



11 November 2022

Deputy Steve Luce  
Chairman of Environment, Housing &  
Infrastructure Scrutiny Panel  
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Dear Deputy Luce

**Environment, Housing and Infrastructure Scrutiny Panel - Government Plan 2023-26  
Review - Written Submission**

Thank you for your letter dated 26<sup>th</sup> October 2022 to Chris Ambler, he has asked me to reply to your request on his behalf.

Jersey Electricity welcomes the opportunity to help and support Scrutiny with the important work it is conducting in this area. In connection with your request and due to the limited time available we have provided below some initial thoughts, which we hope your panel finds helpful.

***'The impact of the Government Plan proposals on departmental budgets, savings, and staffing levels'.***

Whilst the Government of Jersey (GoJ) faces challenges in terms of its recruitment and staffing (filling existing vacant posts), this is a much wider challenge for the Island as a whole. As such this will need an Island wide plan and solution to support the development of future skills, including those needed by Government to enable the ambition contained within the CNR.

The ability to develop and attract skilled talent into key areas of the economy is critical and we believe the difficulty in recruiting trade and professional resources is creating challenges for many businesses, including the Government.

***Climate Emergency Fund (including proposals to freeze Road Fuel Duty and increase the Vehicle Emissions Duty on higher CO2 emitting vehicles)***

We recognise the challenge that the increase in the cost of living in Jersey is having on the public. It is important however, to ensure the right price signals are provided to the market to help support changes in behaviour and customer choices. Adopting more of a polluter pays approach, recognising the true costs to the environment of burning fossil fuels for transport and heating is very important, and sends the right message.

Jersey is already lagging behind the UK and other jurisdictions in terms of developing the EV transport market, and while short-term freezing of fuel duty can be seen as desirable for consumers from a cost-of-living perspective, it's important that the correct long-term economic signals are sent by Government to deliver the change needed to realise the CNR ambitions of the Island.

Delivering the decarbonisation agenda within the CNR needs to be one of the Islands' highest long-term priorities. The CNR identifies that the economic costs to Jersey of not dealing with the effects of climate change could far outweigh the funding necessary for Jersey to deliver it. It is important that we do not deprioritise the environmental agenda (and CNR aims) to alleviate short-term immediate needs and instead find other ways to support the neediest within our community.

It is essential that longer-term funding is secured as soon as possible for the CNR, as this will give the markets the confidence to invest in the recruitment and training needed to move the island towards a carbon-neutral future.

We hope that the panel finds the above and the attached supporting documents Jersey Electricity prepared for the Citizen's assembly process in connection with the Climate Emergency work helpful.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Peter Cadiou', with a long horizontal flourish extending to the right.

Peter Cadiou  
**Director of Commercial Services**  
**Jersey Electricity Plc**

Enc documents.

# DRAFT CARBON NEUTRAL ROADMAP

## Jersey Electricity comments 2-

### PART A

#### Building the foundations

##### A roadmap for the future (1.8)

We have invested c. £200m over the last 10 years to build a zero-carbon platform and we stand ready to invest significantly more to help Jersey transition to net-zero. The return on that investment will only be realised over many years, so we need policy and regulatory certainty. There is risk of stranded assets and higher costs and, ultimately, higher electricity prices for consumers if the predicted revenues the investment is based on are not realised due to changes in policy positions over time.

#### The context for decarbonisation

##### Bridging Island Plan (3.11)

We need to ensure that development control supports the transition by facilitating the provision of infrastructure. This might include siting substations in rural areas, permitted development for key infrastructure assets which would reduce time and costs associated with securing approvals for each installation.

##### Energy markets and Brexit (3.23-3.24)

Although Jersey is not immune to global energy market volatility, our electricity consumers have been largely shielded from the worst effects of recent volatility due to our hedging policies and contract framework. In addition, as Jersey's electricity supply is already decarbonised, prices are not subject to the green tax levies imposed in the UK. Jersey has therefore managed to decarbonise the grid without levying additional charges in the same way as the UK. The 4% tariff increase implemented on 1 January 2022 was only the fourth in Jersey in seven years and added around 80p a week to the average domestic bill. We feel the reference: '*with recent substantial increases in the price of all energy types*' implies this includes electricity which is not the case.

