



Summary of responses to the Climate Change Plan 2022-2027 Consultation



December 2021



CONTENTS

Executive summary	4
Introduction	6
Communications	7
Respondents	8
Age ranges	8
Understanding of climate change action	8
General sentiment towards the proposed actions	9
A Vision for 2050	11
Conclusions	12
Just Transition.....	13
Conclusions.....	14
Electricity Generation	15
Background.....	15
Security of supply.....	15
Conclusions	16
Rapid reduction of emissions	17
Conclusions	19
On-island generation	20
Conclusions	21
On-Island dispatchable renewable generation.....	22
Conclusion.....	24
On-island baseload generation	24
Conclusions	25
Structure and ownership of our electrical system.....	25
Conclusions	26
Final summary and comments.....	27
Hydrocarbon Extraction.....	28
Conclusion	30



Energy Use in Buildings	31
General commentary.....	32
Conclusions.....	36
Transport	37
Conclusion	45
Agriculture.....	46
Conclusion	47
Business.....	48
Conclusion	51
Waste Management	52
Conclusion	53
Removals	54
Conclusion	56
Blue Carbon.....	57
Conclusion	59
Adaptation.....	60
Conclusions.....	62
Community Engagement.....	63
Conclusion	64
Funding, Taxation, and Finance.....	65
Conclusion	68
Setting Interim Targets.....	70
Conclusion	72
Health	73
Diet	73
Active travel	74
Off island leisure travel.....	74
Wellbeing.....	74
Conclusion	75
Overall conclusions.....	76



EXECUTIVE SUMMARY

The Climate Change Plan 2022-2027 Consultation sought views on the proposed contents of the plan. This consultation is a requirement of the Climate Change Bill. The responses to the consultation, along with Government and independent research, will help inform the contents of the Climate Change Plan.

Summary of key findings:

- A total of 319 responses from individuals and groups were received, though the consultation was set out in such a way that not all sections had to be answered.
- Response rates were fairly consistent across sections, although there were some comments the consultation took too long to complete.
- Comments were polarised between those who are sceptical of climate change and those who are deeply concerned. This may suggest that the consultation did not capture the responses of those from the middle ground.
- The majority of respondents were in favour of bold climate action, suggesting that climate change is an important and emotive subject for them.
- On balance, the respondents supported the proposed actions, although some areas received more support than others:
 - Proposals around **Agriculture, Waste Management, Blue Carbon, and Adaptation** received the most support.
 - Proposals around **Transport, the Island's Vision, and Funding, Taxation, and Finance** received the least support.
- **Vision and Interim Targets** – There was majority support for climate action in general, although many respondents wanted to see more action more quickly. Regarding Interim Targets, respondents generally wanted to see more ambition than current plans. This included targets for decarbonisation sooner than 2050, and more ambitious interim targets. Many respondents also felt that focusing on targets was a distraction from making progress. A linked theme was that the Consultation is a further delay and distraction and that Government should 'get on with it'.
- **Energy** - There was broad support for the proposals relating to the Island's Future Energy Scenarios (FES). Green energy, resilience, and cost were broadly equal in importance to respondents. Independence of generation was ranked as lower importance.
- **Hydrocarbon Extraction** – There was support for the concept of a ban on hydrocarbon exploration and extraction in Manx territory.
- **Energy Use in Buildings** – Respondents flagged up uncertainty around available technologies and what solutions are right for their homes. There was a broad appreciation that 'fabric-first' measures were important.
- **Transport** – This was the most contentious section, and there was negative sentiment toward any proposals that would somehow limit people's ability to travel.



This was especially the case for private car usage. There was uncertainty around Active Travel, as well as how to decarbonise off-Island travel.

- **Taxation and Business** – Concerns were raised among respondents that businesses, individuals, and the Island economy could suffer as a result of what were seen as potentially damaging taxation to fund the transition / discourage behaviour. Economic competitiveness was cited as a particular concern.
- **Local Environment** – There was strong support for measures to protect the local environment, both on land (e.g. reducing greenfield development) and in the territorial sea (e.g. marine nature reserves). Many respondents supported general environmental protection beyond strictly climate issues.



INTRODUCTION

In May 2019, the Chief Minister made a commitment for the Island to reach net zero by 2050 and for a Climate Change Bill. A subsequent motion was supported in Tynwald to commission an independent report on achieving net zero by 2050. Prof James Curran was appointed and, supported by a cross-government team of officers, public consultation events and interviews with key stakeholders, he developed the IMPACT report. The report outlined possible routes to net zero by 2050 and the appendices to that report provide detailed background on the challenges and opportunities to reduce emissions and increase sequestration in a Manx context. The report informed the Council of Ministers' Climate Action Plan: Phase 1 which was agreed in Tynwald in January 2020 and is currently being delivered.

Following the approval of the Council of Ministers' Climate Action Plan Phase 1, development of the Climate Change Bill began. Targeted engagement with key stakeholders was held in February 2020, followed by a full public consultation in July 2020. The Island is now a member of the Under2 Coalition, a group of nations and states working towards the International Panel on Climate Change (IPCC) goal of keeping global temperature rise below 2°C, and ideally below 1.5°C, which will give us a global network of partners to learn from and share experience with.

The UK has recently announced at COP26 its intention to extend the ratification of the Paris Agreement to the Isle of Man. The Paris Agreement has three key strands – climate change mitigation, adaptation and finance. A significant part of the mitigation commitments will be delivered by the Climate Change Bill, the delivery of the current Climate Action Plan, and subsequent statutory plans.

The Climate Change Bill completed its passage through Tynwald in April 2021 and is now awaiting Royal Assent. When the Bill comes into force, there will be a requirement for there to be a statutory five-year Climate Change Plan in operation at all times, starting from April 2022. The current Council of Ministers' Climate Action Plan will remain in operation until the new plan is agreed and introduced next year. The Bill also requires the establishment of at least one interim target by that date.

The required contents of the Climate Change Plan are set out in the Climate Change Bill (full details can be found in Appendix 1). The Plan must set out a clear direction of travel on climate change and it must consider a wide range of underpinning principles, including ensuring a just transition (making the transition away from fossil fuels fair for all, especially the more vulnerable sectors of our society), promotion of the United Nations Sustainable Development Goals, and protection of ecosystems and biodiversity.

Significant work has been undertaken to develop strategies for main segments of emissions and to review and improve the Island's emissions data, which has resulted in a significantly better understanding of our current position.



The Climate Change Bill requires that -

“Before a climate change plan, or any amendment to a climate change plan, takes effect — (a) in the case of a climate change plan, the public must be consulted on the matters that are proposed to be contained in it [...]”

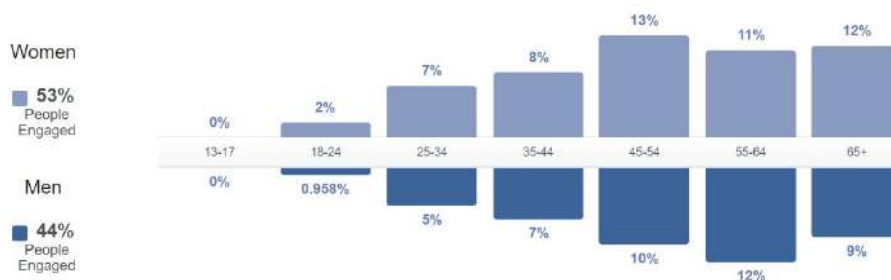
A public consultation on the matters proposed to be included in the Climate Change Plan was carried out from 22nd July 2021 – 31st August 2021, and this report sets out the review of the responses that were received from the members of the public.

The full draft of the new Climate Change Plan will include all the sections required by the Climate Change Bill (see Appendix 1) and will also comply with international best practice (see Appendix 2).

Communications

The consultation was promoted via various channels:

- Press release
- Print advertising in the Courier
- Outdoor digital screens in Douglas
- Email to 104 stakeholders
- Printed copies of the consultation and answer sheets available in all public libraries across the Isle of Man
- Social media - reached approx. 61k people via Facebook and Instagram.
 - Out of those reached, we received over 25k ‘engagements’ (likes, shares, click links, and comments)
 - The age ranges of people engaged on Facebook are shown below:



Note: 3% unidentified

- Direct engagement via pop-up stands throughout the Island, presence at the Royal Agriculture Show and in-person meetings allowed for valuable two-way communications, to elicit feedback directly.

In-person and online event engagements:

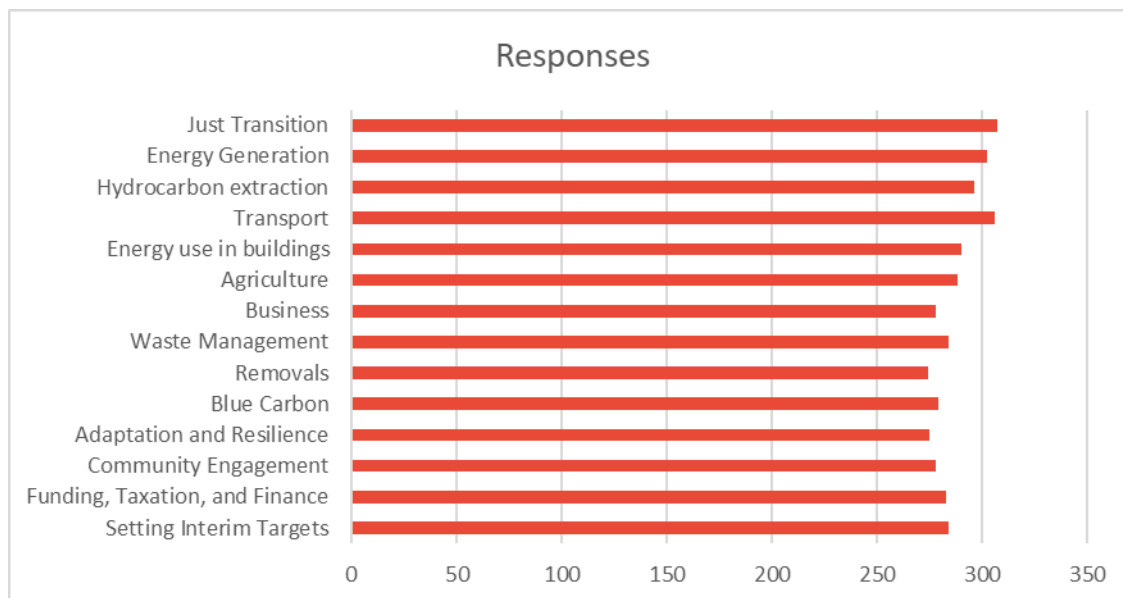
- 17 engagement sessions
- Engaged with approximately 165 people
- Various groups: high school students (6th formers), Citizen’s Forum members, politicians, subject matter experts, key stakeholders who are influencers (e.g. Friends of the Earth), and members of the public.



- Age range (apart from the 6th formers): 35-74 years, with majority in the 55-74 age range.

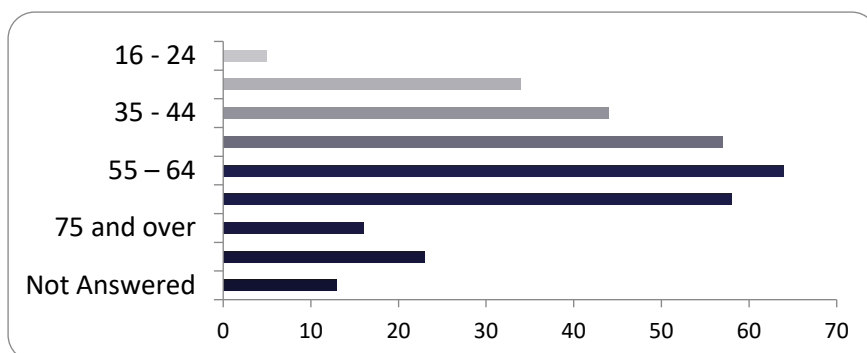
Respondents

There was a total of 319 responses (via Consultation Hub, emails and post). Some of the responses represented groups of people. Not all respondents answered all questions. The chart in the next page gives an indication of the prevalence of responses by section (based on the response rate to each 'How much do you feel you understand about [...]' question).



Age ranges

The stated age range of respondents is shown below:



Understanding of climate change action

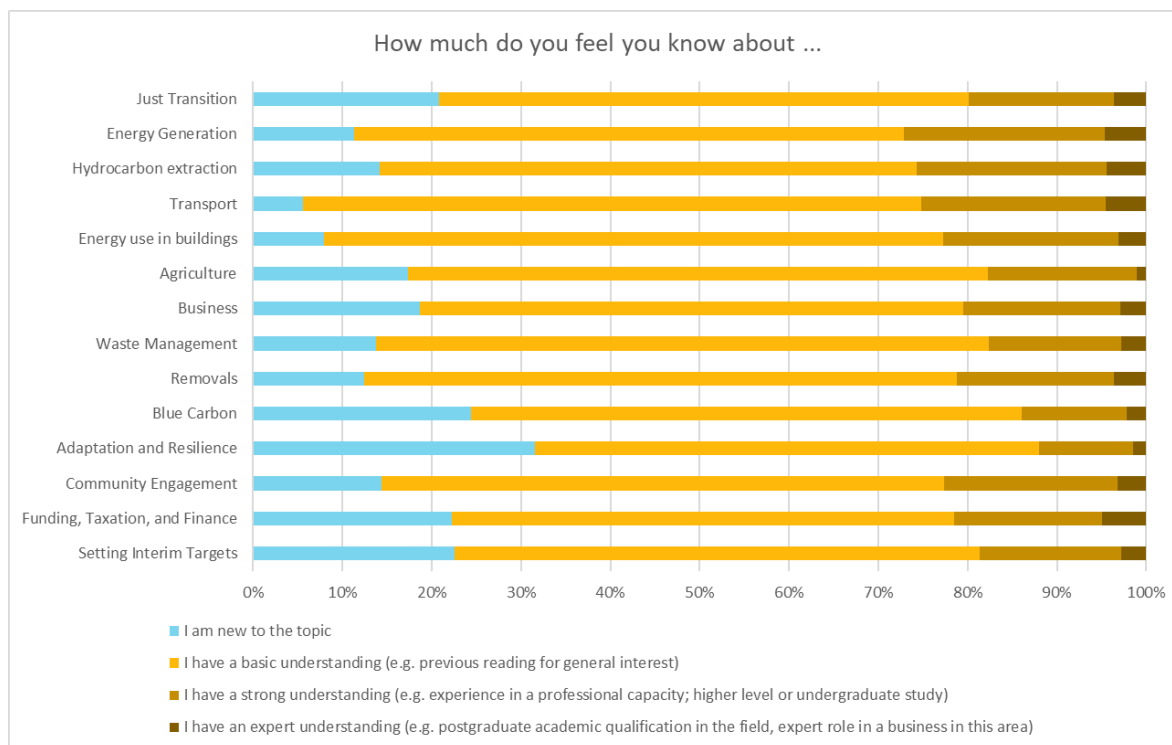
In all the sections within the consultation, respondents were asked to rate their level of knowledge of the topic, to understand knowledge gaps and the prevalence of different ideas in their responses. The answers to this question were not used to weight the importance/relevance of responses.

The most popular response in each section was 'I have a basic understanding [...]'. As expected, the areas that members of the public are most likely to interact with on a daily basis had the higher perceived level of understanding, for example transport,



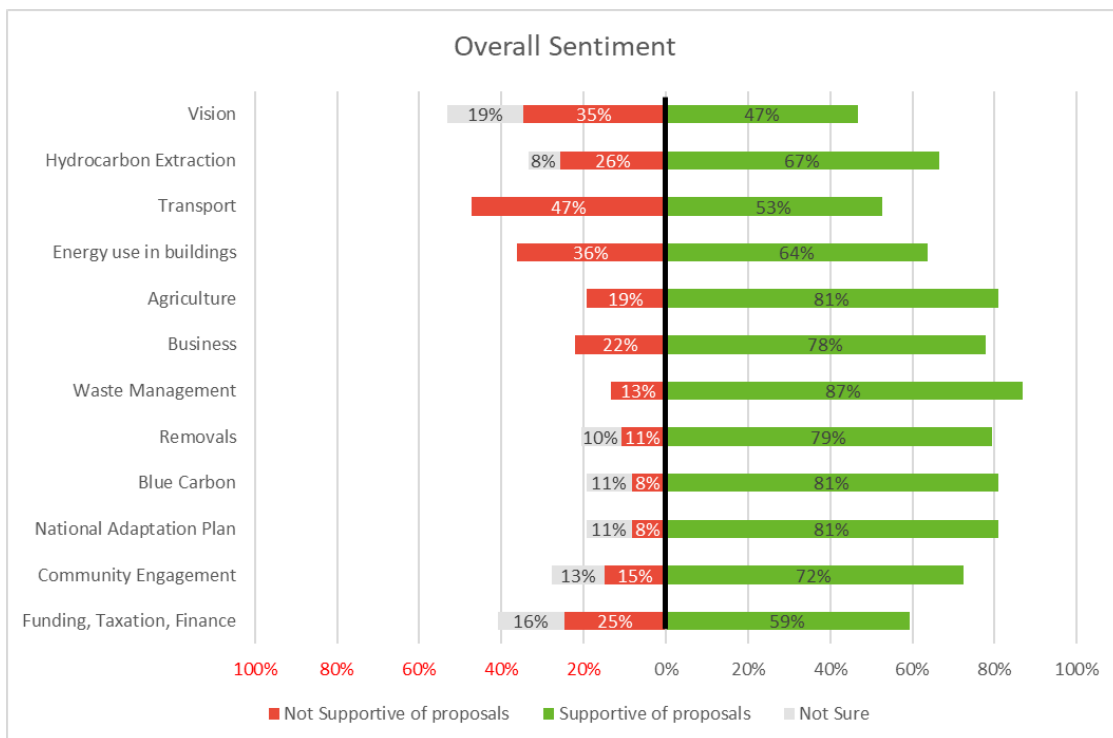
energy use in buildings, and waste management. The area with the highest level of stated knowledge was energy generation. A high proportion of respondents stated that they had a basic+ level of understanding of emissions removals, which is of note given this is a complex and developing area.

The area with the lowest level of understanding was adaptation and resilience, followed by blue carbon.



