Public Consultation – Interim Target for Emissions Reductions by 2030

Climate Change Transformation Team, Cabinet Office, Isle of Man Government – January 2022

Introduction

We want your thoughts - to help us set our Island's target to reduce greenhouse gas emissions by 2030, as an interim step to achieving net zero by 2050. Please help us by answering just four short questions at the end of this document.

This consultation is about our interim target and whilst it gives indications as to the combination of actions needed to progress towards net zero, the actual and proposed actions and their precise timing will be determined through other detailed work streams, most critically on future energy generation and security.

Climate change is one of the greatest challenges faced by the modern world. Nations around the globe are making changes to reduce their emissions to limit the potential impacts on sea level rise, extreme and unpredictable weather events and, in the worst affected areas, the ability to grow food and live. In recent years we have seen the effects of climate change for ourselves, with significant floods and droughts.

To limit these effects we must keep global warming to below 1.5°C. The UN Intergovernmental Panel on Climate Change (IPCC) in their 2018 report recommended that, to stay below 1.5°C, global emissions of CO_2 would need to fall by about 45% (from 2010 levels) by 2030. However, global progress has been slow and this year the UN's Emissions Gap Report stated that 55% reductions are needed to stay on the 1.5°C pathway.

Although we are a small Island nation we are among the higher per capita producers of greenhouse gases globally. On average, each person in the Isle of Man is responsible for 8.3t of CO_2 equivalent emissions per year, compared to the UK's average of 6.8t and the global average of 4.7t. The UK has made significant reductions through the decarbonisation of their electricity generation as they moved away from coal, plus some benefits from changes to their vehicles and property efficiency.

To make sure we hit our net zero by 2050 target and comply with the Climate Change Act, we must by 1st April 2022 set an interim target showing our intended rate of reduction of the Island's emissions.

Over the next 10 years, the majority of our electricity generation infrastructure will need replacing as it comes to the end of life. The work of the Future Energy Scenarios project has identified that this can be replaced with renewable generation and an extra interconnector, without significantly increasing the overall replacement cost.

This interim target will show how ambitious and committed our Island is to transitioning to a low carbon society, which has financial, social, environmental and reputational implications.

What changes are already happening to reduce emissions?

The establishment of renewable electricity generation and accompanying interconnector will reduce emissions by around 30% because electricity is the Island's largest source of emissions. As key infrastructure, government would expect to undertake these changes and the capital costs would then be repaid through future electricity bills. The electricity cost is not expected to increase from current levels as a result of these investments since the cost of renewable energy has fallen in recent years.

There are already changes happening in transport, where the increasing pace of use of electric cars and light vans (EVs) will reduce transport emissions. The UK has announced that the sale of fossil fuel vehicles will cease in 2030. In December 2021, 26% of UK new cars sold, more than one in four were EVs and the pace of new EV models being introduced is accelerating rapidly. The Island is seeing the same trend, possibly because our shorter journeys make them ideal for Island use, with almost 800 EVs now registered on Island and over 60 public charging points, plus many more in private homes. Over the next few years the second-hand EV market will grow rapidly as those new cars come onto the market and the continued uptake on Island now seems inevitable, so it is expected that 20% of the travelling by car on Island by 2030 will be in EVs, which combined with improving efficiency of other modern cars, should achieve at least another 3% overall reduction.

Similarly, there are changes happening in properties, with insulation improvements and increasing confidence to switch to electric heat pump type heating, both of which reduce heating bills and are expected to reduce overall emissions by around 5%.

Other work has been started on tree planting and peat restoration, plus a new project is starting to evaluate the potential for increasing blue carbon (the carbon stored in marine and coastal environments). However, it will take some time before these initiatives contribute substantially to absorbing our emissions and they are more long term actions, supporting the 2050 target.

These changes mean the Island is now on track to achieve about 35% emissions reduction from our 2018 baseline by 2030, provided we all continue the changes which have started.

How much more ambitious should we be with our interim target?

The consultation which we ran over the summer showed that there was strong support for a more ambitious interim target and also for achieving net zero before the current statutory target of 2050. There was a high level of support for setting the interim target at 45% or higher and for accelerating the pace of our climate action. There was relatively little support for lower targets, although it should be noted that some respondents were opposed to setting an interim target at this point.

