Jersey Citizens' Assembly on Climate Change

Block 1 – Sessions 1, 2 ,3 and 4

13th, 14th and 17th March 2021

Present:	Citizens' Assembly Members	13th March – Session 1 44 Members 13th March – Session 2 43 Members 14th March – Session 3 44 Members 17th March – Session 4 45 Members
	Chair-Convenor	Emelita Robbins
	Speakers (live and pre-recorded video presentations) / Q&A Panellists	13th March - Session 1 Deputy John Young, Minister for the Environment Deputy Jess Perchard, Assistant Minister for the Environment Professor Liz Bentley, CEO, Royal Meteorological Society 13th March – Session 2 Paul Aked, Jersey Met Sophia Bird, ITV Jersey William Peggie, Director, Natural Environment, Government of Jersey Jonathan Renouf, Documentary film-maker Rebekah Diski, New Economics Foundation 14th March – Session 3 Dr. Louise Magris, Head of Sustainability and Foresight, Government of Jersey Kathryn Hampshire, Senior Consultant, Aether Environmental Consultancy Katie King, Director, Aether Environmental Consultancy Toby Park, Principal Advisor, Energy, Environment and Sustainability, Behavioural Insights Team 17th March – Session 4 Nick Vaughan, Chief Economic Advisor, Government of Jersey Matt Shepherd, Principal Economist, Oxera Consulting
	Lead Facilitators	Dr. Diane Beddoes, Involve Polly Keane, New Citizenship Project *Supported by 7 Break-out room facilitators*

Observers	13th March – Sessions 1 and 2 Connétable John Le Maistre and Deputy Inna Gardiner, Environment, Housing and Infrastructure Scrutiny Panel Lisette Jones, Sustainability and Foresight Team, Government of Jersey Steve Skelton, Group Director, Strategy and Innovation, Government of Jersey 14th March – Session 3 Connétable Mike Jackson, Environment, Housing and Infrastructure Scrutiny Panel Lisette Jones, Sustainability and Foresight Team, Government of Jersey Steve Skelton, Group Director, Strategy and Innovation, Government of Jersey 17th March – Session 4 Connétable Mike Jackson, Environment, Housing and Infrastructure Scrutiny Panel Lisette Jones, Sustainability and Foresight Team, Government of Jersey Steve Skelton, Group Director, Strategy and Innovation, Government of Jersey Dr. Louise Magris, Head of Sustainability and Foresight, Government of Jersey

1. Block 1, Sessions 1 and 2, 13th March – Welcome

The Members of the Jersey Citizens' Assembly on Climate Change were welcomed to the Assembly's first meeting by the Chair Convenor, the Lead Facilitators and, on behalf of the Government of Jersey, the Group Director, Strategy and Innovation.

Members were briefed on the format for Assembly sessions and the roles of the Chair Convenor, Advisory Panel Facilitation Team, Production and Support Team, and Independent Observers.

2. Break-out room discussions

Citizens' Assembly members participated in a break-out room discussion 'Getting to know each other'.

Members then participated in a break-out room discussion 'Developing conversation guidelines'. Output from the session resulted in the development of conversation guidelines for the assembly.

3. Presentations – Session 1

The following speakers made presentations to the Assembly:

- Deputy Jess Perchard outlined the background to the Assembly, its remit, value and how the Government would use the recommendations it developed;

- Deputy John Young, Minister for the Environment, spoke about the convening question that was being posed to the participants and the matters on which the Citizens' Assembly would be asked to make recommendations; and

- Professor Liz Bentley, Royal Meteorological Society, provided an introduction to the science of climate change and explained why it was important to tackle this issue in Jersey.

4. Questions in Plenary:

The following questions, developed by Assembly participants in break-out groups, were asked of Deputy Young and Professor Bentley, speakers in the first session:

(i) Given that Donald Trump precipitated the USA's withdrawal from the Paris agreement, how can we future proof the Carbon Neutral Strategy to ensure it is not derailed by political change down the line?

Deputy Young advised that a structure of international agreements existed; Jersey was presently signed up to the Kyoto agreement. COP26, the United Nations Climate Change Conference 2021, would be held in Glasgow later in the year. Given that Jersey was able to control its own emissions, domestic agenda and enact its own laws, the Minister believed that the States of Jersey should be in a good position to act upon the recommendations put forward by the Assembly.