General sentiment towards the proposed actions

In almost all sections*, respondents were asked if they agreed with the proposed actions stated in the consultation. In most of these sections, the answers were largely 'yes' (47%-87%), with the transport section having the largest number of respondents who were not supportive (47%).



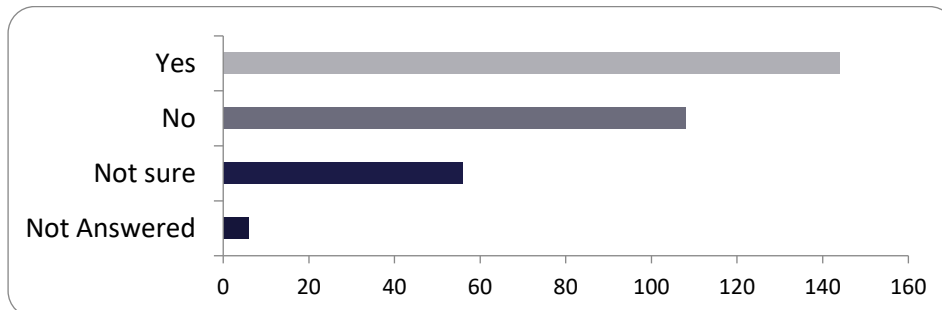
**Vision, hydrocarbon extraction, transport, energy use in buildings, agriculture, business, waste management, emissions removal, blue carbon, national adaptation plan, community engagement, and funding.*

The following sections of the report provide more detail on responses to specific topics.



A VISION FOR 2050

Respondents were asked if the vision set out in the Climate Change Plan is a vision that they felt the 'Isle of Man can live up to'.



46% of respondents say that the vision in the Climate Change Plan is one that the Island can 'live up to'.

- Some are positive about the vision and feel that it is necessary and achievable:
"Very good ideas. I think the island is well situated to become self-sufficient and a world leader in setting the example for a free country"
"I feel this vision is a really positive step for our island & I'll be very proud if we can live up to this."
- However, some stated concerns, such as 2050 is too late:
"Yes, I feel it is vital that we do this. Not only will it help address the climate emergency (which is now desperately urgent) it sounds like a more appealing way to live. However, we need to achieve this with urgency as soon as possible - 2050, I believe, is not ambitious enough."
- While some note that there is a huge amount of work to be done by the Government and the public to achieve the vision:
"It sounds very good. However there will be a lot of hard work to do, not the least part will be convincing the public to adopt a new mind set."
"It needs a lot of work and commitment from our government but yes it is possible. I would say 2050 is a modest target, and support the move to bring it back to 2035, especially given the results of the recent UN report on the Global Climate Crisis"

34% disagreed that the vision is something that Isle of Man can 'live up to'.

- Some say this is because they don't believe that we can achieve this in this timeframe



“Because we are not doing enough now and we have a terrible track record of not meeting deadlines.”

- And some say that it is too ambitious and cannot be achieved
“I don’t think that we fundamentally change the population’s habits in less than 30 years.”
“Totally unrealistic and unachievable aims considering housing stock, rurality, nature of Manx roads and infrastructure.”

Conclusions

The answers in this section gives a sense of how respondents viewed climate change action. It is worth noting that a small but significant number of respondents (about 10%) of respondents do not believe climate change is a threat and/or that given the Island’s small size that any action taken will be futile.

However, a much larger group feel that action is necessary and are supportive of the plans but also believe that more needs to be done sooner.



JUST TRANSITION

The 'just transition principle' is defined in the Climate Change Bill. Broadly, it requires action to reduce emissions to be taken in a way which supports the economy and the workforce and helps to address inequality and poverty. The implementation of a just transition must be considered holistically in relation to the net zero and any interim targets and on an action-by-action basis.

Q3: How much do you feel you understand about Just Transition - making changes fairly?

Of those who answered, 80% considered they were new to this topic or had a basic understanding, and 20% ranked themselves as having a 'strong' or 'expert' understanding.

Q4: Do you think the changes required to reach net zero will disproportionately impact the most vulnerable in society?

- Three quarters of respondents (76.2%) agreed climate change mitigation will disproportionately affect those who are already most vulnerable.
- 13.6% disagreed this would be the case, and 10.1% were uncertain.

Follow-up question: 'If yes, which mitigations?'

- Of the 234 who agreed, the majority felt there should be funding / grants / subsidies for vulnerable groups and that there should be increased education / outreach for vulnerable groups
- A minority of respondents felt no mitigations were required.

Suggested other mitigations (free text)

- Of the 159 responses, 68 (43%) contained suggestions of other mitigations.

Subsidies / loans / grants

- The most common suggestion was subsidies. These were split between those who felt they should be applied universally and others who supported means testing.
- The focus of these subsidies varied, although the most frequently mentioned was free public transport.
- Others included subsidies to support solar, insulation, heating upgrades, healthy food, and home delivery.
- Some comments warned against the costs of required changes being passed from landlords to tenants.

Taxation

- There were some suggestions about taxation in order to raise money for grants and subsidies and discourage carbon heavy behavior.
- On the topic of carbon taxes, suggestions included:
 - increased tax on fossil fuels,



- tax on air travel,
- mileage permits for private vehicle use,
- taxation new-builds above a certain value that are not constructed in a carbon neutral basis,
- a 'carbon fee' on fossil fuels coupled with a 'dividend' payment distributed evenly to all citizens.

Education

- Some suggestions reiterated the need for education on climate change
- Most were general awareness raising, but some specific ideas included:
 - instruction on DIY home upgrades,
 - guidance on what assistance (grants etc.) is available and how to access.

Other suggestions

Other suggestions included:

- Encouraging the community to help each other, similar to the behaviour demonstrated during the COVID-19 pandemic.
- Involving representatives of vulnerable groups directly in the development of mitigation plans.
- Training offered to vulnerable groups (e.g. the unemployed) in readiness for this opportunity.
- Government and Commissioners leading by example
- More work on the definition of who is 'vulnerable'; this may not be immediately obvious and may vary according to the specific change being mooted.

No suggested mitigations

- Of those who answered but suggested no mitigations:
 - 29 (18%) made comments agreeing the vulnerable need special consideration,
 - Whilst 33 (21%) disagreed with the premise.
 - The free text of a further 29 (18%) neither agreed nor disagreed.
- Of those who disagreed, the most frequent concern was the vulnerable would be helped at the expense of those who exceed the threshold for assistance.

Conclusions

There was broad understanding from respondents that climate change mitigations would disproportionately impact the most vulnerable in society. Subsidies and education were popular suggestions from respondents.



ELECTRICITY GENERATION

Background

The Climate Change Plan 2022-2027 Consultation was launched in tandem with the Government’s Future Energy Scenarios (FES) Report¹, which included five, fully costed, pathways to Net Zero for electricity. Of the areas considered in the consultation, only electricity has a clear strategic direction, with other areas still undergoing development.

The consultation questions linked directly to these project outcomes. A summary of the responses and explanation of the direct link to the project outcomes is provided below.

58% of respondents stated they had a basic understanding of the topic. 26% stated they had a strong or expert understanding.

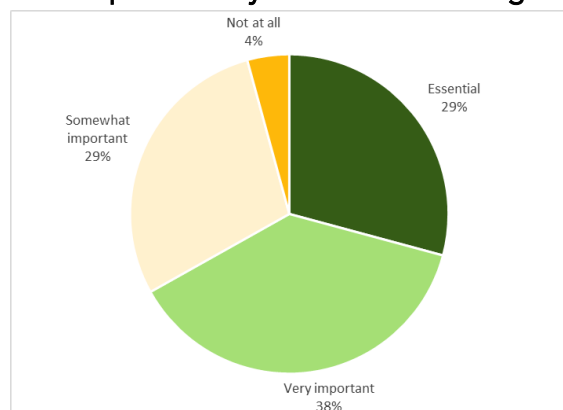
Security of supply

The current level of resilience on the Isle of Man is high with what is called “N-2 resilience”. This means that there are backup options in the event that two sources of electricity are simultaneously unavailable, which can meet peak demand e.g. during or routine maintenance or following a fault.

The FES analysis has shown that reducing the number of back-up options to provide N-1 resilience could result in more affordable electricity compared to N-2 resilience.

The respondents were asked the following questions:

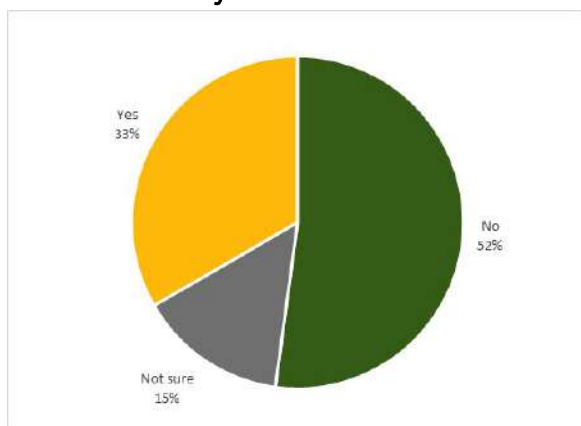
How important to you is this current high level of resilience?



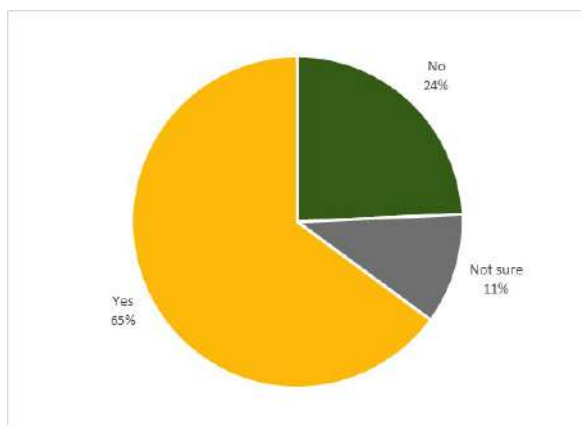
¹ Isle of Man Future Energy Scenarios: <https://www.gov.im/about-the-government/departments/cabinet-office/climate-change-isle-of-man/isle-of-man-future-energy-scenarios-report/>



Would you be willing to accept a somewhat lower level of resilience if it would reduce the cost of electricity?



Would you be willing to accept a situation where power usage could be shifted during periods of high demand, if it would reduce the cost of electricity? This could entail not running certain appliances at specific times or only charging electric vehicles at certain times of day.



The majority of respondents thought that resilience was either very important or essential. Most respondents were not willing to accept a lower level of resilience, even if it meant the cost of electricity was reduced. While respondents did not want to see a lower level of resilience, most respondents were willing to accept times when power may be limited.

Conclusions

The current level of resilience was considered important by the majority of respondents. A transition from N-2 to N-1 does not necessarily represent a reduction in resilience. Different technologies carry a certain probability of failure depending on a range of faults they may experience; e.g. a single interconnector, which has been buried is very unlikely to experience a failure which destroys the entire asset, whereas diesel engines and gas turbines located in close proximity could in theory all be destroyed by a fire or flooding event. Likewise, it is very unlikely that a fishing trawler could cause damage to the existing Combined Cycle Gas Turbine (CCGT) power station. It is therefore important to better understand what our current level of resilience is in terms of risk (and the probability of failure), which will allow for better comparison with the FES. Once this Probabilistic Risk



Assessment has been carried out, it will determine whether additional reinforcement of the FES may be required.

Strictly limiting power usage to residents would potentially involve loss of power to certain areas. This would not be in-line with provision of resilience, in terms of uninterrupted supply, and this could contradict the earlier responses on security of supply i.e. unwillingness to reduce resilience levels. Instead, encouraging residents to limit their power usage across peak demand periods via changes to tariffs would result in a smoother demand profile across a 24 hour period, without any loss of resilience. This will likely not be possible until more data on the Low Voltage (LV) Transmission Network can be gathered and modelled, which will require the completion of the Smart Metering Roll-out. Manx Utilities are currently progressing with this roll-out, after which the data can be analysed.

Rapid reduction of emissions

The FES analysis has shown that the fastest way to reduce emissions from electricity on Island is to cease exports to GB and import electricity where possible from renewable sources. Peak demand in winter exceeds 70MW; it is therefore not possible to import electricity for the entire year using the existing interconnector which has a capacity of 60MW. The existing gas turbines would still be required to operate as peak-opping plant (i.e. only run where demand exceeds or is expected to exceed 60MW). While this is the quickest way of reducing emissions, it will likely lead to increased electricity prices for all customers on the Isle of Man because it would not be possible to use the steam turbine for short bursts only. This would reduce the overall efficiency of the CCGT from 50% to 35% i.e. less MWh of electricity are generated per tonne of natural gas burned.

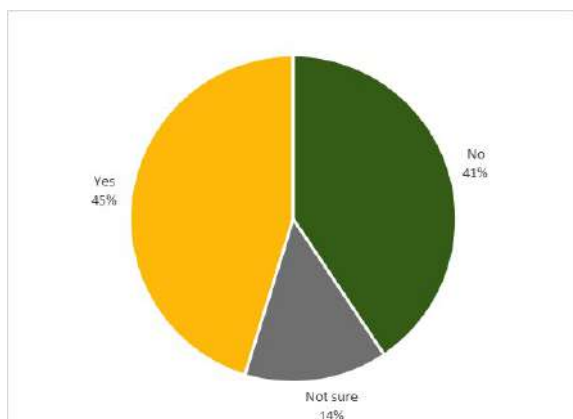
Similarly, intermittent renewables such as wind and solar power operated in tandem with the existing CCGT could lead to both higher costs of electricity and increased emissions per MWh due to reduced CCGT efficiency.

A green tariff is already available for business customers, which could allow existing consumers to purchase imported renewable energy as well as energy generated on Island from Sulby Hydro. At present customers on this tariff are supplied with energy from the Hydro station; however, the more customers who take up this tariff, the greater the amount of electricity that would need to be imported or generated from new on-Island renewables. The benefit of this would be that any increased costs for on-Island renewables (including balancing) would be taken up - voluntarily via the green tariff - by those who can afford it.

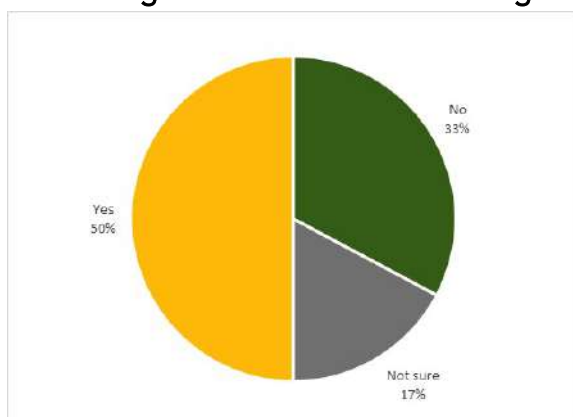
The respondents were asked the following questions with regards to rapid reductions in emissions:



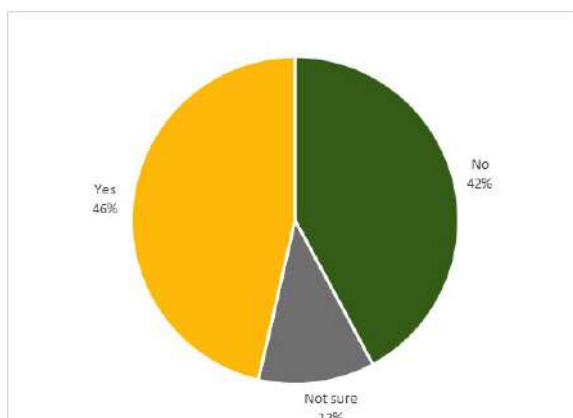
Should we cease this commercial export of electricity in order to reduce the Isle of Man emissions?



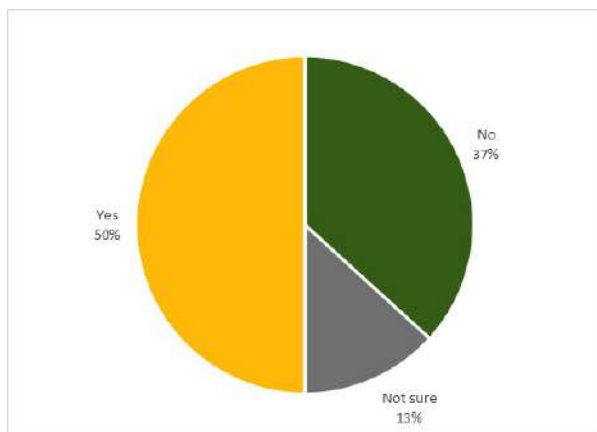
Should we rapidly reduce the Isle of Man emissions by importing renewable power through the existing interconnector rather than generating our own emissions-intensive power?



Would you be willing to accept an increase in your electricity bill in order to reduce the Isle of Man emissions by ceasing export of electricity?



If you had the choice, would you opt to pay more for a green electricity tariff to support this emissions reduction action?



There were mixed responses to the rapid reduction of emissions questions. The respondents were split on whether or not to cease commercial exports (with a slight majority favouring cessation), but there was more support for reducing emissions by importing renewable power. The comments do not point to a clear reason for this apparent contradiction – there was some concern that this would lead to UK emissions increasing as it would have to replace this reduction in supply with its own fossil fuels; others suggested applying carbon tax to Isle of Man generation would help to pay for new plant. As Manx Utilities currently sources electricity from the most cost-effective source, a carbon tax on the Isle of Man could result in a shift to importing electricity from the UK and the UK could elect to import more electricity from other jurisdictions to make up the shortfall if the Island elected to cease exports. Exports from other jurisdictions will not necessarily be carbon intensive e.g. Norwegian storage or French Nuclear.

Most respondents who favoured reducing emissions by importing renewable power referenced the small size of the Island and economies of scale.

The respondents were split on whether they would accept an increase in an electric bill to import electricity. There was some support for paying more for a green electricity tariff, though the overall response was mixed. Based on comments this appears to be linked to a consideration of the Just Transition principles – those who cannot afford to pay more should not be forced to pay more in the immediate future; increased prices for renewable electricity should be optional.

Conclusions

In the short term, it is important for members of the public to have a choice in where their electricity is sourced from and there is direct support for the introduction of a green electricity tariff. There is also support for imported renewable electricity which could be used to support the green tariff via mechanisms such as REGO (Renewable Energy Guarantees of Origin).



