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:**

   X as an individual (please complete 3 to 5 below)

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

If you are responding as an individual:

3. **E-mail address**

[redacted]

4. **Address**

[redacted]

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**

7. **Position within Company / Organisation**

8. **Contact details**

   a. **E-mail address**

   b. **Address**

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. need to look at Denmark, Sweden and Ireland to see how they have structured their energy policy

Q2. key energy use is for heat so the first thing will need to be decarbonizing heat. This will need to be done in combination with housing and infrastructure Departments, with Invest NI for incentives to install renewable heat equipment, and in collaboration with DAERA for climate change ….

Q3. All should be implemented but this report doesn't go far enough. There is too much focus on the residential sector, even though this is where this has had one of the greatest reductions in GHG emissions since 1990 and the agriculture, transport and energy supply sectors are the greatest emittors (page 17). This puts the burden primarily on individual householders when it is a larger more fundamental change in agriculture, industry and energy production that needs to change. The focus on electric cars is important but I can't see much on the route to market in this DfE report yet.

Q4. I think these changes need to be implemented faster, and this is entirely possible, it will require a massive push and investment from the Government though. Political will is a major driver and can underpin many things, including supporting the public to put pressure on the markets and industry to change their practices sooner.

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. NI is unique in that although part of UK, we have an all island electricity market run between the RoI and NI governments. This market may be affected by Brexit and Boris Johnsons' requirement that the Stormont veto for goods and services be extended to the SEM. Gas is currently coming from Scotland which is another devolved region which may be having another independence referendum in the future, so NI is in a very precarious position regarding two major sources of energy. We should be looking at improving our energy independence, and a shift to renewable energy and storage of this within NI is a key element of this.

Q6. QUB has a Carbon Management Plan (doc attached) and on the website it states there is an energy reduction plan.
"Energy Sustainability: One of the University's main commitments is to increase awareness of environmental responsibilities among staff and students. Therefore, energy conservation is at the heart of what we do. We aim to reduce both our costs and our Carbon Footprint. To date we've made annual savings of £1.58 million and decreased our carbon emissions by over 11,288 tonnes.
A dedicated Green Revolving Fund has also been established specifically to finance energy efficiency projects. For more information or if you have an energy efficiency idea that requires funding, [redacted]

From the QUB website
https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/EnergyandCarbonManagement/

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?

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

It's hard to tell without base information on what kinds of energy transition you are aiming for – what kind of renewables, whether it will be Council-specific or geographical region specific, etc. But it is a workable policy stance provided it's done correctly

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

A key element missing from this is way type of energy will DfE/Stormont be willing to support? Will it be variable depending on customers' local environment and therefore allowing customers to tailor energy production to what is best in their area, or will there be a blanket policy supporting one or two different types of energy that will encourage people to all turn towards these even if there are others that are possibly better suited? What about customers who want to use a variety of energy production systems like a wind turbine and PV on site, or those who want to develop local marine energy more if they like beside coastal areas?

Also will customers be only seen on an individual basis or can communities be seen as a domestic, non-commercial customer if a group wants to join together to develop an energy production system in their area? This approach would be instrumental in aiding vulnerable customers/those who are unable to carry out their own energy modifications through renting etc.

b) What policies or schemes are needed to protect vulnerable consumers?
There needs to be clear support to directly help vulnerable consumers, with a dedicated team to educate and provide advice to these consumers and assistance in developing energy modifications at home; also support for non-profit social enterprises and community groups in upgrading energy systems would be invaluable.

Q10. pg 30: "We want to work towards a future where energy consumers can access the information they need much more easily" is incredibly vague and non-committal. How about "We will provide a future where energy consumers can access the information"? There needs to be more cohesion between all the various sources of information and improved communication of energy systems, energy bills and how consumers can save energy efficiently. A selection of case studies where consumers can read about a situation similar to their own and see examples of how it has been improved would be good. e.g improvements in historical properties, 1990's era homes, new builds etc.

Q12. Citizen Energy Communities are a great idea. Many community groups in both urban and rural settings can do this, Eco-Schools could help local schools get together to set something up, assistance in setting up Co-ops and social enterprises would be great. Government can provide the policy drive and funding to get groups established, can direct support from Invest NI, Action Renewables etc, perhaps through working groups and funding schemes to establish new CECs, providing advice and guidance on choice of renewables, environmental impact and location choice (DAERA), procurement, upskilling, energy storage and transport. Interaction between CECs and government departments such as Housing, Transport, Employment/Training etc will be invaluable in providing support and doing this in a coherent manner.

Q13. Reports not available yet but you can contact PI's for further information:
http://www.ukerc.ac.uk/programmes/networking-fund/zero-in-on-ni-heat.html
http://www.ukerc.ac.uk/programmes/networking-fund/overcome.html

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. We should set targets for a range of activities, spanning the metrics listed on pg 34 at the very least. Targets need to be ambitious. Again see http://www.ukerc.ac.uk/programmes/networking-fund/zero-in-on-ni-heat.html to see how heat is used to inform target setting.