(ii) What is the political appetite for change and is there a budget to support any recommendations made by the Citizens' Assembly?

Deputy Young said that there was definitely appetite for change, reminding the meeting that the States Assembly had mandated the development of a plan for Jersey to become carbon neutral by 2030, largely as a result of listening to grassroots public opinion. He believed that cost would be a key factor as an overall cost of between £3-400 million was likely in order for Jersey to become carbon neutral. There had been significant expenditure on Covid over the last year so the Deputy believed that how carbon reduction strategies were paid for would be an important issue.

(iii) Is there a map of current sea levels from above and how this will look in 2030/40/50? How much land will we lose if we do nothing?

Professor Bentley advised that sea levels were being monitored and recorded both locally and around the globe. She undertook to share a link with Members to illustrate the type of information available.

Deputy Young added that the soon to be published Island Plan 2022-25 included a study on the effects of climate change on sea levels, which could also be made available to participants.

(iv) Jersey is small in global context, so we need to look at world at large. How do we hold bigger countries to account on their commitments and what can Jersey do to punch above its weight? Could Jersey set an example for other countries?

Deputy Young believed that Jersey could become carbon neutral sooner than other countries. The Island's impact in global terms was relatively insignificant; however, as an important offshore finance centre, it was possible that developing policies for investment related to environmental standards would enhance Jersey's reputation in this regard. Deputy Young advised that this view was shared by his colleague, the Minister for International Development.

Professor Bentley referred Members to the terms of the Paris Agreement and advised that the UN would oversee the pledges made by nations and ensure they were held to account. Globally, things were moving in the right direction. Jersey had a part to play on the world stage, albeit a small one, and could gain significant co-benefits (for example in lower levels of pollution, which would benefit Islanders' health) from taking a leading role.

(v) *In our group we were keen to understand the runaway greenhouse effect and why we are aiming to limit the global temperature increase to 1.5 degrees – why are we not aiming for zero increase or perhaps even a reduction?*

Professor Bentley advised that greenhouse gas emissions could be thought about in the same way as water coming out of a tap; actions could be taken which would control the flow, or possibly even turn it off altogether. However, the concentration of greenhouse gases already in the atmosphere could be thought of as a bucket, which was almost full. The level in the bucket could be reduced (greenhouse gases could be removed) naturally by planting more trees or by technological means. Scientific research had shown that the 1.5 degree level, approved under the Paris Agreement, was a key tipping point – above this level, the global impacts would be severe, so the aim was to keep the increase to a maximum of 1.5 degrees and reduce gradually from there.

(vi) *There are only 9 years until 2030 and becoming carbon neutral would involve lots of changes, many of which would have to be made on an individual level. What structures or assistance are in place to help people make the necessary transitions?*

Deputy Young said that this came back to his earlier point about who pays, which had not yet been decided. In order to reduce emissions there needed to be investment, but it was also important to avoid creating fuel poverty, whereby only the rich were able to benefit from environmentally friendly initiatives. The Government would need to consider providing assistance to Islanders by way of grants, and potentially by regulating energy policy. The Minister hoped the Citizens' Assembly would be given the necessary help and information to address this fundamental question of 'who pays' and it was vitally important that the solution should be equitable.

(vii) *Are there other areas we should be looking at to reduce carbon emissions, such as food, agriculture, or keeping our seas clean?*

Deputy Young advised that emissions in Jersey came from transport, heating people's homes, and agriculture, as well as a small amount from the Energy Recovery Facility. A factsheet was available which contained relevant details.

(viii) *What are the Government's plans for investment in renewable energy?*

Deputy Young advised that a Climate Emergency Fund had been established with initial seed-corn funding of £15m over 4 years, as a result of the Government having decided to increase fuel duty. In reality, this was nowhere near adequate. A connected question would be who pays for the changes necessary to achieve carbon neutrality in Jersey, which would also tie in with the Government's future energy policy.

(ix) *Jersey is expected to sign up to the Paris Agreement for zero greenhouse gases by 2050 and yet you keep talking about 2030. What is the timeline the Assembly should be working to?*

Deputy Young advised that the Assembly would be asked to review evidence and provide its view on this question. The States Assembly had agreed that Jersey should consider whether to aim to become carbon neutral by 2030 and bring a plan back to the States. The recommendations of the Citizens' Assembly would be a critical part of this decision-making process. The Minister believed that Jersey was in a better place to achieve carbon neutrality earlier as the Island had no significant energy generation activities or heavy industry.