However, support for a large rise in cost of electricity bills as a result of importing renewable electricity is limited. Based on the responses, a gradual increase in imports across periods where there is minimal difference in gas prices compared to imported electricity prices would be a more pragmatic approach than importing as much electricity as possible.

In the long term, there is support for the lowest cost scenarios which involve imported electricity. As the UK increases its offshore wind capacity it will likely become a net exporter and this will reduce electricity prices when offshore wind is available. At these times it will usually make economic sense to import electricity from GB and this will lead to a natural increase in imports. The FES analysis has already identified a reasonable CO2(e) reduction target every five years; these targets would need to be agreed in principle.

There is limited support for ceasing exports to GB. A slight reduction in exports when there is minimal difference between gas prices compared to export revenue would be a more pragmatic approach than completely ceasing exports.

On-island generation

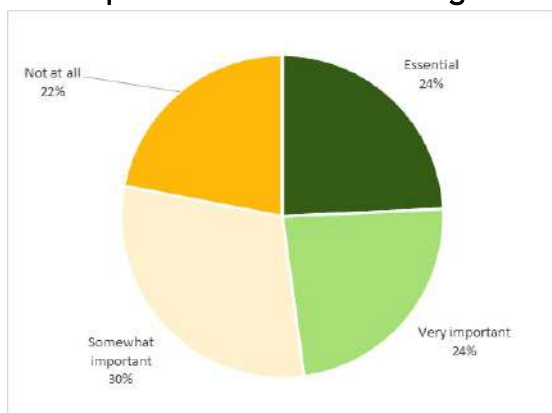
By 2035, the FES analysis shows that it will be most economical to import renewable electricity from GB and operate dispatchable renewable plant across high peak charge periods.

Presently 91% of electricity generated on-Island is ultimately sourced from imported fuel either from natural gas, diesel or waste from imported products. Importing electricity in the future does not therefore represent an increased reliance on other jurisdictions.

Small scale renewables (<10MW) are present in the most economical scenarios, but do not represent a large part of the future energy mix. The most expensive scenarios for consumers included large scale renewables.

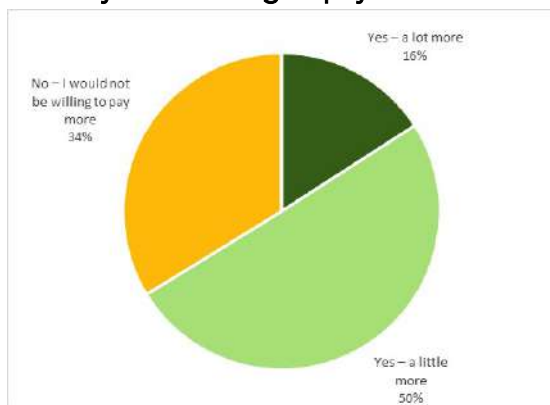
The public were asked the following about having local on-Island renewables:

How important is local renewable generation of electricity?

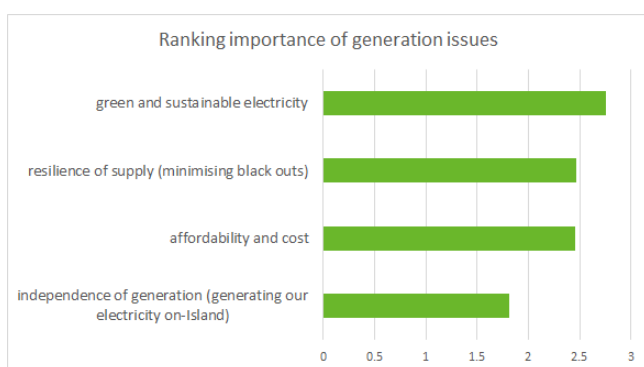




Would you be willing to pay more for renewable generation in IOM?



Respondents were also asked to provide a ranking of 'most important' generation issues: Green and Sustainable Generation; Affordability; Security of Supply; Independence of Generation (i.e. on-Island generation)



Just under half of respondents considered local renewable generation to be very important or essential. Half of respondents were willing to accept a small increase in electricity prices. A small proportion (16%) were willing to accept a larger increase, while 34% were not willing to pay any more at all. This may indicate that the respondents are in a financial position to be able to do this, but this may not be reflective of people on the lowest levels of income, who might not have been represented in this consultation. The respondents believed that sustainable generation was the most important issue, with affordability and security of supply broadly equal in importance. Local generation was the least important issue of the four options presented.

Conclusions

All elements of the Energy Trilemma (affordability, security of supply and green and sustainable generation) were ranked in broadly equal importance. There is clear desire to retain affordable generation on-Island, and members of the public would be prepared to pay slightly more for electricity, if it was sustainably sourced. This supports the adoption of Scenarios 1 – 3, which rely on imported electricity, with some small-scale renewable capacity on-Island. It indicates that support for Scenario 4, which is the most expensive option but includes a large level of renewable technology, would be given by Island residents although this may be reflective of the disproportionate number of responses given by those strongly supportive of climate action.



Scenarios 1 – 3 are broadly similar for the next 5 – 10 years, allowing some small-scale generation to be built on the Island. All scenarios have a maximum of 10MW total intermittent renewable capacity over installed over the next 5 – 10 years. For residents willing to pay higher prices for electricity, small-scale renewables would give them the option of opting for on-Island renewable generation sources. Technological improvements over the next 10 – 15 years may require slight adaptation of the existing scenarios. At this stage, Scenario 3 is the lowest cost scenario, as well as the easiest model to adapt to increase renewable capacity if required in the future.

On-Island dispatchable renewable generation

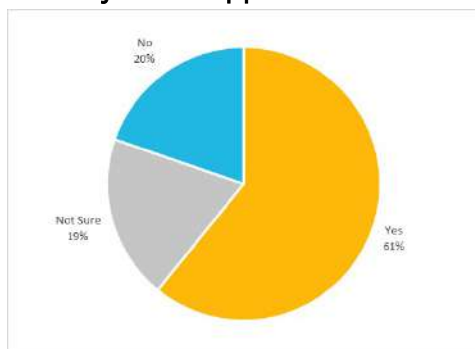
Dispatchable renewable generation typically includes biofuel generators, which can supply electricity on demand regardless of the prevailing weather conditions. As the GB market increases its intermittent renewable capacity and removes its fossil-fuel assets such as coal and gas, there will be periods where demand cannot be met by local generation. In these periods, the UK will become a net importer of electricity which would lead to higher prices. The Isle of Man would be affected whether it has its own intermittent renewable generation or not, as the prevailing weather conditions are broadly similar across the British Isles.

Having a readily available dispatchable generator would allow the Island to meet its electricity needs during these high price periods (peaks) at a lower cost than importing from the UK. This would overall lead to lower electricity prices on the Isle of Man compared to the UK. However, increasing the scale of these generators could also allow the Isle of Man to export to the UK during these peak periods for profit.

The analysis has shown that the Island currently only has sufficient sustainable biomass generation to meet a consumption of 30kT per year, which would not allow for exports. Imported biofuel would be required to increase this capacity.

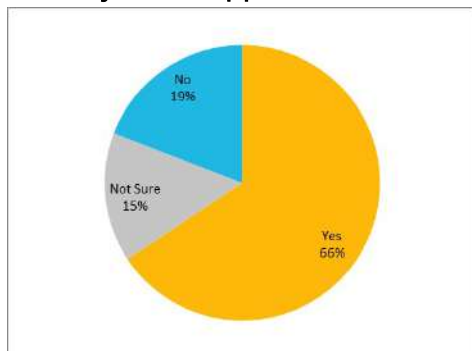
The public were asked the following about local renewable dispatchable generation:

Would you be supportive of biofuel dispatchable generation?

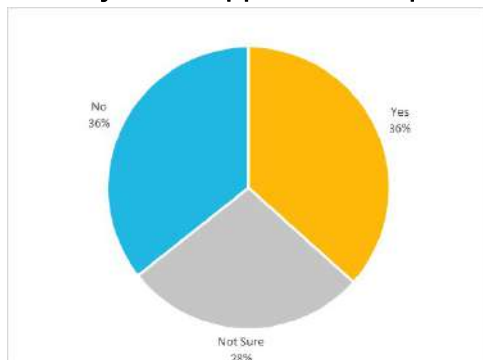




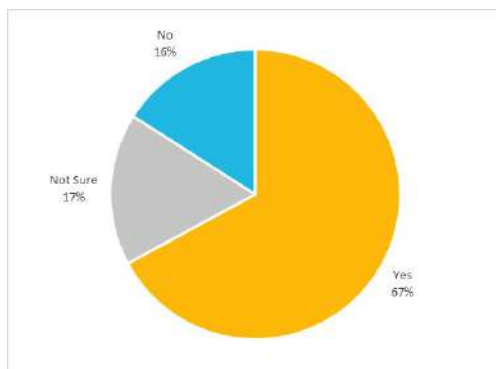
Would you be supportive of sustainably-sourced local biofuel?



Would you be supportive of importing sustainably-sourced biofuel?



Would you be supportive of exporting power to the UK to subsidise costs



There was strong support for dispatchable biofuel generation on-Island as well as support for sustainably sourced local biofuel. This was reflected in the comments.

However, it is also worth noting that concerns were raised in the comments that biofuel was not carbon neutral and that sustainable production was essential if biofuel was to be used on-Island.

While there was strong support for exporting dispatchable power to the UK to subsidise costs, there was no strong support for importing biofuels from other jurisdictions.



Conclusion

Respondents in general supported on-Island dispatchable biofuel generation and if possible, this would be exported to the UK, to assist with the affordability of electricity on-Island. Concerns were raised about the sustainability of biofuels, and it is noted that sustainably sourced biofuel is critical to ensure that biomass-generation is carbon neutral. The IPCC is clear that providing biofuels are sustainably sourced then it has significant greenhouse gas reduction potential and can be considered a carbon-neutral energy source². Respondents did not strongly support importing biofuels and the sustainability of biofuel sources could be difficult to demonstrate.

Again, the responses suggest support for the three lowest cost Scenarios 1-3, which are the only scenarios that include dispatchable biomass. However, it should be noted that the fuel required in Scenario 1 which includes a 131MW biomass generation plant would exceed 30kT of biomass over certain years and would certainly require imported biomass (or increased on-Island production) in order to meet generation needs. The responses are therefore most closely aligned with Scenarios 2 and 3, unless on-Island capacity can be increased. In both Scenario 2 and Scenario 3, 40MW of biomass generation will be required in the next 10 years, with the capacity being increased gradually towards 2050.

The FES analysis assumed solid biomass (i.e. wood-pellets) for its costs. However, alternative biofuel generators e.g. biodiesel or biogas, could result in lower overall costs. In particular bioethanol could potentially be used in the existing gas turbines on-Island with some modifications. A feasibility study will need to be completed to determine which the most suitable option is.

On-island baseload generation

Both the UK and Republic of Ireland are predicted to become short of baseload power over the next decade. In Ireland, this has already been demonstrated with blackouts in May 2021. The retirement of the remaining coal stations by 2024 and the early retirement of six of the UK's nuclear reactors (Dungeness B, Hinkley Point B and Hunterston B) could make GB reliant on France for baseload. There would be opportunities for the Isle of Man to provide stabilising power to GB or ROI from a large-scale baseload power station, e.g. biomass or a small modular reactor. Neither option is without challenge but likely provide the greatest potential for export. These were not considered in the FES analysis.

Baseload generation also offers the greatest employment opportunities of all sectors. A large-scale biomass plant could typically employ up to 200 people over a 30-year lifespan with an additional 500 people temporarily working on-Island during outage periods. The construction phase could employ as many as 1000 people. Small Modular Reactors in contrast employ up to 500 people over a 50–60-year lifespan with an additional 2000 –

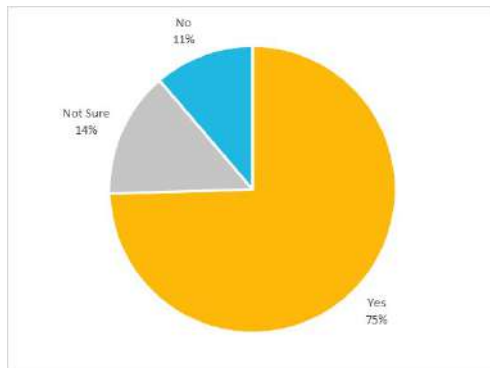
² IPCC Bioenergy Report <https://www.ipcc.ch/site/assets/uploads/2018/03/Chapter-2-Bioenergy-1.pdf>



3000 people on-Island every two years for outage work and refuelling. The construction phase could employ up to 10,000 people.

Respondents were asked the following question about on-Island base-load generation:

Would you be supportive of exporting excess electricity from carbon neutral baseload generating plant?



There was very strong support for the export of baseload generation. The comments show the respondents not only recognise the economic opportunities for baseload but also that there is direct support for these technologies on-Island, which has not previously been recognised.

Conclusions

The public may support the adoption of alternative technologies on-Island. The technical viability of these technologies has not yet been tested and this would have to be fully investigated before undergoing further scrutiny.

Structure and ownership of our electrical system

The electrical system and generation assets are currently owned and operated by Manx Utilities. The funding route for the FES remains open to either private sector or public ownership in the future.

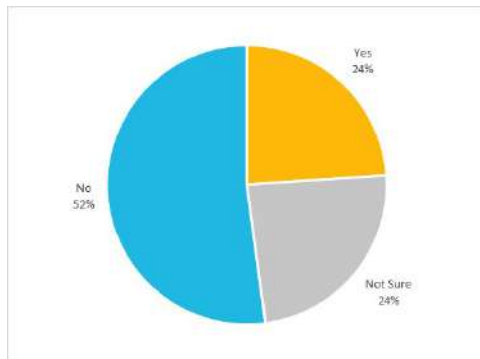
Regardless of which is the preferred route for future generation on the Isle of Man there will be scope for private partners. Jersey and Guernsey, for example, have a private-owned interconnector; biomass generators could be privately operated in a similar way to the Energy From Waste Plant. Private-sector routes would require Manx Utilities to take on a similar role to National Grid in GB by utilising the cheapest generation source that meets the system operational requirements. This would represent a different model for on-Island generators as private sector companies would be accountable to shareholders and would operate to ensure profit margins are maintained.

Retaining publicly owned electricity generation could result in the general public paying costs through taxes instead. However, this could then allow for more competitive bills for consumers. Either solution would mean the projects are ultimately paid for by the residents of the Isle of Man.



The public was asked the following question about ownership of new assets:

Are you supportive of private company ownership of new assets?



There was notable opposition from respondents to private ownership of new assets (52% negative), with the remainder split equally between supporting private ownership and not being sure. Numerous respondents cited examples of other private assets which had not resulted in fair prices for other utilities on-Island.

Conclusions

In general, there was opposition to private company ownership of assets. This does not mean that the private sector does not have a role to play in future generation, as it is also noted that off-grid renewable projects could be used by businesses on-Island to decarbonise individually.

Suggested next steps:

- 1) Carry out Probabilistic Risk Assessment of existing assets and compare these this to the level of resilience provided within the FES models.
- 2) Progress with Smart Metering Roll-out and carry out data analysis on LV Network
- 3) Carry out new review of tariff-structure to identify how residents could be encouraged to reduce their consumption.
- 4) Investigate options for increasing capacity for Green Tariff customers (including domestic customers).
- 5) Agree a target for progressive emissions reductions by increasing imports over the next five years and reducing exports.
- 6) Manx Utilities to continue to progress with a feasibility study for the deployment of a new interconnector to neighbouring jurisdictions.



- 7) Work with Manx Utilities to consider the deployment of small-scale intermittent renewables, in line with Scenario 3 i.e. 2MW wind and 8MW of solar. This could be included in a new optional Green Tariff, which will include the balancing costs of these technologies.
- 8) Carry out a feasibility study for biomass production, to ensure biomass can be produced locally in a sustainable way, and to identify potential to increase capacity above 30kT per year.
- 9) Carry out a feasibility study to identify the most-cost effective solution for a new 40 MW dispatchable biofuel generator commissioning in 2028 – 2031 depending on how rapidly a new interconnector may be progressed.
- 10) Carry out further research to assess alternative economic opportunities.

Final summary and comments

The results of the consultation show that there is support for options identified by the FES, in particular the lowest cost routes (Scenarios 1 – 3), with support for dispatchable biofuels on-Island. In the long-term, respondents supported the importation of renewable electricity via an interconnector, provided it will not result in higher electricity costs. Respondents did not consider independence to be as important as the Energy Trilemma (affordability, security of supply and green and sustainable generation).

In the short-term, while sustainably sourced electricity (even from imports) is important, respondents believed that the public should be given a choice whether or not to pay extra for electricity from renewable sources. This will require a review of existing tariffs to identify how this can be accommodated. There is strong support for continued public sector ownership of new assets.

There is also support for investigating baseload technologies to allow export of carbon neutral electricity to the UK.

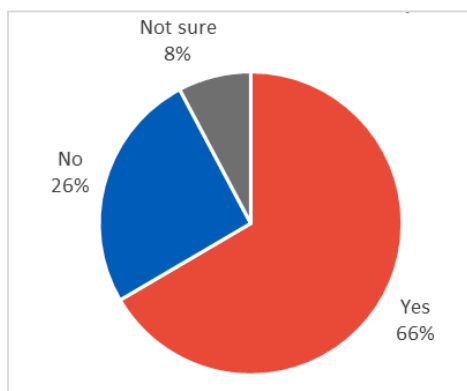
It is important to recognise that technological advancements will continue over the next 10 – 15 years and options that are currently not economically or technically viable may become viable in the near future. Alternative technologies such as tidal and wave power were mentioned several times in the comments – these technologies were reviewed in the full FES analysis and are not currently cost competitive. However, it will be essential that these technologies are reviewed and new opportunities are pursued if and as they become available.



HYDROCARBON EXTRACTION

The majority of respondents (56%) stated they had a basic understanding of the topic. 24% stated they had a strong or expert understanding.

Question 14: Would you be supportive of a ban on any future hydrocarbon exploration and extraction licences in Manx territory?