Based on feedback from the public, we therefore recommend an interim target of **45% reduction by 2030** (from 2018 levels), which **aligns to the High Ambition route in Professor Curran's IMPACT report and the timescales of the Paris Agreement.**

The UK has announced a target of 68% reduction from their 1990 emission levels by 2030, however, no realistic route has been identified which would allow the Island to match that ambition at this stage.

A 45% target represents the highest realistic ambition for the Island based on our current circumstances and would be challenging. It represents a clear and ambitious milestone on our pathway to net zero by 2050.

Research, principally the Future Energy Scenarios and the Renewable Heating Scenarios (available on Net Zero website), has been developed which identifies actions potentially providing up to 45% total emissions reductions by 2030 across four high emission sectors: energy, heating, transport and land use/food production. Achieving a 45% reduction in our emissions will therefore require changes across all of those sectors.

This consultation is about whether we are willing to commit to extra changes, which will allow us to achieve a 45% reduction or if the Manx community prefers a different target.

We offer below some clarification over the scale of extra changes and investment by consumers, businesses and government likely to be required in opting for either 35% or 45% reduction. We also provide details of the comparative cost of not moving to renewable energy generation.

The benefits of change

Momentum is building around the world to create a low carbon society that benefits our economy and has a positive impact on the way we can all live our lives and create a better future for our children and grandchildren at the same time.

There are also many specific benefits, for example:

- Renewable electricity generation will protect us from the volatility of fossil fuel prices.
- Improving home energy efficiency means lower bills, warmer homes and healthier residents.
- Investing in low carbon business and retraining improves employment opportunities through emission reduction related jobs, such as construction and associated industry.
- Changing to electric vehicles will further improve local air quality, reducing respiratory illness, whilst reducing monthly vehicle fuel and maintenance bills.
- Active travel and healthy lifestyles improves health and wellbeing, reducing healthcare costs.
- Further tree planting, peat restoration and marine management helps biodiversity and amenity.
- Investing in and protecting our ecosystems maximises the services they provide for us, such as natural flood defences, erosion protection, clean water and pollination.

The pace of change and how it will affect you

For many of us, the first question may be – "Can I afford to be part of these big changes?" We want to reassure you that the answer is yes, [and that in many cases, being part of our low carbon future will also save you money].

In the new Climate Change Act the government now has a legal requirement to consider climate justice and just transition – how climate action impacts on jobs, people and the environment globally and locally. So you won't be making these changes on your own – we are all in this together.

Importantly, whilst we need to work quickly to bring about clean energy transformation, for individuals and businesses it will largely be up to you how and when you join the transition. For most of us, there will be increasingly attractive low carbon options to consider when we next have to change our car, our boiler or even our house.

Cars - Uptake of electric vehicles (EVs) in the UK has increased beyond all expectations (with 26% of UK new cars sales being EVs in December), so the availability of second hand EVs to the Manx market will inevitably improve over the next three years. Whilst EVs may continue to cost more to buy than

conventional cars for a few more years, this difference is already reducing quickly and the purchase costs are already substantially offset by reductions in monthly running costs, with fuel typically costing about 10-15p less per mile (a saving of £700 - £1,050 each year for a typical 7,000 miles mileage). EV users will be contributing to better air quality and a healthier Island.

Based on the accelerating rate of uptake, it is likely that within five years, EVs of a wide range of ages and values will be readily available with prices in line with current cars. As we approach 2030, we expect to see far fewer new fossil fuel cars, as the UK's existing ban on the sale of new fossil fuel cars from 2030 accelerates the shift. It is likely that the Island would match that ban, plus consider the introduction of restrictions on the re-sale of older and less efficient cars by 2030.

However, if the expected reduction in EV prices takes longer, the shift to EVs may need means tested support to help less affluent households to buy one. It will also be necessary to ensure the public charging network expands in parallel with EV numbers, to ensure those who live in properties without space to charge at home can reliably charge their cars near their home or whilst going about their normal routines.

Heating – Heat pumps are becoming increasingly common in the UK. Locally, around 60 have been installed on the Island in the last 18 months alone. Whilst the typical cost of installing an air source heat pump might currently be £5-7k more than an equivalent conventional heating system, that gap is expected to reduce over the next few years, as production and sales volume increase and tradespeople become more familiar and adept at the conversions.