The Review of Energy Mix Options (Nov 21) broadly concludes that biofuels can provide solutions in the transport and heating sectors short term, but biofuels are problematic for various reasons, and we question their use in applications for which cleaner electric solutions are already available. (*Further comments on TR3*)

#### Strategic policies

##### Strategic Policy 1: Jersey's net-zero emissions pathway (4.5)

It is questionable whether the existing Roadmap policies are sufficient to put the Island on a net-zero trajectory by 2050. We feel additional policy measures, or a deepening of the proposed measures should be identified and planned in now to ensure delivery of net-zero by 2050 or earlier is possible with the interventions contemplated.

We believe that the scale of carbon reduction we can achieve with abatement projects means carbon offsetting should be a last resort. Purchasing carbon offsets before all carbon abatement technologies have been exhausted would divert funds from zero-carbon solutions that could tackle the root cause permanently.

It is important the Island allocates its limited available funds to carbon reduction areas that provide the biggest and fastest carbon reduction opportunity – notably road transport and

home heating. In most cases, technologies are already available to abate the vast majority of carbon emissions at a local level and this would be more effective in terms of cost per unit kgCO<sub>2</sub> avoided. It is also least risk. The Island will be less vulnerable to pricing volatility of offsets (and biofuels) and issues around authenticity and traceability and local abatement measures would be of more benefit to the Island economy. (*Further comments on TR1, HT1*).

## **Strategic Policy 2: Island energy market**

We are pleased that the role of imported electricity is acknowledged as *'having served the Island well'* in terms of balancing the trilemma of sustainability, security and affordability, and that it is key to further rapid decarbonisation of road transport and space heating.

We recognise that rapid electrification using low-carbon grid power is the fastest and most economic route to net-zero. We believe the use of non-fossil second generation biofuels (SGRD) may have a small role in selective 'difficult-to-electrify' transport solutions such as aviation or shipping however, in most cases – and certainly road transport and building heating/cooling – electric solutions are available now and are least cost when assessed over the life of the investment. There are other supply chain issues associated with biofuels that also need to be carefully considered.

### **Skilled labour (4.14)**

From a network management perspective, it is realistic to assume that many trades people could transfer or develop new skills to meet the challenge of transitioning from fossil fuels. We are increasing recruitment and the breadth of our skills and capabilities in readiness for the heightened demand the transition will bring. We do believe the Island needs to invest significantly in the development of skills, with further collaboration across stakeholders (Highlands, public-private partnerships) to implement more measures, especially trade skills required beyond the meter in customers' homes and businesses. This requires significant policy support and funding which we would like to see addressed further in the Roadmap.

### **Renewables (4.19)**

Though local renewables, such as solar, wind or tidal power, will not reduce carbon emissions they will increase supply diversity and could improve energy sovereignty. Large scale renewables, such as offshore wind, could become cost effective for Jersey and we are working hard on this as an opportunity for the Island, but the capital investment required could result in costs being materially above current imported market rates in the early stage.

Its intermittency means we would still need to rely on interconnectors which provide power on-demand at any time, including in the winter when demand is highest, and the wind may not blow, or sun will not shine. We estimate that a 150MW wind farm will produce approximately 50% of current energy demand, but this could be less than 50% of actual *peak* winter demand. Solar production on a winter's day is typically less than 10% of summer production and demand is significantly higher notably in the evening when there is no daylight.

A back-up importation model would affect contracts which are currently based on high levels of constant importation and, as such, would have cost implications.

Longer term, energy storage is likely to improve the usefulness of on-Island renewables, but such technologies are still at an early stage of development, and are not yet cost effective, while also requiring considerable land.

It is possible that large scale renewables could provide energy for hydrogen production (by JE or others), supporting other sectors locally, but this would require other infrastructure and,

like biofuels, hydrogen will be much more expensive in those applications where electric solutions already exist. Hydrogen also suffers from high conversion losses.

### **Integrated systems**

Managing the integration of large- and small-scale renewables to the network presents challenges. Current investment in other technologies such as smart metering and network monitoring may allow proactive management of demand, with heating being managed by energy availability. Investing in delivering utility scale renewables and also incentivising micro renewables could be counterproductive, with one type effectively offsetting the other at twice the cost. We anticipate managing an integrated system to maximise assets and energy availability. This will mirror the Distribution System Operator model being developed in the UK.

Developing on-Island utility / commercial-scale ground / roof-based solar solutions are technically available now and could contribute more to the Island's needs going forward.