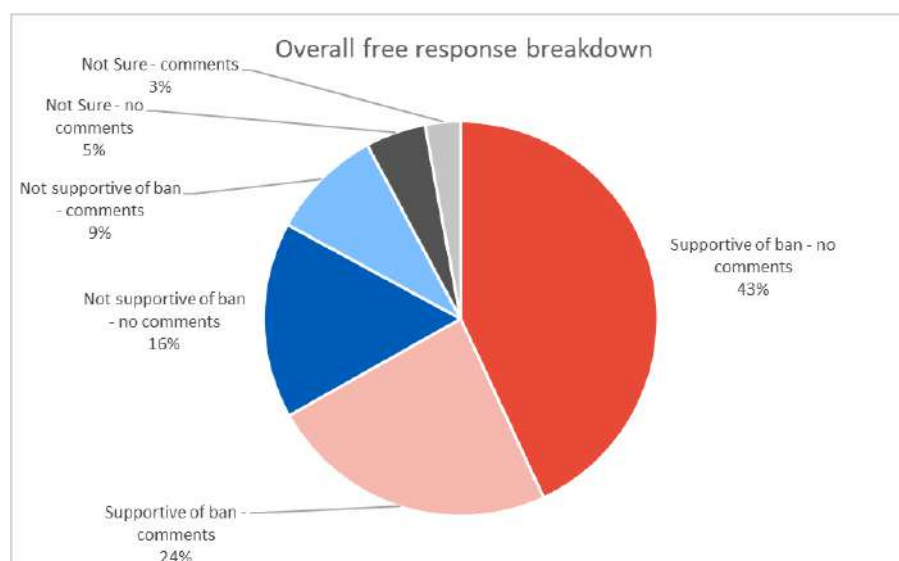


(‘Not Answered’ excluded from the above chart)

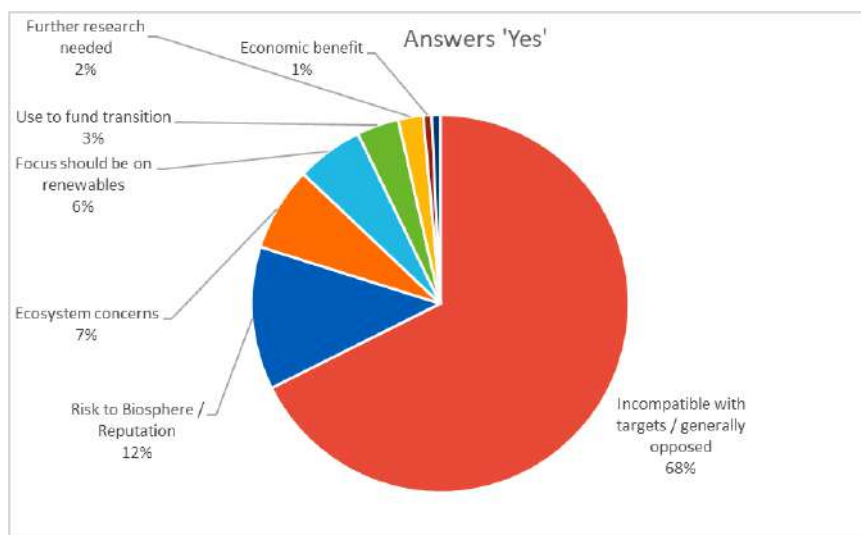
66% of respondents were supportive of a ban. 26% were not supportive, and 8% were not sure. The remaining 7% of respondents did not answer this question.

Question 15: Please provide any further comments on the proposals around Hydrocarbon Extraction

The below chart shows the breakdown of free-text responses given depending on the overall sentiment expressed in Q14.



Of the 24% of respondents that were supportive of the ban and provided comments, the following themes emerged:



Incompatible with targets / generally opposed – These responses highlighted that the extraction of hydrocarbons was incompatible with existing climate plans or expressed general overall opposition to hydrocarbon extraction in the context of climate change.

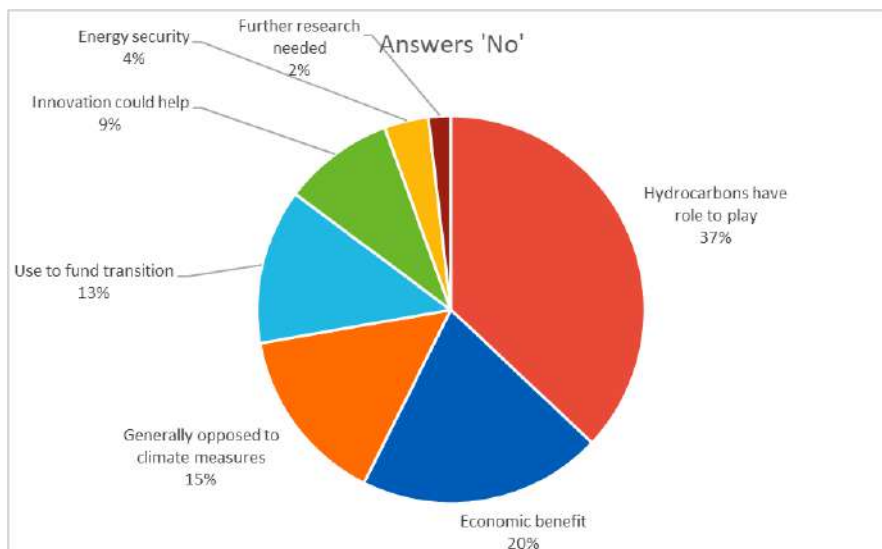
Risk to biosphere / reputation – These responses focussed specifically on the risks to the Island’s international reputation should hydrocarbon extraction go ahead, along with the activity being contrary to the principles of being a UNESCO Biosphere.

Ecosystem concerns – These comments related to concerns that the Island’s ecosystems would be damaged by hydrocarbon extraction, specifically the seabed.

Focus should be on renewables – Linked to other points but concerns around hydrocarbons and the required investment being a distraction from progress with renewables.

Use to fund transition – some respondents supportive of a ban were open to considering extraction if the proceeds funded green initiatives.

Of the 16% of respondents that were not supportive of a ban and provided comments, the following themes emerged:



Hydrocarbons have a role to play – some respondents were keen that hydrocarbons are not ruled out, both in terms of their non-combustion applications and their general role in energy supply during the transition to net zero.

Economic benefit – these respondents were keen on the Island maximising the economic potential of any hydrocarbon resources.

Generally opposed to climate measures – these responses reflected an overall scepticism that any form of mitigation action was required, either globally or by the IOM in particular.

Use to fund transition – Hydrocarbons could be used to provide income for investment in a transition to net zero.

Innovation could help – relating to the potential for innovative solutions to be used to address fugitive emissions etc.

Conclusion

The balance of responses was in favour of a ban on hydrocarbon extraction and the majority of these (where comments were provided) cited the incompatibility of extraction with wider climate objectives.

Of those who did not support a ban, there was a mix of reasons cited, including the potential economic benefit of extraction as well as wider themes around the role hydrocarbons could play in the transition to net zero.



ENERGY USE IN BUILDINGS

The majority of respondents (63%) stated they had a basic understanding of the issues being discussed. 17% stated they had a strong or expert understanding.

Question 24: Do you agree with the proposed commitments (points 1-20) in the extract?

Proposed commitments are shown below:

1. Concluding and implementing the Renewable Heating Strategy, which will inform most of the following commitments.
2. Commencing a public engagement campaign promoting energy efficiency in homes and businesses, to improve confidence to make change.
3. Significantly reducing residential energy use by 2027, through energy efficiency and home heating initiatives, supported by the Green Living Grant scheme. Support for this will be focussed on the homes and individuals most in need.
4. Ensuring that all initiatives seek to ensure a just transition.
5. Introducing changes to our Planning Policy to ensure that future planning application decisions contribute to the emissions reduction initiatives across all segments, either through changes to the Strategic Plan or a National Policy Directive.
6. Implementing the agreed ban on the installation of fossil fuel boilers in new build houses in 2025 and consider bringing this forward to 2023 subject to this conclusion.
7. Taking a decision and announcing dates for the banning of the replacement and eventually use of existing fossil fuels for heating, which will be informed by the ongoing Renewable Heating Strategy. This will give plenty of time for home-owners and industry to adjust and to encourage early uptake of alternative technologies or appropriate hybrid technologies.
8. Acknowledging clear signalling of these proposals will support a just transition and contributes to reductions in emissions by 2027 through changing boiler replacement behaviours.
9. Working with DfE, UCM, Construction Isle of Man and the wider industry to upskill and reskill the sector in skills needed to achieve our net zero goals.
10. Bringing forward proposals to further improve Building Regulations for new builds by setting the standards to AECB (Association for Environment Conscious Building) equivalent levels within the next year (achieving 97% energy efficiency in new builds).



11. Implementing a requirement for Energy Performance Certificates or equivalent when selling or renting out a property by the end of 2023.
12. Implementing an appropriate minimum Energy Performance Certificate standard for rental properties.
13. Exploring the use of biofuels to replace fossil fuel oils in home heating.
14. Exploring low carbon alternatives to fossil fuel gas in home heating.
15. Proposing a pilot scheme for whole house retrofit and whole street/terrace approaches (to rapidly decrease emissions from homes and take advantage of cost savings and other benefits of tackling multiple properties together).
16. Exploring adoption of smart-heating technologies to promote energy efficiency of heating solutions.
17. Undertaking a retrofit programme for most significant public buildings by 2027.
18. Bringing in bans on sale and burning of coal, peat and wet wood, during the period of this plan.
19. Banning the sale of low efficiency household appliances.
20. Banning the sale of conventional light bulbs.

56% of respondents agreed with the proposed commitments in the plan. A total of 282 responses were provided detailing additional proposed commitments or general comments around the plans.

General commentary

There was a general understanding in this section that 'fabric first' measures were important. There were some areas of misunderstanding regarding the available technologies, including whether gas boilers were 'low carbon' and whether air source heat pumps could operate in cold weather.

There was also a concern over who would pay for the changes and an expectation that Government should. The age of people's homes was a worry, with a fear that older houses would struggle to improve energy efficiencies.

There was very strong support on bringing forward the fossil fuel heating ban in new builds to 2023:

"New builds can put in fossil fuel boilers till 2025. No, this should be stopped earlier."

"Fossil fuel boilers in new builds should be banned now"

"Implementing the agreed ban on the installation of fossil fuel boilers in new build houses in 2025 and consider bringing this forward to 2023 subject to this conclusion. This should



be brought to 2022. There are far too many new builds being built now without meeting the requirements which will need to be met when heat source pumps have to be fitted."

Support was given to develop building regulations so that new homes were built almost emissions free. There was concern that homes being built now were being fitted with fossil fuel boilers:

"If the building regs are updated effectively, new builds will not need significant heat input."

Some slight concern was shown in banning wet wood, coal and peat with respondents unsure of what they should switch to instead. Respondents generally weren't sure how we were going to move away from fossil fuel heating systems as they didn't know what the alternatives would be. Respondents weren't sure about biofuels and whether they would need to be imported.

There was not much support for the introduction of Energy Performance Certificates (EPC), with respondents describing them as bureaucratic and costly. There was a concern that they would harm the rental market and that they had not been successful in the UK.

The Green Living Grant was mentioned on several occasions with concern that it wasn't open to all and that the maximum income level was too low.

"Significantly reducing residential energy use by 2027, through energy efficiency and home heating initiatives, supported by the Green Living Grant scheme. Support for this will be focussed on the homes and individuals most in need. The issue I have with this is that support needs to be available to the WHOLE of the Manx Public."

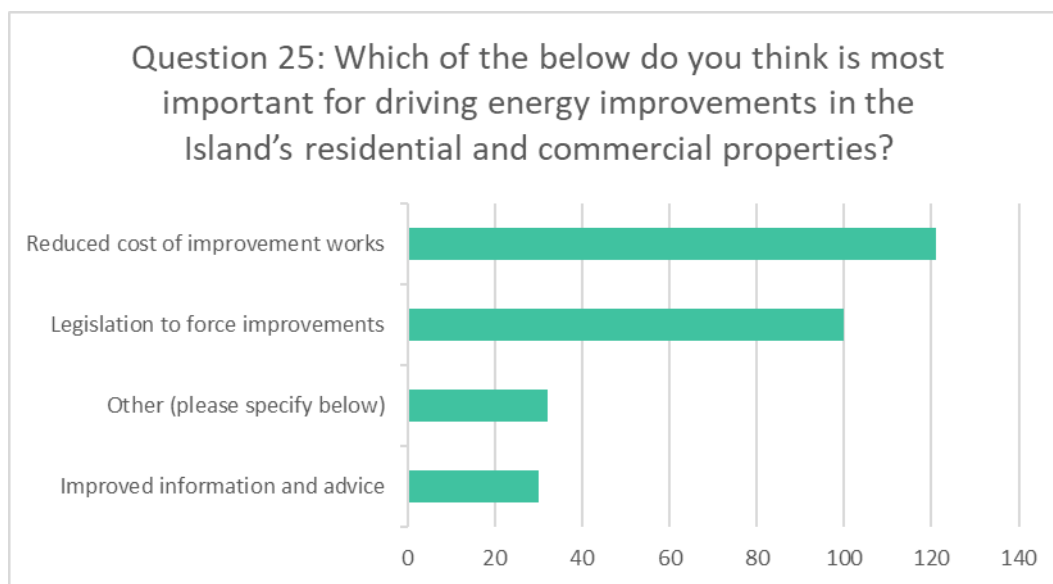
"Any grant scheme must be available to ALL property owners regardless of income, (which I believe make up the majority of households on the island), not simply grants being made available to low income residents and council/commissions property."

Commentary was also given on the need to educate the public with regards to energy efficiency and the different type of technologies available for heating.

"People will need help / advice on what to do. We are likely to need a new boiler ourselves in the next 2-3 years and as someone who wants to do the right thing, I currently have no idea on the right solution."



Question 25: Which of the below do you think is most important for driving energy improvements in the Island's residential and commercial properties?



Respondents felt that the two most important changes needed were reduced cost of works (38%) and legislation to force improvements (31%).

The cost reductions were aimed at residential homeowners looking to decarbonise their homes whilst legislation was aimed at property developers building new homes and commercial properties.

Respondents were very concerned about the cost of retrofitting their homes and referred again to grants and assistance from Government.

"Better grant / loan schemes to encourage businesses and individuals to make these changes to their properties."

There were a large number of comments on the need to upskill the construction industry and many felt that Government will need to subsidise the costs of the improvements needed.

Comments were also made that Government needs to lead the way across its own estate first.

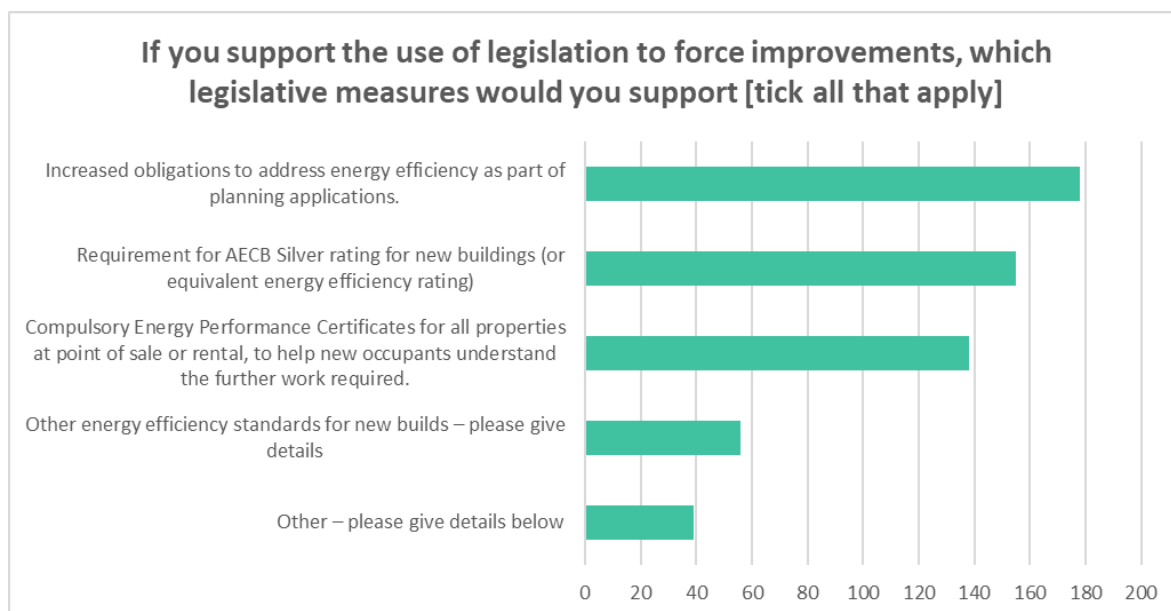
"The government leading by example rather than hiding behind a narrative to further it's own resources!"

If you support the use of legislation to force improvements, which legislative measures would you support [tick all that apply]

Under the subsection asking about legislative measures, the top choices were increased obligations to address energy efficiency as part of planning applications at 55%, followed



by a requirement for AECB silver rating for new buildings (48%) and compulsory energy performance certificates (43%)



“A carbon footprint calculation should be supplied with any planning application, to include the carbon cost of the materials involved and their transport. This to encourage developers to consider alternative materials - for example marmoleum as opposed to vinyl flooring.”

Under the ‘other’ section many respondents referenced the need to build new homes to high energy efficiency standards:

“All new build must be net zero heat pump battery power wall to balance. Car plug and solar power roof”

“Prospective buyers shouldn’t have to buy a new build house only to then retrofit it a year or 2 later, all new builds should come with solar panels and suitable heating systems as standard”

“We need to create homes that do not create further emissions but also enhance and encourage wildlife and biodiversity.”

Feedback on the EPC system in this section was mixed:

“While EPC is a start, it is a poor inception already being changed in Scotland (who generally lead in energy change)

It should be compulsory to provide a ‘Real World Energy Rating’

Veritherm provide such an Energy Check - actual energy use.

This combined with an Enforcement of Air Tightness test with Infrared Thermal Survey provide a complete energy rating.”

There was also anti-legislation sentiment stating that it should be a last resort.



Conclusion

There was some uncertainty around the technology currently on offer and a stated need for more guidance as to what systems to invest in. Further work could be done to make the options clearer.

There was an expectation from many respondents that Government should fund improvements, including through widening energy efficiency scheme access. There was support for legislative measures to force improvements to efficiency, particularly at the planning / new build stage. This included bringing forward bans on fossil fuel boilers in new build homes.



TRANSPORT

The majority of respondents (67%) stated they had a basic understanding of the issues being discussed. 25% stated they had a strong or expert understanding.

