

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

28 February 2020

Dear Sir or Madam,

### **Energy Strategy Call for Evidence 2019**

Sustainable NI welcomes the Energy Strategy Call for Evidence which marks an important step towards meeting our energy needs in a more sustainable way.

We must limit global warming to 1.5 degrees above pre-industrial temperatures to prevent catastrophic consequences for the planet and society. The science is clear, to do this requires radically reducing emissions, particularly carbon dioxide.

Sustainable NI believes that whilst plans for the Energy Strategy broadly align with this goal, it must be part of a wider climate strategy which identifies and commits government to ambitious targets to achieving net zero carbon. Sustainable NI believes that climate legislation should be progressed rapidly to place emission targets and other actions on a statutory basis.

The Energy Strategy should strive to urgently end our dependence on fossil fuels, provide the investment and infrastructure for renewables and storage technologies, alongside other actions including investment and promotion of public and active transport and planting more trees to offset emissions in the short term as we target more ambitious carbon reduction measures over the long term.

Government must assess what 'net zero' means for Northern Ireland and what policies are needed to align with Northern Ireland's climate change commitments, as set out in the New Decade, New Deal document. Sustainable NI notes that, for example, current Building Regulations are incompatible with a net zero carbon target.

Sustainable NI notes that energy responsibilities across government are even more complex than those described in the discussion document. For example, Departments for Education and Health are listed as 'energy users' but also have a role to play in energy education and energy efficiency respectively. It has been shown that children in fuel poor homes have lower school attendance rates due to ill-health

which in turn leads to lower educational attainment levels, than children who aren't in fuel poverty. The Department for Education is therefore a key stakeholder in the energy transition. The Department could also look to revise the national curriculum to ensure young people are educated on the relationship between energy and climate change, to encourage sustainable consumption behaviours from a young age.

The Department of Health is also a key stakeholder in the energy transition. The link between fuel poverty and health is undisputed. Public health campaigns could be utilised to promote insulation, boiler replacements and other warmth measures among vulnerable groups, to prevent seasonal morbidity and mortality in the same way 'green prescriptions' have been utilised by NHS England.

Sustainable NI works closely with local councils on issues relating to sustainable development and climate action. As 'front-line' service providers, councils are ideally placed to deliver a range of new measures and interventions under a future Energy Strategy. This will require new statutory responsibilities and legislative change, particularly in relation to planning and building control, and funding to support this. The role of local authorities is outlined in greater detail in our response, enclosed.

On a final note, we would encourage the Department for the Economy to work with the Department of Agriculture, Environment and Rural Affairs to put a strong case forward within government for an integrated Energy and Climate Strategy which carries sufficient weight and provides clear direction for all other policy areas within government.

We enclose our comments on the consultation discussion paper, formulated through engagement with colleagues in the local government sector. We look forward to seeing the first draft of the Energy Strategy and would be pleased to provide additional opinion if it would be helpful.

Sincerely,

A handwritten signature in black ink that reads "Nichola Hughes". The signature is written in a cursive, flowing style.

**Nichola Hughes**

Executive Director

1. General Information

**1. Name (required)**

Nichola Hughes

**2. Are you responding:**

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**

**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**

Sustainable Northern Ireland

**7. Position within Company / Organisation**

Director

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## 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. Northern Ireland is the only jurisdiction within these islands without a Climate Change Act. As such, NI should seek to learn from the experience of neighbouring jurisdictions which have progressed climate action frameworks – England, Scotland, Wales, the Republic of Ireland, as well as the European Union. It is considered that an integrated energy and climate framework would be most effective in this regard.

On renewable heat and electricity, there is a lot that can be learned from Scandinavian countries such as Sweden and Denmark, which have similar rurality and indigenous renewable energy resource potential. Sweden, for example, is capitalising on energy from organic farm waste, utilising AD technology to convert methane to liquefied methane to fuel local HGVs. This would seem like a sensible approach in Northern Ireland, as there is a surplus of organic farm waste to requirement which creates significant environmental issues.

Q2. Northern Ireland is a member of the all-island Integrated Single Electricity Market (I-SEM) shared with the Republic of Ireland. The delivery of the Tyrone to Cavan Interconnector project will be essential to the decarbonisation efforts as it will provide increased grid capacity for renewables in Northern Ireland. There may be other opportunities to cooperate with the Republic of Ireland on decarbonisation such as through EU PEACE funding, an interoperable all-island rapid charge point network for ULEVs; utilising the services of the Sustainable Energy Authority of Ireland (SEAI) and perhaps exploring other shared services and infrastructure to facilitate the transition to a low carbon economy.

Q3. The recommendations of the Committee on Climate Change Report "Reducing Emissions in Northern Ireland" should be implemented to their full extent. With regards to energy, we support recommendations for policy to "incentivise the installation of low-carbon heating", "incentivise energy efficiency improvements in homes" and encourage "transport behaviour change".

The report highlights that a large proportion of Northern Ireland's greenhouse gas emissions arise from land use, and as such, we must ensure that energy and agricultural policies are not developed in isolation from each other with competing visions.

Failure to integrate these policies can result in major long-term negative implications for the climate, which has been the case following implementation of the Going for Growth Strategy which saw a drive to expand the agricultural sector in Northern Ireland in order to grow sales by 60% without due regard to the environmental implications.

An approach to neutrality in the agriculture and land use sector by 2050 must be defined and advanced.

Q4. We agree with the timeframe as described in Figure 2. The inclusion of three 10-year milestones, 5-year action plans (with additional mid-term reviews) will allow flexibility in responding to international developments, emergent technologies and areas of concern or underperformance throughout the life of the strategy.

