

Renewable*ni*

NIE Networks *Networks for Net Zero feedback.*

11th June 2021



The future of energy is now

Networks for Net Zero – RenewableNI Feedback

RenewableNI (RNI) welcomes the publication of *Networks for Net Zero (NNZ)*, a vital intervention at a crucial time in the creation of energy policy for Northern Ireland (NI) in the context of global efforts to mitigate the impacts of climate change.

RNI is the trade association and voice for the renewable electricity industry in Northern Ireland. We represent over 30 businesses, fostering knowledge exchange, sharing best practice and supporting policy development. Engaged in wind, solar, tidal and battery storage, our members make up a large majority of the renewable industry supply chain.

Crucially, demonstrates that investing in decarbonisation measures will result in a net consumer saving. This builds on the Baringa *The Wind Dividend* report which showed that in NI, despite the considerable investment needed in grid infrastructure and the NI Renewables Obligation (NIRO), consumers made a net £135m saving over 20 years. looks forward to 2030 and outlines how achieving 70% renewable electricity generation (RES-E) will result in a 1% consumer saving.

RNI has a higher ambition for 80% RES-E by 2030 and is confident that going further, faster, will result in both consumer and environmental benefits as well as maximising the potential for a green economic recovery. This pathway is modelled in the NNZ 'World D' and the SONI [Tomorrow's Energy Scenarios](#) (TES) 'Accelerated Ambition' scenarios.

RNI asks that NIE Networks (NIEN) assess the cost impact of the 'World D' scenario and share the results ahead of the closure of the Department for the Economy (DfE) Energy Strategy [consultation](#) on 30th June.

Question 1. We have outlined our DSO roadmap to 2050 with a view of how we see the network and our business evolving.

Do you consider:

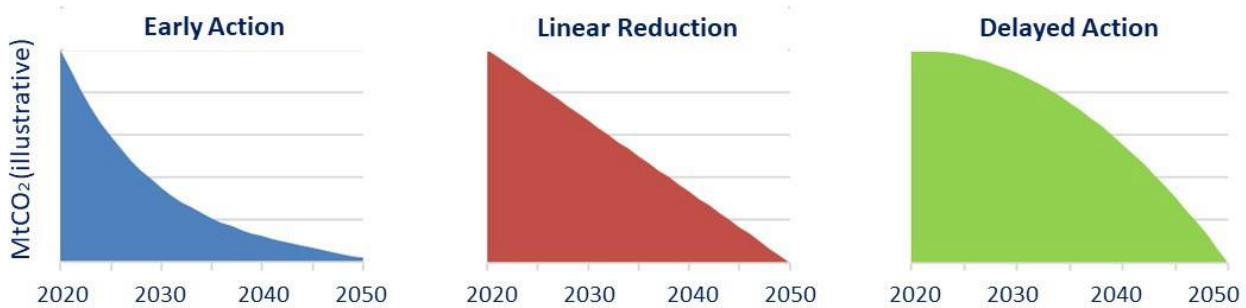
- a) the vision is appropriate to meet a zero-carbon energy target?
- b) we plan to address this at the correct pace?

RenewableNI (RNI) recognises the importance of setting a long term goal of a net zero energy system and believes that 2050 should be latest date by which this should be achieved. RNI notes that the Committee on Climate Change's (CCC) 'Balanced Pathway' within its [Sixth Carbon Budget](#) does envisage Northern Ireland (NI) achieving net zero carbon by this date.

However, RNI also notes that the Balanced Pathway also includes zero carbon electricity generation by 2035. While this is not a specific target for NI, given that in 2020 we achieved 49% renewable

electricity generation¹ and our power system has already reduced its emissions by 45% on 1990 levels², putting us ahead of our GB counterparts, we should be matching this ambition.

Investment will be required to make the shift from an energy system that is still predominantly based on fossil fuels to one that is has net zero carbon emissions. However, achieving a net zero target by 2050 is not in itself enough if we are to meet the larger ambition of making a fair contribution to mitigating the effects of climate change and keeping warming below 2°C. The speed at which we make this transition will determine the level of emissions between today and reaching our end goal, as is highlighted by these illustrative graphs from the MAREI [Zero by 50](#) study:



These three illustrative emission reduction pathways all achieve **net-zero emissions** in 2050, but the 'Delayed action' pathway has cumulative emissions that are **double** the 'early action' cumulative emissions and therefore **double** global warming impact. Source: (McGuire et al UCC, 2020)

Early action delivers approximately half the emissions of a delayed action pathway.