It is important to note that these heat pump systems are typically significantly cheaper to run, as the majority of heating energy is obtained free from the surrounding air or ground, with the electric power only required to operate the equipment. The Isle of Man Domestic Heating Comparison report by the Office of Fair Trading in 2021, indicates heat pump systems cost about 20% less to operate than oil and about 70% less than gas (based on last year's prices, before the recent increases). Importantly, the increasing use of these systems has improved confidence that most typical sized properties, with decent levels of draught proofing and insulation (which both reduce monthly heating bills) can reliably be heated by heat pump and that suitable pumps can operate effectively in our coastal environment. For larger or less insulated properties, they can be heated with more than one heat pump or hybrid systems which use heat pumps combined with biofuels, the evolving generation of high temperature pumps or even simple biofuel or wood chip systems.

The increasing confidence of the fuel savings heat pump systems achieve indicate that loans - to fund the slightly higher cost of initial installation - can be repaid across the life of the new equipment out of the reduced fuel bills, whilst still leaving a net reduction in overall monthly bills.

The recent work on our Renewable Heating Strategy also identifies that we have large residential areas where district heating schemes would allow highly efficient and low emission systems to supply heating to the majority of properties in those areas and more work is being done regarding the feasibility and financial implications of those models.

To achieve the 45% target, we would likely need to introduce a requirement to provide Energy Performance Certificates when a property is sold or let - to help the new occupant understand the likely energy bills they will face and the level of investment they may need to undertake. This will help ensure those who invest in their property efficiency early, are able to expect future buyers or tenants to be more confident they can pay extra for the property, because they will have lower energy bills and less work to do in the future.

It may also be necessary and advantageous to take the opportunity when other property modifications are planned to require whole property improvements in efficiency, for example, expecting the insulation and

draught proofing of the whole property to be improved during any significant alterations to an existing property.

When will I need to change - if you make those decisions to change earlier, then you will be ready for the energy transformation, and can reduce your fuel bills in the meantime. But there is still the flexibility to wait for a natural opportunity to change when your car and boiler need replacing or to combine with other changes you intend to make to your property in the future. This means that by the time we reach 2030, many people would have made that transition and embraced the new low carbon options as part of their everyday decisions.

It is likely that many will not be able to make the change over this period, for example because their boiler didn't need replacing before 2030. However, we will still have another 20 years to find ways to progress work on those properties or develop workable alternatives to private fossil fuel vehicles during that period. For some the financial cost of the changes may prevent them gaining the subsequent benefits and it is likely means tested support will be required, as our commitment to bringing everyone with us on this journey means that no-one should be unfairly left behind.

How will the changes be paid for?

When considering the cost of transition, it is important to acknowledge that all of the existing electricity generation, transport and property heating infrastructure will reach the end of their life by or before 2050 and will need replacing anyway, so replacement costs are inevitable for government regarding electricity or the owners of vehicles and properties.

It is likely that during the eight years to 2030, many people will replace their main car at least once and in some cases two or even three times. Similarly, it is likely that more than half of domestic boilers will be replaced during the same period. These replacements are existing and expected costs of their ownership.

Many of us are aware that EVs and heat pumps cost more to install than fossil fuel equivalents, however, many of us are unaware of how much cheaper they can be to run. As discussed in the previous section, as people move to EVs with their reduced vehicle fuel bills and heat pump technology resulting in reduced heating energy bills, they are likely to pay less than their current combined monthly energy bills. There is good experience to show that these savings can fund the cost of the initial increase in investment compared to simply replacing their car or boiler on a like for like basis, which is for example how the recent trial installation of heat pumps has been achieved. This is part of the reason that their adoption is accelerating, as we see from the UK's December new car sales, with more than one in four cars being EVs.

Over the next few years, government will monitor the need to support those residents who can least afford the up-front capital costs even after the market prices reduce, as part of our just transition commitments.

The impact of doing nothing

In terms of risks to the Island caused by climate change, for example increased temperatures, sea level rises, more flooding events, coastal erosion and more powerful storms, the damage and reparation costs to the Island are significant. In fact the UK predicts that the cost of inaction will outweigh the cost of action by 2045 by which time they calculate the UK would need to spend £20bn per year. The Island will also see an increasing impact from the climate crisis overseas, being a net importer of goods including food. Disruptions to international trade routes are forecast to grow more severe and access to resources will become more difficult.