Sustainable NI believes that climate targets and energy targets must be aligned and, if possible, integrated. In order for this to happen, we must first pass legislation that commits Northern Ireland to becoming a net-zero carbon at the very latest by 2050 – in line with the UK Climate Change Act. There should be an interim climate target (2030) and five year carbon budgets in line with neighbouring jurisdictions. These should be included in the Energy Strategy.

### 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. The energy regime in Northern Ireland is unique due to a variety of factors.

- NI has no economically viable oil or gas supply and is heavily reliant on fuel imports
- The gas network in NI is not nearly as extensive as in Great Britain, with around 68% of homes in Northern Ireland heated by oil
- There is an east / west differential with respect to access to piped gas, with homes in the east of the province having greater access than in the west
- Rural communities are more reliant on oil for home heating than urban communities
- Northern Ireland has the highest rate of fuel poverty in the UK, therefore climate justice issues are more relevant here
- Northern Ireland is regarded as having one of the greatest wind and tidal energy resources in Europe
- Given our relatively small geographic size, NI has the potential to implement considerable change far more rapidly than larger jurisdictions.

Q6. Sustainable NI will be supporting public sector organisations, in particular councils, helping them to 'get their own house in order' through internal policy changes and identifying measures that can be taken to reduce carbon emissions at borough or district level.

### 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. A household is said to be in fuel poverty if it needs to spend more than 10% of its income on energy costs on heating. In 2018, the estimated fuel poverty figure was 131,000, equivalent to 18% of all households<sup>1</sup>.

Fuel poverty should be addressed by a two-pronged approach of efficiency measures (e.g. loft and cavity wall insulations) as well as replacing oil-fired boilers with low-carbon heat technologies.

With regard to energy efficiency, we support a “fabric-first” approach, which can help alleviate fuel poverty and deliver quality, sustainable housing. In addition, we would like to see the integration of renewable energy technologies, both in the design of new buildings and through the appropriate retrofitting of existing buildings. We would like to see Local Development Plans place requirements on developers to demonstrate that measures to reduce energy consumption and incorporate sustainable design solutions have been considered and incorporated into their proposals.

The below table from the NIHE report “Estimates of fuel poverty in NI in 2017 and 2018” shows that whilst the wholesale cost of oil has decreased, the cost of gas has increased significantly – with two of three of our power plants relying on gas, this has also had a knock-on effect on the cost of electricity.

**Table 2: Change in the Northern Ireland fuel prices used in modelling, 2016 to 2017 and 2018**

Fuel	% change between 2016 and 2017	% change between 2016 and 2018
Bulk LPG	-4	-6
Bottled gas	-5	-5
Oil	-14	-16
Coal	+2	+3
Smokeless fuel	-2	-4
Anthracite	-3	-5
Wood	+2	+5
Communal heat	0	+8
Gas <sup>7</sup>	+8	+18
Electricity (standard) <sup>7</sup>	-3	+6
Electricity (economy 7 - day) <sup>7</sup>	-3	+4
Electricity (economy 7 - night) <sup>7</sup>	-3	+12

This contrasts with a downward trend in renewable energy in recent years. According to a [report](#) by the International Renewable Energy Agency (IRENA), unsubsidised renewable energy is now more

<sup>1</sup> <https://www.nihe.gov.uk/getmedia/1f9e55a1-66c2-46b7-bf92-9ee192ce355f/estimates-of-fuel-poverty-northern-ireland-2017-and-2018-revised.pdf>

often than not the cheapest source of energy generation. The report finds that the cost of installation and maintenance of renewables, which was an important stumbling block to mass adoption, continues on a downward trajectory.

While retrofit schemes will be needed to accelerate the update of low-carbon technologies to the mass market, households that are vulnerable and / or at risk of fuel poverty should be targeted first.

Q8. The prospect of leaving the EU Emissions Trading System as a result of leaving the EU presents Northern Ireland with an opportunity for innovation in the field of carbon pricing. A better approach could reduce the cost of decarbonisation and prevent the offshoring of emissions. Also, by redistributing the proceeds of an economy-wide carbon tax directly to citizens through a 'dividend' we can ensure more inclusive economic growth and make carbon pricing popular. The UK is already leading a coalition of nations in 'powering past coal'; we should seek to build on this climate diplomacy and implement a system of carbon pricing that really works, overcoming a market failure that does great harm to the environment.

Q9. Sustainable NI agrees that the strategic position of "enable and protect" is the correct policy stance.

Sustainable NI would be supportive of a policy landscape which provides competitive energy prices and investment returns that are supportive of 'citizen energy communities' facilitated by local councils, community groups and energy companies coming together to form energy co-operatives. This approach ensures citizen engagement in energy as a limited resource, which encourages smarter energy behaviour and reduces consumption. Learning from the early adoption of community energy models in the UK, Denmark and New Zealand has shown that government support to erode barriers to the establishment these entities is invaluable, and that on-shore renewables are more accepted by local communities when they have a stake in their ownership.

Targeted affordable warmth schemes should be implemented, with a single 'one stop shop' agency that councils and community organisations can signpost to, in order to reduce administrative burden and improve efficiency in service provision. The eligibility criteria should be simple and the government should take a more active role in promoting these schemes e.g. through the national health service.

To enable 'active consumer' behaviour models, government could consider incentive schemes for 'good behaviour' i.e. cheaper tariffs for using energy at certain times, or cheaper household rates as a reward for installing smart meters or energy efficiency improvements.

Funding for fuel poverty and energy efficiency improvement schemes should be provided by monies raised from carbon taxes and energy company obligations, under an incremental 'polluter pays' basis. Fuel poor households should receive financial support from monies raised.