As far back as 2006 the [Stern Review](#) concluded: “the benefits of strong and early action far outweigh the economic costs of not acting.” This remains true today.

We already have the technologies we need to decarbonise power and given that electrification will play a crucial role in the decarbonisation of heat and transport, it makes sense to decarbonise the power sector first. Again, RNI believes this can and should be achieved by 2035.

The CCC concludes that achieving net zero will be cost neutral to the consumer by 2040 so we should avoid facile arguments that set consumer interests and achieving climate ambitions as mutually exclusive targets. As previously alluded to, both *The Wind Dividend* and NNZ demonstrate that investing in renewable electricity generation results in a net saving for the consumer.

¹ <https://www.economy-ni.gov.uk/publications/issue-18-electricity-consumption-and-renewable-generation-northern-ireland-january-2020-december>

² <https://www.economy-ni.gov.uk/sites/default/files/consultations/economy/energy-strategy-for-ni-consultation-on-policy-options.pdf>

The power sector has led the way on decarbonisation and will continue to do so. With solar and wind (both onshore and offshore) we have proven technologies that can deliver low carbon electricity at lower cost to the consumer than any other new power generation.³ Offshore projects will enhance our ability to deliver at scale, with other technologies such as tidal, wave, battery storage and enhanced interconnection will provide the additional power and services needed to operate at 100% renewables.

While power emissions have decreased by 45% since 1990, there has not been a corresponding reduction in heat sector emissions, while transport emissions have risen by 30%. It is inevitable therefore that the power sector must decarbonise first while greater electrification of heat and transport will ensure these sectors can eventually become low carbon also.

If the whole economy is to achieve net zero carbon by 2050, RenewableNI contends that the power sector must fully decarbonise by 2035.

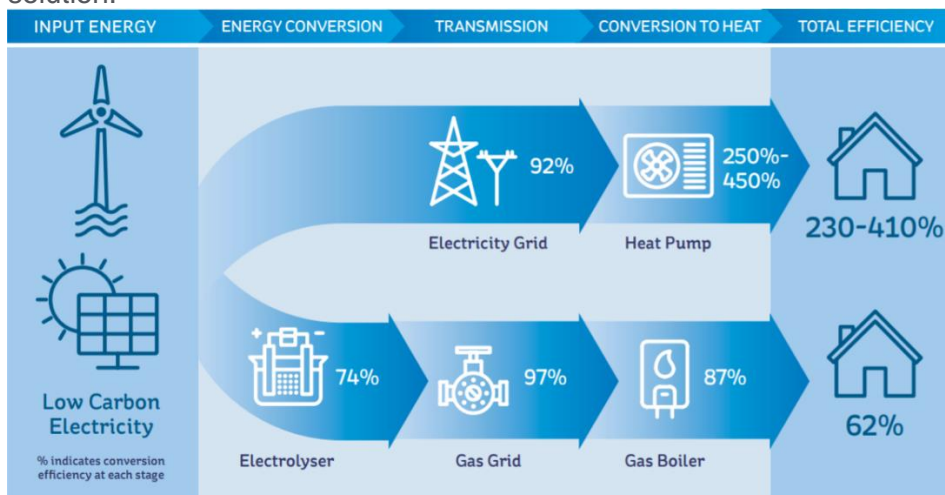
Given the severity of the climate threat, RenewableNI views the setting of the more ambitious target of 80% as a no regrets option. This would mirror the rationale behind the 40% renewable electricity target by 2020 that was set in the [Strategic Energy Framework 2010](#) following the conclusion of the *All Island Grid Study* which concluded that 42% was the maximum that was feasibly possible. At that time NI was at 7% RES-E and this target was stretching, and viewed by many as unrealistic. However, by setting the target, the necessary policy, innovation and investment followed. RenewableNI contends that this is the approach that should be taken again.