(x) *Regarding the communications strategy, will the discussions and output of the Citizens' Assembly be made public or only provided to the States Assembly? What is the target date for the Citizens' Assembly report to be published? What has been achieved by the Government of Jersey so far?*

Deputy Young believed that there was a willingness to factor the Citizens' Assembly outputs into the Government Plan process and advised that the Citizens' Assembly recommendations would need to be considered by the States Assembly by early Autumn, in order to be included in the Government Plan 2022-25. The final report would be made public, as would all the evidence considered by the Citizens' Assembly in arriving at its conclusions.

The Minister added that it had been intended to conduct the Citizens' Assembly in 2020, but this had been delayed as a consequence of Covid. As to what had been achieved so far, the shift to importing electricity (generated from renewable sources) from France had improved the Island's carbon footprint. Additionally, a Climate Emergency Fund had been established, which had already allocated funding to the Sustainable Transport Plan, and the Minister expected that further significant investments would be made. Finally, Jersey would be represented at the 26th UN Climate Change Conference in Glasgow later in the year.

5. Presentations – Session 2

The following speakers made presentations to the Assembly:

- Sophia Bird, ITV Jersey and Paul Aked, Jersey Met, spoke about climate change in Jersey, including the observed changes to the Island's climate and the consequences of doing nothing in terms of climate projections;

- William Peggie, Director of Natural Environment for the Government of Jersey, presented on the observed impacts of climate change in Jersey;

- Jonathan Renouf, a documentary film-maker, discussed how emissions from heating, transport, cooling and cooking contributed to carbon emissions. He also considered how the way energy was used in homes and businesses contributed to carbon emissions, as well as the global impact of businesses working in Jersey; and

- Rebekah Diski, New Economics Foundation, gave an overview of issues related to a 'just transition'.

6. Questions in Plenary:

The following questions, developed by Assembly participants in break-out groups, were asked of the speakers in the second session:

(i) What proportion of Scope 1 emissions caused by transport are attributable to aviation and shipping, given that we cannot directly control these?

Mr. Renouf advised that, for the purposes of calculating carbon emissions related to off-Island travel, only journeys in and out of Jersey were counted. Therefore, the carbon footprint of someone taking a Caribbean holiday would only capture their journey to and from the UK. Aviation accounted for approximately one third of overall travel-related emissions, with road on-Island road travel and shipping making up the remainder; of these two, motor vehicle emissions were significantly higher.

(ii) If loans and grants are to be offered to Islanders to encourage more environmentally friendly behaviours / consumption, how do you guard against disproportionately benefitting more affluent individuals?

Ms. Diski reminded the meeting that the 5th principle of the Government's Carbon Neutral Strategy was that it should not increase income inequality. Assistance would therefore need to be offered to people who would not otherwise be able to afford to make environmentally-related changes; this could include using means testing or directing subsidies towards those in certain income or housing brackets. Schemes would also need to guard against the possibility that more affluent Islanders could simply choose pay environmentally punitive taxes in order to carry on with polluting behaviour. Ms. Diski took the view that it was Important to talk to those who would be most affected before deciding on a mechanism.

(iii) Can you give us any examples of other countries who are working towards just transitions and who can we learn from?

Ms. Diski advised that, in general, just transitions were likely to be sector specific, rather than covering an entire country. A good example was Germany, which had successfully phased out the extraction and use of coal. There, the Government began an initial dialogue with the coal industry and trades unions, set a date for the end of coal use, and arranged to compensate both business owners and workers. The latter, depending on their closeness to retirement age, were either given a lump sum or were provided with training and opportunities for employment in greener jobs. Similar successes had occurred in Canada and Spain.

(iv) Regarding Jersey's sea defences, instead of planning to spend £198 million over the next 100 years would it not be more cost effective to take a proactive approach and consider addressing this issue in increments of 3-5 years?

Mr. Peggie advised that the estimated costs had been calculated on a worst case scenario, should nothing be done, however the overall cost of doing nothing could be significantly greater. With the correct mitigations in place, a lower overall cost could be anticipated, a phased approach would ensure that the higher-risk areas were addressed first.