Q10. Information and advice should be provided in a wide variety of formats to cater to a broad range of customers. This may include websites, social media, telephone, post etc. Information where possible should be centrally co-ordinated e.g. through NI Direct, Citizen's Advice or the Consumer Council, which other agencies could signpost to. In addition, consumers should have direct access to real time energy consumption as well as their usage patterns, through smart meters, to help drive change in demand and consumption.

Customers should be able to commission a low-cost or free independent home energy survey to identify the largest sources of energy wastage in the home, and outline recommendations for

improvements. In addition, there should be clear information and sign posting to green finance options which should be readily available e.g. from high street lenders, co-operatives and credit unions.

Q11. Brixton Energy, a not-for-profit co-operative based in south London has established several co-operatively owned renewable energy projects whose financial revenues stay within the local community. Repowering London, the company which set up Brixton Energy, carry out projects to empower communities to develop, own and manage renewable energy projects. There is an important social benefit aspect to their projects, which would be welcome in Northern Ireland.

Projects include:

- Internships for young people aged 16-24
- The development of alternative business models for community energy; Solar PV and energy storage, anaerobic digestion, energy efficiency, on-site electricity supply, heat networks
- Energy advice sessions for local residents
- Solar panel-making workshops

Q12. As stated in our response to Q9, government could stimulate citizen energy communities by providing subsidies for renewable energy installations or rates relief for homes and businesses using renewable energy or improving the energy efficiency of their buildings.

Q13. Challenges and opportunities for NI energy consumers include:

- The wide-scale proliferation of oil-fired boilers (68% of households)
- Rural communities and those in the west of the province do not have access to gas networks
- The need for consumer advice and information on how to generate their own energy and make their homes more efficient
- Rural households may have adequate outside space for ground source heat pumps, which presents an opportunity for homes not on the natural gas grid
- Many houses are located close to industry and / or large public buildings which could be equipped with combined heat and power technology, which could be linked to district heat and electricity networks

## 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. A new, legally binding standard for home energy efficiency should be implemented to help tackle climate change and eradicate fuel poverty. This should be part of a broader ambitious energy efficiency target in line with the UK net zero carbon target. Sustainable NI recommends setting an energy efficiency target of at least 40% by 2030, and 80% by 2050.

Sustainable NI proposes all residential properties in Northern Ireland should be required to achieve an Energy Performance Certificate (EPC) rating of at least EPC C by 2040. All buildings may not be able to achieve EPC C standard, as in some cases the cost of the work may outweigh the energy saving benefits.



In these cases, government should work with partners to improve these buildings as far as is reasonable. Reaching the long-term standard will require a mixture of encouragement and regulation which will differ between the social rented, the private rented, and the owner-occupied sectors.

Government should introduce a target to maximise the number of homes in the social rented sector achieving EPC B by 2030, with no detriment to environmental impact or air quality. Sustainable NI proposes that regulations are brought in to ensure that no social housing can be let after 2025 if the energy efficiency rating is lower than EPC D.

Q15. Sustainable NI supports the use of EPCs in setting the energy efficiency standards for buildings as EPCs are widely known and provide a clear way to model and understand a building's energy performance. However, there are some issues with EPCs, namely their accuracy. Northern Ireland could work with the Scottish government which is undertaking research to understand the issues and ensure that EPCs record the energy efficiency of buildings more accurately.

The home energy conservation requirements could be reviewed to introduce a more stringent energy compliance regime for non-domestic buildings, in particular any buildings funded by the public purse.

Q16. Urgent and radical reform of NI building regulations and enforcement provisions (building control) is required. Sustainable NI endorses the recommendations that have been outlined by the London Energy Transformation Initiative (LETI) in their response to the recent Government consultation on the Future Homes Standard in GB. It is vital that the Department of Finance, its current review of building regulations, grasps the opportunity not only to catch-up with English building regulations but to exceed them.

We also consider the use of EPCs and related energy efficiency standards, as outlined in Q15, to be critical policy levers in ensuring zero carbon in both domestic and commercial buildings.

Q17. The Housing Executive could be the lead delivery or coordinating agency in driving forward energy efficiency improvements in the social housing or indeed all of the housing sector.

Sustainable NI would advocate not setting up or creating new agencies for energy saving advice and information, but looking to engage with and utilise existing providers already established in Ireland and the UK e.g. SEAI, Energy Saving Trust and the Carbon Trust.

Sustainable NI believes that local councils, as 'front-line' service providers, are ideally placed to deliver a range of new measures and interventions under a future Energy Strategy. English councils were actively involved in delivering the UK Government's ECO programme and resident surveys showed that citizens are more likely to 'accept' insulation schemes operated by their local council than a private company or other 'unknown' agency.

Learning from UK retrofit programmes, however, has shown that even when insulation and other measures are 'free' they are still difficult to implement as householders are sceptical about anything being offered for free, and often do not understand why insulation is necessary. This demonstrates that insulation and retrofit measures must be part of a wider suite of policy and communication measures to drive demand for these services.

## 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?

Q18. Sustainable NI believes the proven efficacy of NI renewables (now 44.9% of total electricity consumption) makes a strong corollary argument for the greening of heat through electrification. We believe that decarbonising heat by transitioning from oil to gas is an incremental and temporary solution to a longer term problem. NI is uniquely positioned to “leapfrog” gas and transition to a clean, renewable energy system.

Sustainable NI welcomes the commitment within “New Decade, New Approach<sup>2</sup>” to close the RHI scheme and replace it with a new scheme “that effectively cuts carbon emissions”. New schemes to decarbonise heat should not seek to replace oil heating with gas heating (as with boiler replacement schemes), instead, oil-fired boilers should be replaced with low-carbon heat sources such as heat pumps.

