

THE STATES OF DELIBERATION
of the
ISLAND OF GUERNSEY

COMMITTEE *for the* ENVIRONMENT & INFRASTRUCTURE

STATES OF GUERNSEY ENERGY POLICY 2020-2050

The States are asked to decide whether, after consideration of the policy letter entitled “States of Guernsey Energy Policy 2020-2050” dated 28th February 2020 they are of the opinion:

1. To agree the overall objectives of the Energy Policy as:
 - Decarbonisation;
 - Security and resilience of supply;
 - Consumer value and choice;
 - Equity and fairness;
 - Supportive of a vibrant economy; and
 - Greater energy independence.
2. To agree the vision for Guernsey’s energy future as set out in paragraph 2.1 of the policy letter and prioritise opportunities to reduce emissions.
3. To agree to adopt a target of net zero emissions by 2050 and to adopt an interim target of reducing emissions by 57% on 1990 levels by 2030.
4. To direct the Committee *for the* Environment & Infrastructure to
 - (a) provide a definition of what constitutes a “low carbon” and “low emission” source for on-island energy sources by Q4 2020; and
 - (b) establish a target for the generation of on-island (where “on-island” includes within our territorial waters) renewable energy by Q2 2021.
5. To agree to revise the requirements for the dispatch of electricity by Guernsey Electricity Limited (known as the “merit order”) to place any pre-committed energy production, prioritising on-island renewable generation, ahead of flexible dispatchable production and to direct the Committee *for* Economic Development to bring proposals to the States of Deliberation to give directions to the relevant regulator.
6. To direct the Committee *for* Economic Development, working with the Committee *for the* Environment & Infrastructure, to undertake a technical consultation on:

- (a) a licensing framework for targeted competition to support establishing on-island (including off-shore) renewable energy; and
- (b) the introduction of licensing for the supply of hydrocarbons particularly in relation to hydrocarbon security of supply and emissions reduction,

and to bring proposals to the States of Deliberation to give directions on these matters to the relevant regulator in these matters by Q4 2021.

7. To direct the Committee *for* Economic Development to bring proposals to the States of Deliberation to give directions to the relevant regulator to ensure continuity of current arrangements relating to electricity production (for example, by renewing the licence of Guernsey Electricity Limited) where the relevant regulator is not in a position to issue licences under any revised framework as outlined in proposition upon the expiry of current licences.
8. To approve the cable strategy set out in 8.17 and agree in principle the need for a second interconnector, subject to the consideration of a full business case; and to direct the States Trading Supervisory Board via Guernsey Electricity Limited to revert to the States of Deliberation with the full business case, the cost of developing which can be reflected and recovered by Guernsey Electricity Limited through its charges.
9. To agree in principle the future move from N-2 to N-1 (or another standard as deemed appropriate), subject both to the completion of the second interconnector, and to the States' endorsement of an updated electricity strategy to be brought to the States of Deliberation by the Committee *for the* Environment & Infrastructure.
10. To agree the separation of the hydrocarbon programme into three work streams:
 - (a) Energy Policy and Climate Change policy (the Committee *for the* Environment & Infrastructure);
 - (b) The States Trading and Supervisory Board's St Peter Port Harbour Development Programme due to report to the States of Deliberation by December 2020 that will be informed by the Energy Policy and will include hydrocarbon requirements; and
 - (c) A support programme working with energy providers for interim supply solutions (the Committee *for the* Environment & Infrastructure to report back by Q2 2021).
11. To direct the Committee *for the* Environment & Infrastructure to establish the public-private Energy Partnership by Q4 2020.

12. To direct the Committee *for* Economic Development to undertake a review of structures for cost reflective tariffs (including reflecting fixed and variable costs), to bring proposals to the States of Deliberation to give directions to the relevant regulator by Q4 2020.
13. To direct the Committee *for* Employment & Social Security working with the Committee *for the* Environment & Infrastructure to co-ordinate an investigation of the most effective means of addressing energy poverty and report back to the States by the Q2 2021.
14. To direct the Committee *for the* Environment & Infrastructure to work with the Development & Planning Authority to bring forward further recommendations to improve the energy efficiency of existing and future housing stock, assess the potential for and impact of requirements to report building energy efficiency standards and/or to implement a minimum standard for the rental market and a reporting standard for the sales market by the end of Q2 2021.
15. To direct the Committee *for the* Environment & Infrastructure, working with the Policy & Resources Committee, to review the position on the introduction of energy related taxes, to deliver on the policy's aims, and bring any recommendation to the States of Deliberation by May 2023.
16. To note the resource implications set out in paragraphs 11.2 to 11.18 and that any requests for additional budget be submitted through the appropriate budget setting or capital prioritisation process.
17. To rescind the following Resolutions of the States or parts thereof:
 - (a) Resolution 11(d) of Article XIV of Billet d'État XV of 2011 "Review of Utility Regulation";
 - (b) Resolution 4 of Article III of Billet d'État XII of 2014 "Guernsey Electricity Supply – Future Strategy"; and
 - (c) Resolution 2 of Article IX of Billet d'État VII of 2016 "Comprehensive Social Welfare Benefits Model".
18. To amend the following Resolutions of the States:
 - (a) Resolution 1 of Article III of Billet d'État VI of 2015 "Alternative Framework for the Oversight of Guernsey Electricity Limited and Guernsey Post Limited" to:
 - (i) delete "Guernsey Electricity Limited and" and "respective electricity and"; and
 - (ii) substitute "law" for "laws"; and

- (b) Resolutions 1 and 2 of Article XVII of Billet d'État III of 2016 "Legislative changes relating to the future oversight of Guernsey Electricity Limited and Guernsey Post Limited" to delete:
 - (i) in resolution 1, "and electricity"; and
 - (ii) in resolution 2, "the Electricity (Guernsey) Law, 2001 and" on both occasions it appears

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ISLAND OF GUERNSEY

COMMITTEE *for the* ENVIRONMENT & INFRASTRUCTURE

STATES OF GUERNSEY ENERGY POLICY 2020-2050

The Presiding Officer
States of Guernsey
Royal Court House
St Peter Port

2 March 2019

Dear Sir

1. Executive Summary

- 1.1 Meeting Guernsey's Energy needs is a policy priority area agreed by the States of Guernsey in the Future Guernsey Plan.
- 1.2 The Committee *for the* Environment & Infrastructure (the Committee) has responsibility for Guernsey's energy policy, including renewable energy, infrastructure, and the security of supply.
- 1.3 The Committee has been developing a 2020-50 energy policy working with parties involved in the industry.
- 1.4 It proposes a policy framework for the effective management of Guernsey's energy needs over the period 2020-2050 and sets out the steps that would be needed to establish that framework.
- 1.5 Subject to approval by the States, the Committee's propositions and accompanying policy letter will constitute the States' agreed Energy Policy for the period 2020-2050.
- 1.6 The Energy Policy sets high-level policy direction to enable the States to manage the transition of the energy market. It is put forward as an enabling policy with clear objectives, which seeks to enable the market to change to achieve the objectives.
- 1.7 Globally, governments are taking steps to move towards decarbonisation of energy systems and a low carbon economy, set against a background of

successive international agreements which seek to reduce greenhouse gas emissions in order to tackle climate change.

- 1.8 The Energy Policy objectives and vision are aligned with international targets and enables Guernsey to manage global changes at local level and to balance affordability, security, and sustainability for the Island.
- 1.9 The propositions in this policy letter seek to enable Guernsey to manage the global transition to decarbonisation at local level in an appropriate timescale.
- 1.10 The Energy Policy seeks to facilitate the continuation of competition within the sections of the energy market where there is already competition, whilst providing for a framework to distribute responsibility more proportionately security of the Island's energy supply across providers.
- 1.11 The Energy Policy also seeks to enable Guernsey's emissions reduction targets to be in part achieved, including through on-island renewable energy generation, by facilitating targeted competition within the electricity market to enable potential additional renewable or low carbon energy operators to serve the market.
- 1.12 The Energy Policy further seeks to create the conditions necessary to enable existing operators to contribute towards both the decarbonisation of Guernsey's energy mix, and the security of the Island's energy supply, through the provision of low carbon and/or renewable energy generated (though not necessarily exclusively) on-island.
- 1.13 This policy letter outlines greenhouse gas emission targets but does not seek to take the place of a climate change or environmental policy. The climate change policy and a 'Climate Change Action Plan' will be submitted to the States by the Committee no later than May 2020. The Energy Policy and the Climate Change policy and Action Plan objectives are aligned.
- 1.14 The Committee, under its mandate to advise the States on energy and climate change, advises the States to set a target to reduce Guernsey's greenhouse gas emissions to net zero by 2050. The United Kingdom recently enshrined in law this same target, following the advice of the Committee on Climate Change¹, the independent, statutory body established under the Climate Change Act 2008² to advise the United Kingdom Government on matters relating to climate change.

¹ Committee on Climate Change (2019) 'Net Zero: The UK's contribution to stopping global warming', available at: <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>

² Committee on Climate Change, 'About the Committee on Climate Change' available at: <https://www.theccc.org.uk/about/>

- 1.15 The States are further advised to adopt an interim target of reducing emissions by 57% on 1990 levels by 2030, in line with the target set out in the United Kingdom's fifth carbon budget (for the period 2028-2032)³.
- 1.16 By adopting these targets, the Island would be aligning itself with the leading approach to decarbonisation by the United Kingdom (UK).
- 1.17 The Energy Policy will provide a stable basis, through a long term government policy, for the energy market to plan and make sound investment decisions in a changing marketplace.

