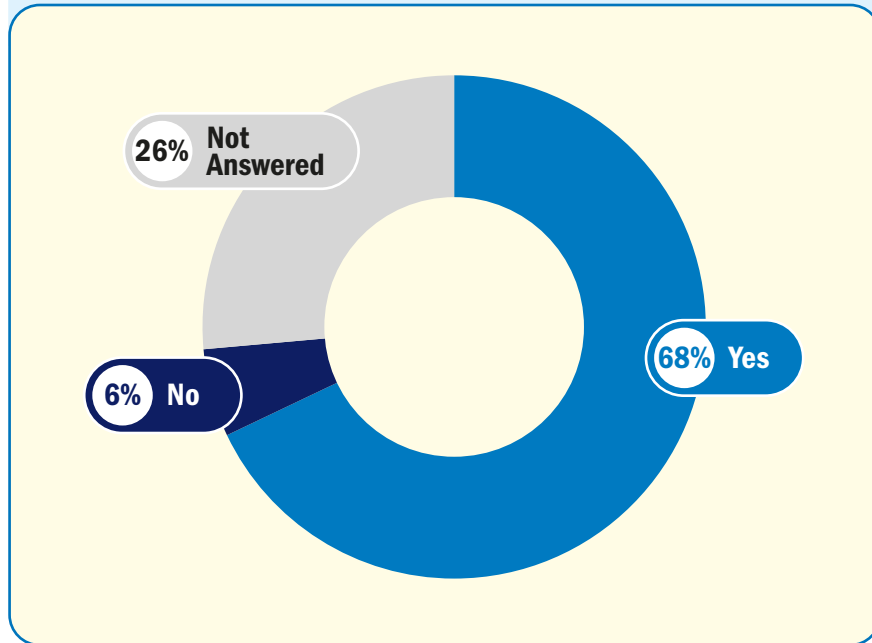
3. Distribution Network Reinforcement

It was noted that export from smaller sites is likely to drive the need for increased reinforcement on the LV distribution network, meaning cost would often be prohibitive for the connecting customer. However some respondents also noted that small-scale and microgeneration could add more flexibility by relieving grid constraints in periods of high demand.

4. Shorter Timescales for Small-scale and Microgeneration

It was highlighted that while large scale assets can often be contentious and take time to secure financing and be deployed, small-scale and microgeneration can offer a quicker path to additional renewable generation.

Q5b: Do you think a dedicated support scheme is required to incentivise deployment of small-scale/microgeneration assets even if it may not substantially contribute to the 80% target?



The majority of respondents (68%) agree that dedicated support scheme is required to incentivise deployment of small-scale and microgeneration assets. 6% of respondents did not agree, while 26% did not answer this question.

Q5b: Supplementary question: Please provide evidence, where possible, to support your response.

There were three main trends in the responses, summarised below:

1. Growing the Green Economy

A support scheme dedicated to small-scale and microgeneration will help drive a more mature local renewable sector, also developing the local job market as we transition to a high-skill, low carbon economy.