Geothermal energy research and demonstration projects should be funded to help realise the potential for this technology in Northern Ireland. Research should be undertaken to establish if (and where) this technology may be feasible.

Q19. The upcoming 2021 Census and Continuous Household Survey presents an opportunity to ask more detailed questions on the types of heat sources used within NI households. The government could work with utility providers to roll out smart meters, for heat and electricity, beginning with making it a requirement for all new connections.

Q20. A ban should be placed on the most polluting fossil fuels. A moratorium on the extraction and sale of peat, coal, and lignite would help reduce the carbon intensity of heating fuels used and incentivise the uptake of cleaner fuels.

Q21. Given the relatively small-scale of the natural gas network, the impact of decarbonisation efforts may be minimal upon overall emissions. However, the potential for mixing hydrogen with natural gas / bio gas should be considered.

Q22. We are aware that the University of Ulster has carried out a feasibility study for a district heating scheme in Coleraine. There are undoubtedly other sites across the province suitable for district heating, that are yet to be explored.

District heating networks should form an integral part of the Energy Strategy. For district heating to play its full role, the government needs to become more involved in the sector to catalyse the speed and scale of heat network delivery in Northern Ireland. Investment should be mobilised to bring forward smaller real-world projects to illustrate how they would operate in practice whilst looking to assist industry in accessing some of

<sup>2</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/856998/2020-01-08\\_a\\_new\\_decade\\_a\\_new\\_approach.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/856998/2020-01-08_a_new_decade_a_new_approach.pdf)

the UK Government's £320m Heat Network Investment Project funding for longer-term schemes. EU funding could also be drawn down to support heat network infrastructure under low-carbon funding priorities.

Local Development Plans could be asked to bring forward smaller site-wide heat networks on new developments creating the possibility of future connection to district-wide schemes as they emerge.

District heating should be a consideration in large scale public infrastructure projects such as new energy from waste plants. Sustainable NI would refer the Department for the Economy to Amager Bakke (Amager Hill), a state of the art combined heat and power waste-to-energy plant in Copenhagen, Denmark. As well as treating around 400,000 tonnes of waste annually, it supplies 50,000 households in the local area with electricity and 120,000 households with district heating. As this example highlights, aligned waste and energy policy is vital to ensuring that climate and energy considerations are factored in to waste infrastructure decision making.

Q23. In Iceland 87% of buildings obtain their heat requirements from geothermal sources, in part due to its geological profile. Research by the Geological Survey of Ireland highlighted that every location in Ireland has the potential to harness shallow geothermal energy, which, coupled with heat pump technology, can be used for space heating, cooling and hot water. Geothermal is also the only renewable energy source that is available 24/7, regardless of climatic conditions.

## 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. Sustainable NI strongly advocates for a total discontinuation of coal and oil use for power generation. Sustainable NI also supports the continuation of the ban placed on hydraulic fracturing, or "fracking" in Northern Ireland. New licences for oil and gas exploration should not be granted as in doing so could undermine our decarbonisation efforts.

With respect to a detailed pathway for the decarbonisation of power, Sustainable NI would refer the Department for the Economy to the UK Committee on Climate Change for advice on suitable policies for the decarbonisation of the power sector in Northern Ireland, in line with the revised UK net zero target and associated carbon budgets. Sustainable NI would suggest Northern Ireland receive advice on suitable 5-yearly carbon budgets, and align policies to these.

Q25. In 2019, 44.9% of total electricity consumption in Northern Ireland was generated from renewable sources located within NI. Given the considerable progress made in the last ten years (from 1.5% in 2001 to 44.9% in 2019), we believe a target of 80% of electricity generated renewable sources by 2030 would be both stretching and achievable.

Q26. We believe this can be achieved through a blended approach of tough financial penalties (carbon taxes) on fossil fuel based energy sources and financial incentives for low-carbon energy generation. Additional support should be provided to assist community energy schemes, as these models have been shown to increase consumer acceptability of low-carbon technology deployment locally. Funding and support should also be targeted toward vulnerable, fuel poor households and communities.

Q27. Sustainable NI believes the potential for geothermal, tidal and off-shore wind energy is largely untapped in Northern Ireland and offers tremendous potential for 'greening the grid', as well as continued roll-out of familiar technologies such as on-shore wind and Solar PV, in combination with energy storage facilities.

Q28. Sustainable NI believes a 'carrot and stick' approach will be required to facilitate large-scale investment in renewable energy technology. Sustainable NI supports the 'polluter pays' principle, and would argue for an economy-wide carbon tax to penalise the most polluting fuels, alongside outright bans on fuels such as peat, coal and lignite. This will provide a market ripe for investment in renewable technologies.

Sustainable NI would refer the Department to the Partnership for Market Readiness (PMR) 2017 for an overview of the effectiveness of carbon taxes in different countries. We note that Ireland has committed to raising the national carbon tax from €20 per tonne to €80 per tonne by 2030, to help government meet national carbon reduction targets. The money raised (€90m in 2020) is ringfenced to fund new climate action measures, and protect the fuel poor.

Q29. Special incentives such as funding and other measures will be needed to support and enable the exploration of marine renewable technologies. Government should do this in partnership with the environment sector, as no technology should be advanced to the detriment of the natural environment.

Before committing funds for the exploration of off-shore wind and marine renewables, Sustainable NI would encourage the Department to fully research all forms of renewable technology and exhaust the cheapest, cleanest, most secure and least environmentally damaging forms first. We would remind the Department that the deep and shallow geothermal energy resource, and the associated costs of harnessing it, is largely unknown in Northern Ireland but could offer significant potential in reaching our energy and climate goals.