2. Vision for Guernsey's energy future

- 2.1 By 2050 at the latest, the vast majority of Guernsey's energy supplies will come from clean, low carbon sources and residual emissions will be offset. Energy will be used wisely, so as not to waste precious resources. Conscientious use of on-island natural resources will safeguard our healthy environment and clean air, whilst protecting Guernsey's unique surroundings, biodiversity, and natural beauty. Generation of on-island (where "on-island" includes within our territorial waters) renewable, clean, affordable energy is supported by implementation of the Energy Policy and will provide value and choice for everybody and will play its part in helping Guernsey to mitigate climate change. Guernsey's energy supply will be resilient and secure, as well as sustainable, to meet reasonable demands for energy. Guernsey will be aligned with global efforts to reduce emissions and development of renewable technologies. The strategy for a transition to decarbonisation from 2020 to 2050 is contained within this policy letter.

Pillars for Guernsey's energy future

- 2.2 Through active engagement and consultation with stakeholders, the Committee has developed the following pillars.
- 2.3 The pillars were developed collaboratively with stakeholders and local energy organisations. They are aimed at industry level and provide the foundation principles for the Energy Policy. The pillars also provide necessary direction for progression and next steps for the Hydrocarbon Supply Programme.

³ Committee on Climate Change 'Carbon budgets: how we monitor emissions targets' available at: <https://www.theccc.org.uk/tackling-climate-change/reducing-carbon-emissions/carbon-budgets-and-targets/>

Manage and support change in the energy market in line with global efforts to reduce emissions	Allow for an open energy market with all suppliers having shared responsibility for security	Facilitate a Competitive energy supply market using shared critical infrastructure as appropriate	Establish a secure supply platform as an enabling factor for the growth of renewable technologies
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Objectives for Guernsey's energy future

- 2.4 In order to implement this vision for Guernsey's future energy there are six overall objectives for Guernsey's energy future:

1. Decarbonisation	<p>Decarbonisation of the Island's energy system will be in line with developing and evolving international standards and those set by other jurisdictions to mitigate climate change.</p> <p>This means our aim must be to have an energy system in which our energy supplies come from clean, low carbon sources. The outcome of this will be clean air and a healthy environment in which our community lives.</p>
2. Security and resilience of supply	<p>Maintaining the required level of security of supply to withstand simultaneous infrastructure failures within the system and still serve our energy needs.</p> <p>Working on the basis of increased interconnection; the existing N-2 criteria (on-island generation provision) would be updated, as appropriate, to maintain security of supply levels in light of increased connectivity.</p>
3. Consumer value and choice	<p>An approach to competition in the energy market that is aligned with Guernsey's scale and size, and one where consumers can have a choice over their primary source of energy.</p>
4. Equity and fairness	<p>An energy market where all consumers pay a share of the maintenance of the system, and in return receive equal access to the opportunities that come from technological advances.</p>

5. Supporting a vibrant economy	<p>A clean, reliable, and affordable energy supply is a fundamental economic enabler. Establishing an environment for the development of on-island (including offshore) renewables will support the diversification and vibrancy of Guernsey's economy.</p> <p>A shift to decarbonisation in Guernsey will be an essential reputational advantage to support the growth of the green finance sector. Establishing a clean and secure energy supply is a significant component of decarbonisation and assists in delivering the credibility and reputation that underpin growth in green finance.</p>
6. Greater energy independence	<p>A system where a greater and significant proportion of our community's energy needs are supplied through local energy sources. This will increase resilience by reducing exposure to external and geopolitical factors.</p>

2.5 To meet the objectives of the Energy Policy one of the most crucial investments will be 'plugging into' the European grid. During the energy transition a business case should be evaluated by Guernsey Electricity for a second electricity cable providing a link to the European grid, known as an interconnector. Consideration should be given to the ability of a second interconnector to satisfy the Island's energy objectives for security and resilience of supply and to enable and support growth of on-island (including offshore) renewables.

2.6 Energy independence is a desirable ambition for the Island and the outputs from research into renewables could achieve this objective in the future, by 2050 or earlier allowing for technologies to develop and mature. It is therefore reasonable for the case for a second interconnector to be outlined within the Energy Policy to ensure that the energy transition will be well managed and supported.

3. The rationale for a long-term Energy Policy

3.1 The States have agreed that the formulation of a long-term Energy Policy for Guernsey is one of its priorities⁴. It has been prepared both in the local context of Guernsey's present and future energy needs, and in global context of the ongoing and forecast future transition to lower carbon economies worldwide and international efforts to reduce greenhouse gas emissions through the

⁴ Billet d'État XX of 2017

phasing out of hydrocarbons. It should be noted that, in this case, when considering greenhouse gas emissions, the lifecycle of carbon associated with the energy form should be looked at to provide a fair comparison between technologies and to allow the Island to make a fully informed choice. The Policy also considers the importance of assessing other emissions (such as particulates, sulphur, and NO_x (Nitrogen Oxides)) which have wider environmental and health impacts. In addition, the Economic Development Strategy agreed in 2018 places an emphasis on the opportunities presented by the development of Guernsey's renewable energy sector.

- 3.2 The Energy Policy will supersede the existing Guernsey Energy Resource Plan⁵ which the States approved in 2012. The themes of the 2012 Energy Resource Plan were: decarbonisation of Guernsey's energy generation; diversification into low carbon and renewable energy supplies; continuation of a sustainable and secure energy supply; and the need for transparency in energy decision making.
- 3.3 The Energy Policy builds on these themes and reflects the changes in the energy market which have taken place over the past seven years, taking into account the current and forecast changes which energy market stakeholders and analysts expect to shape the Island's energy demand and supply during the period 2020 to 2050.
- 3.4 The Energy Policy does not supersede the Guernsey Electricity Supply – Future Strategy⁶, which the States approved in 2014, but it does provide the foundation and direction for implementing, updating, and reviewing the Electricity Strategy in the most effective way.
- 3.5 To ensure the Energy Policy remains up-to-date and responsive to developments in the energy market, and as part of the monitoring of the Energy Policy, the Committee will report progress against delivery of the Energy Policy through the Future Guernsey Plan's annual update process.
- 3.6 The Policy will need to be aligned with other directly linked States' areas of priority such as the emerging Climate Change Policy & Action Plan, the work on developing a Long-Term Infrastructure Framework, and the Hydrocarbons Programme (which is referenced in this policy letter). In addition, there are other areas such as the Economic Development Strategy, the Housing Strategy and policies that support the Future Guernsey Plan's objective of sustainable well-being.

⁵ Billet d'État III of 2012

⁶ Billet d'État XII of 2014, Article III

4. The energy system in Guernsey today

4.1 Guernsey's present-day energy mix primarily consists of:

- Electricity generated off-island from renewable (hydroelectric) and nuclear energy sources, and imported from France via Jersey by interconnector;
- Electricity generated on-island using hydrocarbon fuels (heavy fuel oil or liquefied petroleum gas) imported by sea;
- Electricity generated on-island, on a domestic and small-scale commercial basis, from renewable sources;
- Hydrocarbon fuels including transport fuels, kerosene, and mains and cylinder gas, all of which are imported by sea; and
- Solid fuels such as wood and coal, sourced locally for some wood and imported by sea.

4.2 An estimated breakdown of energy demand in Guernsey in 2018 is provided below⁷:

TABLE 3: SUMMARY OF GUERNSEY ENERGY MARKET SEGMENTS	
Energy component	GWh (2018, est.)
Non-electricity heating demand	482
Electricity demand	379
Road fuel demand	322
Marine demand	61
Aviation demand	55
Source: States of Guernsey Facts and Figures 2018 and PwC analysis, cited in PwC report 'Energy policy options for the States of Guernsey'.	

4.3 The estimated percentage share, from the report 'Energy policy options for the States of Guernsey', of energy demand in Guernsey in 2018 is provided below:

⁷ Source: States of Guernsey Facts and Figures 2018 and PwC analysis

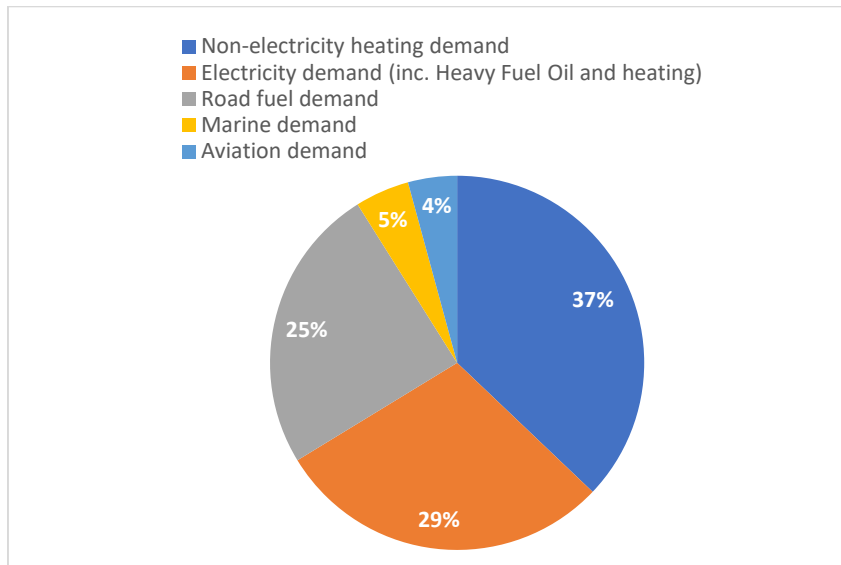


Figure 1: Estimated percentage share of energy demand in Guernsey in 2018

- 4.4 Entry to the Island’s electricity market is controlled by licence issued by the Guernsey Competition and Regulatory Authority (GCRA), and the sector is subject to economic regulation. The electricity market’s largest provider is Guernsey Electricity Limited (GEL), which is wholly-owned by the States and meets commercial, environmental, and social objectives set by the shareholder executive function that is overseen by the States’ Trading Supervisory Board.
- 4.5 The electricity market in Guernsey is regulated and licensed for three components – generation, conveyance, and supply. A generation licence or exemption is required “to generate electricity for the purpose of giving a supply to any premises or enabling a supply to be so given”. A conveyance licence is required “to convey electricity for that purpose in that person’s Authorised Area”. A supply licence or exemption is required “to supply electricity in that person’s Authorised Area” or “to supply electricity to any premises specified or of a description specified in the licence”.
- 4.6 The Electricity (Guernsey) Law, 2001 provides detailed definitions of the terms “supply” and “conveyance” in relation to electricity. In broad terms, under the current legislation, “supply” can be understood as meaning the supply of electricity through electric cables other than to premises occupied by the electricity licensee. “Conveyance” can be understood as the transportation of electricity by means of an electricity network.
- 4.7 Conveyance covers the transportation of electricity from the generating station (generator or supply cable) to the final substation, which closely aligns to the high voltage (“HV”) cable network, although not in totality as some customers are supplied with HV directly. The low voltage (“LV”) and HV cabling beyond the last substation to supply a property is covered in the supply portion of regulation

and licencing. The breakdown of Guernsey's electricity network is approximately one third high voltage and two thirds low voltage. See Appendix A