While we do not have a new all island grid study, we have the Accelerated Ambition scenario outlined in SONI's [Tomorrow's Energy Scenarios](#) and Scenario World D as outlined in NIE Networks' [Networks for Net Zero](#). These scenarios provide a model of high electrification which is stretching while at the same time being realistic.

³ <https://www.carbonbrief.org/analysis-uk-auction-offshore-wind-cheaper-than-new-gas>

Question 2. Do you agree with the principle of energy efficiency first, followed by a significant role for progressing at pace with known technologies such as electrification in decarbonising the various sectors? Please outline your reasons for agreeing or any alternative views.

Improving the energy efficiency of our housing stock is essential to decarbonising domestic heat. As demonstrated by Figure 33 of NNZ, heat pumps are the most efficient decarbonised heat solution:



Given that approximately 30% of NI households have no access to the gas grid, for many heat pumps will be the only low carbon solution for domestic heat. We know that heat pumps do not perform well in energy inefficient homes, so as well as proving a form of decarbonising in respect of reducing heat demand, energy efficiency measures are a necessary step in decarbonising heat supply.

Much time has been wasted since the *Green New Deal for Housing* was published in 2010. This must be revisited, revised where necessary and implemented as a matter of urgency.

Question 3. As part of our proposals for a Green recovery to revitalise the Northern Ireland economy and additionally make progress towards Net Zero society, NIE Networks has proposed a number of areas of action. We would welcome your views on the following areas:

- Do you agree that the mandate of the Utility Regulator should be expanded to include consideration for Northern Ireland economic development and decarbonisation plans and targets?

It is clear the regulatory approach taken in the previous decade is not suitable to facilitate the delivery of our decarbonisation objectives. Based on the TES analysis we need an additional 2.75GW of new renewable generation by 2030 to achieve 80% RES-E. To achieve this, we will need to deliver system upgrades at a previously unseen pace.

While the current regulatory approach helped us to achieve our target of 40% RES-E by 2020 it is not fit to facilitate the rate of change that we require now. In order to make this shift in approach it will be necessary to incorporate “facilitating the delivery of a net zero energy system” into the Utility Regulator’s mandate.

RNI notes similar changes are anticipated in Great Britain in respect of OFGEM, with the UK Government’s Energy White paper stating:

“the Strategy and Policy Statement will require the Secretary of State and Ofgem to carry out their regulatory functions in a manner which is consistent with securing the government’s policy outcomes, including delivering a net zero energy system while ensuring secure supplies at lowest cost for consumers.”⁴

A wider review of the Utility Regulator’s approach should be considered with a view towards harmonising the approach of the regulatory authorities (RAs) across the island, to ensure the integrity of the Single Electricity Market (SEM) and maximise our ability to decarbonise power generation across the island.

• What is your opinion on NIE Networks accelerating network investment projects to ensure network capability is provided in advance of identified need and in so doing providing much needed economic stimulus? If so, can you suggest specific projects or areas of investments you consider should be accelerated, that would benefit the green recovery and transition to Net Zero?

As NIE Networks have highlighted, including in their presentation to the Economy Committee on 7th October 2020, to date the Utility Regulator has allowed investment in network developments ‘just in time’, when what we need is the delivery of projects ‘ahead of time’⁵. Anticipatory investment in “least regrets” system upgrades, necessary to achieve our decarbonisation objectives, will create green jobs and supply-chain opportunities helping to energise cities, towns and villages across NI. Having the infrastructure in place will attract development.

It is the experience of RNI that the Utility Regulator is too focused on cost and not value to the consumer. It will cost more to invest in a higher level of renewable penetration however as NNZ demonstrates, achieving 70% RES-E by 2030 would result in a 1% net saving on consumer bills. RNI contends that going further, faster, will unlock additional benefits for the consumer, the economy and the environment.

The RNI *Pipeline Survey 2021* identifies more than 1.1GW of onshore wind projects in various stages of development in NI, and 438MW of storage. With up to 800MW of offshore development

⁴https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/945899/201216_BEIS_EWP_Command_Paper_Accessible.pdf

⁵https://www.nienetworks.co.uk/documents/future_plans/green-economy-presentation-to-economy-committee-7t.aspx

that could be ready to connect by 2030 if the necessary policy and consenting framework emerges from the Energy Strategy this year.