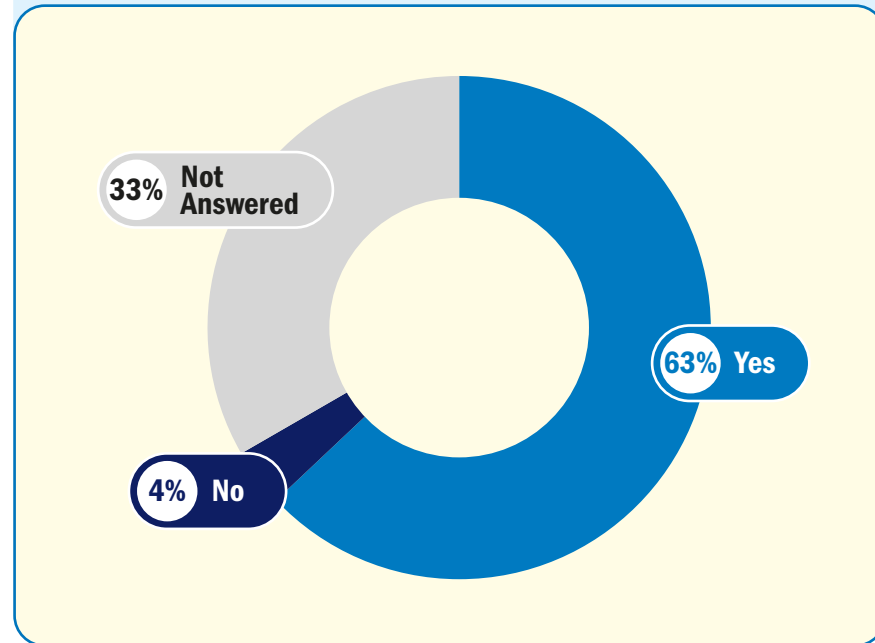
2. Self-sufficiency

A support scheme dedicated to small-scale and microgeneration may allow consumers to become more self-sufficient by reducing their dependence on the grid and electricity generated from imported fossil fuels.

3. Raises Awareness

It was noted again that small scale/microgeneration is an effective way to build positive consumer engagement in the energy transition. The visibility of micro renewables within the urban environment will help raise awareness of the need to diversify our energy sources and modernise our energy use.

Q6: Do you think that incentivisation within the renewable electricity support scheme for Northern Ireland should be tailored by technology type?



The majority of respondents (63%) agree that incentivisation should be tailored by technology type, while 4% do not. 33% of respondents did not answer this question.

Q6: Supplementary question: Please provide evidence, where possible, to support your response.

There were four main trends in the responses, summarised below:

1. Pot Structure

It was noted by respondents that a pot structure can be designed to achieve a diverse technology mix whilst still allowing sufficient competition within each pot. This would ensure support for both emerging and more mature technologies.

2. Creating a Diverse Generation Portfolio

Respondents highlighted that the support scheme should be tailored to ensure a wide range of technologies is supported. It was noted that different technologies bring different technical characteristics to the system, which in turn offer different revenue opportunities and risk management options.

3. Security of Supply

Some technologies offer a higher degree of reliability and predictability. For example technologies such as tidal power have a much more predictable generation output than wind and solar. As such they would complement established technologies very well, and help improve security of supply. Because of these additional benefits a higher level of support per unit of electricity generated may be justified.

4. Supply Chain Development

Respondents highlighted that the societal and socio-economic benefits that can be captured from the installation emerging technology projects is likely to be much greater than for established technologies that are imported and manufactured elsewhere. Since the supply chain is as yet relatively undeveloped for certain emerging technologies, there are much greater opportunities for Northern Irish manufacturing companies to play a significant part in the development of this industry.

**Q6b: If yes, what should the technology split look like and how should the budget be split across each technology type?
Please provide evidence, where possible, to support your response.**

The majority of respondents suggested wind and solar should be prioritised, but some room should be left for emerging technologies.

There were four main trends in the responses, summarised below:

1. Wind and Solar

The majority of capacity would likely be brought forward by lower cost, more established technologies such as onshore wind and solar. Offshore wind is also expected to become a main contributor closer to 2030.

2. Emerging Technologies

Emerging technologies, hybrid projects, and storage solutions should instead be assigned a smaller portion of the total supported generation.