- 4.8 GEL is licensed to generate electricity and has protected exclusivity in the supply and conveyance sections of the electricity market until 2022. In 2017, a generation licence and supply exemption were granted to another entity, the International Energy Group (IEG).
- 4.9 Guernsey's public electricity supply is primarily sourced either from electricity generated on-island by GEL using hydrocarbon fuels, or from electricity generated off-island from renewable and nuclear energy sources and imported by GEL from France via Jersey by interconnector cable. If the interconnector system is disrupted, electricity supply depends upon domestic production by various hydrocarbon-based generation assets. In addition, there is currently a small amount of generation on-island by solar and domestic sources.
- 4.10 Reliance on a single off-island interconnector places the Island in a binary position for emissions output, both in terms of greenhouse gas and other emissions such as particulates, NO_x, and sulphur, related to electricity generation.
- 4.11 The existing cable has had the single largest positive impact on reducing the Island's emissions output; conversely, when the cable has failed emissions have significantly increased. GEL has advised that during the financial year 2018-19 (which runs from 1 April to 31 March), it achieved an importation level of 55%, with the remaining 45% generated on-island. In terms of production figures this equates to 203,968MWh of imported electricity and 165,605MWh generated on-island, including through generation using fossil fuels, and from locally-generated solar energy due to the failure of the interconnector between Guernsey and Jersey (known as Guernsey to Jersey 1 or GJ1)
- 4.12 GEL reports⁸ that in recent financial years, the percentage of total demand was split as follows and that on-island generation was largely due to the failure of GJ1:

TABLE 4: IMPORTED vs ON-ISLAND ELECTRICITY GENERATION		
Financial Year	Imported	Generated on-island
2018-2019	55%	45%
2017-2018	86%	14%
2016-2017	79%	21%
2015-2016	77%	23%
2014-2015	58%	42%

⁸ GEL Annual Report 2018-2019

- 4.13 Electricity generated on-island refers to the proportion of the demand on GEL's system supplied by locally produced energy. This includes both diesel generation and local renewable generation that is fed into the grid, either directly from GEL's solar array (multiple solar panels located on one site), which was completed in late March 2018⁹ or through the 'buy-back' arrangement for customers with 'behind-the-meter' generation that produces more energy than the customer requires.
- 4.14 GEL has advised that it forecasts achieving an importation level of 64% during the financial year 2019-20, owing to the restricted import levels of the GJ1 interconnector and a necessary outage later in the year to facilitate its replacement.
- 4.15 Under the existing Electricity Strategy, the States requires GEL to operate to a security of supply criterion referred to as "N-2". In broad terms, the N-2 criterion requires GEL to ensure that it has sufficient plant to meet maximum demand with its two largest sources of supply (excluding the interconnector) simultaneously unavailable. However, the N-2 security criterion does not set out other parameters relating to the security of energy supply in its totality across energy sectors; for instance, continuous supply obligations and hydrocarbons stockholding obligations, or the operation of the electricity grid.
- 4.16 GEL has initiated a project with the French electricity transmission system operator Réseau de Transport d'Electricite, for the development of a direct subsea cable to France ("GF1"), which GEL has stated will enhance electricity security and increase the capacity to access affordable low carbon electricity¹⁰. However, the Committee understands that no final investment decision has been made on the GF1 project. The Energy Policy seeks to set clear policy direction to enable energy suppliers, including GEL, to make investment decisions.
- 4.17 The market for gas is served by Guernsey Gas, which is part of the International Energy Group. Unlike the electricity market, the gas market is not subject to licensing or economic regulation (other than legislative requirements pertaining to health and safety). There are currently no other operators in the Island's gas market. Guernsey Gas Limited imports liquid petroleum gas by sea.
- 4.18 The market for solid fuels (i.e. coal and wood) is served by several suppliers. There is a local supply of wood, and both wood and coal fuels are imported in bulk by Load-on Load-Off (Lo-Lo) vessels at St Sampson's Harbour or via commercial freight at St Peter Port Harbour.

⁹ GEL 'Solar Array Installed,' available at: <https://www.electricity.gg/news/solar-array-installed/> (accessed 21.06.2019).

¹⁰ GEL Annual Report 2018

- 4.19 The market for light liquid fuels is served by four businesses. Three of these import fuels, Channel Islands Fuels Limited, Rubis, and ATF Fuels (in addition, Guernsey Electricity Limited imports heavy fuel oils and has some light liquid fuel storage). There is an additional on-island supplier, Guernsey Petroleum Distributers.
- 4.20 The liquid fuels market is not subject to licensing or regulation in terms of governing the entry to and operation of the market, although businesses in the market are subject to legislative requirements pertaining to health and safety. Channel Islands Fuels Limited and Rubis currently maintain supplies of liquid fuel to safeguard against shortages.
- 4.21 Light liquid fuels, heavy fuel oil, and liquid petroleum gas are delivered to Guernsey by sea, and most ships importing these fuels berth at St Sampson's Harbour. More recently, ATF Fuels have begun to import some light fuels via International Organisation for Standardisation (ISO) containers delivered as commercial freight via St Peter Port Harbour. Delivery is currently via the roll-on, roll-off service. Unitised delivery can also be facilitated using the lift on, lift-off service.
- 4.22 Owing to the nature of the different types of product, the different vessels which are used to deliver light fuels, heavy fuels, and liquid petroleum gas to St Sampson's Harbour cannot be shared. Heavy fuel oil and light liquid fuels could use the same vessel. However, the practical reality of continually shifting use from one product to the other, together with the associated incremental costs, means this is not a viable solution (this is further exacerbated when combined with the limited access windows to St Sampson's Harbour).
- 4.23 Bulk shipments of light liquid fuels are made by specialist vessels purchased by the States in 2008¹¹ (and independently run as a commercial venture) to ensure the security of light liquid fuel supplies to the Island. However, these vessels are approaching the end of their service lives (with an end-of-life date of 2027), and soon the States will need to make a strategic decision relating to the importation of light liquid fuels.
- 4.24 Shipments of heavy fuel oil and liquid petroleum gas are made by privately-owned vessels. However, the vessels currently used for the importation of liquid petroleum gas are also approaching the end of their service life (in 2021).

5. Baseline Future energy demand in Guernsey

- 5.1 To understand better the future energy mix on a local scale, PwC was

¹¹ Billet d'État IV of 2009

commissioned to develop a long-term forecast of energy demand, out to 2050¹². This provides the context for making energy infrastructure decisions, which typically are minimum 20-year commitments, and includes the method used by PwC to develop its long-term forecast of energy demand.

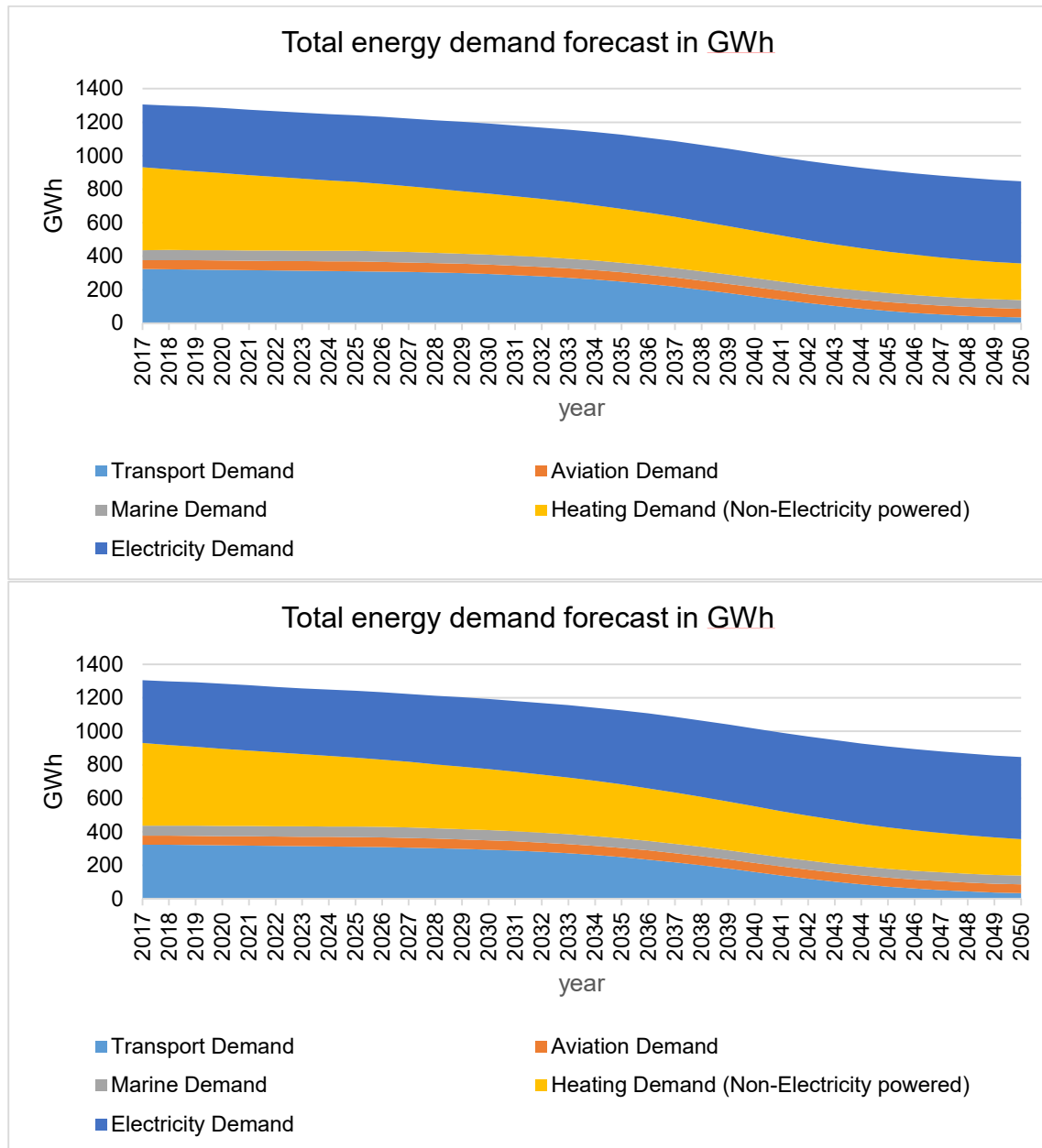
5.2 PwC's baseline forecast results (without direct policy intervention from Guernsey) show a local decline in total energy demand by more than 450GWh. PwC comments that although numerous factors drive the individual forecasts in each component, a consistent factor contributing to the overall demand decline is an increase in technological efficiencies, including:

- increases in fuel efficiency;
- the uptake of demand energy reduction measures such as home insulation; and
- the uptake of new technology and the transition to electrification. For instance, PwC refers to the energy saving associated with electric vehicle use, with less electricity required than petrol or diesel to travel the same distance.

5.3 The largest absolute and relative declines in demand are forecast to come in the road transport and (non-electricity) heating demand segments. Conversely, electricity demand is forecast to expand in both volume and demand share (electricity being the only segment forecast to expand). PwC's forecast therefore indicates both a downward trend in total energy demand in Guernsey, and a general transition from hydrocarbons to electricity.

¹² Future energy demand and policy considerations for Guernsey – available at <https://gov.gg/CHttpHandler.ashx?id=123629&p=0>

5.4 Based on Table 5 below, the energy demand by component forecast to 2050 is:



5.5 PwC found that during the period to 2050, demand for electricity in Guernsey will increase while other sources of energy fall. PwC predicts that over the next three decades, demand for electricity will increase from 29% of energy consumption on the Island to 58%. PwC attributes this increase to a growing share of electricity demand and declining share of non-electricity heating demand and road transport fuel demand owing to the transition to electricity. This is driven by consumers installing electric heating and replacing internal combustion engine vehicles with electric vehicles. In addition, PwC forecast a fall in total energy demand because of improvements in efficiency that reduce the

need for energy consumption. PwC's long-term energy demand forecast for Guernsey, in the absence of any intervention or policy action from the States, is provided below:

TABLE 5 GUERNSEY ENERGY DEMAND FORECAST BY COMPONENT IN 2050 WITH COMPARISON TO 2018 ESTIMATED DEMAND				
Fuel segment	2018 (est.)		2050	
	Demand volume (GWh)	Demand share (%)	Demand volume (GWh)	Demand share (%)
Road transport fuel demand	322	24.82%	34	4.05%
Aviation demand forecast	55	4.20%	52	6.13%
Marine demand	61	4.67%	52	6.16%
Non-electricity heating demand	482	37.11%	218	25.70%
Electricity	379	29.21%	491	57.96%
Total	1,299		847	
Source: PwC report 'Energy Policy options for the States of Guernsey'.				

- 5.6 The report states that although energy use in Guernsey is forecast to decline by 2050, the energy security risk to the Island is increasing, with risks arising from the transition to electricity and the declining demand for hydrocarbon fuels. In addition, PwC identifies a risk associated with the declining demand of hydrocarbons.
- 5.7 At present, if the interconnector system is disrupted, electricity is produced by various generation assets. However, PwC advises that the burden placed upon domestic generation could be even larger in the future, given the expected rapid transition to electricity, and that this could increase reliance on the grid and increase the current energy security risk.
- 5.8 One of the objectives of the Energy Policy is to support the transition away from hydrocarbons, and it is important to note that global trends indicate that this transition will occur notwithstanding any policy intervention by the States. Measures such as bans introduced in the UK, France, and other jurisdictions on the future sales of internal combustion engines and individual city policies on congestion charges, diesel bans and moves to decarbonisation have in turn significantly moved the car manufacturing industry. This has resulted in increased hybrid and electric vehicle manufacturing replacing traditional internal combustion engine vehicles.

6. The rationale for an emissions reduction target

- 6.1 The Kyoto Protocol to the United Nations Framework Convention on Climate Change legally bound signatories to greenhouse gas emissions reduction targets for a first commitment period (2008 – 2012). It had modest ambitions and was

adopted in 1997, coming into force in 2005. The United Kingdom's ratification of the protocol was extended to Guernsey in 2006 and committed the Island to reducing its greenhouse gas emissions by around 12.5% on 1990 levels by 2012.

- 6.2 The Doha Amendment to the Kyoto Protocol was adopted in 2012 and set more ambitious emissions reductions targets for a second commitment period (2012 – 2020). Under the Doha Amendment, the United Kingdom (as part of the European Union) committed to reducing CO₂ emissions by 20% on 1990 levels by 2020. In 2015, parties to the Doha Amendment signed up to the Paris Agreement¹³, which aimed to further strengthen the global response to the threat of climate change. The United Kingdom is a signatory to the Paris Agreement, although this has not been extended to the Bailiwick.
- 6.3 In 2018, the United Nations' Intergovernmental Panel on Climate Change (IPCC) issued a report¹⁴, which stated that to limit global warming to 1.5°C, "rapid and far-reaching" transitions would be required in land, energy, industry, buildings, transport, and cities. The IPCC report also stated that global net human-caused emissions of CO₂ would need to fall by about 45% from 2010 levels by 2030, reaching 'net zero' around 2050. In response to the IPCC report, at the 2018 UN Climate Conference (COP24), a multinational group formed called the 'High Ambition Coalition', to lobby for bold policies and actionable and transformative regulations to meet the Paris Agreement.
- 6.4 In addition to making commitments under the Convention, governments worldwide, including those of the other largest Crown Dependencies, have made domestic commitments to emissions reduction. The States of Jersey¹⁵ and the Isle of Man Government¹⁶ have made commitments to reduce greenhouse gas emissions by 80% below 1990 levels by 2050.
- 6.5 In 2019, the States of Jersey declared a climate emergency and made a commitment to reach carbon neutrality by 2030 and to introduce policy to support this in the first quarter of 2020. The Isle of Man has acknowledged that there is a climate emergency and has prepared a climate change report, under independent oversight, to inform the government action plan.

¹³ UNFCCC Summary of the Paris Agreement available at:

<https://unfccc.int/resource/bigpicture/#content-the-paris-agreement> (accessed 28.02.2019)

¹⁴ IPCC Press Release 'Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments' available at:

https://www.ipcc.ch/site/assets/uploads/2018/11/pr_181008_P48_spm_en.pdf (accessed 14.03.2019)

¹⁵ States of Jersey 'Pathway 2050: An Energy Plan for Jersey' available at:

<https://www.gov.je/Government/Pages/StatesReports.aspx?ReportID=1039> (accessed 07.03.2019)

¹⁶ Isle of Man Government 'Greater efficiency, Cleaner energy, resilient economy' available at:

<https://www.gov.im/media/1351764/mitigation-addressing-our-climate-challenges.pdf> (accessed 07.03.2019)

- 6.6 The United Kingdom, in June 2019, amended the Climate Change Act 2008 and put in place domestic legislation to reduce its emissions by 80% by 2050 compared to 1990 levels¹⁷. The European Union¹⁸ has put in place a binding target to cut its emissions by at least 40% below 1990 levels by 2030 and includes further targets of at least a 32% share for renewable energy and at least a 32.5% improvement in energy efficiency.
- 6.7 In 2019 Guernsey acknowledged that there was a climate crisis and added climate change as a priority policy area in the Future Guernsey Plan. Guernsey had not, at that point, committed to reducing its greenhouse gas emissions by 80% below 1990 levels by 2050, or set any new targets or commitments subsequent to the Kyoto Protocol. This meant it was out of step with both the United Kingdom and the European Union, in terms of its emissions targets, and therefore at risk of reputational harm. The vision for net zero by 2050 at the latest and objectives to reach this target will address this.
- 6.8 The Committee recognises that the Energy Policy represents an opportunity for the States to demonstrate their ambition and commitment to tackling climate change by reducing greenhouse gas emissions. Therefore, it lays out in the vision for Guernsey's energy future a target of net zero emissions by 2050 at the latest. By adopting this vision, the Island would bring itself in line with the United Kingdom, which recently announced that it would enshrine in law this same target. The target of net zero by 2050 has been outlined as required to meet the goal of the Paris Agreement which is to keep global temperature rise to below 2°C above pre-industrial levels. The Committee recognises this target is wider reaching than Energy Policy and has therefore proposed a net zero default position by 2050 to set clear direction and commitment to decarbonisation. The forthcoming Climate Change Policy and Action Plan will consider further the alignment to the UK's adopted policy and timings. Subject to the States' agreement to these initiatives, the financial implications of these initiatives, and how the resources and funding to support them where necessary can be secured, will be considered as part of the 2021 Budget cycle.
- 6.9 In addition, the States are advised to adopt an interim target of reducing emissions by 57% on 1990 levels by 2030. This would align the Island with the United Kingdom government's target, set out in its fifth carbon budget (for the period 2028-2032)¹.
- 6.10 Furthermore, the Committee recognises that whilst emissions from energy-related sources make the greatest overall contribution to the Island's

¹⁷ HM Government. The Clean Growth Strategy. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf (accessed 28.02.2019)

¹⁸ European Union '2030 climate & energy framework' Available at: https://ec.europa.eu/clima/policies/strategies/2030_en (accessed 28.02.2019)

greenhouse gas emissions inventory, there are other contributing factors, such as emissions from waste and agriculture, the policy approach to which falls outside of the scope of this policy letter. The Committee therefore proposes that work to develop the future climate change policy should include consideration of reducing emissions from non-energy sources.

