Energy Strategy Call for Evidence

Response Template

How to Respond

This template replicates the questions asked in the Call for Evidence found at: https://www.economy-ni.gov.uk/energy-strategy-call-for-evidence

It is recommended that you should read the full consultation document before completing your response. Please note that the text boxes used throughout this template can be expanded to accommodate your response – there is no character limit.

For further information on how we handle your personal data please read our Privacy Notice

Early responses are encouraged but all responses should arrive no later than **5pm on 20 March 2020.**

Please send your response to:

energystrategy@economy-ni.gov.uk

Or alternatively by post to:

Energy Strategy
Department for the Economy
Netherleigh
Massey Avenue
Belfast
BT4 2JP

Quote the reference "**Energy Strategy Call for Evidence 2019**"

1. General Information

1. **Name (required)**

[redacted]

2. **Are you responding:**

   ☐ **as an individual (please complete 3 to 5 below)**

   X on behalf of an organisation / company (please complete 6 to 8 below)

If you are responding as an individual:

3. **E-mail address**

4. **Address**

5. **If you are responding as an individual, please read the Privacy Notice and tick the statement below as applicable.**

   ☐ **All responses will be published on the Department for the Economy website following completion of the Call for Evidence process. Please tick if you are content for your name to be published alongside your response.**

If you are responding on behalf of an organisation / company:

6. **Organisation / Company**

ERG SpA

7. **Position within Company / Organisation**

[redacted]

8. **Contact details**

   a. **E-mail address**

[redacted]

   b. **Address**

[redacted]

2. Energy in Northern Ireland

Q1. What lessons can we learn from elsewhere in addressing energy within an overarching climate action framework?

Q2. What are the key considerations for decarbonising Northern Ireland's energy sector given existing linkages to other jurisdictions?

Q3. To what extent should Northern Ireland implement the key energy-related recommendations from the CCC 'Reducing Emissions in Northern Ireland' report?

Q4. Do you agree with the 30-year timeframe? If not, please state your preferred approach and reasons.

Q1 - The increases in carbon efficiency achieved so far in the EU economy, particularly from 2010 to 2020, have overwhelmingly come from the decarbonisation of the power sector. This was the plan of the European Commission from the beginning, as power was seen as the sector with the best opportunities to reach significant results at the lowest possible cost, creating jobs and export opportunities in the process. The capability of the European power sector to achieve the set goals, and in some countries go further, combined with the under-par results achieved in other sectors such as Heating and Cooling (H&C) and transport, have led to the call for *sector coupling*. That is, the direct and indirect electrification of other sectors through an increase in electrification, the use of EVs, and power-to-gas (e.g. hydrogen or synthetic methane). This progressive electrification must be driven by renewables and integrated with "smart" digital technologies that make it possible to take full advantage of the growing amounts of cheap renewable power. Such combination unlocks the potential synergies between major increases in the use of electricity and renewable power generation by coordinating their deployment and use across demand sectors – power, transport, industry and buildings. In a highly digitalised future with strong global climate policies, electrification of energy services will be pervasive. Electric or fuel cell vehicles will replace fossil-fuelled cars and trucks, and heat pumps and electric boilers will substitute oil and gas furnaces in buildings and industry. As of today, this approach seems to be the only way to achieve the necessary decarbonisation of all the sectors in a cost-effective way by 2050.

Q3 – All of the recommendations from the CCC report should be implemented. Especially the recommendation to "introduce a competitive, long-term support mechanism for low carbon generation" will would make a difference in the transition towards a green economy.

However, the recommendations were made before the UK 'net zero' target was

announced, which might make these steps insufficient to achieve the necessary change on their own. Northern Ireland (NI) should aim for over-achievement both in timeframe and in quantity of decarbonisation targets.

Q4 – As mentioned above, NI should aim for over-achievement both in timeframe and in quantity of decarbonisation targets. In order to ensure NI reaches the net-zero target before 2050, as a minimum, the power sector - the only sector to have achieved significant decarbonisation results thus far, which is likely to make it the backbone of any future overall decarbonisation of the economy - needs to be fully decarbonised before 2040, at the latest.

3. The Energy Transition in Northern Ireland

Q5. What are the unique characteristics of Northern Ireland that need to be considered in a net zero carbon energy transition?

Q6. Is your organisation undertaking or planning to undertake projects to support the energy transition? If so, please provide further details.

Q5 – Northern Ireland has some of the best wind resource in Europe and wind is the most important source of renewable power for Northern Ireland. This represents a unique "heritage" to leverage on for building NI's net-zero carbon energy transition. In this perspective an important contribution can be offered by the exploitation of the full wind potential in NI.