### **Regulation (4.20)**

We are aware that increased demand for electricity could attract greater scrutiny or regulation. We would, however, caution that increased and potentially punitive regulation could threaten the model on which infrastructure investment is based, deterring that investment, affecting the position and leading to increased costs and higher prices with few benefits to customers.

### **Strategic Policy 3: Financing Strategy**

We agree with hypothecated revenue and that serious consideration should be given to a carbon tax or fuel duty to provide a disincentive to emitting carbon, with the funds raised invested in low-carbon solutions. Currently, the true cost of the environmental damage caused by burning fossil fuels is not properly reflected in the price of fossil fuels i.e., it is 'free to pollute'. In the absence of a carbon tax or similar disincentive, fossil fuel consumers are being subsidised by the community, who will ultimately have to pick up the cost of removing that carbon from the atmosphere to reach net-zero by 2050.

### **Strategic Policy 4: Programme and Development**

We believe the focus should be weighted towards those measures that deliver the fastest and highest on-Island carbon reduction per unit of investment. However, measures should be put in place to protect the vulnerable on a means tested basis and we believe this can be done using the funding from new revenue streams. We also support GoJ's people powered approach and agree there is opportunity to involve all stakeholders in joint commitments and initiatives.

### **Strategy Policy 5: Becoming carbon neutral**

We believe we should develop new projects in local sequestration that keep funding within the Island. We believe that the Island should develop a carbon neutral plan, examining those activities that can reasonably be abated and those that will ultimately require procurement of high-quality carbon offsets. These should only be purchased from high quality, authentic and traceable sources.

*Words: 1,491*

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# **DRAFT CARBON NEUTRAL ROADMAP**

## **Jersey Electricity comments 3**

### **PART B**

#### **The Roadmap** **(5.1-6-1)**

We have looked at high, medium and low peak network demand scenarios based on the draft Roadmap. We assume an initial high uptake of electric solutions to make an early and critical impact on the Roadmap will create a rapid increase in demand until 2026, with continued growth until 2034. We are ready to further invest significantly in the network to meet this demand but need Jersey to continue on a strategy means these assets will be used over the long term. Importantly for consumers, if this were the case, we believe we can stage the investment to avoid it causing significant increases in electricity prices as this will lead to network efficiency improvements.

Logistically, some form of policy or exemption from existing regulation and legislation would help us achieve the necessary network reinforcements more quickly, for example allowing access to install cables in roads at less favourable times with reasonable reinstatement requirements, planning permissions to install substations, etc. Removal of requirements will also reduce costs and contribute to a more just transition.

#### **Ensuring public support for works**

Initiatives such as embedding IHE highway engineers in our Planning and Construction teams to prioritise roadworks and work proactively on substation site selection, etc. We would like to see these activities carried out under the optic of the Climate Emergency, with GoJ departments working collaboratively and ensuring public support so this is viewed as a community effort.

We believe that heating efficiency, supported by the insulation subsidies (HT1 additional elements) and increased thermal performance of buildings driven by improved building regulation standards etc. will take effect from 2030 and continue to 2050, and will result in a 10% reduction in demand from the highest levels. We have also assumed that a 'technology effect,' with smart ultra-efficient appliances being managed to suit lifestyles, could reduce peak demand by a further 10% by 2050. We have ignored general appliance efficiency however, French distributors RTE suggest this could be as much as 50% by 2035.

#### **We will optimise investment to match demand**

Post 2034, energy consumption will grow modestly, but this will be matched or exceeded from further efficiency gains. The overall effect is that network demand is likely to slowly reduce from the demand experienced at 2034. Our aim will be to utilise our detailed network loading data to optimise investment in the network to match this trajectory.

Adoption of alternative energy sources post-2034, may also reduce peak demand and energy requirements, resulting in the funding of a larger than necessary network that would become be under-utilised. This could increase our fixed costs and, ultimately, may lead to higher prices for consumers, with fewer units of power being distributed than planned at the time of the investment. An example of this is if hydrogen becomes the preferred solution for road transport and/or this product is imported.

## Understanding our emissions pathway

### (6.4)

Although as the Roadmap says, 'smaller emissions sources include the treatment of solid waste in the Energy from Waste Facility', these emissions are currently attributed to electricity production and present opportunity for further decarbonisation within our already virtually decarbonised network. Despite contributing around just 5% of the electricity consumed in Jersey (4.4% 2020-21) EfW emissions inflate the overall carbon content of distributed electricity. In 2020-21 Jersey electricity was calculated at 23g CO<sub>2</sub>e/kWh but 95% of that electricity is from imported nuclear (4g CO<sub>2</sub>e/kWh) and hydro (6gCO<sub>2</sub>e/kWh) power.