(v) *How can people be encouraged to use public transport – can you give any examples?*

Ms. Diski advised that local governments everywhere struggled with this question, and that it was broadly a case of making public transport available and as easily accessible as possible. It was also important to engage people in the process and stress the associated benefits, such as improved air quality and more jobs. Alternatives, such as electric car clubs, had also been shown to significantly reduce the cost of motoring, as well as carbon emissions.

(vi) *Given the emissions data, it appears there was not much support for car-sharing and most people continue to use their own vehicles. Does the Government currently have any plans in place and if not, what action could be suggested for reducing use of private vehicles?*

Ms. Diski referred participants to the Carbon Neutral Strategy, which contained scenarios and examples of how both 'carrot and stick' approaches could be used to change behaviour. The Citizens' Assembly process aimed to capture views on which approaches participants believed would work best, but other jurisdictions usually employed incentives and deterrents in tandem.

Mr. Peggie added that that, alongside the Carbon Neutral Strategy, the Government was developing a Sustainable Transport strategy, which would also be addressing these questions. It was noted that transport would be considered in greater depth during Block 2.

(vii) *Can you provide some clarity on how emissions are measured, beginning with Scope 1? Clearly it is very difficult to measure Scope 3 emissions, but we wanted to know if we are comparing apples with apples and understand what is behind the statistics.*

Mr. Renouf began by explaining that Scope 3 emissions were related to consumption, arising from the creation and transport to Jersey of any product or service consumed in the Island. Given the number of component parts, this was impossible to measure. Scope 3 emissions were believed to be larger than Scope 1 and 2, although (given their nature) should be captured in the Scope 1 and 2 emissions in their country of origin. Scope 1 emissions were calculated by measuring a range of variables, such as sales of petrol and oil, but different sectors took different approaches. Mr. Renouf advised that a huge amount of data existed on the subject and links to relevant studies appeared in the factsheets provided to participants.

(viii) *Sweden has been very successful in reducing its carbon emissions – how has this been achieved?*

Mr. Renouf advised that the Scandinavian countries had indeed been successful in decarbonisation, with Sweden moving to hydro-electric power and adopting environmentally friendly home heating solutions (from an early starting point in 1990). Norway, meanwhile, had introduced tax advantages which had encouraged a significant proportion of its citizens to switch to electric vehicles.

(ix) *What is the role of education in helping us to respond to the Climate Emergency and how can we ensure young people play their part?*

Mr. Peggie felt that outreach was key, in order to create bridges between the Government, biodiversity/climate change issues and schools. The Natural Environment Department had links to the Green Flag organisation, which assisted with the coordination of outreach projects in schools. It was, in Mr. Peggie's opinion, essential that educational schemes were put in place to offer appropriate information to the Island's future leaders and decision makers.

Mr. Aked advised that Jersey Met produced a significant amount of data for Jersey and were passionate about displaying this in schools. It was also noted that Jersey Met, which was part of the Natural Environment Department, was invested in demonstrating that climate change was real, evidenced through its records and highlighted through regular broadcasts – noting where weather records had been broken for instance.

(x) *What standards are in place for mitigating energy use in buildings, particularly around renewables, and what can we learn from elsewhere?*

Mr. Renouf advised that one of the purposes of the Citizens' Assembly would be to review the available evidence and decide where Island should direct its efforts. It was already known that Jersey buildings did not currently have high standards of insulation. It was noted that this topic would be considered in greater detail in future sessions.

(xi) *Considering the likely costs of compensating Islanders to change their heating systems and cars, insulate their homes, as well as lost income from fuel tax and carparking charges, where will the money come from and are tax rises inevitable?*

Mr. Peggie advised that, at this stage, tax rises could not be ruled out, although no firm decisions had been taken by the Government. The cost of decarbonisation was acknowledged to be substantial, so would need to be backed by robust revenue raising measures.

Ms. Diski added that the cost of not progressing environmental initiatives was also a factor. Persisting with petrol and diesel vehicles, for example, resulted in poorer air quality and meant higher expenditure on treatment for related health problems. The costs of purchasing carbon offsets also needed to be weighed up as part of an overall funding package. It was noted that this too would be considered in greater detail in later sessions.

(xii) *In other countries, governments have provided subsidies to individuals/businesses – for example, the costs to electrify commercial fleets are significant. Does the jersey Government have an appetite for such subsidies and how would this be financed?*

Mr. Peggie opined that the Government had used subsidies to great effect in the past, for example with the energy efficiency scheme, so he believed there was a historical precedent and mechanism to put such schemes in place. These types of questions were already being considered within Government, there being recognition that people needed to be both interested and motivated to modify their behaviour, which included making change more financially palatable.