6.11 The States of Guernsey provides annual updates of Guernsey's greenhouse gas emissions inventory, using data provided by Aether Limited, which compiles the figures as part of the United Kingdom's National Atmospheric Emissions Inventory. Emissions of the greenhouse gases carbon dioxide, methane, nitrous oxide, and fluorinated gases (or F-gases: hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride) are all estimated for the inventory. They are all presented in the form of CO₂ carbon dioxide equivalents (CO₂e) for ease of comparison.

6.12 The States of Guernsey's most recent Greenhouse Gas Bulletin¹⁹ reported (based on consumption rather than production) the following headlines, concerning Guernsey's emissions of greenhouse gases:

- Greenhouse gas emissions from Guernsey decreased by 10.5% in 2017, when they totalled 355.4kt of carbon dioxide (CO₂) equivalent, compared to 397.3kt in 2016;
- The cumulative percentage change in Guernsey's greenhouse gas emissions between 1990 and 2017 was a decrease of 35.7% (or 197.7kt of CO₂ equivalent);
- Transport contributed the largest proportion (32.2%) of the greenhouse gases emitted in 2017. Waste contributed a further 27.0%. On-island power generation contributed 9.0% (a greatly reduced proportion compared with pre-2001 when the cable link was established);
- The majority (64.0%) of the emissions were in the form of carbon dioxide; and
- Compared with 1990, only agriculture and F-gas emissions have increased in volume: agriculture by 0.1kt of CO₂ equivalent and f-gases by 19.8kt of CO₂ equivalent.

6.13 Energy makes the greatest overall contribution, in terms of proportion, to Guernsey's greenhouse gas emissions (all figures based on production rather than consumption). In 2017 (the most recent year for which published data are available) Energy made up 63.7% of greenhouse gas emissions. The percentage contribution of emissions by source in 2017 were as follows:

¹⁹ States of Guernsey (2019) 'Guernsey Annual Greenhouse Gas Bulletin 2017' available at: <https://www.gov.gg/ghg>

TABLE 6 PERCENTAGE CONTRIBUTION OF GUERNSEY'S GREENHOUSE GAS EMISSIONS BY SOURCE 2017

Source	Proportion
Energy – Power Generation	9.0%
Energy – Industrial Combustion	10.8%
Energy – Transport	32.2%
Energy – Commercial and domestic combustion	11.7%
Agriculture, land use, land use change and forestry	3.7%
Waste	27.0%
F-Gases	5.6%
Source: States of Guernsey Greenhouse Gas Bulletin 2017 (Issue date: 4 March 2019)	

7. Engagement with stakeholders

7.1 The Committee has undertaken extensive engagement with stakeholders across the energy sector; with relevant Committees, and with organisations representing on-island businesses. The themes raised by stakeholders include the need for the Energy Policy to address the following issues:

- Establishing favourable energy market conditions and a level playing field for operators;
- Managing the transition from hydrocarbons to electricity;
- Reducing Guernsey's greenhouse gas emissions and other emissions;
- Managing energy demand;
- Managing the energy supply chain and storage needs;
- Managing energy security;
- Meeting consumer needs;
- Facilitating and supporting economic development;
- Addressing global trends and international commitments; and
- Addressing issues relating to the generation of States' income.

7.2 These have been summarised into the following pillars developed in conjunction with stakeholders:

- To manage and support change in the energy market in line with global efforts to reduce emissions;
- To allow for an open energy market with all suppliers having shared responsibility for security;
- To facilitate a competitive energy supply market using shared critical infrastructure as appropriate; and
- To establish a secure supply platform as an enabling factor for the growth of renewable technologies.

- 7.3 The Committee, in formulating the recommendations in this policy letter, has had regard to the issues raised by energy market stakeholders, seeking to achieve a balance across the various areas of interest and need. In particular, the Committee recognises the need to manage and support the transition from hydrocarbons to adapt to global trends towards decarbonisation whilst working with fuel suppliers to ensure the continued security of the Island's energy supply.
- 7.4 The 2019 Budget Report indicated that the development of the Energy Policy would include a consideration of environmental and energy related taxes. The PwC engagement therefore included analysis and advice in respect of six potential tax policy options: hydrocarbons tax; carbon tax; pollution tax; mileage tax; heating efficiency tax; and an appliances tax.
- 7.5 The Committee's view is that at this stage the objectives of the Energy Policy can begin to be achieved without the use of fiscal levers to effect the necessary change. The Committee is mindful that the Policy & Resources Committee is responsible for fiscal policy and emphasises that if these taxes were to be implemented in the future, it would be on the basis of the taxes being policy levers as opposed to being fiscal instruments.
- 7.6 Therefore, the Committee does not recommend the introduction of any specific environmental or energy-related tax or taxes currently. However, it will review that position again by May 2023 by which time there will be a good 'baseline' level regarding market forces alone, which will inform any future recommendations more accurately. Should the Committee consider that such policy levers would be beneficial, it will report back to the States with policy proposals and then work with the Policy & Resources Committee to develop appropriate taxes for the Guernsey community for inclusion in a future Budget Report.
- 8. The benefits of a second interconnector to delivering the objectives of the Energy Policy**
- 8.1 Additional interconnection is a way to increase the security of supply, maintain access to affordable European electricity, facilitate emissions reduction through the importation of low carbon electricity, reduce the requirements of N-2 and provide for the uptake of local renewable energy for both the management of the grid and providing the potential for export.
- 8.2 Guernsey expects to have reliable and affordable access to imported low carbon electricity and retain high levels of security of supply today and into the future. Meeting these expectations now, as well as in the future, is particularly relevant given the recent experience of failures in the subsea cable between Guernsey and Jersey (GJ1).

- 8.3 GEL's overall investment strategy for interconnection has not changed from the previous policy direction approved in the 2012 Energy Resource Plan. This was to have two subsea import cables to the Island. Therefore, the overall strategic aims of two interconnecting cables remain to:
- Provide electricity supplies to customers at affordable prices;
 - Ensure appropriate levels of security and resilience of electricity supplies;
 - Meet the needs of the energy transition, and the adoption of local macro and micro renewables; and
 - Reduce carbon emissions from, and the environmental impact of on-island generation activities.
- 8.4 Of specific importance for the Guernsey interconnection strategy are the island's objectives for the entire energy system, particularly in terms of the level of local renewable energy generation and Guernsey's independence from other energy economies.
- 8.5 A second interconnector forms a firm basis for the development of local renewable generation and provides secure grid stability to the network as well as a resilient low carbon electricity supply chain. The proposed second interconnector would be Guernsey-France – GF1.
- 8.6 The principal change since the 2012 Energy Resource Plan is the early replacement of GJ1. The GJ1 replacement subsea cable has returned Guernsey's electricity production to mainly imported low carbon energy and reduced the need for local fossil fuelled power generation. However, whilst the likelihood of similar interconnector failure events as have been seen in recent years occurring should have reduced with the new cable, the risk impacts of a failure of the single circuit remain substantial. It is also clear that pressure from the global movement to stop generating using fossil-based fuel is increasing.
- 8.7 Noise pollution and air quality have come into greater focus and priority which goes beyond the pure carbon intensity consideration. Guernsey is preparing to enact legislation that controls industrial emissions in line with other European countries. The legislation was laid before the States on 27 November 2019 and confirmed the power station as a prescribed operation that requires a licence. The licence imposed conditions regarding the emissions from the facility (amongst other controls). Through consultation with the Guernsey Office of Environmental Health and Pollution Regulation, GEL decided that they should comply with the limits if they use the generators in D station to generate electricity and may exceed if use the older C station engines. GEL will work closely with the office throughout 2020 to ensure the licensing of GEL's operation allows GEL to continue operating with compliance under reasonably foreseeable circumstances.

- 8.8 Delaying progress on the GF1 project, or indeed not investing in a second interconnector at all, would likely necessitate additional, and strategically and financially sub-optimal, investment in local power generating plant required to ensure supply resilience. The plant would need to operate using hydrocarbon fuels which would comply with sulphur limits set within air pollution legislation potentially resulting in increases to operating costs. Alternatively, the Island would need to accept an increasing risk to the security and reliability of electricity supplies, e.g. an increased frequency of power cuts and disruption to supply.
- 8.9 The current challenges faced by GEL regarding their asset base, and the increasing investment burden required to keep the older heavy fuel oil based generating plant, and their auxiliaries in efficient working order has become more onerous, and expensive. Energy transition for the current source fuel (HFO) must be progressed swiftly, and fossil-free electricity from Europe would be a relatively swift and cost-effective solution.
- 8.10 Not investing in an additional interconnector would result in significant investment in on-island generation assets to provide security of supply. Renewable energy generation will be intermittent by its nature with the wind, sun, tides, and waves all having periods of absence.
- 8.11 To provide security from renewable sources energy storage would form an integral part of the system. Currently costs of energy storage are high and difficult to implement at grid scale. However, there are certain advantages of pairing renewable systems with storage. Battery systems can provide grid stabilisation for renewables.
- 8.12 Investment appraisal into a second interconnector continues to promote a clear investment option of installing a cable directly from Guernsey to France. This appraisal was fully aligned and took account of renewable technology changes and the likelihood and timing of adoption on the Island. The appraisal concluded that the option to install a direct cable to France would deliver added resilience to the electricity supply system in Guernsey by providing a second cable to supply the Island via a different route than the existing interconnector supply. It would also provide the Island with a supply capacity which virtually removes all carbon emissions associated with electricity generation from the Island by using French nuclear and hydroelectric power plants.
- 8.13 With the introduction of a second interconnector, resulting in enhanced resilience in the import supply chain, the level of resilience in on-island flexible generating capacity may be relaxed, leading to the existing N-2 criterion being revised. Indeed, GEL's view would be to pursue and encourage such change through a review of the Guernsey electricity supply strategy to ensure the Island's electricity provision remains affordable.