Question 17: Do you agree with the proposed commitments (points 1-20) in the extract ?

Proposed commitments:

1. Banning the registration of new fossil fuel cars and light vans in 2030, followed by Hybrids from 2035, and considering if these bans could be brought forwards to commence within the duration of this plan, which ends in 2027.
2. Setting indicative dates for banning the routine use of fossil fuel vehicles to allow an equitable transition and to encourage uptake of alternatives.
3. Monitoring the heavy goods vehicle development to ensure appropriate uptake as the technology develops.
4. Building on extensive work already undertaken by DOI we will continue to transform on-Island transport away from fossil fuel car use and towards lower carbon alternatives.
5. Reducing the need to travel by supporting the development of more communities where services and amenities are available within easy walking distance (and ensuring that all new developments are fully served with facilities to reduce the need to travel, and options for active travel and public transport).
6. Ensuring that planning policy promotes low travel communities, active travel, public transport and electric vehicle charging infrastructure.
7. Promoting and supporting flexible working which reduces the need to travel whilst considering how town centres can still remain vibrant and attractive in support of the overall quality of life.
8. Promoting and supporting local provision of Government services in communities.
9. Promoting and supporting the development of hot desk spaces, digital infrastructure and other facilities for remote working in our communities.
10. Supporting the continued uptake of walking and cycling to work and for other necessary journeys, improving infrastructure, extent of cycle routes and safety.
11. Supporting the continued uptake of public transport by continuing to invest in low carbon buses, options for bus lanes, more frequent and faster bus routes, improving information and access and incentivising new users to switch to public transport.



12. Exploring the role of carbon taxes and vehicle road tax in changing travel behaviour, for example with escalations in tax on high emission cars and continuation of low tax on near zero cars, for a further period of the transition.
13. Continuing to build the infrastructure and access for electric vehicles and other low carbon alternatives to fossil-fuel vehicles, working to rapidly decrease the numbers and mileage of fossil fuel vehicles on our roads.
14. Exploring more innovative transport provision such as community car and bicycle share schemes and options for vehicle travel off-Island.
15. Considering the role for electric scooters as an alternative to car use (and consider the potential impact on pedestrians).
16. Considering disincentives to driving, including taxing of parking spaces and working with local authorities and DOI to increase parking charges whilst making park and ride options, and alternatives to driving cheaper, more convenient and more accessible to all transport users (including the elderly, disabled users and families with young children/prams), whilst balancing the need to service the town centre businesses with residents and tourists.
17. Exploring the emissions benefits of converting office space in Douglas into sustainable town-centre housing in conjunction with the new Manx Development Corporation to increase demand for services without the need for travel.
18. Exploring the use of biofuels in fossil fuel vehicles as an interim measure.
19. Promoting lower carbon off-Island travel (such as ferry and rail as a lower carbon substitute for flying and driving) and seeking to reduce the overall off Island travel in the long term.
20. Promoting strengthening of facilities and infrastructure for digital connectivity, networking and re-creating on Island opportunities and experiences for which, pre-COVID, we frequently travelled off-Island.

48% of respondents agreed with the proposed commitments in the plan. 43% disagreed and 9% did not answer.

A further question asked for comments if the respondent did not agree. There were 174 responses to this question although, in addition to explanations of why respondents didn't agree, there were also additional proposed commitments or general comments around the plans. Key themes include:

Off-Island Travel

- There was a general negative response to suggestions of reducing off-Island travel – this theme was linked to complaints around the lack of provision of various amenities/services on-Island and the need for travel in order for the Island to be an attractive place to live



Electric Vehicles (EVs)

- Concerns raised around being 'forced' to adopt electric vehicles when they are too expensive / a preserve of the wealthy
- Concerns around the environmental impact of the EV lifecycle e.g. battery mining & disposal
- Concerns around the electricity generation that would be used to power EVs
- Perception that reduction in car usage is problematic
 - *"I do not support trying to reduce the amount people drive. Public transport will never replace private vehicles. It is too slow, you can't carry large purchases on it, and reducing people's driving will reduce footfall to local businesses.[...]"*
- Conversely, some respondents wanted a ban on Internal Combustion Engine (ICE) vehicles brought forward – perceived as a quick and easy solution
- Increasing fuel duty was flagged as a potential way to discourage ICE usage

Public Transport

- Some comments highlighted that public transport is not an alternative to private car usage either because:
 - current provision is inadequate; or
 - any provision would be inadequate (not a substitute for private car)
- Some respondents flagged past negative experience of public transport as a reason why it was not a solution, especially in relation to connectivity.
- Many respondents highlighted that free public transport could be a potential solution

Active Travel

- Concerns about cycling in winter / bad weather and about it not being a solution for a significant proportion of the population.
 - *"Walking and cycling on the island is limited largely by the weather. We live on an island where it rains and is windy often we need to be realistic about just how people will convert to these schemes.[...]"*
- Concerns about pedestrian safety when combined with increased cycling / e-scooters

Infrastructure

- Concerns about the ability of Government to deliver infrastructure projects
- EV charging infrastructure was raised as a barrier / reason EVs could not be adopted

General commentary

In general, there was a theme of concern to suggestions that Government was in some way seeking to 'ban' travel. Suggestions that travel would need to be reduced were very



unpopular. Many respondents did not support suggestions of reducing private car usage or making this usage more expensive. Town centre parking was raised as a concern, with many suggesting that parking provision needed to be increased rather than decreased. This was linked to a theme that the current status quo of road and transport provision should be improved before any more fundamental changes are enacted.

There was a preference for incentives to be provided rather than bans/taxation.

Question 18: Acknowledging that travel to and from the Island by air or sea is likely to remain an essential part of our Island life, what measures do you think we could take to reduce these emissions?

Modal Share

- Many respondents highlighted the need for greener vehicles (sea/air), including an efficient new Steam Packet Company (SPCO) vessel and electric aircraft.
- Some respondents proposed measures such as taxes/restrictions on air travel combined with subsidy for sea travel:
 - *“Make the sea/train route more attractive and easier to access plus a tax on aviation fuel and a tax on flying.”*
- Some respondents proposed reducing speeds of transport modes to improve efficiency:
 - *“Maybe we should just cut down the frequency of travel options. Also I learnt once that, if a boat travels half the speed it creates less than half the emissions.”*
- Others proposed faster ferry connections to make journeys more competitive with flying:
 - *“[...] More frequent ferry services would help. And retaining or replacing the fastcraft. Services to Heysham are good, but in the winter the Liverpool and Irish routes are very limited so flying becomes to only option. [...]”*

Economic considerations

- The tourist industry was cited by some respondents as a barrier to reducing transport emissions:
 - *“Maybe we should stop trying to grow tourism, as this increases our carbon emissions.”*
- Other respondents proposed becoming less reliant on imports:
 - *“Reduce sea traffic by adding on-island services for example in food processing and health care.”*

General commentary

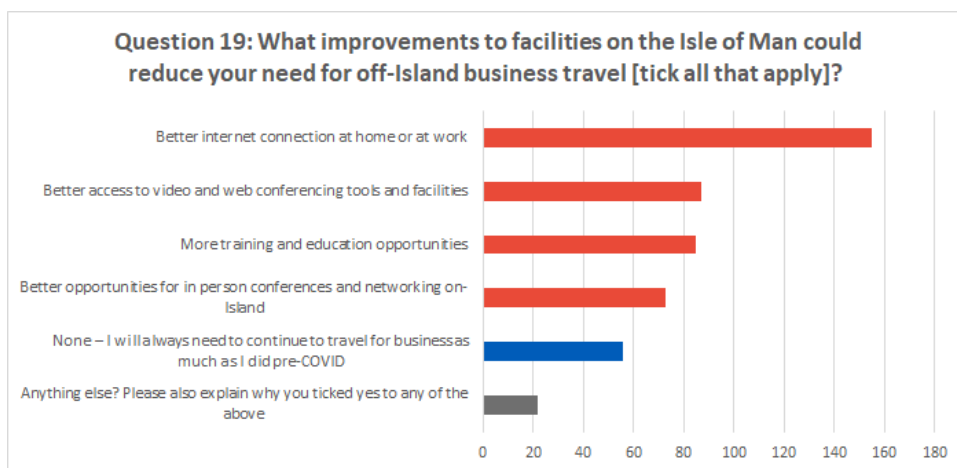
This question was acknowledged as difficult to answer by many respondents – this is reflective of the widely-known issues with decarbonising both air and sea travel, along with



a continuation of the general comment that reducing off-Island travel links would be detrimental.

Question 19: What improvements to facilities on the Isle of Man could reduce your need for off-Island business travel [tick all that apply]?

Having better internet connection was the most popular response to this question (49% of responses), followed by web and video conferencing facilities (28% of responses). Improved training and education was also cited by 27% of respondents. 18% of respondents stated they would always need to continue travelling as much as pre-COVID.



Among the free-text responses, there were mixed views on whether remote working was here to stay or whether face-to-face meetings remained essential and this seemed dependent on the nature of the contact:

- *“Over the last 2 years we have learned that remote learning and business meetings can be effective and much less time consuming, with people we know and trust. It is of note that where we are trying to make new business connections that person to person meetings are still needed, or where equipment or plant is being inspected as part of a due diligence process”*

Many of the other free-text responses reinforced the tick box responses.

Question 20: Leisure travel: what improvements to facilities on the Isle of Man could reduce your need to travel off-Island for leisure purposes? [tick all that apply]:

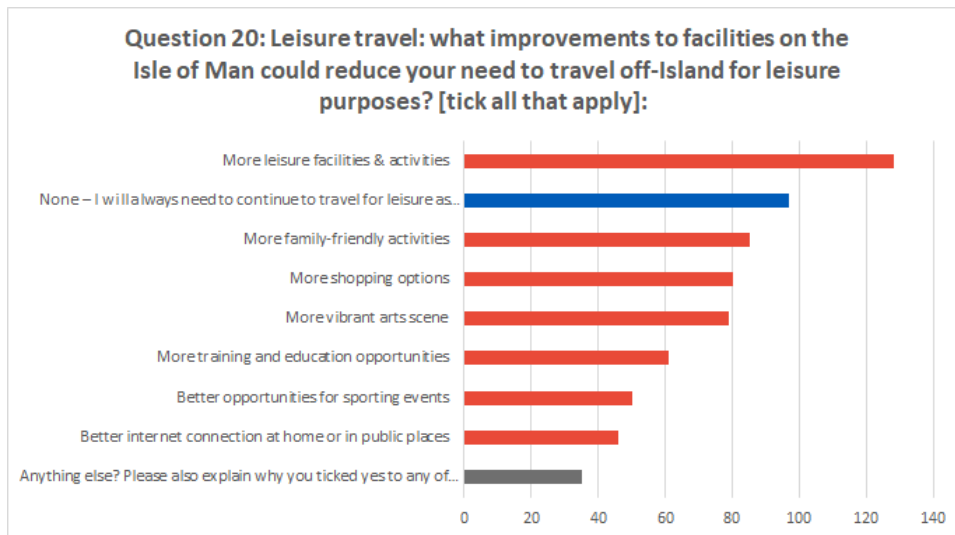
The most popular response was in relation to leisure facilities & activities (40% of respondents).

- *“I don't think I will travel as much as did before Covid and even before then I was conscious of my carbon footprint. For me, I think the Island can't offer any more than it does, it's a beautiful place. I travel to see other places around the world, not*



for things or events. For other people, it may be better to improve the shopping scene, the indoor entertainment options for young people, possibly introducing a festival at a similar scale to the Isle of Wight?”

31% considered that they would always need to travel as much as pre-COVID, a higher proportion than for the equivalent question relating to Business travel (Q19).



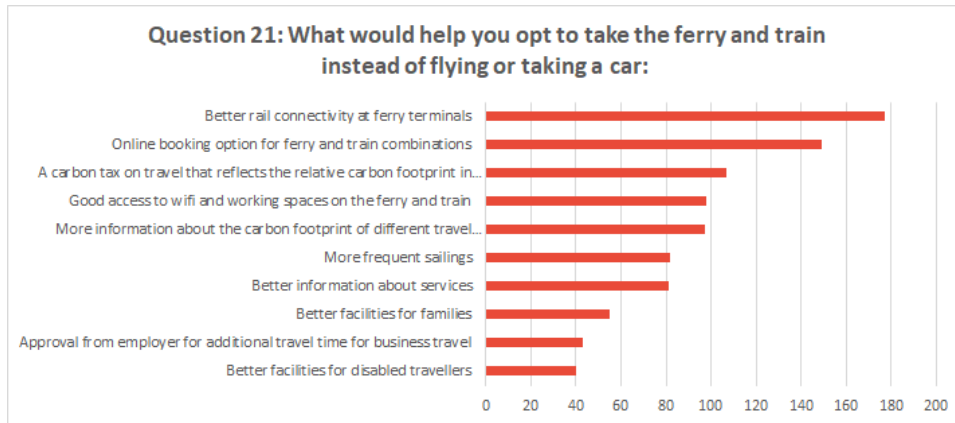
This sentiment was borne out in many of the free-text responses, which highlighted travel to see family and wider experiences that can't be had on-Island as reasons travel must continue:

- *“There is only so much any one place can provide. Kids can experience far more in the UK than would ever be available on the island.”*
- *“Going to new places and exploring, and meeting new people is hard to replace as an experience. The Island is small so I feel there will ways be a need to get off Island....regardless what events are happening here. Personally I want to see different bands they usually do not come here. I also want to go hiking in places I have not been before and visit friends and family.”*



Question 21: What would help you opt to take the ferry and train instead of flying or taking a car:

Of the suggested options provided, 'Better rail connectivity at ferry terminals' was the most popular (56% of respondents) followed by 'Online booking option for ferry and train combinations'. These were followed by internet availability and introduction of carbon taxes and carbon footprint information.



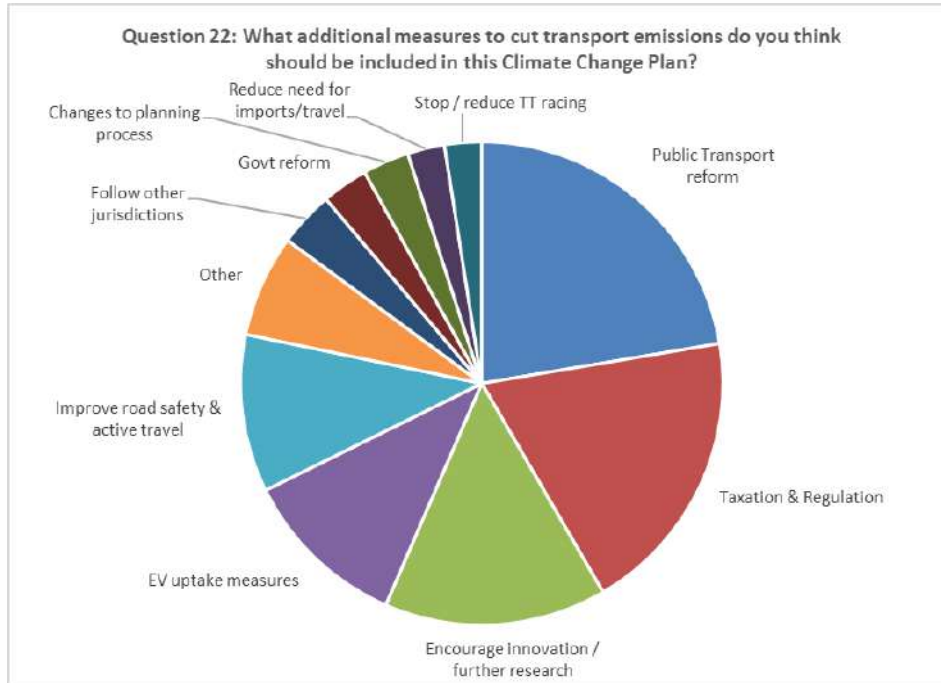
In the free text box for other options many used the space to elaborate on their responses. The following themes were prominent:

- Ferry is too slow / connections are complex
 - *"We fly on holidays to Europe because boat / train is slow, complicated, lots of hassle and because it involves overnight stays - much more expensive and gives you less time at your destination."*
- Rail travel can be difficult for families / people with reduced mobility
 - *"You haven't seen a young family with all their luggage at a train station?"*
- Some respondents commented on how they found the train/ferry combination more relaxing and cheaper, though further work is required to publicise the cost savings
 - *"I've found that ferry & train through tickets have been very cost-effective, though little advertised."*
 - *"I prefer boat and train less stressful"*



Question 22: What additional measures to cut transport emissions do you think should be included in this Climate Change Plan?

A wide range of measures were proposed in this section. The below chart gives a general indication of the prevalence of themes discussed:



Public transport reform – many comments in this area suggested that public transport should be made free or more heavily subsidised, along with improvements made to quality and accessibility

Taxation and regulation – this covers a range of proposals, including changes to vehicle tax, fuel duty, and outright bans of certain vehicle types

Encourage innovation / further research – these proposals mostly relate to technology that is in its infancy and is proposed to be trialled etc

EV uptake measures – this covers EV subsidies, pricing issues, and access to charging infrastructure

Improve road safety & active travel – this covers a range of proposals relating to improving road safety for the benefit of cyclists, and reducing speed limits to reduce fuel consumption of vehicles

Follow other jurisdictions – these proposals relate to waiting until developments occur elsewhere before adopting (e.g. new technology)

Government reform – changes proposed around reducing Government fleet usage and commuting

Changes to planning process – Changes to planning regulations to encourage / prevent specific practices



Reduce need for imports / travel – Source more goods/services locally to reduce the need for travel

Stop / reduce TT racing – Address climate impact of TT festivals

Conclusion

- Attention should be given to the messaging around behaviour change – there was notable push-back to proposals around reducing on- and off-Island travel.
- There were numerous suggestions supporting enhanced public transport, especially free travel (either at specific times or at all times).
- Some specific improvements could be made to encourage people to stay on-Island for leisure / business purposes but responses were mixed and many respondents thought they would always need to travel as much as pre-COVID.



AGRICULTURE

The majority of respondents (59%) stated they had a basic understanding of the topic, 15% stated they had a strong understanding and less than 1% stated they had an expert understanding.

Question 27: Do you agree with the proposed actions described to cut the emissions associated with agriculture?