(xiii) What is being done to ensure the Island's water security, and is this part of the Citizens' Assembly remit?

Mr. Peggie confirmed that water security was addressed jointly by the Government and Jersey Water; this included a rolling 25-year water management plan. Within the Natural Environment Department, ongoing consideration was given to water supply, given the expected increases in demand, as well as how to protect existing water resources against pollution.

7. Break-out room discussions

Citizens' Assembly members participated in a break-out room discussion 'A vision for Jersey in 2100'.

Output from the session resulted in the development of vision statements from the groups.

8. Conclusions – Sessions 1 and 2

Members were informed that a ballot, conducted (in accordance with the Assembly's Terms of Reference) earlier in the day, had confirmed (by a majority of 33 votes to 1) the appointment of Ms. Robbins as Chair Convenor of the Jersey Citizens' Assembly on Climate Change.

Ms. Robbins thanked participants for their constructive, positive and enthusiastic contributions throughout the first day.

Having earlier invited participants to raise any questions, Ms. Robbins advised that Members had asked about the power of the Citizens' Assembly to deliver recommendations, which would in turn guide the decision-making and policy of the States Assembly. She confirmed that the Citizens' Assembly recommendations would all be captured in a report, which would be presented to the States. To the extent that any recommendations were not adopted, the States Assembly would be obliged to state publicly why this was the case. Accordingly, Ms. Robbins suggested that the recommendations contained in the final report should be clearly articulated and as specific as possible in order to make it easier to hold the States Assembly to account. It was anticipated that the required level of detail would emerge over the course of subsequent Citizens' Assembly discussions.

9. Block 1, Session 3, 14th March – Welcome

The Members of the Jersey Citizens' Assembly on Climate Change were welcomed to the meeting by the Lead Facilitators.

The Lead Facilitators presented the consolidated set of conversation guidelines taken from the ideas the Assembly Members generated in the previous session. The Assembly Members agreed these as the conversation guidelines for the process.

10. How to approach evidence

The Citizens' Assembly watched a video presentation from Alan Renwick recorded for the Scottish Climate Assembly on how to approach evidence.

11. Break-out room discussions

The Citizens' Assembly members participated in a break-out room discussion 'Developing Values' in which they were asked to agree a set of shared values with which they would be able to appraise their final recommendations.

Members were told that they would be asked to vote on the values that are most important to them at the next session.

12. Presentations

The following speakers made presentations to the Assembly:

- Dr. Louise Magris, Head of Sustainability and Foresight for the Government of Jersey, gave an overview of Jersey's energy market;

- Kathryn Hampshire and Katie King of Aether Environmental Consultancy, spoke about Scope 3 (indirect) greenhouse gas emissions and the ways in which these were recorded for Jersey; and

- Toby Park, Principal Advisor, Energy, Environment and Sustainability for the Behavioural Insights Team, considered the importance of behaviour change in achieving net zero emissions.

13. Questions in Plenary:

The following questions, developed by Assembly participants in break-out groups, were asked of the speakers in the third session:

(i) Will the transition to alternative forms of energy actually result in a cost reduction in the long term?

Dr. Magris advised that this largely depended on the timescale, as well as how developed and commercially available alternative energy sources actually were. Alternative energy sources which were less readily available (such a bio-fuels) were likely to require a subsidy to encourage people to use them. Dr. Magris also commented that switching to alternative energy sources was only half the story, however, as a reduction in energy use was also important in the longer term to reduce emissions and protect against future price rises.

(ii) Has the Government of Jersey investigated whether (and if so, how) Jersey can generate renewable energy from either tide, wind or sun, with a view to becoming self sufficient and also potentially to becoming an energy supplier?

Dr. Magris advised that the Government had indeed considered these 3 alternative energy sources, with particular emphasis on tidal and wind power. A wind farm was currently being built in nearby French waters, which suggested that this would also be a suitable alternative for Jersey, although, due to the initial investment, this would probably result in prices rising in the short term. Equally, a tidal-range solution, similar to that existing at the nearby La Rance Barrage, would be feasible in a large area such as St. Aubin's Bay.