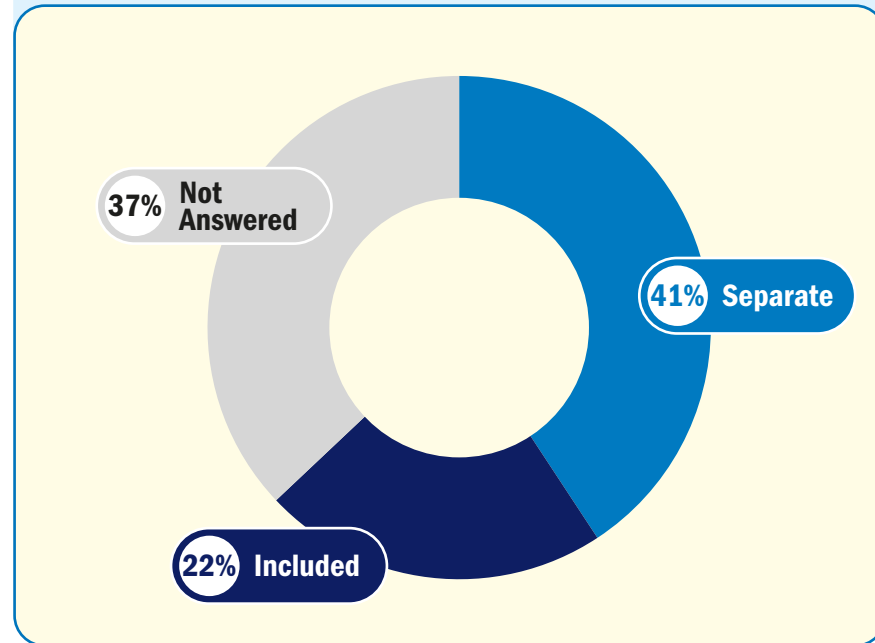
3. Capacity Cap

Several respondents noted the need for a capacity cap rather than a budgetary cap. If demand is modelled until 2030 the amount of renewable generation needed to meet the 80% target can be estimated. Initial auctions could look to procure the majority of this capacity, with auctions later in the decade to procure the remainder if required.

4. Modelling

Respondents noted the need for extensive modelling to make decisions in this area. It was suggested that analysis should consider the practicalities of delivering the targeted volume of each technology, including their costs, footprints and required network reinforcements.

Q7: Do you think flexible assets should be included in a renewable electricity support scheme for Northern Ireland, or is a separate support scheme preferable?



The majority of respondents (41%) thought that flexible assets should have a separate renewable electricity support scheme. 22% of respondents thought that flexible assets should be included in a renewable electricity support scheme, while 37% did not answer this question.

Q7: Supplementary question: Please provide evidence, where possible, to support your response.

There were two main trends in the responses, summarised below:

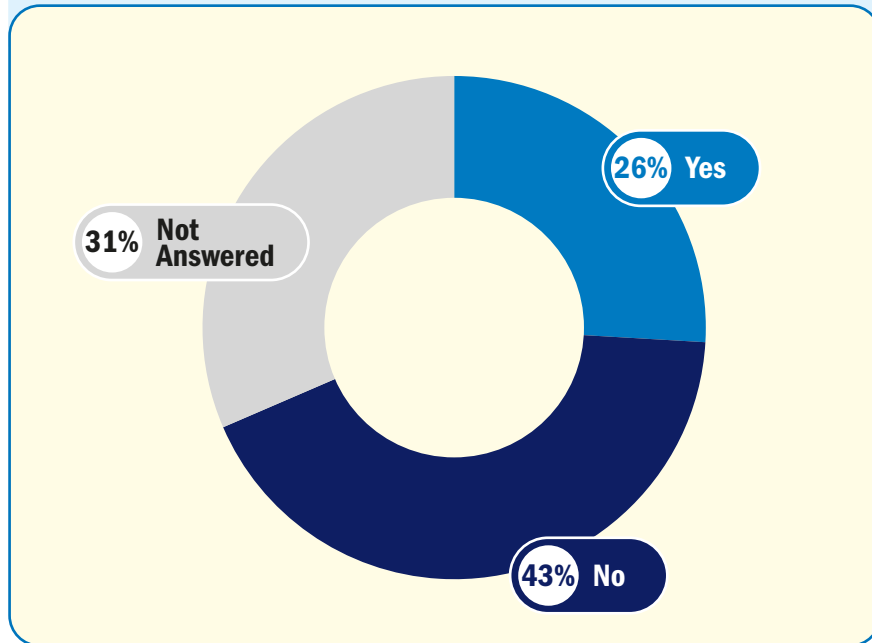
1. Inclusion of Hybrid Sites

While the majority of respondents were in agreement that asset classes such as electrolysers for hydrogen production or carbon capture and storage should not be included, there was wide support for the inclusion of hybrid sites (sites co-located with storage solutions) in the scheme. It was noted that such projects are capable of maximising their ability to generate while also relieving the grid during period of low demand.

2. Future Proofing

Respondents noted the need to be mindful of the evolution of flexible assets over the next 30 years and that a separate scheme would give them greater flexibility to integrate with the existing network infrastructure. Hybrid sites may help solve downstream network constraint issues and potentially minimise the need for future network investments.

Q8: Do you think community benefit should be included as an eligibility requirement for generators to qualify for a support scheme in Northern Ireland?



The majority of respondents (43%) did not agree that community benefit should be included as an eligibility requirement, while 26% did agree. 31% of respondents did not answer this question.

Q8: Supplementary question: Please provide evidence, where possible, to support your response.

There were two main trends in the responses, summarised below:

1. Flexibility to Allocate Funds

Respondents noted that community benefit should not be centrally dictated. Each project and local community is likely to have unique features and requirements, therefore projects should have flexibility to allocate funds in the way that most benefits the communities that host them.