## 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. The Energy Strategy should recommend that DfI develops a 'transport hierarchy' in which the least carbon intensive forms of travel are prioritised over the most carbon intensive forms. This should then lead to increased funding and investment in cycle paths and walkways – as these are cleanest forms of travel – and also public transport infrastructure.

Funding for roads should be limited to maintaining the roads that are already there, not increasing provision. Sustainable NI notes that research has shown that building and expanding roads and car parks, leads to more traffic and congestion overall. It constitutes a signal to the market that government prioritises travel by private car, over public transport and active travel.

The Energy Strategy should support the electrification and expansion of the railway network, undertaking a review of the old railway network and the feasibility of reopening parts of it.

Public procurement should be used to ensure replacement of aging public transport vehicles with low-emissions vehicles. Government will need to commit to a target to phasing out diesel and petrol vehicles. A phase out of diesel buses should be rapidly progressed in order to help meet air quality and carbon targets.

Q31. Active travel has a significant part to play in the energy transition and in improving health outcomes. A proportion of roads funding should be diverted to improving walking and cycling routes aimed towards making them safer, which is a major issue in Northern Ireland. In addition, funding should be identified to extend the cycling network to aid the movement of people into and within urban areas in particular.

Government could also work with local councils to offer incentives to encourage people to walk and cycle to their place of work or school e.g. closer parking for bikes or financial measures such as low-emission zones or differential parking tariffs.

Sustainable NI notes that the major challenge for government is not in supporting individual forms of transport, but in penalising the status quo which is an over reliance on the private motor car. A switchover to low-carbon vehicles will not tackle the problem of congestion in our towns and cities. Government efforts should focus on encouraging motorists to use bicycles, public transport, taxis or car clubs. Sustainable NI would refer the Department to an initiative by Transport for West Midlands that will pay motorists up to £3000 per year to spend on public transport as part of an innovative trial to get vehicles off the road.

Other solutions include making Belfast city centre a pedestrian and bicycle only zone, and increasing parking rates closest to the city centre.

Sustainable NI notes that often a person's travel choices are limited depending on where they live, and the infrastructure available. Sustainable NI would encourage DfI to review national planning policy to ensure access to safe walking, cycling and / or public transport infrastructure is a basic provision in all new permitted development.

Q32. Rapid EV charge points should be installed throughout NI although this should be market-led not publicly funded. Charge point operation and charging should be consistent on both sides of the Irish border, if possible.

Sustainable NI recommends a degree of caution towards using public resources to support the uptake of EVs. We would refer the Department to the Foundation for Economic Education which argues that although electric cars are a step in the right direction, their production (involving the mining of

lithium) and charging still contributes to CO2 levels. Some research suggests that EVs are responsible for more carbon emissions than petrol or diesel cars when a lifecycle carbon analysis is carried out, albeit with lower output of air pollutants.

Sustainable NI would recommend that a lifecycle carbon assessment is carried out on the technologies and supporting infrastructure under consideration, and that government remains technology neutral where ever possible.

Q33. The Call for Evidence describes some of the ways in which transport will integrate with other energy uses e.g. homes with solar generation, battery storage, EV charging. We recommend that a fully integrated energy and transport strategy, underpinned by carbon reduction objectives, is used to optimise these opportunities. It is likely many of the solutions will be linked to the development of smart energy tariffs, smart meters and smart devices which will be market led.

Q34. Sustainable NI is not in a position to comment on which low carbon transport fuels will contribute to decarbonisation of the transport sector.

Q35. No comment.

## 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. It could be argued that our energy security is already compromised from an over-reliance on oil and gas, which is a finite natural resource and imported from politically volatile regions.

By having a mix of home-grown renewable energy sources, Northern Ireland can ensure price stability and security of supply into the future. One issue with increased renewable generation from wind and solar is over and under supply in different climatic conditions. However, the development of battery and / or hydrogen storage facilities could help ensure continuity of supply. For example, where there is overproduction of electricity (e.g. on an exceptionally windy day), this energy could be stored for later use. Equally electric vehicles can act as 'mobile batteries' with dynamic charging rates to encourage charging and storage during peak grid capacity.

Other non-intermittent renewable technologies could be developed to ensure energy security. When energy storage costs are taken into account, non-intermittent technologies such as tidal and geothermal may be cheaper on balance.

It is clear that a diverse mix of technologies will be necessary to ensure the energy network is resilient and secure.

Sustainable NI also recommends the government takes account of the projected climatic changes that the region is facing over the coming 50 years, including hotter temperatures in the summer and wetter winters, and more extreme conditions such as storms. This will be an important factor when selecting resilient technologies for the future.

Q37. Threats to energy security can affect either the physical supply of energy or its price. Therefore, measures of security include diversity of fuel supplies, spare capacity in infrastructure and reduced exposure to increased energy costs.

Sustainable NI supports the adoption of a diverse portfolio of indigenous renewable and low-carbon energy sources over imported fossil fuels, as this improves energy security by reducing exposure to rising global energy costs, reduces exposure to technology-specific risks through energy diversification, and also supports our climate change targets.

#### **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?

Q38. Metering should be a legal obligation to ensure effective data collection across all energy sectors. Whilst domestic oil tanks are not currently metered, data on heating oil could be collected directly from oil suppliers – i.e. total litres sold within a given geographic area (by council area, postal code etc).

Q39. Data should be collected in line with data protection regulations.

Q40. No comment.

Q41. No comment.

#### **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. Sustainable NI is generally against Carbon Capture and Storage technology as it encourages a laissez-faire approach to energy policy. It should only be used as a last resort, when all other policies have been exhausted.