The proposed actions:

1. Working with farmers to reduce agricultural emissions (target to be included in the plan).
2. Working with the industry to improve understanding of low emission farming techniques and opportunities for maximising sequestration in natural habitats
3. Assessing the effectiveness of the Agri-Environment Scheme and other support schemes to deliver emissions reductions, enhance sequestration and protect biodiversity, and if necessary work with DEFA and the industry to adapt schemes to improve outcomes for climate and nature.
4. Working with the industry to establish a range of low carbon demonstration farms to showcase best practice in emissions reduction, increased sequestration and improvement to ecosystems and biodiversity.
5. Continuing to promote more local consumption of locally produced foods (and highlight the imported foods with the highest emissions), and explore options to decrease imported foods and decrease exports where there are benefits (considering emissions and wider environmental impact, economic and food security).
6. Labelling locally-produced foods to inform consumers of carbon footprint and help consumers to make low emissions choices.
7. Consider restricting or banning the use of some fertilizers and pesticides and/or develop local guidance to reduce emissions and enhance biodiversity.

The vast majority of respondents (71%) supported the proposals.

The question included an area for respondents to add further comments in the event they selected 'no'. The responses in this section contained a very broad range of comments, some supportive and some not. Particular themes were:

- Need for initiatives to reduce meat consumption
- Need for proposals to be more ambitious
- Support for local produce / reducing imports
- Concerns about the impact of initiatives on food prices

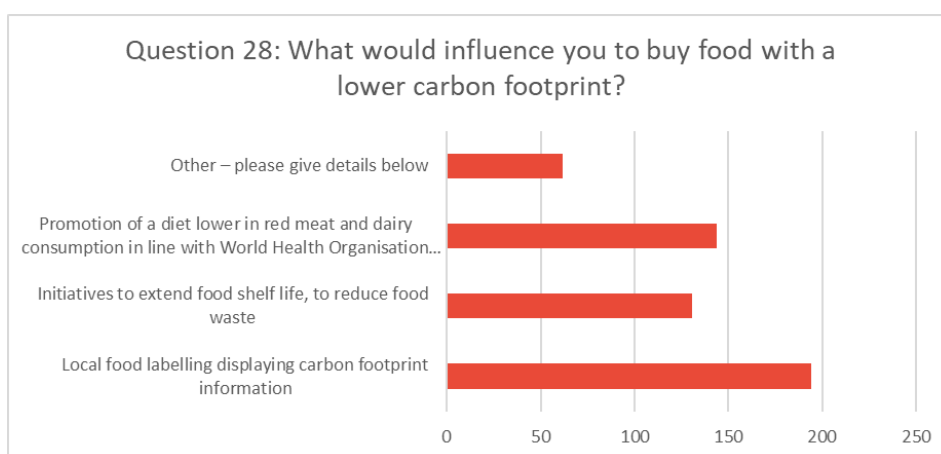


A further free text question asked about additional measures. Themes were similar to the above, especially in relation to initiatives to reduce meat consumption and for efforts to encourage buying local. Another common theme related to improved education for:

- consumers on buying local / the carbon impacts of food; and
- farmers on new and innovative farming practices

There was some inconsistency among responses as to whether buying local was the solution to carbon footprint issues. Some respondents supported buying local for reasons that went beyond climate e.g. food security.

Question 28: What would influence you to buy food with a lower carbon footprint?



Among respondents, there was fairly even support for all proposed measures with local food labelling the most popular. Among the 'other' responses there were similar themes as in Q27.

Conclusion

There were quite contrasting views in this section between respondents. Specific issues that had polarising viewpoints include:

- Whether buying local was sufficient to reduce impact or whether the nature of local production needed changing too (e.g. reducing meat production).
- Whether farmers needed additional subsidies to make changes or whether existing subsidies should be redesigned. An extension of this is whether a 'carrot' or 'stick' approach is most appropriate.

There is a clear gap in perception of the issues. Further work to bring together these polarising viewpoints may be beneficial.



BUSINESS

The majority of respondents (53%) stated they had a basic understanding of the topic. 18% stated they had a strong or expert understanding.

Question 30: Do you agree with the proposed commitments (points 1-9) in the extract ?

The proposed commitments:

1. Identifying the largest sources of business emissions and work with their producers to reduce these significantly (target to be established).
2. Exploring regulation and incentivisation to increase energy efficiency of commercial heating and cooling equipment.
3. Providing local businesses with clear guidance and training to promote emissions reduction and protection of carbon sequestration and other ecosystem services.
4. Encouraging businesses to undertake carbon audit to inform their responses.
5. Developing an online toolkit to support businesses in their efforts to reduce emissions
6. Introducing an initially voluntary disclosure process for business emissions in parallel with global trends on this aspect.
7. Implementing a local offsetting scheme for businesses to offset through local investment in emissions reduction or carbon sequestration projects on the Island.
8. Providing renewable electricity to assist with ESG requirements.
9. Developing mechanisms to recognise excellence in emissions reduction in the business community, for example via the UNESCO Biosphere Isle of Man partnership programme.

67% of respondents answered yes to the above, with 19% answering no. 14% provided no answer.

If no please highlight which actions you do not support and why

Many responses to this question contained general comment on the proposals (some of which highlighting proposals that were supported).

Of the responses that answered which actions were not supported and why, 57% raised issue with the actions in general with many focussed on the additional administrative and cost burdens which would be placed on businesses and which would lead to lack of competitiveness:



“I support none of the above. They will simply add bureaucratic costs to businesses, making them less competitive. This in turn makes us all worse off. [...]”

The next most common area of concern related to action point 7 (offsetting) – 29% of responses. The main issue raised was with businesses avoiding their climate responsibilities through purchasing offsets:

“Point 7. Offsetting should only be a temporary fix while a business is moving to an agreed carbon level. Permanently allowing a business to offset it's carbon level could be abused and in the 'big scheme of things' does not reduce carbon going into the air.”

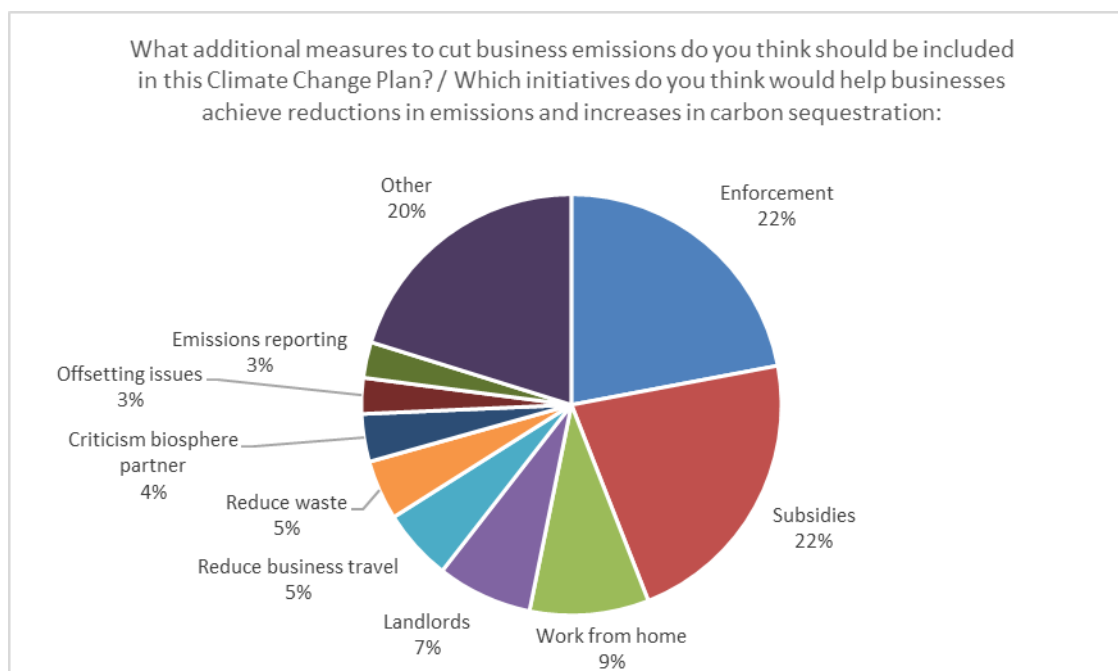
Question 31: Which initiatives do you think would help businesses achieve reductions in emissions and increases in carbon sequestration:

- Better information to clarify what individual businesses should do.
- Training to provide the skills to undertake necessary work.
- Legislation to require businesses to prioritise cuts in emissions.
- Schemes that highlight or reward emissions reductions e.g. Gold Biosphere partner status

All four proposals received fairly equal support (50%).

What additional measures to cut business emissions do you think should be included in this Climate Change Plan? / Which initiatives do you think would help businesses achieve reductions in emissions and increases in carbon sequestration:

These questions have been analysed together given their similarity and crossover in responses given.





Enforcement – these responses covered a range of proposals around more stringent Government regulation and enforcement actions against businesses:

“Generally I agree with this carrot rather than stick approach but some business practices should be banned or made difficult e.g. single use plastic, waste in paper, food, fuel (multiple single person vehicles)”

“Legislation may be required so each business knows its level of emission in 2022 and a reduction target of specific % to be achieved by 2030.”

Subsidies – suggestions including taxation breaks, funding, and other measures to encourage and enable businesses to reduce emissions

“Grants, funding, tax breaks or similar to incentivise or enable action, particularly for smaller businesses”

Work from home – proposals relating to reducing commuter travel by encouraging / enabling working from home

Landlords – wide-ranging proposals around acknowledging that business tenants often have little control over their buildings. Additional point that new builds should be constructed to eco-standards:

“The decision to improve the climate impact of a commercial building (the biggest impact) does not rest with the tenant - based on recent experience we were unable to improve our premises without the support and permission of the landlord. Commercial property owners are the party to influence through fiscal support measures.”

Reduce business travel – responses including soft and hard policy measures to reduce off-Island business travel

Reduce waste – proposals around reducing waste of resources by businesses:

“Given the considerable finance sector, encouragement to be paperless. Lifespan of assets such as electronics need to be improved (worldwide) allowing longer life spans and easier repair rather than producing waste.”

Criticism Biosphere Partner – there were some comments relating to biosphere partner status that were sceptical that partners are doing enough toward fulfilling the Biosphere pledge.

“The Biosphere pledge is a meaningless exercise. I know several businesses who have done this purely in order to get the badge in their email signatures. It makes it look like they are doing something when in fact they are not. It probably does more harm than good.”

Offsetting issues – A range of comments including that offsetting is not a long-term solution and there is limited scope to do it on-Island.



Emissions reporting – introduction of emissions reporting by businesses (in some cases, proposed to be enforced).

Conclusion

In general, there was a strong split in responses between:

- those that felt any form of Government intervention would reduce business competitiveness and introduce unwelcome red tape
- those that felt the wording of the current proposals was too weak, and more forceful measures should be taken
- a middle ground, generally in favour of softer measures such as subsidies and tax breaks



WASTE MANAGEMENT

The majority of respondents (61%) stated they had a basic understanding of the topic. 16% stated they had a strong or expert understanding.

Question 33: Do you agree with the proposed actions described (points 1-6) to reduce emissions from waste?

The proposed actions below:

1. Reviewing waste management across the Island and developing a more efficient and proactive approach
2. Quantifying emissions benefits of various waste management and recycling options and developing a clear emissions-based approach to recycling
3. Developing a circular economy strategy to reduce waste and consider the full life cycle of products and considering the need for a Circular Economy Bill.
4. Working across all of the Island to reduce food waste and the wasted emissions which they represent.
5. Ensuring full implementation of the Government and Community Plastics Plans and new plastics legislation.
6. Developing a plan for the safe recycling, storage and disposal of material associated with the transition to net zero, in particular electric vehicle batteries and other storage solutions.

The majority (76%) of respondents supported the proposals. 12% disagreed, with the remainder not answering.

The question included a free text box for comments if the respondent did not agree, along with a section to include additional proposals. Many respondents used these boxes interchangeably to give their comments.

Key themes include:

Circular economy – many respondents were keen to reduce waste in both consumer items and food.

Plastics – this was a polarising topic – on balance, the majority of comments were in support of more regulation of single-use plastics. Some respondents were not happy with the proposals relating to single-use plastics.



Recycling – numerous comments proposed all-Island recycling services and various measures to make recycling more attractive and efficient.

Education – educating people about reducing waste, including reducing food waste through cooking lessons

Energy from waste plant – This was a divisive topic: some respondents saw it as a solution to generating electricity (district heat) from waste products. Others took issue with the need to burn gas oil at times and a perceived conflict between sending more waste to the incinerator rather than recycling.

Conclusion

In general, the overall theme was one of dissatisfaction with the current system, but support for proposed changes.



REMOVALS

The majority of respondents (57%) stated they had a basic understanding of the topic. 18% stated they had a strong or expert understanding.

Question 35: Do you agree with the proposed commitments to increase natural carbon sequestration and reverse ecosystem and biodiversity loss?

The proposed commitments:

1. Formally acknowledging the ecosystem and biodiversity crisis locally and globally and prioritising action on ecosystems alongside climate action.
2. Effectively protecting and restoring 30% of our land area by 2030 (in line with the recent commitment by G7 countries)
3. Continuing accelerated planting of appropriate woodland and restoration of peatland.
4. Developing a new Ecosystems and Biodiversity Bill to halt biodiversity loss and promote restoration of nature and ecosystems which are essential for climate change mitigation and adaptation.
5. Completing a strategic Land Management Strategy to enhance natural carbon storage, sustain and enhance ecosystem services and protect and restore biodiversity.
6. Increasing investment in the delivery of the current Biodiversity Strategy.
7. Banning the sale of peat compost in 2022.
8. Investing in the protection and restoration of wetlands, saltmarshes, semi-natural grassland and other semi-natural habitats and other carbon-storing habitats to enhance carbon storage, climate change adaptation benefits and biodiversity.
9. Ensuring that planning policy (whether in the new Strategic Plan or earlier in National Policy Directives) and site designation proactively protects carbon sinks from damaging development, whilst encouraging their improvement with net biodiversity gain.
10. Ensuring that education and engagement on natural carbon sequestration and the ecological emergency is integrated into climate change awareness campaigns.
11. Considering a green national service opportunity for young people and others to develop green skills and knowledge and build capacity for our low carbon future.
12. Assisting government departments and public bodies to deliver their statutory commitment to ecosystems and biodiversity.



13. Restarting and enhancing the Wildlife Grants Scheme to provide small grants for community groups to protect and restore biodiversity and enhance natural carbon sequestration.

14. Undertaking a rapid appraisal of the Area of Special Scientific Interest and National Nature Reserve network to how to enhance our effectiveness in protecting biodiversity and sequestering carbon.

15. Exploring a pilot rewilding project to demonstrate the ecosystems and climate potential of restoring natural ecosystems.

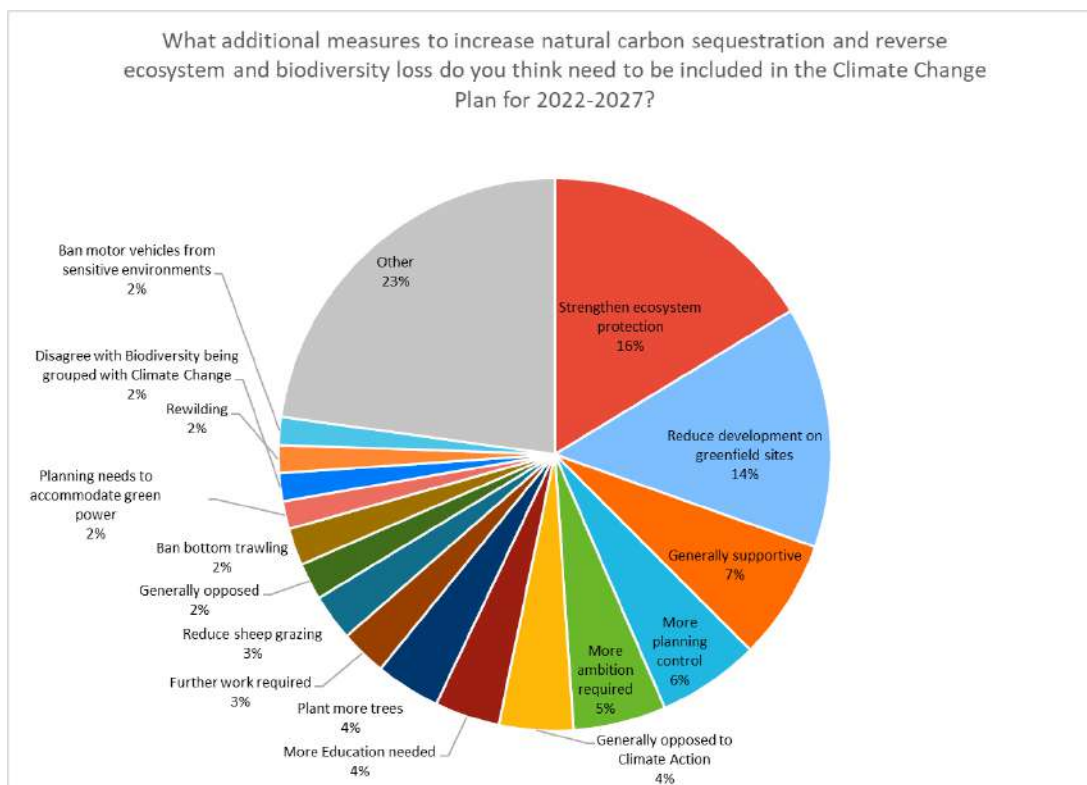
The majority (69%) of respondents agreed with the proposals. 9% did not agree and 8% were not sure. The remainder did not answer this question.

Following this question, there were two free text response boxes:

- **If no, please highlight which actions you do not support and why**
- **What additional measures to increase natural carbon sequestration and reverse ecosystem and biodiversity loss do you think need to be included in the Climate Change Plan for 2022-2027?**

Many respondents used these boxes interchangeably to give their comments, therefore they have been analysed together.