Below is a summary of our *Pipeline Survey 2021*. As we have done with past surveys, RNI is willing to share the data behind these results to help NIEN identify specific “least regrets” projects.

Onshore Wind

Causeway Coast & Glens	Capacity (MW)	No. of Projects
Causeway Coast & Glens	327.0	81
Fermanagh & Omagh	222.8	177
Derry City & Strabane	159.7	49
Strategic Planning Directorate	128.2	5
Mid & East Antrim	120.1	46
Mid Ulster	113.1	98
Antrim & Newtownabbey	18.6	18
Armagh City, Banbridge & Craigavon	13.9	41
Newry, Mourne & Down	6.8	30
Belfast	6.5	5
Ards & North Down	5.0	22
Lisburn & Castlereagh	2.5	11
Total	1124.1	583

Offshore

Technology	Capacity (MW)	No. of Projects
Tidal Stream	220	4
FOW	1,100	3
Total	1,320	7

Storage

Planning Authority	Capacity (MW)	No. of Projects
Antrim & Newtownabbey	53.0	2
Ards & North Down	102.8	3
Armagh City, Banbridge & Craigavon	36.0	1
Belfast	?	1
Causeway Coast & Glens	?	1
Derry City & Strabane	0.0	0
Fermanagh & Omagh	20.0	1
Lisburn & Castlereagh	50.0	1
Mid & East Antrim	125.0	2
Mid Ulster	5.0	2
Newry, Mourne & Down	46.2	3
Strategic Planning Directorate	0.0	0
Total	438.0	17

- Would a review of connection charging policy which socialises a portion of the cost of connection to the network, similar to GB and RoI, help stimulate economic growth and present a more level playing field for inward investment?

As evidenced by the AFRY [The Power of Renewables](#) report, renewable projects in NI face multiple competitive disadvantages with projects in GB (and ROI) including higher grid connection costs. This will become more evident if, as is proposed in the Energy Strategy consultation, the Contracts for Difference (CfD) scheme is extended to NI. Many projects in NI would not be competitive in an all UK basis.

Citing the AFRY analysis, RNI is making the case for any future CfD auction rounds to have ringfenced capacity for NI projects. This will ensure that our consumers have a guaranteed return on investment of any socialised costs resulting from the CfD being extended to NI.

However, even in a scenario whereby NI projects only compete with each other in a separate auction, there is still good reason to review connection charging policy.

It is likely that the CfD scheme, or an equivalent scheme of that nature, will be introduced in NI to secure the necessary investment in new renewable generation to meet our decarbonisation objectives. Such schemes require developers to prepare a bid which outlines the lowest price that a project can provide electricity while still providing an adequate return on investment. The competitive nature of the auction incentivises the developer to bid at the lowest effective price. A

developer will take account of all costs and the level of risk when submitting bids. Grid connection cost will be included in their calculation.

Successful projects will receive a price for their electricity which will be guaranteed for 15 years, which is underwritten by the consumer. In effect therefore, the consumer is 'locked in' to compensating the generator for grid connection costs for 15 years. If connection costs for developers are reduced this will result in lower bid prices and long term savings for the consumer.

While it may appear that socialising grid connection costs is shifting the burden from the developer to the consumer, grid connection costs are already socialised through the price of electricity. So, the question is not whether we socialise the cost, but how do we do so in such a way to reduce the burden on the consumer. A review of connection charging would help answer this question.

- **What are your views on the current planning process and timescales for infrastructure delivery particularly for investments required to deliver on Net Zero ambitions? Please outline how these could be improved.**

As highlighted by *The Power of Renewables* report, a wind farm in NI typically spends twice as long in the planning system than in GB. One of the reasons, is statutory consultees consistently failing to meet the 21-day statutory timeframe for providing responses, with NIEA's Natural Environment Division commonly taking 12 months to respond to wind farm applications.

This contrast significantly with ROI where planning timelines are more rigorously adhered to.

While RNI welcomes the review of the Planning Act and the forthcoming review of planning policy for renewables, it is our contention that the existing planning system can deliver timely decisions if sufficient resource and accountability are put in place to deliver on statutory timeframes.