Q6 – We are about to start the construction of the two wind farms Craiggore and Evishagaran, both in County Londonderry (Causeway Coast & Glens Borough Council), which will deliver approximately 252,000 MWh of clean energy to the NI grid per year, enough to cover the annual electricity consumption of around 70.000 NI households.[1]

[1] assuming an average yearly household consumption of 3.6 MWh (https://www.gov.uk/government/collections/northern-ireland-electricity-consumption-data)

4. Consumers

Q7. How should we ensure that energy remains affordable for domestic consumers? What approach should be taken to eradicate fuel poverty?

Q8. What steps could be taken to improve the relative cost competitiveness of larger non-domestic consumers?

Q9. Is a strategic position of "enable and protect" the correct policy stance?

a) What policies or schemes are needed to enable active consumers?
b) What policies or schemes are needed to protect vulnerable consumers?

Q10. What types of advice and information are required by all consumers and what are the best mechanisms for facilitating this?

Q11. Are there examples of successful citizen energy projects in Northern Ireland and elsewhere that have delivered improved energy efficiency and/or clean energy to local communities?

Q12. What opportunities are there in both urban and rural areas for citizen energy communities in Northern Ireland? What role could government have in facilitating these?

Q13. What evidence can you provide that identifies the challenges and opportunities for NI energy consumers in decarbonising energy?

Q7 – Adhering to the current UK Contract for Difference (CFD) scheme - or setting up a NI revenue stabilisation mechanism, open to renewables - could ensure that consumers benefit from the important decreases in cost that onshore wind has achieved in the past decade, making it the lowest cost technology for new generation in many areas. These costs are expected to further lower in the future.

Q8 - It is important to remember that not doing anything will in itself incur a cost. The recent Budget document says that: "the UK will continue to apply an ambitious carbon price from 1 January 2021 to support progress towards reaching net zero. The government will legislate at Finance Bill 2020 to prepare for a UK Emissions Trading System (ETS), which could be linked to the EU ETS. The government will also legislate for a carbon emissions tax as an alternative carbon pricing policy and consult on the design of a tax in spring 2020." This makes it all the more likely that if NI businesses are not carbon efficient, they will not be economically competitive in the future.

Relieving businesses that finance the construction of new renewable capacity from paying levers to cover the cost of supporting the necessary deployment of renewables to reach 2030 and 2050 targets could lead to a significant increase in the

capacity financed through corporate PPAs, as well as ensure that the carbon footprints of these business are considerably decreased. This would incentivise the deployment of renewables with the Government having to grant support.

Q10 – Please see responses to Q17, Q26, Q36 and Q43.

Q11 – Annually approximately £2m are paid by renewable energy plants to local communities in NI through Community benefit funds. These funds make a big contribution to local schools and other key local services.

The uptake of direct community participation in RE assets would need a driver by the government to help communities and get initiatives off the ground. A guideline on community benefits and investment participation should be published. The Scottish Government guidelines could be used as an example.

5. Energy Efficiency

Q14. What, if any, energy efficiency target or targets should be set for Northern Ireland?

Q15. How should we define, measure and monitor energy efficiency to optimise its potential in our homes, business, economy and environment?

Q16. What are the most important policy levers for government to ensure zero carbon in:

a) New domestic and commercial buildings by 2050?;

b) Existing domestic and commercial buildings by 2050?

Q17. What should the future of energy efficiency support look like and who should be the key delivery bodies?

Q14 – Reaching net-zero without a significant increase in energy efficiency is highly unlikely, so it is important that a specific, time-measured target is set.
Actions which increase energy efficiency and create opportunities for the storage of excess clean energy, such as district heating, could play a very significant role here.

Q17 – Homeowners (including landlords) should be responsible for delivery on a property scale, where reasonable (e.g. if a property is not inhabited then it wouldn't need upgrading).

Developers should be responsible for delivery on all new buildings without exception.

Businesses should be responsible for taking every reasonable opportunity to enhance their energy efficiency.

System operators should be responsible for sending the correct signals to ensure efficient use of generation and demand resources.

Key delivery bodies may include those responsible for education, those that can provide support for implementation (at the different levels), and auditing/enforcement is needed as well.

6. Heat

Q18. What is the appropriate pathway and timeline for the decarbonisation of heat between now and 2030, and subsequently to 2050?

Q19. What are the appropriate ways to measure the progress of decarbonising heat?

Q20. What are the most cost-effective and sustainable steps that government might take to accelerate the reduction of the carbon intensity of heating fuels?

Q21. Is decarbonisation of the gas grid a viable option and what evidence can be provided on both the speed and affordability of decarbonising the gas grid?

Q22. What evidence can you provide on the opportunities for district heating schemes in Northern Ireland and where should responsibility lie for facilitating these?

Q23. Can you provide any evidence or information on the opportunities for geothermal heat supply?

Q19 & 20 – The limited result achieved in H&C in terms of decarbonisation makes the direct and indirect electrification of H&C the most effective way of achieving net-zero, both in terms of time and cost.