2. Increased Costs to Consumers

Many respondents suggested that including a community benefit stipulation as part of the scheme would likely lead to developers increasing their bid price to accommodate these requirements, ultimately passing costs on to consumers.

Q8b: If yes, what community benefit mechanism do you believe is most suitable to Northern Ireland? Please provide evidence, where possible, to support your response.

The most frequently mentioned mechanisms included:

- Community ownership/investment
- Discounted electricity tariffs
- Local skills investment
- Investment in community spaces/buildings

There were three main trends in the responses, summarised below:

1. Examples from ROI/GB

It was noted by respondents that community involvement could be linked to the support scheme through a community benefit plan similar to that used in ROI. This could be in the form of community grants or a percentage discount on electricity bill charges to consumers living nearby supported projects. It was also suggested that a community benefit plan could be modelled on the existing Supply Chain Plan (SCP) in the GB CfD scheme, or also on Local Energy Scotland.

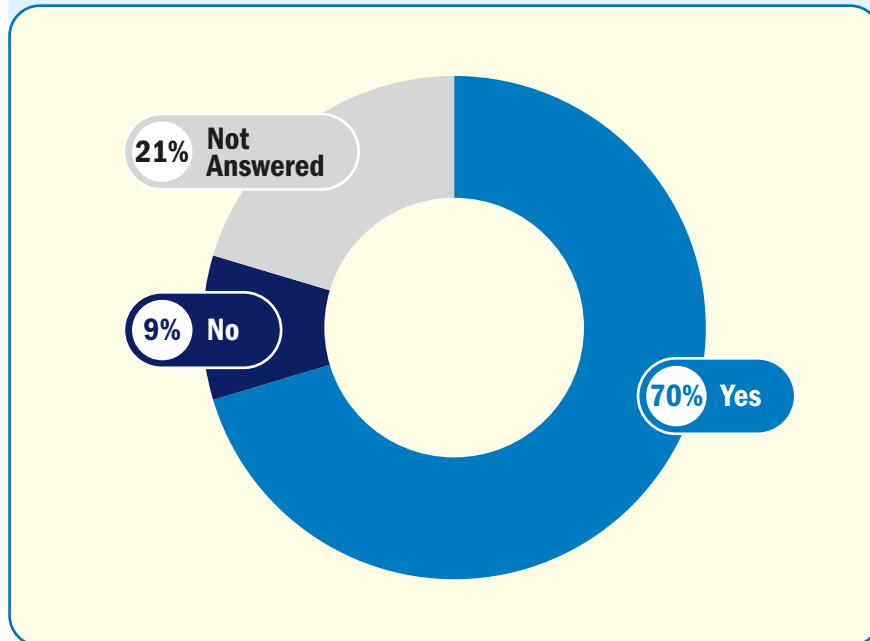
2. Flexible Approach

Respondents noted that there should be enough flexibility to allow for an individual approach for each project to best suit the needs of each individual community. The community itself should have input into what benefits would have the greatest impact.

3. Community Investment

It was noted that if opening projects to local investment, not all members of a community will want to take an equity stake or have the financial means to do so. This approach could risk benefiting those in higher income brackets and alienating more vulnerable consumer groups that need support.

Q9: Do you think there should be qualifying criteria for projects to be eligible to apply to the renewable electricity support scheme in NI?



The majority of respondents (70%) agree that **there should be qualifying criteria for projects to be eligible to apply**, while 9% do not. 21% of respondents did not answer this question.

Q9: Supplementary question: Please provide evidence, where possible, to support your response.

There was wide agreement from respondents that there should be qualifying criteria for projects. Common suggestions included:

- Planning Permission
- Grid Connection Offers/Submitted Grid Connection Application
- Land Leases
- Performance Bonds/Bid Bonds

Respondents also suggested: credible delivery plans, time allotted for delivery, and community cooperation/approval. Other points being made included:

1. Mitigating the Risk of Non-Delivery

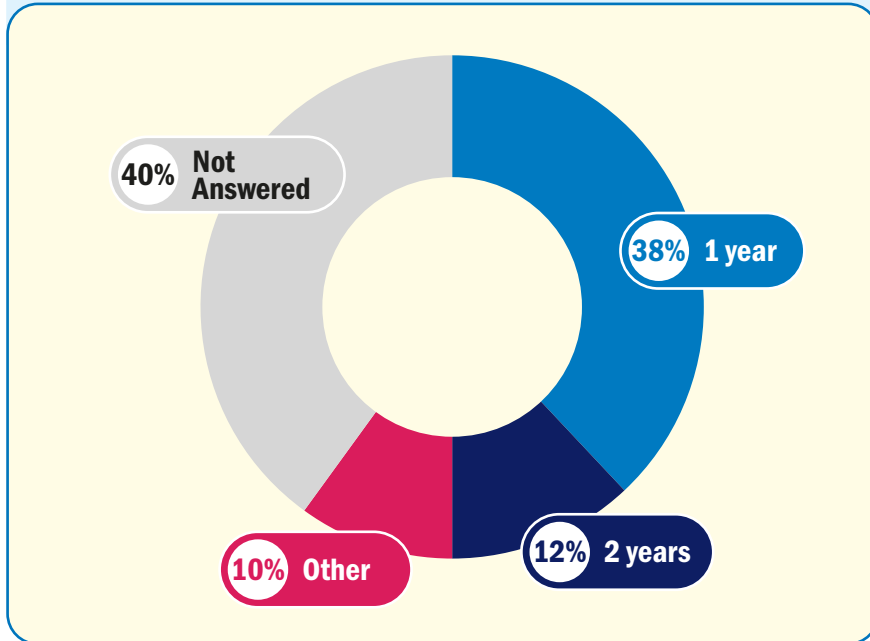
Eligibility criteria are essential to protect from non-delivery of overly speculative projects. However, this must be balanced by avoiding onerous barriers which deter achievable projects, resulting in reduced competition. It was also highlighted that only projects with a high degree of confidence in their deliverability should be allowed to participate in auctions for renewable support.

2. Timeline and Penalties

Respondents suggested that auctions be held late in the development timeline, in order to avoid projects that may not yet have sight of their full costs. A requirement on successful bidders in the form of a performance bond or other collateral on non-delivery, was also suggested.

Theme 3: Contract Structure

Q10: What do you think is the optimal frequency for access to a support scheme for Northern Ireland?



The majority of respondents (50%) suggested 1-2 years as the optimal frequency for access to a support scheme, while 10% suggested a variety of timeframes. 40% did not answer.

Q10: Supplementary question: Please provide evidence, where possible, to support your response.

There were two main trends in the responses, summarised below:

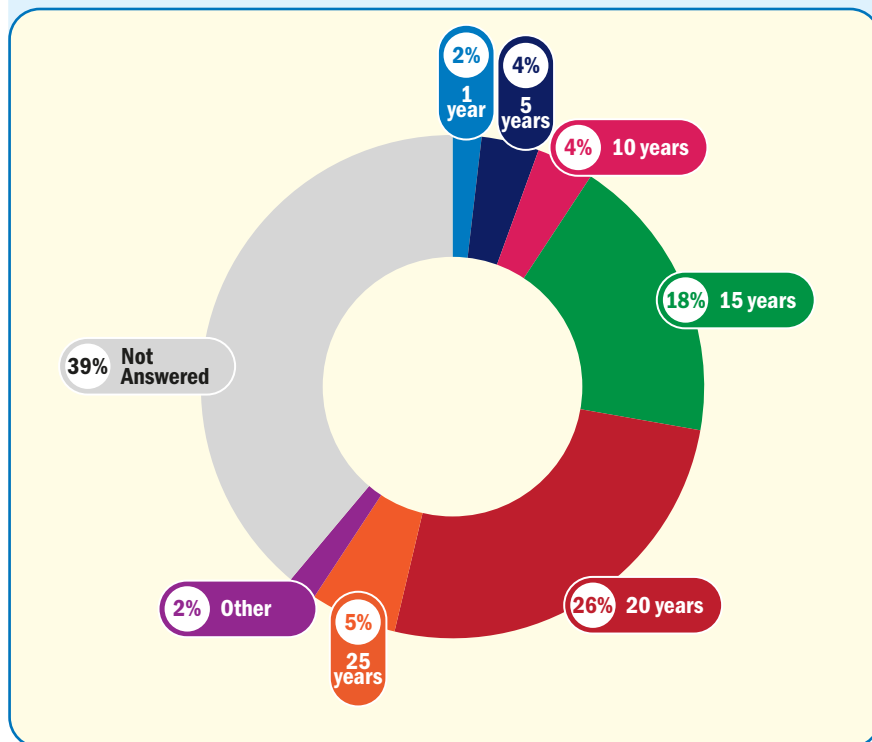
1. Auction Roadmap

The majority of respondents were in favour of holding auctions either once every year or two years, especially in response to the high target set by the Climate Change Act. It was noted that the frequency and expected timeline for future auctions should be published as far in advance as possible to enable developers to secure requisites such as planning permissions and grid connection offers.