Q15. All identified metrics (pg 34) should be involved – if we are to truly achieve net zero by 2050 we need to properly monitor all of these activities and set targets, especially minimum targets within policy, otherwise they will be seen as Guidelines and vaguely adhered to by some bodies and ignored by others.

Q16. a) New domestic and commercial buildings by 2050?

Everything to have zero carbon standard by 2040, 2045 at least, allow time for things to not be done right and fixed, all businesses to have a viable and committed Sustainability and net zero carbon plan that they are actually accountable for, landlords renting new properties to be required to ensure buildings have whatever renewable energies exist and maintain properties as energy efficiently as possible.

b) Existing domestic and commercial buildings by 2050?

Raise the standards for retrofitting – why is current retrofitting through the DfC AWS scheme not to achieve carbon neutrality? Why no renewable heating? This is just wasting money then.

Q17. Support should be policy supported by actual fully transparent monitoring and governance, overseen by an independent body. The Key Governmental delivery body should be an entirely new department for net zero targets, to include climate change, development of renewables and energy efficiency. This body can then be responsible for the coordination between all the other Departments so issues and regulations can't be bounced between depts and there is a coherent, clear pathway to energy efficiency for all consumers.

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. Monitor retrofitting and connection of properties to gas networks, monitor heat pump usage, in combination with monitoring energy efficiencies. Need to assess the carbon footprint and LCA of how electricity is generated if using more electrical heat.

Q20. Cost-effective and sustainable aren't always compatible. Most sustainable – move natural gas to biogas which is considerably more Carbon neutral, install heatpumps every where possible and increase heat networks. Hard to judge the geothermal aspect as there is little referenced information in the document.

Q21. I have only seen small areas where biogas is used in place of natural gas to decarbonise the gas grid but it has been successful, eg buses running on biogas in Norwich, UK. The theory is very viable though and affordability and speed can be greatly helped with policy backing it up. At the moment there isn't enough support to develop this aspect to a large commercial scale, and no possibility of biogas injection in NI so we can't test it here. This needs to change as we have a very high risk of stranded assets if we don't move to biogas, especially as we are still building new gas networks!

Q22. I haven't seen any opportunities for district heating schemes in NI other than RHI. The responsibility for facilitating should be with the new Department for Zero Carbon and independently monitored. Whomever monitors and facilitates it, anyone involved with RHI should not be involved – although recent report claims there was no corruption (which I don't think anyone actually believes), it's summary that failings were down to ineptitude and laziness of key staff including ministers makes it very hard to believe anything is being done in Stormont properly, especially as Arlene Foster is still DUP leader. For any of these policies and schemes to be taken up and supported by the general public, there needs to be significant visible change in the way Stormont is run.

Q23. No, and the information in this doc has no references for its claims about geothermal supply so I'm unconvinced.

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. We need to move to 100% renewables as soon as possible, utilising the full range of renewables we have access to in NI. This includes land and marine based renewables. We need to repurpose current assets and aim for as much multi-use of facilities as possible – this can greatly reduce the costs of running facilities and makes marine renewables much more feasible and socially acceptable. A complete overhaul of the electricity system is needed as currently it can't fully manage the operation of renewable wind: we need to improve connections, improve storage capacity, remove energy production caps. This all needs to be done in collaboration with RoI so that the SEM can be maintained.

Q25. We should have a minimum target of 70% by 2030, aligning with RoI, ideally aiming for above 80% if possible.

Q26. It needs to be prioritised and carried out in collaboration across all relevant departments. EIA's will be vital in identifying sites and impacts of new facilities and these should be done in collaboration with eNGO's as they often have preferred sites for development and this can avoid unnecessary, costly delays and confrontations. A huge public education campaign with a coordinated message across all relevant departments/sectors needs to be done to start building support for these changes. If possible local contractors should be employed, skills training for working in a new renewable energy industry should be delivered including retraining for those already employed or being made redundant from high-carbon industries that are likely to be affected by the shift to a low-carbon energy system. Also new and extensions to existing grants and incentives should be made available for those customers wanting to generate their own power at home and feed into the grid, for purchase of electric vehicles and proper inprovements to cycle network to facilitate reduction of car traffic on the roads.

Q27. Multi-use systems in the marine environment will be necessary to meet the net zero target, especially so if we are to achieve a minimum of 70% reduction by 2030. Marine renewables can be combined with fishing and tourism infrastructure and can rejuvenate failing fishing communities, providing a range of energy production systems and improved energy security. This would also be popular with consumers as it will revive economies and provide new training and skilling opportunities while still fostering activity in the marine area – many coastal communities don't want to reskill in non-marine industries if they have an historical and family connection to working at sea.
Using capped wind energy to convert Hydrogen is good, as is development of other types of fuel cells other than hydrogen.
Reduction of electricity demand is also vital, so aid in developing Smart technology and more efficient infrastructure R&D.