- 8.14 A second interconnector can continue to provide low cost low carbon electricity to the Guernsey energy economy. In consideration of the strategic advantages and overall outcomes that can be achieved for Guernsey in the near term and also in provision for the long-term future, it remains GEL's firm belief that the most appropriate investment pathway is the continued pursuit of the GF1 interconnector, that being a direct connection to France.
- 8.15 The process of gaining permissions and consents to install and connect a direct interconnector to French infrastructure consists of various stages which are set out in French regulation. The consultation processes take on average two years to complete, provided there are no significant issues that need to be addressed during the consultation. The Environmental Impact Assessment is reviewed for the entire project including the Channel Islands section. This document includes the collation of all studies, analysis and recommendations carried out and concluded during this period. The permissions and consents are required before a final investment decision, through submission of a business case, can be made as these confirm route and connection points. This decision point is planned to be in 2021/22.
- 8.16 The project total cost is currently estimated at £85m with the formation of a business case along with the French consenting and permissions process responsible for some £6 to £10m of these costs. This includes not only the consultation process but also the necessary surveys and offshore investigations. The project timescale continues to be for completion in the mid 2020's.
- 8.17 The Committee is asking the States, through the Energy Policy, to agree the strategy for Guernsey to have interconnection through two electricity cables in order to address issues relating to the forecast increase in demand for electricity in Guernsey and the security and affordability of the Island's electricity supply, to facilitate emissions reduction, and to provide connectivity to the European grid for the import and also potentially the export of low carbon electricity including electricity generated from renewable sources.
- 8.18 The costs associated with the development of a full business case, along with the French consenting and permissions processes, to be presented to the States are estimated to be at £6-10 million, as this will include a survey of the seabed. The overall required investment and funding will be set out in the business case which will be put to the States for its consideration. The costs for the development of the business case, including the survey, will be met by GEL but they will be fully reflected and recovered by the business through its charges.
- 8.19 There are several reasons why the rationale for a second interconnector from Guernsey directly to France (GF1) rather than a second interconnector from Guernsey to Jersey (GJ2) is supported:

- **Supply resilience** - GF1 provides secure connectivity to the European Grid via diverse points of supply from different areas within France, provides a substantially different routing of submarine cable and supplies Guernsey Electricity Limited's on-island network at different positions within the transmission network. This configuration ensures redundancy at every point in the import supply system, creating a resilient network. This does not mean that Guernsey can withstand any adverse event, rather the consequences of any adverse event should fall within Guernsey Electricity Limited's (and Guernsey's) security of supply tolerance. The alternative option to route a second interconnector via Jersey does not provide the same level of resilience, where inferior geographical separation and continued reliance on the Jersey transmission network exist;
- **Capacity** - the additional capacity offered by GF1 will allow c.99% importation at present levels of electricity demand and will provision substantially towards the long term forecast future peak demand which is expected to increase to around 100 to 120MW, dependent on how well the Island's electricity demand is managed. Whilst a second connection to Jersey as a subsea asset may be installed at 100MW, substantial further investment in capacity rights into Jersey, and in network infrastructure across Jersey will be necessary. Although this situation presents some opportunity in terms of capital phasing, capital phasing also presents an issue of continued investment liability;
- **Future investment liability** - an investment in a direct route to France increases both Guernsey and Channel Island resilience and reduces dependency on GJ1, CIEG (the Channel Island Electricity Group) assets and associated commitments required to sustain capacity rights on GJ1; and
- **Affordability** - all necessary investment options challenge affordability and will represent substantial cost on consumers' energy provision. However, it can be seen through financial modelling that the GF1 investment has the least impact on customers and GEL's financial sustainability if delivered through an appropriate capital financing structure. With affordability under strain whichever the chosen pathway, it becomes more a question of policy than investment strategy.

9 Renewables and low carbon

- 9.1 As per the Energy Policy 2020 – 2050 vision for Guernsey's energy future, all Guernsey's energy supplies will come from clean, low carbon sources. The island is fortunate to be in a position where there are abundant resources of wind, wave, tidal and solar energy that can be utilised to produce power. In the long-term, renewables offer a locally sourced and independent form of energy provision. Over the short term the nascent state of the grid scale energy storage sector means that renewables are unlikely to be able to provide additional security of supply at low cost. There is clear potential to provide security through storage.

Onshore wind and solar are both cost competitive and are now the cheapest forms of new build bulk power. Offshore wind prices have come down significantly based on next generation (10-12MW) turbines and are also now cost competitive. Newer technologies such as floating platform offshore wind, tidal and wave are still largely pre-commercial and require significant scaling up before they become commercial, but offer good opportunities for the Island in the future. Cost implications at consumer level will be related to the status of the technologies, of wind, wave, tidal and solar, as well as the scale of a given development.

- 9.2 Renewable energy can be adopted in two ways: at a large grid, or macro, scale, with arrays ranging from ~100kW for solar up to 100's of MW for wind or; at small domestic scale, or micro, ranging from a few watts up to a few kilowatts and this can be both solar and small scale wind. Both micro and macro generation are a departure from traditional centralised generation, which is an adaptation that is required globally as we transition to a lower carbon energy system. A system of management for intermittent and smart/AI technology (e.g. washing machines that 'switch on' during load dips) for distributed generation will be essential for the uptake of renewables. See Appendix B.
- 9.3 In 2016, working with Guernsey Electricity, Environment and Infrastructure's Renewable Energy Team commissioned a report²⁰ into the potential for a 30MW (5-10 turbines) offshore wind farm to be developed within the Island's waters. The report investigated whether it was both technically and financially feasible to develop a small scale wind farm to service the Island and reached the following conclusions:
- There are a range of technically feasible options to develop an offshore wind project in Guernsey's waters. Developing a modest project, of the order 30MW, will achieve the fundamental objectives associated with energy diversification namely: security; price certainty; sustainability and lower carbon emissions.
 - The cost (based on 2016 prices) was higher than current French importation and on-island generation.
 - The lowest cost site is likely to be in the shallow waters off the north coast (or any coastal site).
- 9.4 Following the report in 2016 continued evolution in the development of offshore wind turbines has resulted in increased size of turbines (regularly exceeding

²⁰ Full report - <http://www.guernseyrenewableenergy.com/documents/managed/Offshore-Wind-Feasibility-Report.pdf>

Summary report -

<http://www.guernseyrenewableenergy.com/documents/managed/offshore%20feasibility%20high%20level%20summary.pdf>

10MW) and reducing costs. The changes and advances in the sector present challenges and new options for Guernsey. For example, smaller turbines as originally modelled are less available. Using larger turbines currently available for a 30MW windfarm increases dependency on each individual turbine and a larger scale wind farm with greater generation capability may be viable. Whole life costs for wind farms have significantly reduced as illustrated by the falling strike prices of offshore wind projects in the UK – with the latest awards putting offshore wind as the second cheapest form of new build power generation in northwest Europe (behind only onshore wind)²¹. Therefore, the options for Guernsey include:

- To work with a nearby off-shore wind farm to benefit from the scale;
- To investigate increasing the scale of a wind farm and selling surplus electricity and/or producing hydrogen for sale/storage;
- To proceed with a smaller scale off-shore windfarm and accept a slightly higher cost of energy.

- 9.5 The security of interconnection and the stability of the grid is an important consideration when setting targets for local renewable generation. Careful consideration of how grid stability can be ensured when scaling up renewable energy deployment on Guernsey is required. Resilient grid interconnection is viewed as a preferable means of ensuring stability rather than reliance on a domestic (island) level ancillary balancing services market for which the local energy market lacks the scale to make commercially viable.
- 9.6 With the successful commissioning of the replacement GJ1 cable and without the investment into a second interconnector, GEL forecasts an average carbon intensity of electricity of between 60 to 70 gCO₂e/kWh with the single interconnector in reliable operation. However, this figure again rises to over 100 gCO₂e/kWh by 2048 and this is due to forecast increases in demand during peak times needing to be served by on-island diesel generation whilst the GJ1 cable has reached technical capacity limitation (note this figure also takes account of annual scheduled outages required for maintenance).
- 9.7 With GF1 forecast to deliver c.99% of electricity requirements on Guernsey, the average carbon intensity of electricity is 5.2 gCO₂e/kWh, assuming contractual terms between Channel Island's Electricity Grid (CIEG) and Électricité de France (EdF) remain as present.
- 9.8 Whilst local renewable energy generation and storage is likely to reduce the need for on-island hydrocarbon-based generation and may play a valuable part in reducing the need to operate on-island hydrocarbon generation during peak

²¹ <https://windeurope.org/newsroom/press-releases/offshore-wind-wins-big-in-worlds-largest-wind-energy-capacity-auction/>

times, it is unlikely to result in no hydrocarbon generation. All local hydrocarbon-fuelled generating assets will be subject to a regime of test running necessary to ensure their healthy availability, so a small proportion of on-island generation will always need to occur.