2. Project Pipeline

Respondents highlighted that the depth of projects in the pipeline will be the factor dictating how frequently auctions can practically be held. For example, a small pipeline may require auctions to be held every two or more years.

Q11: Given the information presented above, what do you think is the most appropriate agreement length for contracts within a renewable electricity support scheme for Northern Ireland?



The majority of respondents (44%) suggested 15-20 as the most appropriate agreement length for contracts, while 17% suggest a variety of timeframes. 39% did not answer.

Q11: Supplementary question: Please provide evidence, where possible, to support your response.

There were three main trends in the responses, summarised below:

1. Evergreen Contracts

It was noted by some respondents that evergreen contracts could allow for better predictability and reduce consumer uncertainty, as well as driving down prices with the ability to access cheaper finance. It was also suggested that a review or reopener provision in the contract could be designed to allow potential changes in the market to be taken into account in the contract price.

2. Protecting Consumers

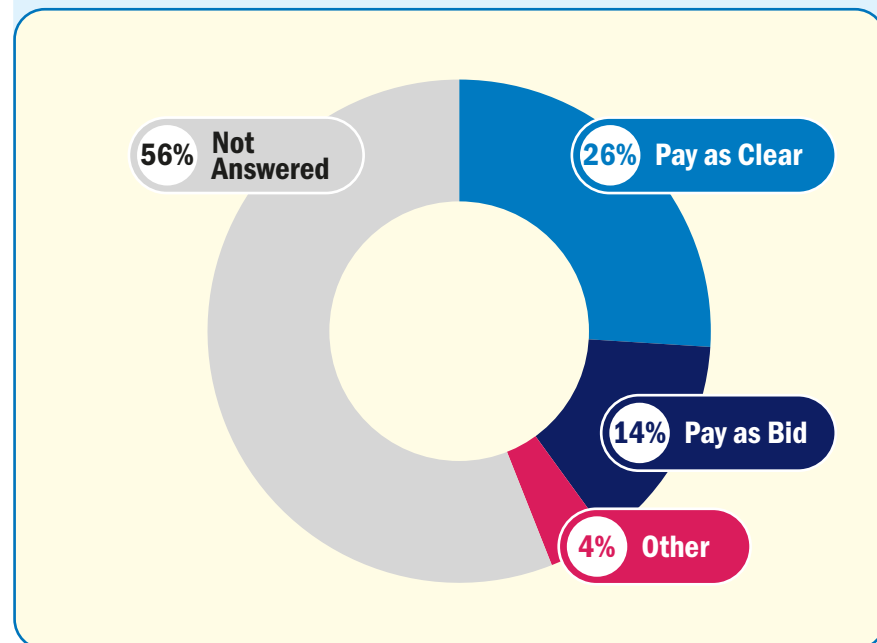
Respondents highlighted that a longer agreement length would mean a longer financial lock-in at a fixed level of support. With advancing technologies, improvements to the supply chain, and falling wholesale electricity prices expected in the coming years as renewables start to dominate the generation mix, longer contracts may be less cost effective for consumers.

3. Competitiveness With GB/ROI Schemes

It was noted by respondents that the GB's CfD scheme and ROI RESS have 15-year contract duration periods. It was suggested that a 20-year contract length could make the support scheme in NI particularly attractive to investors.

Theme 4: Payment Structure

Q12: Given the options presented above, what do you think is the most suitable price clearing process for a support scheme for Northern Ireland?



The majority of respondents (56%) did not answer the question. Of those who did, 26% suggest a Pay as Clear method, while 14% suggest a Pay as Bid method.

Q12: Supplementary question: Please provide evidence, where possible, to support your response.

There were two main trends in the responses, summarised below:

Pay as Bid:

Respondents noted that a Pay as Bid clearing process could more accurately represent the totality of the costs incurred by developers and the revenues they expect. It was also noted that this is the same method used in the ROI scheme and has been identified as a factor in delivering higher prices.