Furthermore, carbon capture can be achieved through natural means e.g. by creating greenspace, restoring woodland, rewilding unused and underperforming farmland, restoring peatlands and other natural carbon sinks.

#### **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. The economic opportunities from decarbonisation of the energy sector are well understood. Jobs will be created in the renewable and energy efficiency energy sector, as well as the construction sector, and businesses and industry in Northern Ireland will be at an economic advantage by having access to cheaper, more secure energy than other nations.

Further economic benefits will accrue from helping people without jobs or on low incomes to heat their homes affordably, freeing up spending power for other things. The public sector will also see economic benefits through direct cost savings from energy efficiency measures in their buildings, and protection from future taxes and penalties related to the use of fossil fuels.

Indirectly, the public purse will benefit through health savings realised when the cause of ill-health due to fuel poverty is tackled at source. This is estimated to cost the NHS £1.4 billion each year.

Q44. The upskilling of construction workers, planners, civil servants and local authority officers must happen concurrently with the introduction of policy measures and incentives. A common baseline of climate and carbon literacy should be established in key sectors. Relevant actors should be able to access the training they need to enable them to support delivery of the energy and climate strategy.

A suite of jobs and skills will be essential ranging from domestic and non-domestic energy assessors, carbon management specialists, smart meter installers, resilience planners, green finance experts, low-carbon transport officers and regional expertise on low-carbon spatial planning and development.

Government could support this by providing a central source of knowledge, information, and training to support the energy transition in all sectors.

Q45. Sustainable NI would encourage caution over any claims which lead one to believe that GDP and carbon emissions have, or are, decoupling. To keep temperature rises at safe levels, the carbon intensity of the global economy needs to fall at least 10 times faster than current rates, estimates think tank Renewable Energy Policy Network for the 21st Century (REN21). We are still in a fossil fuel based economy and the majority of the infrastructure that is in place today will still be around in 2050.

The Call for Evidence document alludes to improvements in 'energy consumption' and 'energy intensity' and whilst it is true that gains have been made here, energy use is only part of the story. If the government is serious about tackling climate change head on, as described in the New Decade, New Approach document, the Energy Strategy should use net carbon emissions as the measure of progress, not energy consumption. Care must be taken in the Energy Strategy to ensure Northern Ireland doesn't, like other countries, 'offshore' its carbon emissions in the form of imported goods and services.

As William Jevons pointed out in 1865, when fuels become cheaper and more efficient, we tend to use more of them. The Energy Strategy will need to factor this in and acknowledge that in the short term, until the energy system is sufficiently advanced, some difficult economic decisions may need to be taken to curtail growth in certain instances if it is at the expense of the climate. This was demonstrated in the recent court ruling which blocked a third runway at Heathrow Airport on the basis that it was inconsistent with the UK Climate Change Act. A similar level of judgement will be required in Northern Ireland.



We also would highlight that if Northern Ireland finds itself in an economically advantageous position in Europe following Brexit, demand for electricity could rise if more businesses relocate here and connect to the grid.

#### 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, the existing division of responsibilities and powers across government does not represent the most effective approach if the overall aim is decarbonisation of the economy.

Sustainable NI notes that in the UK, climate action and energy is part of the same policy portfolio. We also note that in both Ireland and Scotland, energy policy and climate policy are managed by the same division. This approach, whilst not the status quo in Northern Ireland, would reap dividends not only in ensuring more efficient use of department resources, but also a more consolidated approach and provide critical strategic oversight and accountability on progress against climate targets. Sustainable NI recommends serious consideration is given to either a single department for energy and climate change, with a central communications element embedded into it, or restructuring existing departments, to ensure that energy and climate policy are managed side by side.

Q47. Sustainable NI works closely with local councils on issues relating to sustainable development and climate action. As 'front-line' service providers, councils are ideally placed to deliver a range of new measures and interventions under a future Energy Strategy. Opportunities for local government include:-

Promote renewable and low-carbon energy deployment on **council land and property**:

- Increasing energy efficiency and reducing energy demand within the council's estate
  - Ensuring new council buildings and refurbishments achieve high standards of energy efficiency (for example BREEAM Excellent) and incorporate renewable energy sources wherever practical
  - Ensuring that high energy efficiency standards are integrated into all procurement decisions related to building use e.g. computer and office equipment
  - Developing and implementing plans to enhance energy conservation and involving staff and other users of council buildings in energy conservation action
- Statutory carbon reporting and carbon targets, to encourage the adoption of carbon management approaches and boost the amount of energy that generated on-site from renewables

- Investing in CHP and District Heating schemes for council buildings and social housing and seeking to develop schemes jointly with other large energy users
- Reducing carbon emissions in the supply chain by driving demand for low-carbon goods and services (e.g. 100% renewable electricity contract)
- Developing a transport plan for the local authority that seeks to promote alternative fuels, cut travel and increase use of public transport, walking and cycling through greater use of:
  - electric or hydrogen fleet vehicles
  - parking management at Council premises
  - car-sharing
  - low-carbon pool cars
  - audio & video-conferencing
  - home-working
  - zero-interest bike loans
- Creating a local Energy Services Company to provide energy services to their own estate, local businesses and communities (the approach that has been taken by the Greater London Authority in establishing 'London Power' a public-private partnership to provide energy that is local, affordable and 100% renewable. City Hall's profits are reinvested into community carbon reduction projects)
- Developing low-carbon 'demonstration' projects to show what can be done and to inspire others to act