Given the level of sunshine enjoyed in Jersey, it was suggested that solar panels (either affixed to rooves or ground mounted) were another solution. Dr. Magris identified that one of the challenges of such alternative energy sources, aside form the cost, was their intermittency, which gave rise to a need to smooth the supply. Jersey currently stored minimal electricity, drawing power, as required, from the French balanced grid. Although it was possible to generate electricity in the Island, it would be difficult and expensive to transform and store it locally. The most likely model, therefore, would be for Jersey to export the energy it generated to France, where it would be smoothed and stored, and subsequently repurchased as required. It was agreed that the work on renewable energy in Jersey would be made available to participants.

(iii) What is the impact of using so much nuclear energy – should we switch to renewables now rather than storing up problems for the future?

Dr. Magris acknowledged that there were strong feelings both for and against nuclear energy. France had relied on nuclear power generation, which had the advantage of being a low carbon resource, for many years and there were no concerns regarding its safety, although the waste generated by the process was recognised as a risk factor. Dr. Magris believed that relying on purchasing electricity from the French grid was a legitimate choice for Jersey, although others existed and merited consideration. If Jersey was able to generate its own power, particularly in a world where low carbon approaches were becoming increasingly popular, it was possible that the Island could derive significant benefit.

(iv) Regarding tidal range technology, can we increase the percentage of tidal energy we receive from France above the current level of 34%?

The Assembly was advised that strategic contract decisions regarding the purchase of electricity were made by the Jersey Electricity Company (JEC) rather than the Government. Dr. Magris explained that the price depended on the cost of the various sources of energy generation, and renewables were usually higher. The JEC accordingly determined the mix of sources, based on price and availability, taking into account what users would be prepared to pay. A decision to increase the proportion of energy generated by tidal power would therefore require consideration of price and supply. It could be possible to negotiate different terms in future with France and other parts of the European grid, with which Jersey also had connectivity.

(v) Regarding the Ladder of Choice – is there any data available regarding which of the different tiers are the most effective in achieving behavioural change?

Mr. Park advised that predicting human behaviour and responses to individual policy measures was both difficult and complex. As a general rule of thumb, the higher tiers (which included for example, significant tax increases and imposing outright bans on certain behaviours) were likely to be more impactful. Mr. Park acknowledged that information sharing could have an effect on those with pro-environmental views but might be less effective in changing behaviour in the wider population. He encouraged consideration of factors that might prevent people from acting sustainably, for example, to those who were unfamiliar with the carbon impacts of food products, carbon labelling could help them to make sustainable choices. Simply stating that petrol and diesel cars were bad for environment, however, was unlikely to result in significant changes, without further measures to make electric vehicle ownership more appealing.

(vi) *Scope 3 emissions are very difficult to quantify – has anyone looked at creating a user guide or developed a low-to-high or Red/Amber/Green (RAG) rating system?*

Ms. King advised that the concept of 'carbon labelling' had been trialled in some supermarkets and energy labelling already existed for certain categories of products. This was only part of the story however, as it had no bearing on government decisions around the procurement of goods and services. Ms. Hampshire added that it would be a challenge to develop a standardised approach. Given that the majority of food was imported into the Island, some Assembly participants favoured labelling food items with 'food-miles' to indicate the carbon impact of transporting the item from its place of origin. Mr. Park commented that any tactic which precipitated behaviour change could be viewed as a useful tool.

(vii) *Thinking about the pie chart shown in the Behaviour Change presentation, and the role played by the Government, what can you tell us about non-government measures and what can be done to try and influence these?*

Mr. Park advised that the pie chart in his presentation illustrated data provided by the UK Committee on Climate Change (CCC) and showed the changes which would need to be made, across the entire economy, to reach net zero carbon emissions. Some of these changes could be undertaken centrally by governments, without impacting consumers at all. These were measures such as upgrading national infrastructure and decisions about how energy was generated, and accounted for 38% of emissions. Of the remaining 62%, approximately 9% was estimated to arise from behaviour change (such as people flying less or adjusting their diets to consume less red meat). The larger portion (51%) would be derived from what the CCC considered to be a blend of behavioural and technological changes: citizens being willing to purchase electric heat pumps, and change to electric cars, for example. This was agreed to be more challenging, as it would require the population to invest *en masse* in new technologies, which came at a cost. Mr. Park considered that all options should be considered worthy of discussion and within the remit of the Citizens' Assembly, as it was likely that a blend of behavioural change and adoption of new technologies would form part of the overall solution.