Moving the Energy from Waste Facility's emissions to 'Waste Management' as illustrated in Oxera's report: 'An analysis of the advantages and disadvantages of different net-zero targets for Jersey', and reflecting the true source of those emissions, or mitigating these emissions with carbon capture prior to its planned replacement in 2038, would decarbonise the network even further, with subsequent overall emissions reductions across all applications, including EVs.

Jersey's carbon footprint (scope 1 emissions) in 2018 with total emissions of 422 ktCO<sub>2</sub>e<sup>6</sup>



## Understanding our sources of emissions

### Reducing the need to travel (7.6-7.8)

We fully support providing services closer to home as this will make considerably more efficient use of existing electricity infrastructure and the network. We have already seen a shift in demand from commercial to domestic unit sales during the pandemic. Long-term home working could shift the balance of emissions towards domestic, making the case for energy efficiency and electric heating systems even more critical.

### SGRD (7.15)

(See comments on TR3, page 11)

Words: 728

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# DRAFT CARBON NEUTRAL ROADMAP

## Jersey Electricity comments 1–

### In summary

Jersey Electricity (JE) welcomes the Draft Carbon Neutral Roadmap that aims to make Jersey net-zero by 2050 and we greatly support the appetite of the Government of Jersey (GoJ) to crystallise policy and shift into action.

We agree with all five principles of the proposed approach but we would, however, urge and support an even earlier target than 2050 which we feel is the minimum commitment that the Island should make: Net-zero by 2050 is simply in line with most other countries and these countries are, in any case, unlikely to want to do business with Jersey, in any meaningful way, without seeing that minimum level of commitment.

We believe, if we work together, Jersey could achieve an even greater ambition for net-zero and this could be a great source of positive differentiation for the Island on the international stage.

#### **Near-term progress means benefits over longer-term**

We feel the next 10 years will be critically important because progress in the near term will greatly determine our trajectory for delivering net-zero over the long term. Although challenging, rapid progress over the next decade will also enable the Island to reap recurring environmental benefits and financial savings from measures implemented earlier.

We understand GoJ's decision not to commit to carbon neutrality by 2030 in the Roadmap and avoid 'locking into' potentially expensive carbon offsets which could deflect funds from urgent and more cost effective on-Island abatement measures. Such local abatement measures, we believe, would have the most impact on Island carbon reduction and their funding would also support the local economy.

#### **Rapid, on-Island decarbonisation interventions**

This approach, however, means it is of paramount importance that Jersey adopts measures to facilitate rapid decarbonisation through on-Island interventions as fast as possible or net-zero will take even longer to achieve. For example, consumers are installing new heating systems and buying new cars with long asset lives *today* that will cost even more money to switch later. This may lead to early scrapping of assets with remaining useful lives or delays to carbon reduction.

#### **Fastest and most cost-effective route**

Given that electricity in Jersey is already virtually completely decarbonised, we have long maintained that the fastest and most cost-effective route to further reducing Jersey's emissions is therefore by displacing fossil fuels for heating and road transport with low-carbon electricity. Low carbon power is already available to Jersey in almost limitless supplies (in the context of the Island) due to JE's strategy of investing in secure infrastructure and importing a blend of nuclear (4g CO<sub>2</sub>e/kWh) and hydro (6g CO<sub>2</sub>e/kWh) power from the European grid.

Furthermore, this strategy is entirely compatible with the development of large-scale local renewables (such as offshore wind, tidal power and ground based solar PV) as and when they become economically viable – technologies which JE is exploring and investing in.

#### **Providing a critical early impact on the Roadmap**

We believe we are well positioned to facilitate low-carbon electric solutions for heating, cooking and road transport (which together comprise around 70% of Jersey's total carbon



emissions) to provide an early, critical impact on the Roadmap. Many of these technologies when coupled with energy efficiency are readily available today – with Jersey’s challenge largely being one of incentivisation (and dis-incentivisation) and delivery.

We are therefore supportive of the policy proposals that encourage this, for example, EV subsidies, grant support for EV charging infrastructure, vehicle scrappage support, an end to petrol and diesel vehicle imports and installation of new fossil fuel boilers, home energy certificates, grants to aid energy conservation and fuel switches.