Promote renewable and low-carbon energy deployment **in the local area:**

- Evaluating opportunities for greater renewable energy deployment within Local Development Plans
- Exploring potential for appropriately designed landfill gas and energy from waste schemes, that can be linked to district electricity and heating networks. Assessing potential for CHP and District Heating scheme developments in the area generally
- Using planning policy and building control to encourage or require developers to build zero-carbon homes (e.g. Passivhaus Standard) fitted with renewable energy and located close to amenities and public transport to avoid car dependency
- Councils could set local targets for renewable energy generation and ensure planning decisions support applications that seek to increase the amount of renewable energy generated in the area. Planning policies could actively encourage renewable and decentralised energy generation, both large scale (e.g. onshore wind farms) and small scale (e.g. on-site renewable energy requirements for new builds).
- Providing council-branded local retrofit offers, linked to a centrally managed national scheme, to encourage local-adoption of insulation and other low-energy retrofit solutions (see evaluation of London RE:NEW project, or Kirklees Warm Zone, or Cosy Homes Oxfordshire)
- Councils could be required to put low carbon growth at the centre of local economic development plans and develop a low carbon investment strategy and prospectus for the area. Councils could implement a support programme for local businesses to improve their energy efficiency and become more environmentally responsible
- Developing planning policies that encourage developers to build in locations that will encourage walking, cycling and public transport use
- Through community planning councils could work with local organisations to promote sustainable energy and transport activities e.g. work with the designated authorities to introduce low emission zones and congestion charging
- Promoting installation of infrastructure required for low-carbon vehicles
- Using differential car-parking charges to support low-carbon vehicles

Promote **community action** on reducing carbon emissions in the local area:

- Encouraging installation of small scale renewable energy devices and CHP/DH schemes by local developers, businesses and individuals
- Supporting and advising communities interested in developing renewable energy schemes
- Providing grants or loans for community carbon reduction projects and signposting to external sources of support and funding
- Training community groups and other local residents to provide energy advice
- Engaging with energy companies to promote community funds as part of clean energy developments
- Involving public-facing services (e.g. schools, museums and libraries) in public awareness campaigns on energy efficiency, renewable energy and sustainable transport
- Developing climate change literacy training in local schools, colleges and universities; and make these available for community groups, neighbourhoods and households

Q48. The list of statutory duties and accompanying legislation and regulatory frameworks that need to change to facilitate the transition to a net zero economy is extensive. A myriad of government policies will need to change, many of which are outside the remit of the Department for the Economy. This reinforces the need for a separate climate strategy, or at the very least an integrated climate and energy policy unit.

#### Built Environment

The built environment has a critical impact on the achievement of energy and climate targets. Well-designed homes and buildings are efficient and cost effective to run. They help to reduce greenhouse gas emissions by incorporating features that encourage sustainable lifestyles. They maximise natural ventilation, avoid overheating, minimise sound pollution and have good air quality.

The Committee of Climate Change Report “UK housing fit for the future?”, published in February 2019, states without a near elimination of greenhouse gas emissions from UK buildings, the UK’s legally binding climate change targets will not be met. Sustainable NI believes that new homes should be designed to be energy efficient, low or zero carbon, water efficient, and climate resilient.

This will require a review of the regulations for functional or performance requirements of buildings (DoF); building control (local government) and the Planning Act (DfI) to ensure low carbon building practices are adopted as standard. Throughout the British Isles, development plans are increasingly requiring new homes to be built to zero carbon or Passivhaus Standard. Sustainable NI would refer the Department to the recommendations of London Energy Transformation Initiative (LETI) in its response to the recent Government consultation on the Future Homes Standard.

#### Transport

- Legislation to ban the use of petrol and diesel cars on NI roads from 2030
- Regulation to promote sustainable biofuels e.g. a ‘Renewable Transport Fuel Obligation’
- Regulation to help industry achieve significant reductions in emissions from HGV operations and vans
- Significant funding and investment in public and active transport, particularly cycling and rail infrastructure

#### Other

- Legislation that commits Northern Ireland to becoming a net-zero carbon society by 2050 (or earlier) with interim climate targets and five year carbon budgets
- A national carbon tax in line with UK Climate Change Committee recommendations
- A Climate Change Strategy inclusive of all sectors and tiers of government
- A statutory duty on public authorities to develop climate change mitigation plans for their local areas and contribute to the achievement of regional energy targets
- A new, legally binding standard for home energy efficiency with special provisions for the private and social rented sectors through amendments to the Housing Act
- Legislation to bring an end to the installation of gas and oil boilers in any new build domestic properties from 2025
- Policy measures to limit the use of solid fuels (such as wood) in certain areas
- Legislation to ban the sale of peat, coal or lignite for home heating
- A target to provide 80% of electricity from renewable sources by 2030
- New powers and responsibilities for the Utility Regulator to oversee the development of low-carbon energy networks
- Amendment of the Local Government Act (NI) 2014 to include statutory duties and powers in line with Energy / Climate Strategies
- A Social Value Act for Northern Ireland, in line with the Public Services (Social Value) Act in England and Wales, which requires those who commission public services to think about how they can also secure wider social and environmental benefits

Q49. See response to Q17. There is a role for a lead agency to help accelerate the transition to zero carbon, much like the Sustainable Energy Authority of Ireland. The Department should explore if the services of SEAI could be extended to Northern Ireland.

#### 10. Additional information

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

#### Elements for a successful Energy Strategy

Sustainable NI believes that the importance of the Energy Strategy should be at the very least, on par with other Executive endorsed Strategies and that all government departments and public bodies must have regard to it, when exercising their functions.