Q21 – Using the gas grid for green hydrogen and synthetic methane (obtained through electrolysis using renewable power) could help the decarbonisation of the grid, but such a shift would be unlikely to happen before 2030 due to the current cost of electrolysers. Co-locating renewables with hydrogen generation would relieve pressure on the grid.

7. Power

Q24. What is the appropriate pathway for the decarbonisation of power from now to 2030, and subsequently to 2050?

Q25. What target for electricity consumption generated from renewable sources by 2030 is ambitious, achievable and affordable?

Q26. How can the new infrastructure necessary to meet a new renewable electricity target be delivered in a timely, affordable and acceptable way for consumers and society?

Q27. What innovations and solutions could contribute to meeting a new renewable electricity target?

Q28. What market incentives and support are necessary for investors to deliver the investment in renewable generation assets at a scale that will achieve a new renewable electricity target?

Q29. What steps need to be taken by Government to facilitate investment in offshore and marine renewables for NI?

Q24 & Q25 - It is likely that targets will increase in ambition over the coming years, as we aim towards not only a renewable energy system, but a net-zero system. An 80% renewable energy target by 2030, a target of 100% renewable energy by 2035, followed by net-zero by 2040 would be an ambitious but achievable set of targets. However, the most important actions will be delivering as much as is possible within the next ten years. There should be no limitation, as generation targets are likely to increase in response to electrification of heat and transport.

Q26 - Incentivise flexibility and security of supply on the grid so they can move faster and with more certainty. Currently, it appears that the grid waits for policy signals, which is too slow for the rate of renewable generation deployment required.

Push for uptake of EVs and district heating which can support the storage of clean power and increase decarbonisation of H&C and transport at the same time.

Progress extensive public awareness campaigns around the importance of citizen participation in the change now (not 2030, not 2050) – and educate on what the energy future will look like (including infrastructure changes they will see, e.g. in the landscape), and on individual actions members of the public can take. This

includes: increased electrified public transport services, installing charging points, installing their own renewable energy sources, and not financially supporting carbon-intensive industries through investment, preferences or habits. The campaign should also make reference to wider benefits as well as local benefits such as cleaner oceans (oil spills), cleaner air, healthier population, less traffic jams, increased property value, etc.

Q28 - As written in the answer to Q8 above, relieving businesses that finance the construction of new renewable capacity from paying levers to cover the cost of supporting the necessary deployment of renewables could lead to a significant increase in the capacity financed through corporate PPAs, as well as ensure that the carbon footprints of these business are considerably decreased.

However, the long-term priority should be a revenue stabilisation scheme and, with the strike prices we're expecting to see from the GB Pot 1 CfD tenders, such a scheme could be financed with close to zero budget (generators would pay back as much as they receive in support, or likely more).

Given the latest statements from BEIS, the CfD scheme is already available for onshore projects in NI, if the NI Executive decides to adhere. If NI decides neither to adhere to the CfD or to set up any other scheme to stabilise the revenue for renewable power, new generation is likely to prefer developing in the Republic of Ireland, where a stabilisation mechanism is available.

8. Transport

Q30. What would be an appropriate pathway to decarbonised energy for transport to 2050?

Q31. What role should active travel have in the decarbonisation of the transport sector and what should government do to support this?

Q32. What energy infrastructure is needed to facilitate the uptake of electric vehicles in line with UK Government's 'Road to Zero' targets?

Q33. How will transport integrate with other energy uses (e.g. homes with solar generation, battery storage, EV charging) and what can government do to optimise the opportunities represented by this integration?

Q34. To what extent can alternative low carbon transport fuels contribute to decarbonisation of the transport sector?

Q35. Do you have any data/research to help inform and reduce the carbon intensity of our transport energy in order to achieve net zero carbon by 2050?

Q30 &33 – The electrification of transport: NI is perfect for electric cars, as long-distance travel within NI is limited by the country's size. Electrifying the transport network would have additional benefits, too – EVs can help with energy storage. When plugged in to a charging point, the batteries in these vehicles could provide many of the same services as stationary storage systems can provide for the grid. EVs can also be managed in order to mitigate the impacts that their charging can have on the electricity grid.

The NI Executive should encourage the rollout of EVs, develop NI's EV charging infrastructure, and add distributed electricity storage to EV charging points to reduce the amount of transmission and distribution capacity required to charge EVs at peak times.

Q34 – Not as an endpoint, but low carbon transport fuels could be a step change for the industry (e.g. petrol and diesel conversions when EV supply cannot equal demand) and later used only for critical/emergency services as back-up.

9. Other Issues:

a. Security of Supply

Q36. What specific risks to security of energy supply are likely to emerge as a result of our changing energy mix, and what actions can be taken to mitigate these?

Q37. What measures or indicators could be adopted or developed to monitor energy security of supply?