There was a very wide range of comments – the following themes emerged:



Strengthen ecosystem protection – comments relating to more enforcement and legal protection for ecosystems:



Reduce development of greenfield sites – either reduce the amount of development in general, or focus on brownfield sites / renovating existing buildings

Generally supportive – comments in general support of the proposals

More planning control – More limitations on planning applications and more scrutiny to prevent habitat loss etc

More ambition required – support for plans but with greater sense of urgency / ambition

Generally opposed to climate action – comments reflecting an opinion that climate action was unnecessary either in the Isle of Man or global context

More education needed – more focus on education around ecosystems etc

Plant more trees – comments in support of more tree planting, generally with a focus on native species rather than plantations

Further work required – more analysis and planning work is required

Reduce sheep grazing – reduce sheep grazing on the uplands to enable ecosystem recovery

Conclusion

- There was strong support for more protection for the environment, both from existing measures (which are perceived to be not sufficiently enforced) or new measures. The example of the St Mark's Elm tunnel was cited multiple times.
- Development of housing on greenfield sites was a particular area of concern with many comments.
- Certain food production practices (sheep grazing and bottom trawling) were highlighted as areas of concern by some respondents.
- Some further work is required to explain the link between biodiversity, ecosystems, and climate change.



BLUE CARBON

54% of respondents stated they had a basic understanding of the topic. 12% stated they had a strong or expert understanding.

Question 38: Do you agree with the potential actions described to increase marine carbon sequestration and reduce emissions?

The potential actions:

1. Developing an ambitious blue carbon project which could realise multiple benefits for climate change, biodiversity, fisheries, recreation, tourism and well-being.
2. Building on our science-based fisheries management and network of effective Marine Nature Reserves to promote marine carbon sequestration and reduction of marine emissions.
3. Joining nations around the world in effectively protecting 30% of our territorial sea by 2030 (in line with the recent commitment by G7 countries) and instigating restoration of our marine ecosystems, supporting sustainable fisheries and ecosystem services.
4. Exploring opportunities to restore degraded marine habitats such as mud habitat, oyster reefs and horse mussel reefs to enhance biodiversity, ecosystem services and carbon sequestration.
5. Continuing our involvement in other international fora e.g. the UNESCO Biosphere islands and coastal network where the IOM is leading collaboration on blue carbon.
6. Working with the fishing and wider maritime industries to explore scope to reduce emissions from vessels.
7. Exploring the scope for low emissions/high sequestration aquaculture projects e.g. for seaweed or bivalves that could promote lower carbon diets and sustainable use of the marine environment.

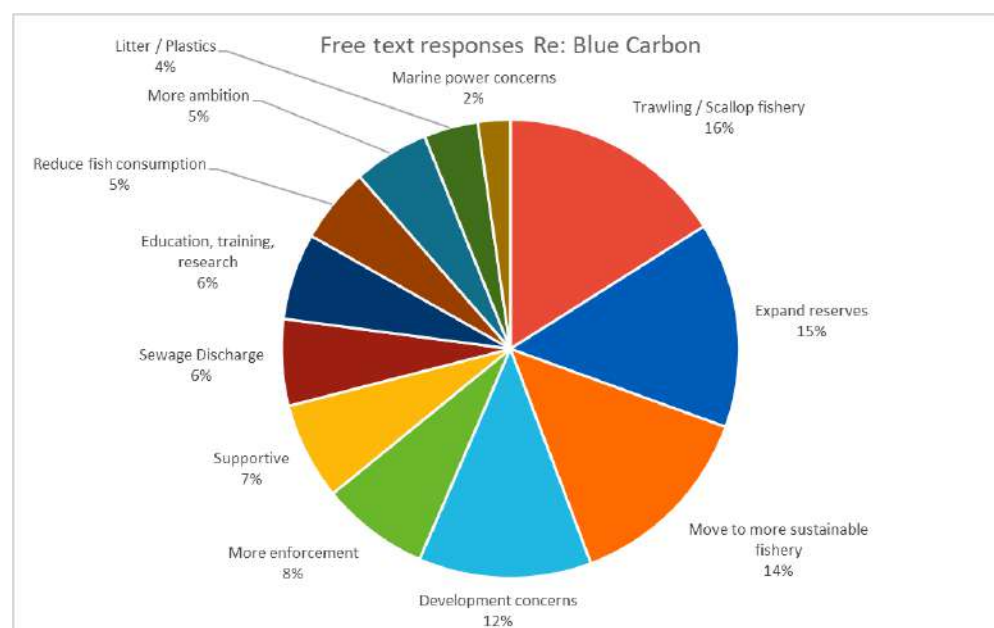
The majority of respondents (70%) agreed with the proposals. 7% disagreed and 9% were not sure.

There was an option for respondents to explain why they disagreed, however many used this box to add generic comments. As a result, these comments have been grouped with the following question:



What additional measures to increase marine carbon sequestration and reduce emissions do you think need to be included in the Climate Change Plan for 2022-2027?

The following key concerns were raised in response to the two free-text questions:



Trawling / Scallop fishery – concerns were raised about the impact of trawling on the marine environment. Some respondents suggested the practice needed to stop completely, while others proposed limited area bans.

Expand reserves – marine nature reserves / protected zones were popular; however, many wanted to see the number and size expanded.

Move to more sustainable fishery – respondents proposed various initiatives to make fishing more sustainable, including changing practices and reducing fishing overall.

Development concerns – these comments mostly related to opposition to the Ramsey Bay Marina development, but also other development near sensitive marine areas.

More enforcement – some respondents wanted more enforcement action against overfishing and related practices.

Supportive – comments supportive of the proposals

Sewage discharge – concerns regarding sewage discharge in Peel

Education, training, research – various proposals relating to educating the public on the impacts of fishing, as well as developing on-Island expertise around blue carbon, including the potential for a replacement Marine Biological Station.

Reduce fish consumption – general comments around the need to reduce / end fish consumption



More ambition – supportive of proposals but wanted to see more actions / actions happen faster

Litter/plastics – Concerns re: plastics in the sea, including from fishing gear

Marine power concerns – these responses highlighted the need for plans to be able to accommodate marine power in the future.

Conclusion

- Responses were generally supportive, though more ambition and action were sought in a few areas, notably around the practice of trawling and the desire for the development of new marine nature reserves.



ADAPTATION

Adaptation and resilience were included in the consultation. They are different from mitigation. They are about the Isle of Man's preparedness for changes to the climate, as opposed to the changes necessary for the Island to reach net zero by 2050 and contribute to slowing, and ultimately stopping, climate change.

75% of respondents rated themselves as being new to the topic or having basic understanding, while only 2% declared themselves as experts.

The free text for the adaptations reflected this, with many comments pertaining to mitigation rather than adaptation.

Q39. How do you think adaptation should be captured in the Climate Change Plan

Urgency

- Some respondents considered adaptation measures as urgent. Several pointed out the need for infrastructure improvements in readiness for the adverse events climate change is likely to bring.
- Some suggested that, given modelling uncertainties, expenditure on adaptation should be reactive to changes, rather than proactive to potential change.

Adaptation vs mitigation

- Some respondents felt reaching net zero should be the priority, with adaptation measures secondary.
- Others considered that, given the Island's size, the contribution to reducing global emissions will be negligible. Adaptation should therefore be the local priority.

Communication

- Some respondents highlighted the importance of good communication with the public for adaptation to be successful.
- Language needs to be clear and accessible. There needs to be both education and consultation. The government needs to be collaborative and transparent to increase trust.

Areas of concern

- **Flooding**
 - Flooding was by far the most frequently highlighted adaptation concern. Coastal flooding and river / surface water floods were of equal concern.
 - The most suggested improvement was reforming the planning policy to give a greater emphasis on resilience to climate change. In particular,



stopping new builds on flood plains or areas likely to be subject to coastal flooding or erosion.

- Other suggestions included:
 - Slowing run off, e.g. through peat restoration, reforestation, new floodplains and small reservoirs.
 - Improved maintenance of roadside drainage and watercourses.
 - Enabling individuals to increase the resilience of their property to flooding.
- **Coastal erosion**
 - Coastal erosion was the second most frequently mentioned area of concern.
 - Adaptive suggestions included planning reform (above), rock armour and shore vegetation.
- **Wellbeing**
 - Some respondents highlighted the emotional challenges of climate change, especially for young people. People and communities need support before they are able to process climate change information.
- **Education**
 - Some respondents thought that raising awareness of climate change was essential for adaptation. There were suggestions this should start in schools.
- **Global affects**
 - Some said the Island needs to prepare for the effects of climate change elsewhere in the world, such as food chain disruption and migration.

Q41: Do you support the proposal for a national adaptation plan?

Of those who answered, 66% supported the need for a National Adaptation Plan, 21% were uncertain, and 13% said 'no'.

Free text:

- Some felt a National Adaptation Plan should be separate to the Climate Change (mitigation) Plan. Both are important, but very different, causing the worry that one may dilute the other.

Q42: How do you think the Isle of Man can contribute to international adaptation initiatives?

This was a free text question. The following themes emerged:



Lead by example

- The most frequently cited way in which the Isle of Man could contribute to international adaptation initiatives was by leading by example.
- The reason given most often of how this could be possible was the Isle of Man being a small nation. Other reasons included being relatively affluent, independent and having a relatively agile legislature.

Shared Learning

- Some suggested the Isle of Man should work collaboratively with other nations, sharing best practice.

Finance and taxation

- Some respondents felt the Isle of Man should contribute financially to international climate change adaptation. Suggestions included this being the focus of the existing International Development Fund.
- Other respondents felt that international companies based on the Isle of Man should be encouraged to adhere to the United Nations Sustainable Development Goals, perhaps through tax incentives.

Should not contribute

- A minority of respondents did not want the Isle of Man to attempt to contribute to international adaptation efforts.
- The reason given most often for not contributing to international adaptation was the Isle of Man being too small. Other reasons included the need to focus resources on the Island's own adaptation and bringing unwelcome scrutiny to our undeveloped mitigation initiatives.
- Rather than contribute, some respondents suggested the Isle of Man should follow best practice from elsewhere.

Q43: Do you think a Climate Change Adaptation Bill is required?

Of those who answered, 42% believed a separate Climate Change Adaptation Bill was required, 33% were unsure, whereas 25% answered 'no'.

Conclusions

There was a wide range of understanding in this area and some disagreement over the relationship between mitigation and adaptation. There were therefore mixed views on whether a separate adaptation bill would be required.



COMMUNITY ENGAGEMENT

55% of respondents stated they had a basic understanding of the topic. 16% stated they had a strong understanding.

Question 45: Do you agree with proposed actions on community engagement in the extract above?

The proposed actions:

1. Making climate change part of the conversation, in person and online – using key communications channels we will ensure that everyone is aware of the work we are doing to get to net zero, challenges and opportunities and how they can play their part in emissions reductions and ecosystem recovery.
2. Reviewing and developing the function of the Citizens' Forum and decide on the role of this body and other similar approaches to engaging the public.
3. Exploring other approaches to engaging and learning from representatives of the community and also specialists and interest groups.
4. Quantifying current levels of engagement and climate and ecosystems action and identify priority areas for future action, to support our community to transition to net zero (commissioning large scale surveys in 2022 & 2027 to measure change).
5. Establishing a climate change and environment community fund to finance small to medium projects to empower local communities to learn about climate change, take action and assist in the delivery of the five year Climate Change Plan.
6. Being transparent in our emissions reporting and our delivery of ecosystem protection, developing interactive dashboards to inform the public, businesses and other organisations, and assist their decision making.
7. Improving provision of climate action (particularly energy efficiency) advice online and via other means.
8. Increasing climate change education in Government, other public bodies, schools, University College Isle of Man and across business and in the community, developing a range of courses to give people the tools to act as individuals or on behalf of their organisations.
9. Supporting a team of climate change engagement officers in Government, public bodies, businesses and the community to work with organisations to engage and mobilise communities.
10. Working with partner organisations to promote the visual, cultural and heritage aspects of climate change and explore innovative engagement through culture, heritage and the arts.



11. Working with UNESCO Biosphere Isle of Man to mainstream climate action in our community and to deliver Biosphere objectives, UN Sustainable Development Goals, and maintain this high-profile international designation.

12. Developing and implementing appropriate carbon taxes to discourage carbon-intensive practices and promote low carbon operation (and contribute to funding climate action).

13. Establishing methods to encourage businesses to consider, and take action to actively contribute towards reducing their carbon footprint and supporting the overall direction and goals for the Island.

14. Establishing methods to make the climate and ecological implications of large national and smaller personal decisions easier to understand, to inform better decision-making for our environment.

15. Exploring the scope for improved labelling regarding product carbon footprints and carbon tax as a means to positively influence consumer behaviour.

63% of respondents agreed with the potential actions described. 12% didn't agree and 11% were not sure. The remainder did not answer the question.

A free text option was provided for respondents who did not agree with the proposals.

72 free text responses were provided including general negativity around climate change action. There were a number of suggestions as to ways community engagement could be improved, including:

- Focus on face-to-face meetings rather than online engagement
- Helping to explain scientific and technical concepts in an accessible way
- Clearer education on specific actions for individuals to take
- Highlighting co-benefits of climate action
- Treating climate change as a crisis in a similar way to the COVID response, including press briefings, etc.

Conclusion

Community engagement will be key to the success of any climate mitigation initiative. For community engagement to be meaningful, community groups need to be empowered to actively partake in the process, and collectively own the decision making process.

Those who agreed with the suggested measures outnumbered those who disagreed by over 5 to 1.

To enable this empowerment, communication must be accessible and two-way.



FUNDING, TAXATION, AND FINANCE

Half of respondents (50%) stated they had a basic understanding of the topic. 20% were new to the topic and just under 20% had a strong or expert understanding.

Question 47: Do you agree with the proposed actions described to increase funding available for climate action and change behaviour?

The proposed actions:

1. In parallel with the Island's developing Economic Strategy, further research and consultation to inform the development and implementation of appropriate carbon taxation within the plan period, including identifying how any revenue-raising taxation may be used to assist in funding our transition and influence changes in behaviour around emissions.
2. Investigating the potential for Government reserve funds and pensions to be invested in low-carbon and carbon-neutral industries and projects that benefit the Island.
3. Exploring how purchasing decisions can be better informed by making the products' carbon footprint more influential in that decision, either through direct tax or more explicit labelling. This could reflect the production methods and or the degree to which the product has been designed for longer life, scope to refurbish and future recyclability.
4. Continuing with the development of an effective local offsetting scheme (currently underway and due to be trialled in 2022) to facilitate investment in climate action in the Isle of Man.
5. Working with Finance Isle of Man to explore and develop opportunities for the Isle of Man finance sector in the area of green finance.
6. Exploring a requirement for businesses to publish their emissions data and undertake local offsetting by 2026, to enable and inform investor decisions.
7. Investigating the feasibility of setting annual carbon allowances e.g. for energy providers, linked to carbon taxation or other penalties for exceeding the set allowances.

53% of respondents agreed with the proposals, while 21% disagreed. 14% were not sure, and 12% did not answer.

Respondents that answered 'no' were prompted to explain why. Many respondents who were not sure on the proposals also provided comments.

The comments received were very wide ranging. Some key themes emerged as follows:



Concerns regarding offsetting – numerous comments were made raising concerns that offsetting (including local offsetting) was ‘greenwashing’ and a way to avoid accountability for emissions.

General opposition to proposals – this was for a number of reasons, including concerns about taxation, cost of living, and a general theme that climate action was not worth spending money on.

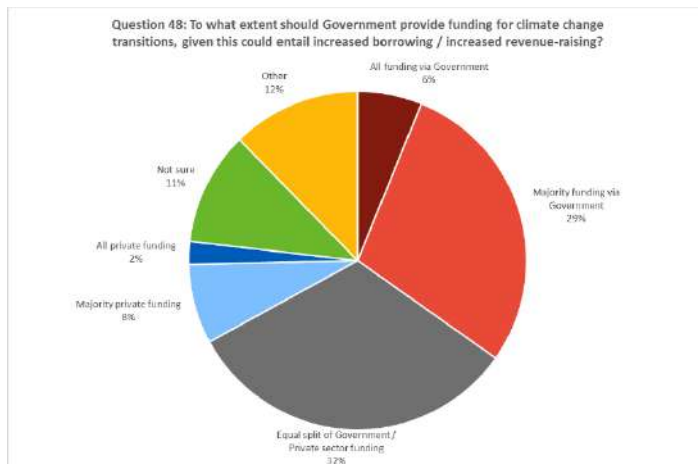
Concerns regarding red tape and competitiveness – some respondents raised concerns about whether Manx businesses would be able to remain competitive with potential new taxation and regulation and whether some businesses would move abroad.

Concerns regarding Government investment in Environment, Social, Governance (ESG) investments – there was a perception that investing Government funds in ESG would affect pension funds to the detriment of pensioners. More widely, there were concerns that ESG investment was a bad investment strategy.

Proposals should go further – some respondents wanted to see more action and progression on the proposals.

Concerns regarding governance – concerns were raised that funds raised by taxation etc would not be used for worthwhile purposes.

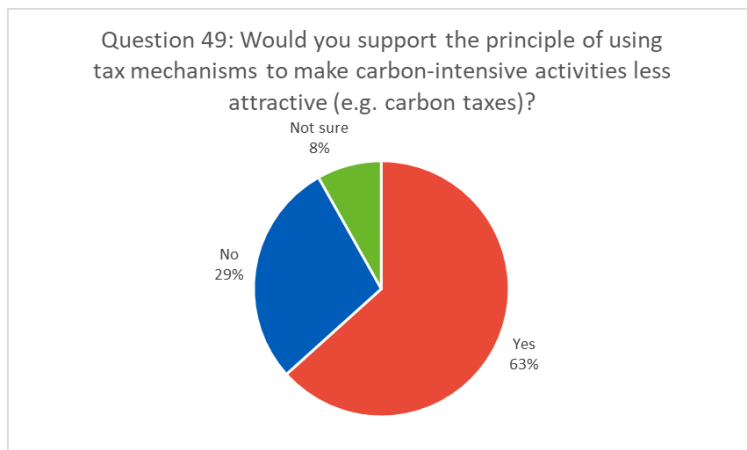
Question 48: To what extent should Government provide funding for climate change transitions, given this could entail increased borrowing / increased revenue-raising?



The general response was in favour of more Government involvement rather than private sector involvement, although the most popular individual answer was for an equal split. Some respondents raised that the specific nature of the project or sector would be important to whether funding should come from Government, the private sector, or both.

