[redacted]

Q1. No comment
Q2. Further renewable energy infrastructure needs to be actively encouraged and incentives provided to encourage their uptake. For example, at present solar is not economically viable without some form of subsidy/support and the costs and availability of an NIE grid connection are prohibitive. Also, the provision of renewable energy installations should again be made eligible for EIS and SEIS Tax efficient investment schemes to encourage investment.

Q3. Northern Ireland should endeavour to implement the key energy related recommendations from the CCC but the greatest emphasis should be on those elements that have maximum impact compared with the net cost. Also, given the move to Electric Vehicles further emphasis should be given to generating renewable electricity across N.I.

Q4. Yes we agree with the 30 year timeframe but again those changes that have the most impact compared with the net cost should be implemented first.

Q5. N.I. is a rural economy with a good land resource that can accommodate a range of renewable energy methods of production including renewable infrastructure and energy crops**.**

Q6. Without incentives or other support we do not believe it is presently viable to undertake significant renewable energy projects in Northern Ireland due also to the punitive NIE grid connection costs and associated curtailments in using the NIE grid (known as managed connections).

Q7. We believe that if more renewable energy generation is encouraged then this should assist in keeping energy costs down to the benefit of all customers. Currently 45% of domestic customers may be charged more than other customers and perhaps there should be an active encouragement to move appropriate customers away from this more expensive way of buying electricity.

Q8. Large non-domestic customers should be encouraged to reduce consumption and to use electricity when renewable energy is being generated (ie: when the wind is blowing and/solar energy is plentiful).

Q9. (a) Consumers should be encouraged through incentives to avail of on-site generation of their own energy.
(b) Vulnerable consumers should be given free advice to ensure they are able to minimise their energy costs including by saving energy and perhaps consuming it when renewable energy is plentiful.

Q10. Free advice should be readily available to all consumers including through the likes of Citizens Advice and the Samaritans

Q11. We not aware of any specific recent citizen energy projects and indeed it is

not clear "how clean energy can be delivered to local communities" as we understand that the bulk of generated energy is generally exported to the grid. The ability to provide "private wire arrangements" would perhaps allow more commercially viable energy projects to be undertaken to the benefit of local communities and other bodies.

Q12. We believe that there may be opportunities for citizen energy community projects if they allow "private wire arrangements" to use the energy generated close to its source. Also there would need to be tax breaks (EIS and SEIS for example) and for grants to encourage investors to make these projects happen.

Q13. We have only anecdotal evidence. It would appear that since the incentives to generate renewable energy were removed in 2017 there have been little or no significant renewable energy projects undertaken. Indeed, if you inspect the "planning service" Epic Portal it would appear there are, for example, little or no new renewable energy projects planned throughout NI. Without some financial incentives it is clear that investors do not presently feel that renewable energy projects are commercially viable without some incentives (by way of direct support or tax breaks etc).

Q14. We believe we should initially set a 2030 target then a 2040 and 2050 target which will allow the target to be re-appraised every 10 years.

Q15. We believe we should focus on these aspects of efficiency that give the greatest benefit at least cost. We should also take account of the cost, for example, of manufacturing insulation and solar panels and take account of other carbon footprint in their manufacture and eventual disposal.

Q16. (a) We do not think all the costs of higher and higher specification should be borne by those buying new houses or commercial premises. Some of these additional costs should be subsidised in some way, such as, grant and tax saving schemes or "rates holiday etc".
(b) Should the government want existing buildings to be retro-fitted then there should be significant financial incentives for doing so including grants, tax saving schemes or rates holidays etc. Also, I note that at present renewable energy is not being incentivised which I think is unfortunate. Additionally, I do not think that 8% loans are a fair incentive to encourage investment. The loans should be interest free and other incentives to compensate for the investment risks need to be made available.

Q17. We believe that energy efficiency support should be significantly enhanced and should allow for the encouragement of renewable energy. In existing building I think solar energy should be actively encouraged through significant financial support.

Q18. No further comment.

Q19. Examine home heating and gas oil sales in particular.

Q20. Make renewable energy generation more cost attractive.

Q21. Not qualified to comment.

Q22, Outside Housing Executive large scale housing developments and large scale industrial estates/government buildings I believe the legal complexities of this would make this very cumbersome, therefore expensive and uneconomic.

Q23. We believe that the opportunities for geothermal heat supply are very limited other than as part of new developments.

QU- 24 - We believe that significant improvements are required to the transmission and distribution infrastructure to improve the ability to consent renewable energy generators, This might bring down the costs of connection which might increase the uptake in renewable energy projects. This should happen immediately and we need a modest increase in consumer electricity process to pay for this network upgrade. This should happen immediately in the period to 2020 to 2030 otherwise non- carbon electricity generators will not be feasible.

Qu. 25 - We suggest that we have good land resources to accommodate significant further renewable energy infrastructure including appropriately located wind generators and solar generators which will also need to be complimented by battery storage or ways found to use the wind and solar power to produce hydrogen or similar methods of ensuring the renewable energy was available when it was needed.