However, we make the following observations on policy:

1. It is acknowledged in the Roadmap that even delivery of the stated interventions are insufficient in aggregate to meet net-zero by 2050. Although we welcome the funding incentives, we question whether they are sufficient to meet the defined targets. We would therefore support more generous incentives delivered with more pace. Early delivery of the ‘low hanging fruit’ is very important.
2. We would like to see some measures fine-tuned to avoid unintended consequences. For example, it is very important that financial support for EV chargers is reserved for ‘smart’ chargers that ensure charging is restricted to off-peak, overnight periods when demand on the grid is low, power is cheaper for the consumer and capacity is plentiful. JE is working on a home charging solution to be launched shortly.
3. While we accept biofuels have a role in ‘hard-to-abate’ sectors, such as aviation and marine applications (for which there are presently no alternatives), we have serious concerns around their widespread use in applications such as home heating and transportation where, in the vast majority of cases, low-carbon electric solutions are readily available.
4. We believe it is a far better for Islanders to benefit now from investment into energy efficiency coupled with the right long-term, low-carbon solutions rather than deflect funding to subsidising short-term, imported ‘transition’ fuels the price of which is likely to rise significantly as demand increases. This will syphon funding and economic support away from Jersey and this funding will in any case only have a single-year impact. There is considerable risk that this policy will slow the transition and create a reliance on biofuels with potential supply chain issues that could become costly.
5. We agree with the ‘people powered’ approach and a ‘just transition’, both of which will require strong leadership. We agree on the need to involve all stakeholders in joint commitments. No single stakeholder or party has all the solutions or controls the delivery, so there is a need to collaborate for the common good. We believe the GoJ should readily be able to take a long-term view in assessing its own carbon reduction opportunities. The GoJ could lead our community and be a ‘force for good’ by being an early-adopter of low-carbon technologies for the buildings and transport under its control.
6. We support the appointment of an Energy Minister, the establishment of a Decarbonisation Unit and Carbon Neutral Alliance. But we also believe the Island needs to invest significantly in supply chain development, trade capacity and capability development across the public and private sector to implement measures. This could involve reskilling and redeployment of skills from older into newer technologies and forms part of a ‘just transition’. This requires significant policy support and funding.

7. JE believes it can greatly assist in the rapid electrification of Jersey and crucially, do so in a manner that ensures continued delivery of affordable, secure and sustainable energy for our Island. We believe that the grid will provide a critical role in the energy system for many years. Fully leveraging these grid assets, which are entirely compatible with future technologies, will result in more competitive electricity prices for consumers because the greater the volumes of electricity distributed through the network, the more efficient and economical it is to operate.
8. While not wishing to delay implementation of the Roadmap's policies, we would welcome the opportunity to work even more closely with the GoJ, the public and private sector, and the whole community to further develop policy solutions to deliver the minimum of net-zero by 2050.

#### **Policy by policy:**

**Strategic Policy 1: Net Zero Emissions Pathway** – we believe that the target could be and should be even faster than net-zero by 2050 given Jersey's low-carbon electricity system and lack of heavy industry. We believe Jersey could do more and faster. The next 10 years will be critically important.

**Strategic Policy 2: Island Energy Market** – we believe rapid electrification using low-carbon grid power is the fastest and most economic route to net-zero. We believe the use of non-fossil second generation biofuels may have a small role to play in selective 'difficult-to-electrify' transport but in most cases electric solutions are already available and are less costly, less risky and better support the local economy.

**Strategic Policy 3: Financing Strategy** – we agree with hypothecated revenue and that a carbon tax or fuel duty should be considered to discourage emitters of carbon since it is presently 'free to pollute' with carbon and other emissions. Any funds raised from these mechanisms could be invested in low-carbon solutions or into support for the vulnerable.

**Strategic Policy 4: Policy Programme and Development** – we believe that the focus of Jersey's limited resources should be weighted towards measures that deliver the fastest on-Island carbon reduction per unit investment, with measures in place to protect the vulnerable on a means-tested basis.

**Strategy Policy 5: Becoming carbon neutral** – we believe Jersey should develop local sequestration projects that keep funding within the Island. We suggest Jersey analyses i) those activities that can reasonably be abated through local measures that can support the local economy and ii) those that will ultimately require procurement of high-quality carbon offsets or biofuels. Offsets or biofuels should only be procured from high quality, authentic and traceable sources and as a last resort, not first choice.

Words:1,487

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