Regardless of our net zero journey, the Island's infrastructure will need to be replaced over the normal course of its life. It is currently calculated that to replace the existing power station on a like for like basis using gas generation would require around £400m capital investment, which is similar to the cost of renewable solutions. This approach still requires a second interconnector, taking account of the expected growth in electricity demand for EVs and heat pumps. However, this would also still leave the Island vulnerable to rising gas prices. UK price predictions currently suggest this would increase the overall fuel bill by a further £350m over the life of the new plant, with the associated increases in customer bills. As the majority of global generation equipment moves to renewable sources, there is significant risk of early obsolescence if the maintenance and spares supply chain are discontinued. This approach would not allow emissions to reduce to the scale required to achieve the net zero target by 2050, or even the 75% renewable generation by 2035. Therefore, it is now likely to be cheaper and significantly better value to move to renewable generation.

There are also significant costs associated with delaying or not making changes. For example, many countries have already announced a date for the end of sales of new fossil fuel cars (eg 2030 in the UK), meaning they would become increasingly difficult or even impossible to source. Fossil fuels and the maintenance of fossil fuel generators, heating and vehicles are likely to become obsolete and expensive, as the global market moves toward low carbon alternatives and they will then need replacement.

Table 1- An outline of the sort of actions which are expected to achieve a 35% target and the extra actions that would be required to achieve a 45% target

Target	**35% by 2030**	**45% by 2030**
Ambition	**Medium -** Mid-point between the two pathways in Professor Curran's IMPACT Report	**High –** the 'Higher Ambition Pathway' in Professor Curran's IMPACT Report.
Overview	- Reduces emissions steadily, acknowledging more action required in the next two decades - Enables everyone on the Island to be able to access clean, smart energy - Improving property efficiency across the Island and therefore decreasing energy bills - Moving properties to low carbon heating systems such as heat pumps and biofuels - Steady uptake of electric cars/light vans (C/LV) and phase out sale of new fossil fuel C/LV by 2030 - Savings on overall household energy bills, as vehicle and heating fuel switches to clean energy	- Reduces emissions quickly, requiring rapid action to allow time for changes to take effect. - Rapidly improving property efficiency and extensive switch to low carbon (assumes over half of properties switched to low carbon heating). - Rapid uptake of EVs and cease sale of new and older or high emission fossil fuel C/LVs before 2030 - Savings on overall household energy bills, as vehicle and heating energy switches to clean energy. - Increased use of loans to enable consumers to make these investments and access the monthly energy bill reductions, which should offset the loan repayments.
Indicative **Energy actions** 28% of total emissions in 2018	**Infrastructure Changes** - Construction of local carbon neutral generation to provide resilience and for use at peak periods - A new undersea interconnector by 2030, to allow much of the Island's renewable electricity needs to be resiliently imported and local generation to be balanced - Construction of both public &/or private sector, plus community, wind and solar projects by 2030 - Decommission diesel electricity generators before 2030 & CCGT (gas power station) by 2030 - Start development of large private sector offshore wind farm for substantial generation, allowing export for profit to help with costs of transition **Impact on total emissions: 24**% per year by 2030	- No further actions currently identified
Indicative **Heating Actions** 22% of total emissions in 2018	- 2025 end of sale of new fossil fuel heating systems in new builds - Replacement boilers to increasingly use low carbon technology - Heat Networks (community heating) rolled out on smaller scale trials - Together this means low carbon heating systems in 20-25% of properties - Property efficiency measurement and its' improvement becomes part of normal life **Impact on total emissions: 5%** per year by 2030	All the actions for 35%, plus: - Replacement of boilers mainly using low carbon with a target of 8,000 homes on heat pumps (smaller or more efficient properties), with 5,000 on hybrid biofuel/heat pump hybrids (larger or less efficient properties) - Heat Networks (community heating) established in most suitable areas – up to 10,000 properties were identified as suitable in the Renewable Heating Strategy. - Together this means low carbon heating systems in over 50% properties - Property efficiency measurement (EPCs) and improvement required as part of property changes. **Impact on total emissions: 11%** per year by 2030
Indicative **Transport Actions** 23% of total emissions in 2018	- 20% of Island's *suitable* vehicles are electric by 2030, meaning 10,000 EVs - Cease new petrol and diesel car registration by 2030, matching UK - Improved uptake of active travel and public transport - Continued expansion of electric vehicle charging network - Increased number of people working from home, where their role allows **Impact on total emissions: 3%** per year by 2030	All the actions for 35% plus: - 50% of the Island's car and light van *travelling* is undertaken in EVs; up to 20,000 EVs by 2030 - Consideration of restrictions on sale of older and higher emissions vehicles - Extensive active travel and low emission public transport uptake, with enabling infrastructure. - Substantial expansion of electric vehicle charging network **Impact on total emissions: 7%** per year by 2030
Indicative **Food & land use actions** 15% of total emissions in 2018	- Adjustments in cultivation and livestock management (eg. feed, fertiliser and waste management) - Further tree planting and peatland restoration - Improved local and global food supply chain with reduced food waste, including at home **Impact on total emissions: 3%** per year by 2030	No further actions currently identified