Q36 - Security of supply with a high renewables penetration requires significant overproduction, but if linked to storage e.g. thermal (which can incentivise cheap district heating), or power-to-gas (which can be used to decarbonise transport, industry, and other sectors going forward), such an overproduction can be cost-efficiently used to reach net-zero.

Considering how to make the demand work for your supply will be important – changing network charging to incentivise off-peak consumption. Roll out smart meters and push for IoT.

Encourage larger rollout of distributed renewable generation on an individual property level. This could also help insulate the population against unplanned and unforeseen network events.

b. The Role of Data

Q38. What is the most cost-effective method of capturing consumer energy usage data in electricity and natural gas (where meters are in place)? In heating oil (where there is no metering obligation)?

Q39. What concerns need to be addressed regarding data privacy, security and/or ownership?

Q40. What are your views on applying the key recommendations of the Energy Data Taskforce for NI?

Q41. What organisations or businesses do you see as having a key role in optimising the value of data? How will they do this?

The collection and analysis of data on energy use is fundamental to make the system as efficient as possible.

Q41 – System operators could use the data to more closely predict the energy supply/demand curve, as well as send signals to prosumers' infrastructure about the most appropriate times to consume energy, optimising and automating the system.

c. Carbon Capture and Storage

Q42. What steps, if any, should NI policy-makers consider with regard to the development or implementation of CCUS in NI?

Q42 - Conventional technologies with added CCS are unlikely to be competitive in the long term. Furthermore, these technologies require large investments that risk locking in unnecessary, uncompetitive conventional capacity for decades and entail a continuous import of energy. Finally, implementation of CCS brings with it significant environmental risks related to the long-term storage of the captured carbon dioxide.

If it is necessary in any way (is there underlying necessity for the plants on which the CC equipment would be fitted?), it is worth asking whether there are other ways to achieve the same output? And, finally, whether it can it be delivered in time to allow NI to reach the set targets?

d. Energy and the Economy

Q43. What specific economic opportunities will arise from the decarbonisation of energy?

Q44. What skills are needed to realise the potential economic benefits of energy in the future?

Q45. What are your views on the future of overall energy demand in NI and how can we ensure that any potential demand growth aligns with our net zero carbon target?

Q43: Increased use of renewable energy, combined with intensified electrification, is paramount to reach net-zero. As highlighted by some important reports from the International Renewable Energy Agency (IRENA) decarbonisation allows for fulfilling climate commitments and limiting the rise of global temperatures, while reducing net costs and bringing significant socio-economic benefits such as increased economic growth, job creation and overall welfare gains.

For instance, renewables development allows funding from community benefits to be paid into training or apprenticeship programmes, providing local employment during the construction phase, in addition to the increased use of local services (e.g. accommodation and restaurants).

In the long term, the decrease in healthcare expenditure also has to be considered, from the perspective that there will be less pollution and therefore fewer pollution-aggravated conditions, such as asthma, and fewer premature deaths.

New industries can be developed around prosumer participation in energy trading, battery recycling and the smart grid/housing/appliances, etc.

Q45 – Heat and transport are likely to utilise electricity as path to decarbonisation, thereby increasing electricity demand. A resilient, secure, and robust transmission and distribution network should be planned, ideally with innovative GHG-free components.

e. Delivery Framework for an Energy Strategy

Q46. Do the existing division of responsibilities and powers across government enable the most effective approach to the overall aim of decarbonising energy? If not, what are your suggestions for improvement?

Q47. What are the opportunities for local government to contribute to the delivery of the net zero carbon target?

Q48. What are your views on how statutory duties and accompanying legislation and regulatory frameworks would need to change to facilitate the transition to net zero carbon by 2050?

Q49. Is there a need for a dedicated organisation to champion, lead and deliver sustainable energy interventions? If so, what should this look like?

Q47 – Ensure permitting of renewable energy projects plants as well as of the necessary infrastructure to provide renewable electricity (e.g. cluster substations) goes through the planning process efficiently, as it will be required to decarbonise heat and transport as well. Local government can contribute by educating stakeholder communities on the importance of the infrastructure in decarbonisation and providing information that corrects common myths or misinformation.

We have ourselves had difficulties ensuring that the necessary infrastructure to allow our two wind farm projects to connect to the grid was given approval at local level, in spite of the benefits they bring both locally and nationally. Moreover, this occurred at a point where both wind farm projects were already fully permitted and about to enter the construction phase.

Net-zero needs to operate at the core of the consenting process in order to enable investments to come forward over the short timescale towards 2030.

Q48 – Signals from government should guide a high pace of development. Clear legislative direction coupled with frequent review of regulatory frameworks and industrial response to those frameworks would create a platform for quick responses to change.

10. Additional information

Q50. Is there anything else you would like to add in response to this Call for Evidence?