However, in the longer term it is important that the facilitation of net zero is incorporated in planning policy at a regional and local level. RNI is concerned by the proposed restrictions in council draft Plan Strategies including, for example, the introduction of Areas of Constraint on High Structures in Mid & East Antrim. Such policies, if implemented, would have the effect of introducing a presumption against renewable development. Similarly so for network development.

New renewable generation and grid development must go hand in hand, otherwise, rather than decarbonise the power system, we will simply drive-up constraint and curtailment.

- **What more could be done to stimulate market entrants to install EV charging infrastructure?**

RNI has no comment to make.

Question 4. NIE Networks' traditional approach to network innovation has been to integrate suitably advanced smart and customer-based solutions trialled elsewhere within the industry into business as usual solutions.

Do you think NIE Networks should expand its innovation and research horizon to consider more system-wide solutions that may be more appropriate within a Northern Ireland context?

RNI views this as sensible approach that would facilitate greater system innovations.

Question 5. As customers become more reliant on the electricity network and its resilience for home working, charging electric vehicles and heating their homes, should NIE Networks invest to enable the network to become more resilient and protect against extremely rare, but potentially widespread and protracted outages due to significant climate change weather events?

RNI believes such investments would be necessary for NIEN to meet its duties as Distribution System Operator.

Question 6. In terms of developing and operating a more flexible network:

- In the future, when procuring flexibility (FLEX) from customers do you think that NIE Networks should be required to prioritise customers offering services via low carbon means?

Yes. The challenge of decarbonising our energy system is significant and in order to achieve our ambitions it is vital that public subsidy and consumer support is focused on solutions that can deliver a zero carbon system.

- What are appropriate considerations for achieving the right balance between adopting flexible solutions over creating additional capacity through traditional reinforcement?

In order to fully decarbonise our energy system, it will be necessary to make simultaneous investments to create additional capacity through traditional reinforcements while also adopting flexible solutions.

The rate of change required is incredible; which is why it is not a choice between onshore or offshore renewables, it is both. It is not a choice between wind or solar, it is both. It is not a choice between in my backyard or yours, it is both. Same too, in this case. We need to adopt multiple solutions simultaneously and at pace.

Question 7. Given the significance of the changes and role of electrification in a future decarbonised society,

a) to what extent should the wider cost of decarbonisation across the sectors be borne by electricity consumers?

b) what would be a fair balance between UK government funding, local government funding, private investment and consumers?

c) how would vulnerable customers be protected from an unjust cost burden but also share in the benefits?

The move to a zero-carbon energy system can be described as a 'must transition' while ensuring that the investments required do not exacerbate levels of fuel poverty can deliver a 'just transition'.

To ensure a just transition, the question is not whether we make the necessary investments nor is the question when we make these investments, as we must act early to achieve our goals. The key question is how we finance the investments to ensure the cost is spread so consumers do not see upfront price hikes that are later offset, early action does not have to mean early payment.

For example, network investments are typically paid back over 40 years. Delayed action will not result in any savings, in fact it is likely to be more expensive and less effective, so the spending envelope is at least equal for early action. For both financial and environmental reasons, earlier, more ambitious targets for areas, such as power, where the pathway is clear, should be seen as a least regrets option.

All consumers will experience the benefit of reduced wholesale electricity prices that result from increased renewable penetration. Renewables also present an opportunity for a greater democratisation of energy generation. Traditionally, NI had only three power generators, due to the opportunities created by renewable support schemes, this has increased to c. 24,000.

There is much more that can be done. Introducing support for micro generation can provide an opportunity of the NI Housing Executive and other social housing providers, to reduce energy bills for their tenants by installing renewable systems. It is also vital that we enable those who have invested in medium sized projects to further invest and/or repower their current projects.

RNI members are also engaged in the Energy Cloud project which seeks to use generation that would otherwise be turned down, to provide free power for the fuel poor.

Question 8. Do you consider smart metering and provision of energy data is a key enabler to the energy transition?

Yes, RNI believes that smart metering has an important role to play in the energy transition.

Question 9. Is there anything else you would like to provide by way of comment or feedback?

RNI has no further comments.