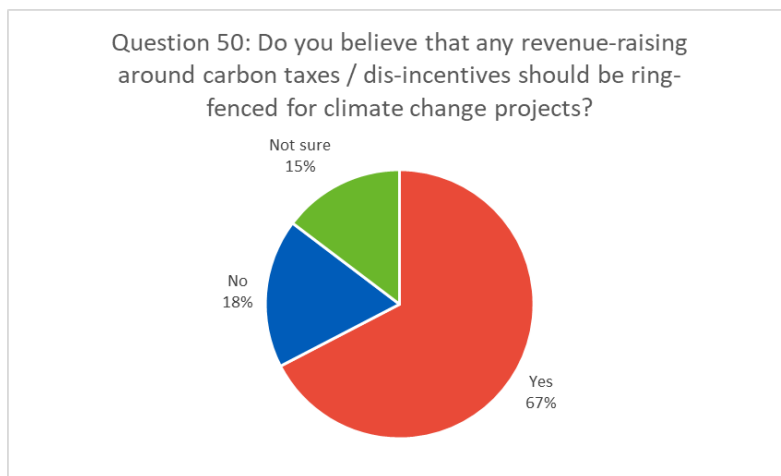


Question 49: Would you support the principle of using tax mechanisms to make carbon-intensive activities less attractive (e.g. carbon taxes)?



The majority of respondents (63%) supported the use of tax mechanisms to dis-incentivise carbon-intensive activities.

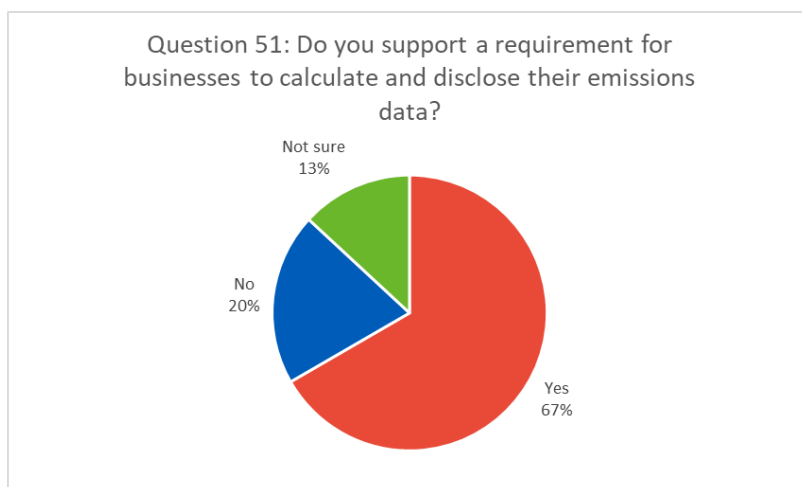
Question 50: Do you believe that any revenue-raising around carbon taxes / dis-incentives should be ring-fenced for climate change projects?



The majority of respondents (67%) supported ring-fencing any revenue raised from carbon taxes etc.

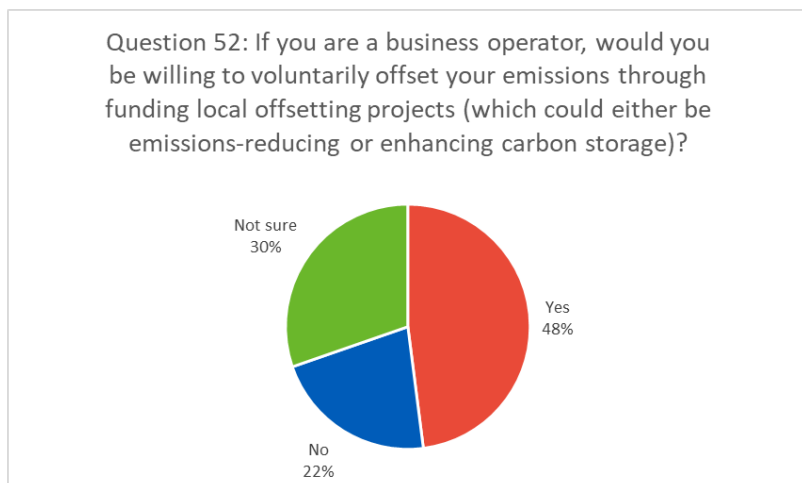


Question 51: Do you support a requirement for businesses to calculate and disclose their emissions data?



The majority of respondents (67%) supported a requirement for businesses to calculate and disclose emissions data.

Question 52: If you are a business operator, would you be willing to voluntarily offset your emissions through funding local offsetting projects (which could either be emissions-reducing or enhancing carbon storage)?



Just under half of responses to this question were supportive. This perhaps reflects concerns around offsetting more generally that have been expressed at other points in the consultation.

Conclusion

Overall, the proposals in the consultation were generally supported, however, there was a significant amount of uncertainty. This uncertainty indicates that many respondents have concerns around issues such as punitive taxes which may or may not be ultimately proposed. Further work will be required to define more clearly what the proposals are and



to provide reassurance around issues such as investment value, governance, and proceeds of taxation. Concerns were raised around offsetting which would require addressing if a scheme were to be progressed.

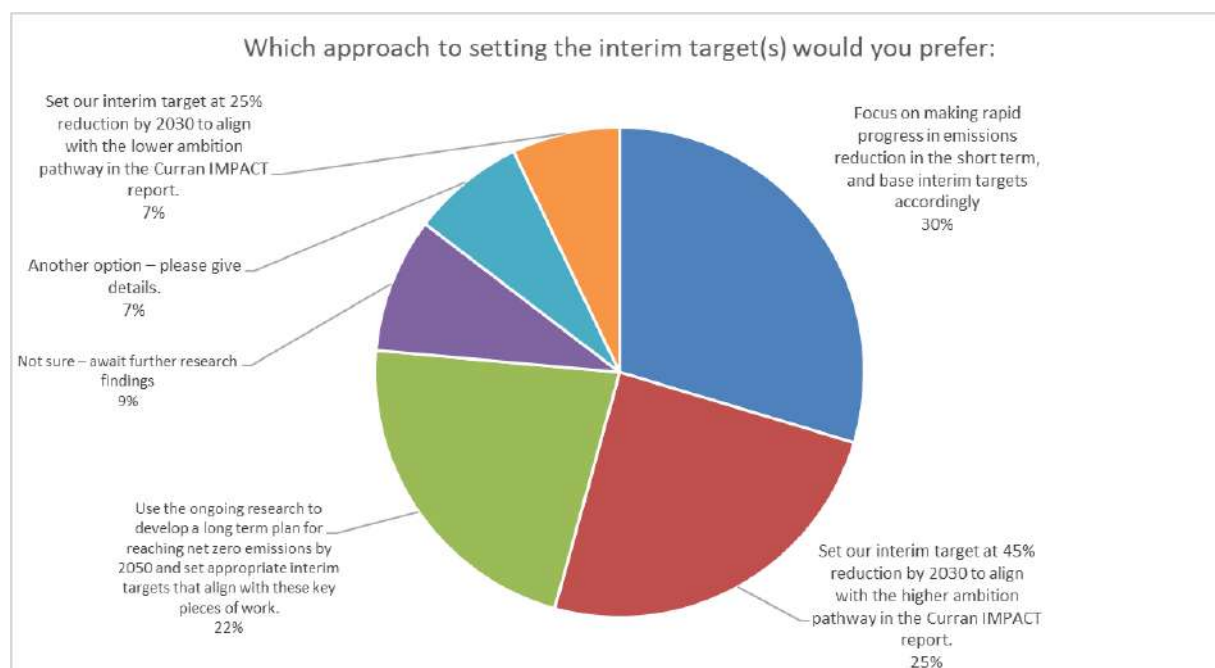


SETTING INTERIM TARGETS

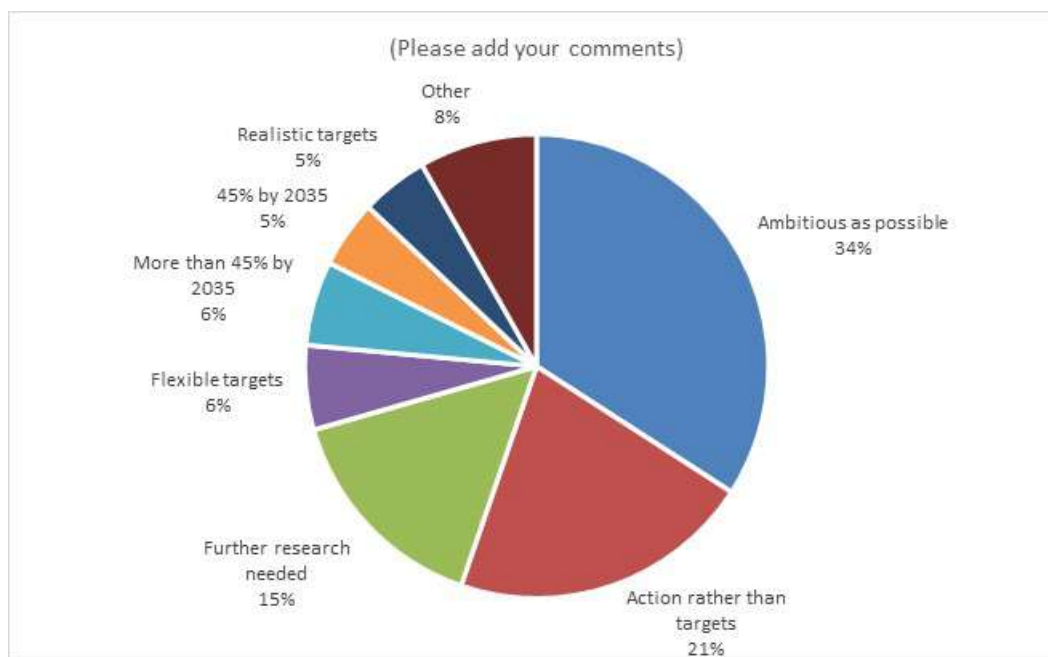
The majority of respondents (53%) stated they had a basic understanding of the subject.

Question 54: Additional research is required to inform a decision on an ambitious, yet equitable and achievable statutory interim target which will be consulted on later in the year. Which approach to setting the interim target(s) would you prefer:

The majority of respondents were in favour of ambitious progress being made, with or without targets being set. A large proportion were keen to see more research carried out to inform long term planning. A minority of respondents were supportive of the 'lower ambition' pathway.



The question included a free text box for respondents to add their comments on their selection from the above options:



Ambitious as possible – a large proportion of respondents wanted to see ambitious targets, in recognition of the extreme threat that climate change poses:

“I realise more information about the feasibility of this is likely to be needed. I was unsure whether to go for the first or second option - I just want us to be as ambitious as we can possibly be. Government has declared an emergency and it should be treated as such. I do understand the tension between speed and fairness so want to trust that our politicians will give the go ahead to get things moving quickly and let go of the idea of keeping 2050 as what seems now like a distant target which - given the short political cycle - is unlikely to engender a sense of urgency.[...]”

“We need an ambitious target, which we will fail to meet. But I hope this will convince people of the need to change behaviour, and make further sacrifices.”

It was acknowledged by many respondents that the targets may not be met, but nonetheless should act to focus minds.

Action rather than targets – A theme among some respondents (21%) was a feeling that setting targets was a distraction that was detracting from meaningful action:

“It is usual to require 'targets' to evidence lowering of emissions. However, waiting for evidence is simply kicking the can down the road. We know what immediate impacts can be made - heat source pumps, solar, EV etc get on with them. We know how to slow the damage to our seas, start removing fishing rights to protected areas and allow only benign activities. We know the consumption of animal protein promotes carbon emission, so support 'green' catering activities. We now know our peatlands are vital, so remove hill sheep subsidy and the animals from our uplands...let them rewild.

Sadly we have lost the initiative for a composed withdrawal and need to be getting busy”



Further research needed – A more cautious approach was proposed by some respondents:

“Too hasty and ill-planned commitments can be as costly as doing nothing.”

“I do not think it is appropriate to rush into this - so the rapid progress suggestion is well out of the window. There needs to be time to absorb information and plans. Neither do I think that the higher or lower ambition pathway is appropriate for the IOM.

I think we should take the time to consider on-going research and develop a flexible plan accordingly.”

Flexible targets – Linked to the above point, some respondents wanted targets to be flexible to adapt to changing circumstances:

“This choice [Focus on making rapid progress in emissions reduction in the short term, and base interim targets accordingly] I feel is a more realistic goal until we know what is achievable, then at a later time we could develop a longer term plan for reaching net zero by 2050 and set more realistic interim targets at this point of time, this would then be based on our own data collected up to this point”

More than 45% by 2035 – generally more ambitious than the ‘higher ambition’ pathway

45% by 2025 – ‘Higher ambition’ pathway

Realistic Targets – these responses could be considered the converse of the ‘Ambitious as possible’ approach, with respondents expressing concern about setting targets that will clearly be missed:

“I’m against setting arbitrary targets as a matter of course - this can lead to short term decision making and/or inappropriate activities that meet short term targets at the cost of long term goals. At present there is a shopping list of potential activity - I am supportive of any no-regrets action that can be implemented within the context of a just transition; I am strongly opposed to the implementation of punitive action that is not clearly linked to an achievable long term strategy.”

Conclusion

On balance, while there were a significant number of respondents who were not keen on setting targets (some of these due to scepticism of the need to address climate change generally), the majority were supportive of ambitious targets, including targets that went beyond the ‘high ambition’ pathway. There were notable themes around concern that targets detract from actions and, while there was disagreement over whether targets should be pushing the boundaries of what is achievable, the balance of opinions were in favour of a less-evidence/higher-ambition approach.

- Set high ambition targets regardless of whether they seem achievable now
- Be prepared to adapt targets in future
- Target net zero prior to 2050



HEALTH

(Keywords: Health / healthy / healthier / mental health / healthcare / anxiety / fear / disease / wellbeing / diet / active travel / exercise)

There are no questions in the consultation directly relating to health, however the responses to several questions have health co-benefits or health risks.

Diet

Plant based diets have the lowest carbon footprint. They are also associated with multiple health benefits, including lower rates of obesity, diabetes, heart disease and stroke. There is reduced risks of cognitive impairment and dementia, certain cancers and reduced inflammation. Long-term consumption of increasing amounts of red meat and in particular of processed meat is associated with increased risk of mortality, cardiovascular disease, colorectal cancer and type 2 diabetes.³

Q - What would influence you to buy food with a lower carbon footprint?

- 193 responses (61%) supported food labelling that displays carbon footprint information
- 142 (45%) were in favour of actively promoting a diet lower in red meat and dairy

Free text:

- Two responses viewed switching to a plant-based diet as the single greatest contribution individuals can make to tackling climate change. Eleven responses suggested plant-based diets should be promoted.
- However, three responses questioned the impact meat production is reported to have, especially for local, grass-fed animals. In fact, the National Farmers Union suggested '*locally produced meat and dairy should be considered as part of the carbon sequestration solution*'.
- There was some concern around how IOM agriculture could support this transition, especially given the strong political voice farming traditionally has. Labelling on the carbon footprint of foods could favour local production. Other suggestions included subsidies, local oat milk and education for children / young people and the population more generally on what constitutes, and how to prepare, healthy food.
- One suggestion was community spaces be planted with edible plants and fruit trees.

³ Health Risks Associated with Meat Consumption: A Review of Epidemiological Studies
Evelyne Battaglia Richi 1, Beatrice Baumer 1, Beatrice Conrad 1, Roger Darioli 1, Alexandra Schmid 1, Ulrich Keller 1 Int J Vitam Nutr Res. 2015;85(1-2):70-8.



Active travel

Increasing physical activity and minimising the time spent sitting down helps to maintain a healthy weight and reduces the risk of cardiovascular disease, type 2 diabetes, cancer, depression and ultimately early death.⁴ The UK Chief Medical Officers recommend that adults should do at least 150 minutes of moderate activity, or 75 minutes of vigorous activity, each week.⁴

There was broad support for the promotion of active travel in the 13 responses that directly mentioned it but, there were some important caveats:

- Road safety for people walking or using a bicycle needs to improve. Suggestions include speed limits, presumed liability for higher mass vehicles and separation schemes.
- Infrastructure needs to be developed that favours active travel over motor vehicles. This includes fit for purpose, joined up cycling networks, cycle storage and shower facilities, and improved footpaths.
- Active travel promotion needs to be accompanied by parallel improvements to public transport, as an alternative for inclement weather, longer journeys, shopping trips etc. Several suggested public transport should be heavily subsidised, if not free, to encourage people out of their vehicles.
- There was concern from two respondents that active travel promotion disenfranchised an increasingly elderly population or those physically incapable.

Off island leisure travel

- Three responses linked off-Island travel for leisure as important for their mental health
- Although several made the distinction between 'essential' off Island travel and purely leisure. Essential included healthcare, visiting family and training. Some of these could be mitigated by better on-Island provision.

Wellbeing

- Six responses voiced the opinion that the contribution the IOM's effort to reach net zero would have an insignificant effect to climate change and two suggested that the effort in doing so could seriously jeopardise the Island's wellbeing and divert resources from essentials, such as healthcare.

⁴ <https://health.org.uk/evidence-hub/transport/active-travel/health-benefits-of-active-travel-preventable-early-deaths>



Conclusion

Many actions being proposed to mitigate climate change are also good for health and wellbeing. The relatively few responses mentioning health demonstrate the need to further highlight this win-win potential.

While most initiatives are beneficial to health, there was some nervousness that the amount of change required to reach net-zero could adversely affect mental health and healthcare services.



OVERALL CONCLUSIONS

Overall, the responses indicate significant support for action to reduce emissions, for setting ambitious targets and for enhancing protection of the environment.

However, this is set against a backdrop of concern and uncertainty, in particular relating to the financial burden of change (e.g. the cost of changing heating systems), to lifestyle changes (eg. transportation choices) and what technologies are or will be available and affordable.

These concerns highlight the need for sustained public engagement and education around climate change issues. However, it is noted that the approach taken for this consultation was not very well received and that consultations should be shorter, less technical and more targeted in future.

Proposals for legislative measures were generally well received, for example, for improving building efficiency, phasing out fossil fuel heating appliances and prohibiting hydrocarbon extraction. However, the need for support measures, such as grants, to help people make the needed changes was a very strong theme and was mentioned in relation to most of the questions.

The responses to this consultation will be used not only to inform the content of the Climate Change Plan but to guide future engagement, the way in which we raise awareness and provide information in relation to climate change issues, and the way in which we seek to deliver change.