We believe the 2030 target should be 100 percent by 2030 similar to Scotland and we are also in a position to export this renewable energy to GB via the Moyle Interconnector and to the Republic of Ireland.

It should be noted that the fiscal returns on renewable energy do not presently make an attractive investment and some support is required. At present, planning costs are higher due to the greater number of hurdles needed to be overcome which increases the risk to the developer, the grid connection costs are punitive due to the poor condition of the existing infrastructure and NIE and SONI's increasing requirements. Without some sort of meaningful assistance then very few projects will be delivered. Additionally, it would help to encourage investment if these projects were not again not excluded from tax efficient investment structures including SEIS and ELS etc.

Qu. 26 - The new infrastructure needs to be delivered as a matter of urgency and should be funded by a modest increase in the price of electricity to bring it in line with the slightly higher electricity prices in GB and elsewhere in Europe.

Qu. 27 - Battery storage needs to be encouraged through incentives and also support needs to be put in place to encourage the production of hydrogen from renewable energy. This again will need to be paid for by a modest increase in electricity prices or by central government.

Qu. 28 - The returns on renewable energy projects needs to be improved otherwise very few will come forward. As stated above these renewable energy

projects should also again be made eligible with tax incentive schemes such as SEIS and EIS etc.

Qu. 29 - Perhaps the government should itself fund the planning and other approvals required for off shore wind and tidal. There are long lead in periods for these types of projects and it is therefore highly risky for developers. When the approvals are obtained then the government could auction these projects to the "highest bidder" with some incentives being offered to make these types of projects viable.

Qu. 30 - The main barrier to the use of de-carbonised energy is the cost of the vehicles and thus the lack of a second hand market for these high priced vehicles. The cost of the vehicles needs to come down and incentives provided to encourage their uptake.

Qu. 31 - Active travel is to be encouraged throughout NI but particularly in urban areas. It will not generally be feasible in very rural areas.

Qu. 32 - Increasing the number of charge points and incentivising investment in batteries associated with renewable energy generators.

Qu. 33 - The use of electric vehicles can be complimented by solar generators at a domestic level in particular.

Qu. 34 - More investment should be made in encouraging the use of renewable energy to produce hydrogen and any other viable transport fuels.

Qu. 35 - We have no specific data/research available to provide

Qu. 36 - We believe it would be beneficial to become self-sufficient in terms of energy supply without importing fossil fuels in particular. We believe that while renewable energy is perhaps more unreliable on a stand alone basis this can be addressed using battery storage etc but we should also further encourage using renewable energy to produce hydrogen which can then be stored for use when needed to power vehicles etc.

Qu. 37 - Renewable energy security of supply can be monitored by the ever improving weather forecasting (wind and sunshine). We need to monitor that we have enough back-up storage to ensure that peak demands can be met in all weather conditions. Hydrogen should also be used for back-up.

Qu. 38 - Using smart meters combined with ensuring suppliers freely share usage information particularly in respect of non-domestic consumers.

Qu. 39 - Yes data needs to be protected particularly for domestic consumers.

Qu. 40 - Yes we agree with applying these principles provided the improve the competitiveness in the Energy market*.*

***Qu. 41* -** The suppliers and Ofgem in particular.

Qu. 42 - We suggest that these processes be piloted to see what benefits they actually bring and if there are dangers/risks in storing pollutemts.

Qu. 43 - There are investment opportunities involving renewable energy but only if it is commercially viable which at present means that renewable energy needs to be incentivised one way or the other.

Qu. 44 - It is quite difficult to encourage people to train in energy related fields as the government have historically moved the goal posts overnight as happened in 2017 in the solar industry when instead of lowering the incentives they were simply removed overnight which immediately decimated that industry and did likewise with the wind energy industry.

Qu, 45 - With improved energy efficiencies we believe that some of the growth will be curtailed. If we have a vibrant economy similar to Southern Ireland then our overall energy demand should increase. If our economy is not competitive with that in Southern Ireland then there is unlikely to be any energy growth. We need to prepare for the best case scenario and thus would expect energy demand growth.

Qu. 46 - We are somewhat concerned that the F& F Government Stakeholder Group does not include representatives from the private sectors including energy installers suppliers and funders.. This lack of inclusivity will not lead to any "out of box" thinking/innovation.

Qu. 47 - In our opinion the private sector will need to take the lead in achieving the net zero carbon target with local government also contributing. Other than potentially NIHE and Building Regulations we don't envisage by contributions from local government other than perhaps administrating incentive schemes/ grants.

Qu. 48 - We do not consider ourselves sufficiently qualified to answer this question.

Qu. 49 - Yes a dedicated organisation might be beneficial but only if it had a budget to encourage meaningful changes. Not sure what it would look like but we might look at examples in other European or other countries to see what might work.

Thanks for the opportunity to comment and we trust due account will be taken of our above comments.

North Power Croaghan Ltd
Renewable Energy Company