(viii) *Certain companies, like the JEC, have a clear monopoly. We are a small Island – why do we allow such utilities to be run for profit/shareholder benefit rather than nationalise them for the benefit of the people?*

Dr. Magris acknowledged that different ownership models existed and that it was not uncommon in small jurisdictions for governments to own critical national infrastructure assets. The current position had served the Island well – prices were stable and reasonable, according to external validation. She noted that the JEC had been established in accordance with a 1937 law and advised that it was entirely possible that electricity provision would need to be managed differently in future. An extremely important consideration was ownership of the grid, particularly if the supply model changed and there was a marked increase in self-generation of electricity. In such a scenario, it would be essential to ensure that whoever owned the grid continued to invest in and maintain it.

(ix) *Regarding planning regulations for new-builds in Jersey: with the exception of insulation, environmental requirements seem very poor and there are no requirements for solar panels etc - why not?*

Dr. Magris conceded that building byelaws had always focused on a reduction in energy use, and, to date, there had been no carbon component included. New standards would be introduced as part of the Island plan 2022-25, which would encourage more sustainable building options. Renewable energy sources were a requirement for larger buildings; a good example of this was the new Les Quennevais School, which had been constructed with air source heat pumps and solar panels.

It was acknowledged that requiring the inclusion of renewable energy solutions (which required up-front investment but would save owners money over time) could increase building costs. As products became more commercially available however, costs were expected to decline. It was open to governments to either wait for environmental solutions to become more cost effective, or to use levers (such as banning certain heating systems from a future date or offering financial incentives) to influence consumer behaviour.

(x) *Given the complexity of ascertaining Scope 3 emissions, are there any bodies looking to put in place standardised calculations or regulations? Who is grappling with this and taking it forward, if anybody?*

Ms. King advised that a body of work had been undertaken, mainly on a 'city level' to calculate per capita averages, however there was no standard approach as yet.

(xi) *Are there any jurisdictions that have begun to properly tackle their Scope 3 emissions and if so, what have they done to influence behaviour?*

Mr. Park commented that the UK had reduced domestic carbon emissions as much as any jurisdiction, mainly by tackling relatively easy targets such as coal-fired power stations and various types of transport. This was a long journey, however, and it appeared that more problematic issues were not yet being tackled. Mr. Park said that many examples existed of how governments could change behaviour and consumption habits, particularly in the health space, but a significant body of work remained to properly address environmental issues.

14. Conclusions

The Lead Facilitators concluded by summarising the different types of action that could be taken to reduce greenhouse gas emissions and the different groups that could take this action. They explained that at the next session on Wednesday 17th evening that the assembly would be looking at different ways of paying for these different actions.

15. Block 1, Session 4, 17th March – Welcome

The Members of the Jersey Citizens' Assembly on Climate Change were welcomed to the meeting by the Chair Convenor, who suggested, following feedback received from participants, that some Members might keep a diary of proceedings as a useful record of the process followed by the Citizens' Assembly. A survey would also be issued to gauge Members' views on the process overall.

Members were also welcomed by the Lead Facilitators.

16. Presentations

The following speakers made presentations to the Assembly:

- Nick Vaughan, Chief Economic Advisor for the Government of Jersey, spoke about the costs of carbon neutrality and the different ways of paying for actions that would take the Island towards becoming carbon neutral; and

- Matt Shepherd, Principal Economist, Oxera Consulting, considered potential scenarios for carbon neutrality and whether seeking to become carbon neutral at an earlier stage would cost more.

17. Questions in Plenary:

The following questions, developed by Assembly participants in break-out groups, were asked of the speakers in the fourth session:

(i) *What revenue will be lost, in terms of fuel duty, by switching away from fossil fuels and how will this be compensated for?*

Mr. Vaughan advised that fuel duty would not necessarily change behaviour, however provided a source of revenue by which governments were able to subsidise more environmentally friendly policies. One alternative, should revenues from fossil fuel duty reduce substantially, would be to tax car ownership, as a means of contributing to the cost of maintaining the road network. This was not currently Government policy, but could be considered as an alternative means of revenue raising in future.