Any future Energy Strategy for Northern Ireland must be based on the following principles. The Strategy must:

- Have statutory footing and binding targets that are clear, measurable, ambitious and in line with climate and air pollution commitments. Effective governance is essential; a strategy that is not backed up in law with effective enforcement mechanisms is essentially no more than a wish list
- Have clear lines of accountability. All government Departments and public bodies should be included in the design not just of the strategy but the crucial actions that need to be clearly set out within it; and should have a pro-active duty to implement it and be held accountable for the impacts of decisions taken.
- Be independently monitored with clear mechanisms to hold government to account
- Be matched by appropriate and significant additional direct investment and funding
- Be integrated into an overarching Climate Strategy

- Seek to bring forward a ‘whole-of government’ approach to decarbonisation, breaking down the traditional silo mentality that exists between government departments, and providing opportunities to consider cross-cutting risks and opportunities
- Be ambitious, and by that we mean:
  - contain ambitious goals/targets that are measurable, time bound with clear milestones;
  - contain policies that are new, bold, innovative and avoid making the mistakes of previous energy schemes that were unsuccessful;
  - be ‘world leading’
- Include a requirement on public bodies to think about the long-term impact of their decisions on national energy and climate commitments

### Co-ordination

As previously mentioned, we believe that energy and climate policy should be harmonised. An overarching Climate Strategy, underpinned by legislation and targets, will help the government address the interdependencies and cross cutting issues highlighted. The Energy Strategy will need to set out how the Department is going to manage and coordinate this, particularly if there is no overarching Climate Strategy.

### Behaviour Change

Changing the attitude of society to energy is crucial to the long-term prosperity of Northern Ireland. Schools could be used as drivers of change, promoting a culture of resource efficiency, civic pride and environmental protection. Engaging adults in informal learning about energy conservation could also bring a range of benefits with regards to the role householders play in supporting the energy transition.

It is crucial, therefore, that the Department of Education are bought into the Energy Strategy and that a supporting ‘Energy Education or Environmental Education Strategy’ is developed for Northern Ireland, which promotes an expectation of sustainable resource consumption both within the curriculum and through lifelong learning.

Behaviour change at all levels, in government, in business and in individual decisions and actions, is critical to the success of all the significant changes required to tackle the climate emergency.

We would like to see training made available for political representatives, government officers and the private sector, to consider the energy and environmental effects of proposed policies, strategies and current and proposed activities.

We would also like to see increased public awareness for households on the environmental impacts of certain behaviours, such as energy and travel choices. For example, the use of wood burning stoves which has increased rapidly in recent years. The burning of solid fuels contributes to air pollution, a major health problem causing respiratory illness and in some cases death.

As such this theme could include measures such as:

- Establishing a behaviour change knowledge resource in NI to:
  - Summarise / disseminate research appropriate for use by government / eNGOs
  - Develop consistent organisational communications with the public
  - Drive public behaviour change in line with necessary changes to business models

- Engage the public, including young people, when deciding on the priorities for which behaviours need to change
- Increase opportunities for councils to promote environmental behavioural change beyond traditional areas like recycling
- Encourage and support experimentation to test innovative behaviour change approaches
- Grow opportunities for young people to take action on energy and encourage the next generation of environmentally responsible citizens
- Engage in in-house behaviour change campaigns and support expansion across government departments where success is proven
- Consideration should be given to communication techniques, and particularly the usability of the NI Direct website and/or exploration of alternative online channels
- Behavioural change for 'business' is crucial; DfE should review current mechanisms for engaging with business, particularly SMEs not currently engaged in existing support programmes

Finally, it is worth noting that the key behavioural change is often driven through not only information and awareness, but through legislation and fiscal measures which incentivise 'climate friendly' behaviour, and where appropriate penalise behaviour incompatible with climate commitments.

#### Financing Energy Efficiency

As part of an Energy Saving Trust led project called Request 2 Action, the Dutch government worked with major banks in the Netherlands to find out what the most effective finance options had been for private domestic retrofit works. The message from the banks was clear: existing mortgages and loans were well suited to funding home retrofit. There was no need for new types of finance.

The premise of a green mortgage is that energy efficient homes have lower fuel bills, leaving you better able to repay your mortgage. This lowers the risk of lending money to you meaning you could get preferential rates compared to people with higher fuel bills.

Banks also highlighted that buying a new home is a key trigger point for making major home improvements, so finance providers can play an important role in influencing sustainable choices. In their view, the key missing ingredient is communication, not innovation.

In this regard, a number of the green finance products in the UK market are providing a valuable service. For example, the Ecology Building Society provides extensive guidance and information for homeowners looking to reduce their carbon footprint. The Barclays green mortgage might not be revolutionary (as it is only marginally cheaper than their other products), but it raises the profile of green homes and gives prospective homebuyers a positive incentive to buy an energy efficient property. This is a positive development and hopefully the start of a bigger movement of banks incentivising green choices.

Private finance isn't going to be an appropriate option for everyone. For many elderly homeowners, there will continue to be a reliance on grant funding. However, not all older homeowners are eligible for the limited grants available. One example of a product attempting to bridge this gap is the Home Improvement Scheme, run by social enterprise the [London Rebuilding Society](#). They work with over 55s, who are trapped in properties that are no longer fit for purpose, to co-ordinate a package of improvements to the home. Finance is accessed through a form of equity release that is based on an assessment of the property value after improvements have been completed. This

means that homeowners may be able to borrow more where necessary, while giving up a smaller percentage of the equity in their home.

In Scotland, the Scottish Government provides the [HEEPS Equity Loan](#). It's aimed at supporting the installation of energy efficiency measures and domestic renewable energy and can lend eligible homeowners up to £40,000.

When it comes to home retrofit, the private finance industry provides a range of products that could be utilised to fund home retrofit. Green mortgages do not provide anything revolutionary in addition to the standard finance landscape, but they do raise the profile of green homes and provide genuine incentives for those looking to reduce their carbon footprint.