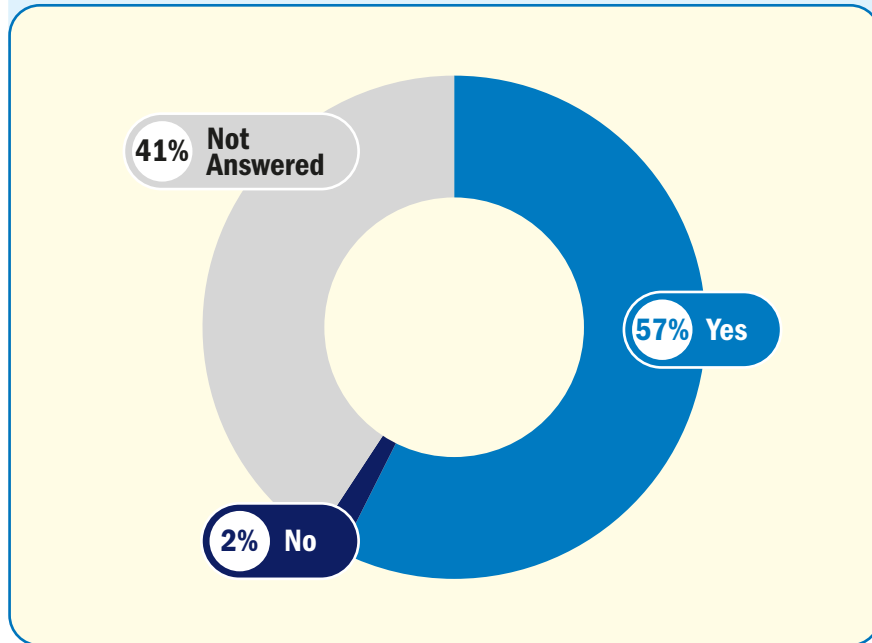
It was also noted by respondents that Pay as Bid approaches can lead to gaming and speculative bidding behaviours which drive up strike prices.

Pay as Clear:

A Pay as Clear approach awards contracts at the most expensive offer accepted, and therefore encourages bidding that matches the true cost incurred by developers. It was also noted that a Pay as Clear process is implemented as part of the GB CfD scheme, and that it has been claimed to have been successful at driving down prices while being less open to gaming behaviours.

However, it was noted by respondents that the market must be sufficiently competitive for this approach to be successful and the risk of speculative low bidding remains.

Q13: Given the information presented above, do you think strike prices should be indexed to inflation?



The majority of respondents (57%) agree that strike prices should be indexed to inflation, while 2% do not. 41% of respondents did not answer this question.

Q13: Supplementary question: Please provide evidence, where possible, to support your response.

There was one common trend in the responses, summarised below:

1. Risk Mitigation

Respondents noted that indexing strike prices to inflation removes the onus on developers to accurately forecast inflation. If such risk is not mitigated developers tend to price in an additional premium into their bids, which is generally passed on to consumers. Excluding indexation effectively encourages speculative bidding behaviours.

Theme 5: Emerging Options

**Q14: Do you have any further comments on design considerations for a Renewable Electricity Support Scheme for Northern Ireland?
Please provide evidence, where possible, to support your response.**

Three main points were made in response to this question:

1. Speed and Efficiency

It was noted that it is crucial that the scheme is developed in an effective and time efficient manner as a clear route to market has been absent in NI for several years. It was suggested that a ‘fast follower’ approach should be adopted, learning lessons from the GB and ROI schemes and tailoring them to the NI market.

2. Dispatch Down Compensation

Respondents noted that the issue of dispatch down must be addressed within the scheme, as it may pose a risk to Northern Ireland achieving its decarbonisation objectives. It was suggested that if the risk of dispatch down is left with developers, this may result in increased strike prices, which would ultimately translate to higher costs for consumers. To mitigate that risk, it was suggested that a similar approach to the Unrealised Available Energy Compensation (UAEC) used in RESS 3 in ROI is adopted. It was also noted that the timely delivery of network upgrades will be key to resolving this issue in the long term.

3. Cross-border Cooperation within the SEM

It was noted that consideration should be given to how the scheme interacts with the SEM. Respondents also suggested that there should be an emphasis on alignment with other renewable energy policies, such as Articles 12 and 13 of the Clean Energy Package (CEP) and the effect this will have on the SEM.