Please note, the percentage reductions are based on 2018 emission levels, which is our baseline year. Other emissions are from Industrial processes, Business and Waste. See: https://www.netzero.im/resources/data/

Supporting the Island through change

We understand that these changes may be daunting and that it is not fully clear how our lives will look as we progress towards net zero emissions, however, we can increasingly see other regions where these changes have happened without significant disturbance. The Isle of Man Government is committed, and now has a statutory duty, to deliver emissions reductions in a way that supports the Island community, livelihoods and wellbeing.

Our Climate Change Act includes important principles that will govern all action taken by the government to combat climate change. The just transition and climate justice principles have been designed to ensure that action should always be undertaken in a way that:

- Maximises the benefit of change
- Protects livelihoods
- Promotes economic opportunity
- Helps to address inequality and poverty
- Contributes to global emissions reductions (we won't export our emissions)
- Supports those who have done the least to cause climate change but are most affected by it and the least equipped to adapt
- Protects biodiversity and ecosystems

The extent and types of support measures needed is likely to depend on the level at which we set our interim target. Potential support measures for consideration include financial interventions, such as specific and targeted grant or loan schemes, changes to existing schemes or services, provision of training and reskilling opportunities, access to information and guidance and even changes to legislation to require some changes towards the end of the period. Spreading the cost of transition according to ability to pay is a fundamental principle within climate justice and just transition.

Summary

We believe that the 45% target is achievable provided government, business and the community are in favour and supportive. The consultation last summer made clear that there is a strong appetite. The steps required to achieve 45% are now reasonably clear - they involve adopting technology and options which are now thoroughly tested and increasingly adopted globally.

We would welcome your views and confirmation or otherwise that you share our commitment to making these changes work for all of us.

Next

Over the next month we will be hosting events to proactively seek your views, with more details being published imminently.

Thank you for taking the time to read and contribute to this consultation, which will be open until **noon on the 21st February.**

The information gathered will inform our interim target, which influences the content of the five year Climate Change Plan and the Roadmap to 2050 - these will then be published in early spring.

Please give us your answers to the four questions on the next page.

What do you think about our interim target?

Please let us know what you think by answering the following questions.

1. **Which of the proposed interim targets do you support?**
   a. Medium ambition 35% by 2030
   b. High ambition 45% by 2030
   c. Neither of the above

2. **If you answered 'Neither of the above' to question 1 please choose one of the following which best describes your reason why.**
   a. I would prefer a target that is higher than 45%
   b. I would prefer a target that is lower than 35%
   c. I would prefer a different target between 35% and 45%
   d. I would prefer no target at all

   If you answered this question, please state your preferred target and why you propose that target [free text comments box]

3. **Do you have any comments on the consultation document**

   [free text box for comments]

4. **Do you have any comments on the draft regulations (Appendix 1)?**

   [free text box for comments]

Please tell us about yourself

5. **May we publish your response?**
   Please read our Privacy Policy (https://consult.gov.im/privacy_policy/) for more details and your rights.
   [ ] Yes, you may publish my response anonymously
   [ ] No, please do not publish my response

6. **Are you answering this consultation for yourself or a group of people?**
   [ ] Myself
   [ ] A group

7. **If you selected 'group of people' in the previous question, please indicate the size of the group**

   [ ] 2 to 10
   [ ] 11 to 20
   [ ] 21 to 30

[ ] 31 to 40
[ ] 41 to 50
[ ] 51 to 100
[ ] 101 to 200
[ ] 201 to 300
[ ] 301 to 400
[ ] 401 to 500
[ ] More than 500

8. Please tell us your age:

[ ] Under 16 (personal data will not be held for under 16s)

[ ] 16 - 24

[ ] 25 - 34

[ ] 35 - 44

[ ] 45 - 54

[ ] 55 – 64

[ ] 65 - 74

[ ] 75 and over

[ ] Prefer not to say