10. Managing the decline of hydrocarbons – proposed next step

- 10.1 The long term stability of the supply chain for hydrocarbons has been identified by the States of Guernsey and the private sector as a subject that requires better understanding for some time.
- 10.2 Historically, the focus of debate has tended to be on the vulnerabilities associated with how fuel is transported and uploaded to the Island. More recently, an increased recognition of the rapidly shifting political and technological environment has added other dimensions to be considered.
- 10.3 The question of the way forward for hydrocarbon delivery is far more complex than the stability of and risks within the current supply chain. The wider context of energy transition to electricity, the reduction in hydrocarbon volumes in the medium to long term, the long-term (25+ years) nature of infrastructure investment, the drive towards decarbonisation and other government programmes such as the States' Trading Supervisory Board's St Peter Port Harbour Development Programme must be considered.
- 10.4 The programme of work that began life as "Deep Water Berth Investigations" in 2013 has therefore become much more complex and multi-faceted.
- 10.5 The requirement has moved on from a simple review of a replacement for the current import facilities at St Sampson's Harbour to a review of the Hydrocarbon Supply Chain. The programme of work to investigate supply of hydrocarbons to the Island has been under way since November 2016. This programme of work has involved a number of studies and has provided pivotal information on future requirements which can now be viewed in the context of the Energy Policy and current programmes of work with the States. Key work carried out includes:
 - Hydrocarbon demand forecasts;
 - Stakeholder engagement;
 - Risk assessment of the current supply chain;
 - A long list of options for each element of the supply chain;
 - Evaluation of the supply options and risks to create a shortlist;
 - Total life costs assessment for short list options.

10.6 The hydrocarbon supply chain

10.6.1 The existing hydrocarbon supply chain is almost entirely provided by the private sector. Multiple fuel types are imported categorised as heavy fuel oil (used for the on-island electricity generators), liquid petroleum gas (used for mains and bottled gas supply) and light liquid fuels (petrol diesels, heating oil, marine fuel, and aviation fuel). Each category has been reviewed for supply, transport, upload, storage, and delivery. A schematic of the current provisions is provided in Appendix C.

10.6.2 The hydrocarbon suppliers form part of an overall competitive energy market on the Island. Whilst individual energy types such as electricity and gas may have only one supplier on the Island, the overall island energy market is currently a competitive market.

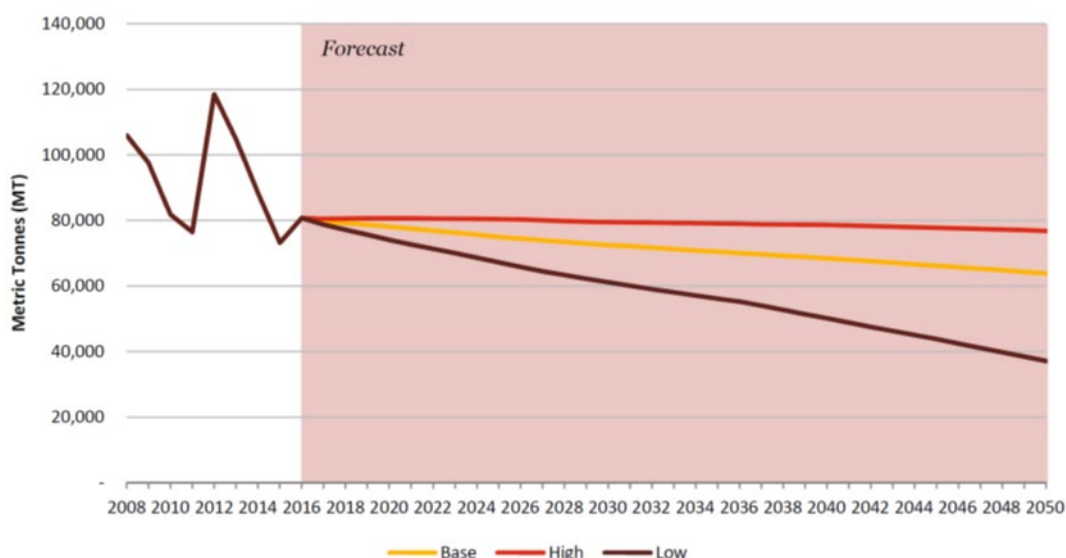
10.7 The hydrocarbon work was undertaken with the following general requirements applying to all elements of the supply chain (for full details see the Statement of Requirements at www.gov.gg/fuels). Some or all these baseline requirements are influenced or negated by changes in policy, advancements in technology and drive towards decarbonisation. These requirements were the basis from which the hydrocarbon work was formed from, however they are not necessarily the basis from which we would work now.

- Future solutions need to allow for continued importation of all the currently supplied fuels;
- Future supply chains should be adaptable to cope with the forecast decline in fuel demand in the range 20-50% by 2050;
- Future supply chains should allow for total hydrocarbon imports in the range of 40,000 to 80,000 MT (tonnes) by 2050;
- Where possible, a diversity of supply and suppliers should be maintained;
- While it is expected there will be a premium to be paid on the price of hydrocarbon supply to Guernsey in comparison with larger markets in UK and Europe, future supply solutions should aim to minimise this;
- Any major new infrastructure should have a design life of more than 25 years; and
- Any new infrastructure should be considered in relation to potential synergies with other capital projects.

10.7 Reducing demand

10.7.1 The demand forecast for hydrocarbons on Guernsey concluded that demand is most likely to decrease over the forecast period to 2050 with the baseline case indicating a volume decline of -21% in total between 2016 and 2050 and low case forecast decline of -54% whilst the high

case is essentially flat. The chart below indicates Guernsey's estimated hydrocarbon demand for the three scenarios: base, high and low 2008-2050.

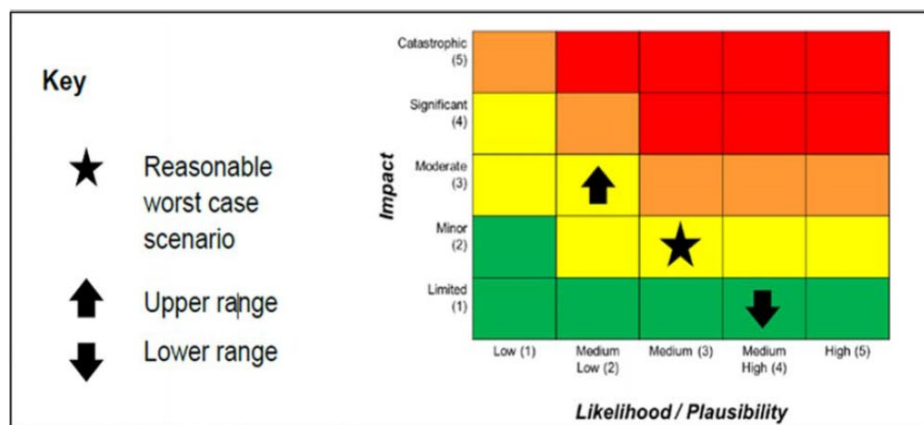


- 10.7.2 Heavy fuel oil (HFO) demand for Guernsey Electricity (GEL) is the primary driver of historical volatility.
- 10.7.3 In aggregate, the forecast decline in demand is the net impact of the following key factors:
- Broadly flat population forecasts;
 - An economy that is forecast to grow slowly but without any structural changes in the mix of economic activity conducted on the Island;
 - Increases in fuel efficiency across most segments, particularly the road transport and heating markets;
 - Gradual electrification in some segments, most notably the uptake of electric vehicles (EVs).
- 10.7.4 The full report hydrocarbon demand study can be found at www.gov.gg/fuels. The forecasts within the hydrocarbon programme were key in the development of Energy Policy which has since gone on to forecast total energy demand. The updated baseline forecasts are contained within the “Baseline future energy demand in Guernsey” section of this policy letter at paragraph 5.4.
- 10.7.5 It must be noted that stress testing short listed supply and upload solutions concluded policy intervention did not change the options. However, the forecast report notes changes to the States of Guernsey’s

policies could have a significant impact on the use of hydrocarbons on the Island. Similarly, as acknowledged in the Energy Policy, external jurisdictions policies are also key influencers.

10.8 Risk

- 10.8.1 The existing supply chain was risk assessed by identifying the associated risks and scoring the reasonable worst case scenarios and indicating an upper and lower range. The graphic below shows the basis on which risks were assessed.



The risk appetite considered acceptable for the hydrocarbon supply chain includes risks assessed with a reasonable worst case scenario of green, yellow, or orange whereby planning strategies are included to limit impact for orange. Red risks were not considered tolerable. All options for hydrocarbon supply were evaluated on the same basis.

- 10.8.2 The evaluation of the current supply chain identified 16 risks, five of which were considered red. Continuation of the current supply chain, investing in new vessels to import fuel the same way, would require the acceptance of red risks over the longer term than other potential solutions. Any infrastructure decision for hydrocarbon supply is an investment decision for a period greater than 20 years.
- 10.8.3 The risk assessment looked at risks identified in previous reports, risks identified in stakeholder meetings other documented risks including industry best practice, standards, and guidelines on use of NAABSA (Not always afloat but safely aground) berths.
- 10.8.4 All hydrocarbon supply solutions were risk assessed on the same basis. Full details of the risk assessment and assessments reducing the long list of potential supply solutions to a short list can be found in the Statement of Requirements at www.gov.gg/fuels.

10.9 Short list and supply solutions

10.9.1 The long list of options for the hydrocarbon supply chain were evaluated against the key criteria set out at the commencement of the hydrocarbon supply programme and the risk tolerances as described in section 9.6.1. Based on this evaluation, stakeholder engagement and the demand volume forecasts, the following options are shortlisted in the programme:

- A multi-buoy mooring for lighter grades of fuel and pursue interim options for LPG and HFO import.
- Commissioning new vessels and continue the existing importation method. To continue supply of the existing hydrocarbon fuel types this requires a minimum of three vessels. This solution requires a higher risk appetite to be adopted than the programme of work deemed acceptable.
- Containerised/unitised hydrocarbon delivery by either Ro-Ro or Lo-Lo.
- Uploading fuel in St Peter Port, thereby removing some of the bespoke vessel requirements for delivery to St Sampson's Harbour and therefore opening alternative options for vessels delivering to the Island.
- Do nothing and depend on the private sector to evolve their supply chains. This would place the management of risk for continuity of supply of each individual hydrocarbon type (gas, light liquids, and heavy fuel oil) with the individual suppliers.