Q28. It needs to be based in policy at the start, and clear that it's not just a box-ticking exercise. Investors should only be considered if their systems are going to help achieve the target and it needs to be made clear that "business as usual" isn't going to work. Small start-ups and innovative tech companies should receive greater support from Invest NI etc to conduct commercial trials and reach the market. NI PLC should be rooted in its commitment and drive to achieve renewable energy targets and investors need to know that they will be supported across all relevant departments and sectors to achieve this.

Q29. Offshore and marine renewables are vital to achieving net zero in NI. There are a variety of technologies that can be developed further, and all will benefit from government policy, funding and support.
Offshore wind is well established elsewhere in the UK and there is future potential for it in NI, although not in the near future (excluded UK Crown Estates leasing Round 4). Floating offshore wind is a possibility and is being developed, which would alleviate many of the issues around more traditional offshore wind, although there are more changes that could be made to make offshore wind more feasible. In particular, the exclusion of fishing from wind farms – in Sweden there are now requirements to open these areas to other industries, particularly the growing seaweed farming industry. The seaweed farmed can be used for food, animal feed or processed for bioenergy/biogas. Certain types of fishing can be integrated within wind farms and farms can be structured to allow for a broader range of activities.
Traditional marine Renewables (wave, tidal) are also at the commercial stage of research, and can generate significant amounts of electricity. The main issues with these technologies reaching commercial market stage is their comparison of electricity cost with offshore wine – although all three occur in the ocean, there is a large difference in development stages and the offshore wind is much cheaper than wave and tidal energy, which causes competitive issues and low investment. These industries need to be considered separately, not least because wave and tidal structures can be installed in areas where wind cannot be, and so will make use of a larger range of marine coastline and ocean space, therefore increasing potential energy generation.

Marine biomass is a greatly underutilised resource than can also increase renewable energy generation. Seaweed farming for bioenergy has been researched for over a decade and we know it is feasible and excellent gas returns are possible, on a par and potentially better than many UK land based energy crops. It is currently the most expensive option although costs are being reduced with ongoing research and methods to maximise return are in development. Seaweed can be combined with other marine-derived biomass (fish waste, discards, processing waste) to produce biogas and is the most environmentally benign activity of all marine renewables.

Recent work for the UKERC funded project OverCoME (http://www.ukerc.ac.uk/programmes/networking-fund/overcome.html) found through a series of workshops that there is broad support for marine renewables in NI, and stakeholders developed a marine Manifesto stating support and their vision for Marine Renewables. The report is currently in draft but key finding are listed below:

1. fishing industry very disillusioned but also open to change and keen to get involved in development of marine renewables where possible
2. The development of marine-based energy production as an alternative to fossil fuels had broad support. (by the people in the room - though I would expect more widely too)
3. Meaningful education is required - for all stakeholders; about each other and the bigger picture. Not just a swopping of information.
4. The industry only pays lip service to environmental lobbyists because it is a legal requirement - they need to be encouraged to adopt environmental safeguarding as part of their corporate culture.
5. Trust does not exist currently because of conflicting interests of industrialists and environmentalists and competition between companies seeking to make a profit within the same industrial field.
6. There is a need for greater transparency on all sides, this is hampered by the lack of trust inherent in the current structures. NGO's could provide a scaled criterion of impacts that inform their responses to planning applications. Businesses could provide access to their environmental impact data.
7. The industry only responds to legislation or public pressure, NGO's need to target their awareness-raising to these groupings.
8. A forum for open discussion is required to both build trust and encourage transparency - this may be the role of the network. A network would provide an important forum within which dialogue could be encouraged.

Vision for Marine Renewable Energy in NI

100% renewables from a diverse array of technologies by 2050 with minimum 30% from marine renewables

NI can become a World leading MRE Centre of Excellence

Marine Manifesto

- Simplified regulatory framework, investment support separate from wind
- Scientific evidence-based policy with designated test and demonstration sites, aid united approach to industry development
- Grid and transport infrastructure development
- Coastal region redevelopment with job creation, skills diversification and education

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?

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?

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?

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?

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. Huge opportunities to develop a new renewables based economy, upskilling for workers and being a centre for marine renewables excellence

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?

Q46. no – see answer 49 below

Q49. Yes see answer 17: The Key Governmental delivery body should be an entirely new department for net zero targets, to include climate change, development of renewables and energy efficiency. This body can then be responsible for the coordination between all the other Departments so issues and regulations can't be bounced between depts and there is a coherent, clear pathway to energy efficiency for all consumers.

10. Additional information

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