(ii) *How much has Jersey budgeted year-on-year for climate change and where can these figures be found? Did Jersey achieve its portion of the Paris Agreement in 2020 and do we know how much this is?*

Mr. Vaughan advised that there were no current budgeted costs for climate change and part of the brief of the Citizens' Assembly would be to advise the Government on the potential costs and trade-offs in pursuing carbon neutrality earlier or later than other jurisdictions. Part of Mr. Vaughan's presentation had attempted to contextualise these costs, which had been estimated at £300 million (or approximately £3,000 per head of population) over the next 10 years.

(iii) *How long does it take to re-train workers and how is success measured?*

Mr. Shepherd advised that this would depend primarily on what people were being re-trained to do. One example would be to re-train gas and oil-fired heating system engineers in the installation and maintenance of electric heating systems. Mr. Shepherd took the view that tradespeople were routinely upskilled as technology evolved and that new entrants always received relevant training. Some transitions would be relatively quick, whilst others would be more structural. In the UK there were numerous examples of training schemes which could be shared with the Assembly.

(iv) *What constitutes a carbon offset, how are they calculated and is there currently a cost per kilo-tonne?*

Mr. Shepherd advised that an offset was a mechanism which enabled a person to pay a sum of money to another for the purchase of goods or services which would mitigate their own carbon emissions. Examples included reforestation projects and paying for the installation of low energy light bulbs to replace incandescent bulbs in a developing country. Offsets were accessed either by direct engagement with a carbon reduction scheme or by using an intermediary, in a secondary market which was constantly evolving. Offsets were valued according to the scheme being supported; in the light-bulb example this could be measured by the amount of energy saved by switching to the low-energy alternative. The costs of offsets was likely to increase over time, as the more basic options were used up and as carbon-capturing technologies evolved. Mr. Shepherd acknowledged the financial risk attached to any offsetting strategy, as it was not possible to calculate the exact cost of offsets going forward. It was noted that data existed from work carried out on offsetting costs during the last year and more detailed information on offsetting would be provided in Block 2.

(v) *What is driving us to select the target date of 2030, given that we will then have to start paying for offsets earlier?*

Mr. Shepherd advised that this was partially a recommendation which the Citizens' Assembly would be asked to make. There were a series of challenges and trade-offs to be considered in the decision about a possible date, and purchasing offsets would be one of the disadvantages of targeting 2030.

(vi) *Where did the extra £200m come from to pay for Covid-19 and what are the options available for Government borrowing?*

Mr. Vaughan advised that, historically, the Government of Jersey had not borrowed, preferring instead to accumulate a Strategic Reserve (also known as the 'rainy day fund'). In the case of the additional funding required to respond to the pandemic, the Government had approached a consortium of 5 local banks which had provided an overdraft facility of up to £500m. For longer term capital projects (such as paying for the new hospital) it was proposed to borrow by issuing a bond. Mr. Vaughan advised that this was an appropriate mechanism to fund large capital projects and could also include funding for carbon neutrality. The Strategic Reserve ensured that Jersey had been able to maintain a good credit rating and was able to access borrowing on favourable terms.

(vii) *This question is about budgeting for the short-term investments in infrastructure needed to reach net-zero, versus the cost of delaying that infrastructure expenditure but having to deal with the ramifications of the climate emergency further down the line. Do any models exist to help us evaluate the merits of acting now or delaying?*

Mr. Vaughan advised that, in general, technology was likely to reduce in cost as it became more widely available, so arguably it would be better to delay. However, if this stance was adopted by every country the world would be worse off as no action would have been taken to tackle the climate emergency. A good example of reducing costs was solar power, where the widespread adoption of the technology by a number of governments had pushed down prices globally. Accordingly, there would be a trade-off between waiting for things to get cheaper and gaining competitive advantage in acting sooner. Simply buying offsets (whilst taking no steps to reduce domestic emissions) was

one alternative course of action, but this would end up incredibly costly as the price of offsets rose. Equally, doing nothing would mean that Jersey had not contributed to preventing the apocalyptic consequences of climate change on a global scale.

18. Conclusions

Members of the Citizens' Assembly were thanked for their participation over the first sessions and it was noted that the Assembly would reconvene for Block 2 on 27th March 2021.

The Citizens' Assembly members were reminded that they would be asked to vote on the list of values that they had developed in Block 1 and that they would be sent a feedback form to understand their experiences from the first block and anything that need to be kept in mind for future sessions.