10.9.2 Some of the shortlisted options are more capital intensive and costs are less flexible as demand reduces. Infrastructure investment on, for example, new vessels or offloading at St Peter Port requires significant capital investment. If the supply chain continues to be operated on the same basis as today, privately, and commercially, the infrastructure investment costs would be passed on to the per unit price of the product and therefore the consumer. As volumes reduce these capital costs would be spread over smaller volumes, thereby increasing the unit cost.

10.9.3 A containerised or unitised delivery solution is operating expenditure intensive and potentially more flexible to reduce costs as volumes reduce.

10.9.4 All of the shortlisted options, outlined in 10.9.1, require further investigation to determine a preferred option for the long term delivery of liquid fuels to the Island. Properly investigating these options will ensure we are able to reach well-reasoned investment decisions for delivering the ongoing supply of hydrocarbons to the Island.

10.10 Energy transition and key factors

10.10.1 The findings of the hydrocarbon supply programme have helped to inform the Energy Policy to support the Island in a pivotal transition period for energy supply.

Key considerations for next steps of the hydrocarbon programme include:

- Energy Policy and decarbonisation;
- Advancement of technology;
- Policy decisions in other jurisdictions changing energy needs;
- Guernsey's energy demand forecasts;
- Aging assets in the current supply chain; and
- Concurrent States of Guernsey Programmes of work

10.10.2 The hydrocarbon supply chain requirements are a combination of:

- Policy and strategy adoption and implementation. This includes approval of Energy Policy and climate change policy followed by the implementation of actions associated with those policies.
- Changes to port infrastructure (note these are significantly dependent on decisions within the STATES' TRADING SUPERVISORY BOARD St Peter Port Harbour Development Programme); and
- Interim support for issues related to hydrocarbon supply continuity in the short term.

10.10.3 Therefore, it is recommended, based on 10.10.2, that the hydrocarbon programme is subsumed into Energy Policy, and the States' Trading Supervisory Board's St Peter Port Harbour Development Programme considers port infrastructure for the delivery of hydrocarbons. Establishing a third strand of work is recommended to work with energy providers and align decisions for interim supply solutions. Next steps are outlined in section 11.

11. Proposed actions and next steps

11.1 The proposed actions and next steps below will enable the States to meet the long-term Energy Policy objectives set out in section 2.4 and manage hydrocarbon supply decisions as set out in section 10. Further work will be undertaken on each of them if agreed by the States. The actions and next steps have been proposed to:

- Reduce the need for new legislation, regulation, government control or taxpayer funding as far as possible;
- Provide clear actions with a realistic timeframe;
- Be focused on the community rather than the market;
- Recognise and work with other States' programmes of work and policy work streams;
- Build on the existing energy system; and
- Be focused on delivering clear outcomes.

The transition to decarbonisation

Emissions reduction target

- 11.2 With a move to decarbonisation, it is important to create the conditions for investment, infrastructure development, product development and consumer choice to support that transition. It is the view of the Committee that a target is essential to create those conditions, as well as to ensure that Guernsey meets international standards.
- 11.3 The Committee, under its mandate to advise the States on energy and climate change, advises the States to set a target to reduce Guernsey's greenhouse gas emissions to net zero by no later than 2050. The United Kingdom recently enshrined in law this same target, following the advice of the Committee on Climate Change²², the independent, statutory body established under the Climate Change Act 2008²³ to advise the United Kingdom Government on matters relating to climate change.
- 11.4 The States are further advised to adopt an interim target of reducing emissions by 57% on 1990 levels by 2030, in line with the target set out in the United Kingdom's fifth carbon budget (for the period 2028-2032)²⁴. The committee is mindful that as well as reducing greenhouse gas emissions, it is important to consider other wider emissions (such as particulates, sulphur, and NO_x) which have wider environmental and Health impacts which are covered under the Committee's mandate for Environmental Health and Pollution Regulation. The Committee is also mindful that fiscal levers may be required to meet these targets in the future.

²² Committee on Climate Change (2019) 'Net Zero: The UK's contribution to stopping global warming', available at: <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf> (accessed 20.06.2019)

²³ Committee on Climate Change, 'About the Committee on Climate Change' available at: <https://www.theccc.org.uk/about/> (accessed on 20.06.2019)

²⁴ Committee on Climate Change 'Carbon budgets: how we monitor emissions targets' available at: <https://www.theccc.org.uk/tackling-climate-change/reducing-carbon-emissions/carbon-budgets-and-targets/> (accessed 20.06.2019)

Action – agree the vision for Guernsey’s energy future and prioritise opportunities to reduce emissions faster where possible.

Resource implications – no new direct resource implications identified.

Outcomes – compliance with international standards and target; positive international reputation; ensure momentum in decarbonisation, provide clear policy direction enabling sound long-term energy infrastructure investment.

Licensing framework to support on-island (including offshore) renewables generation

- 11.5 The work undertaken by PwC and the targeted consultation with energy stakeholders has demonstrated that it is important to create the conditions for an increasingly competitive renewable electricity market. As well as supporting decarbonisation, this will support the economic growth and the development of a renewable energy sector and will support greater choice for consumers.
- 11.6 The role of the States is to support the creation of these conditions through an appropriate, proportionate, and cost-effective licensing framework. This could include the widening of the remit of the Electricity (Guernsey) Law, 2001, which the States of Deliberation has the power to amend by Ordinance in section 36(1). However, competition is the tool through which the objective of greater on-island (including offshore) renewables will be met – it is not an end in itself. Therefore, there will need to be an analysis of the market structure to ensure that we are able to deliver the aims of the policy in a cost effective manner. To ensure continuity of supply of electricity; it is important that Guernsey Electricity Limited can continue with their ongoing supply whilst awaiting the new licencing framework. The Energy Partnership (see 11.13) will be part of the process working with the Committee (and other Committees where relevant).
- 11.7 While part of the cost of the regulatory work will be met by GEL, it may be that part of it will need to be met by the States of Guernsey if it addresses matters that are not solely or directly related to GEL. In that case the Committee *for* Economic Development will need to submit a bid for funding as part of its 2021 budget submission to cover the non-GEL funded costs of this work.
- 11.8 The Energy Policy makes no recommendations on the licensing framework nor who the regulator would be. It would be possible for the new licensing system to be enacted through widening of the existing legislation (Electricity (Guernsey) Law, 2001), which the States of Deliberation have powers to amend by Ordinance under section 36(1). Currently the regulator is the Guernsey Competition and Regulatory Authority (GCRA), should there be a decision to change regulator there would be a requirement for various legislative and practical steps to enable the new regulator to undertake any proposed actions.

Additionally, the States have the power, under the Regulation of Utilities (Bailiwick of Guernsey) Law, 2001, to issue directions to the GCRA, but a further power would need to be enacted for a new regulator to be given such direction. As the Policy does not form a view on this, the actions and propositions will refer to the “relevant regulator”, which could be the GCRA or any other authority as decided at a later date by the States.

Actions – the Committee to establish a target for renewable and low carbon/low emissions on-island energy by Q2 2021; the Committee *for* Economic Development to consult and bring proposals to the States of Deliberation to give direction on licensing matters to the relevant regulator by the end of 2021; the Committee *for* Economic Development to bring proposals to the States of Deliberation to give Direction to the relevant regulator ensuring continuity of electricity production; work in tandem with the removal of barriers to enable market entrants for renewable and low emissions generation whilst ensuring that the market structure will be compliant with the Bailiwicks future trading relationships.

Resource implications – the Committee *for* Economic Development to submit a request for funding to meet the costs of this work as part of the 2021 Budget cycle.

Outcome – support the development of competition to provide on-island (including offshore) renewables and low emissions electricity;

Security and resilience of supply

Improved interconnectivity to the European energy system

- 11.9 Improved interconnectivity to the European energy system will increase Guernsey’s access to more renewable and low carbon energy. As well as supporting the transition to decarbonisation, this will support greater security and resilience of supply.
- 11.10 GEL has been developing the business and investment case for a second interconnector to meet this requirement. The Committee’s view is aligned with Guernsey Electricity Limited, that a second interconnector is the best means by which to do this. It supports Guernsey Electricity Limited and the States’ Trading Supervisory Board in bringing to the States a detailed business case for investment in the Guernsey France interconnector (GF1).

Action – To give support in principle to the requirement for the second interconnector, subject to the final business case; direct the States’ Trading Supervisory Board to require Guernsey Electricity Limited to continue work on the introduction of a new interconnector cable between Guernsey and France;

in order to enable the Guernsey Electricity Limited to prepare a business case for the States' Trading Supervisory Board to bring forward for approval by the States.

Resource implications – see para 8.18.

Outcome – greater clarity and certainty for Guernsey Electricity Limited and the States' Trading Supervisory Board; increased resilience and security of supply, supports transition to decarbonisation.

Moving from N-2

- 11.11 The building of the second interconnector will enable a policy change from N-2 relaxing the on-island requirement for plant (to N-1 or another standard as deemed appropriate). With the resilience afforded by the additional interconnector the replacement of like-for-like generators as old generators are no longer effective or efficient will no longer be required. This will enable a shift from N-2 to a lower requirement on-island. The Committee will bring a policy letter to the States when that position has been reached to amend the electricity strategy.

Action – support in principle the future move from N-2 to a lower on-island requirement for plant (N-1 or another standard as deemed appropriate).

Resource implications – as part of the business case for the required investment, work will be done to understand the savings this would deliver – for example – in on-island generators. This will be part of the business case developed by Guernsey Electricity Limited and brought to the States by the States' Trading Supervisory Board.

Outcome – greater clarity and certainty for Guernsey Electricity Limited, the States' Trading Supervisory Board and other businesses; supports the transition to decarbonisation; increased security of supply.

Managing the decline in demand for hydrocarbons

- 11.12 Managing the decline of the level of on-island demand for hydrocarbons is a critical component of ensuring the security and resilience of Guernsey's energy supply, and of the long-term Energy Policy. It also supports decarbonisation, and support ensuring equity and fairness in the provision of supply. It is important to create the conditions to ensure a level playing field for provision of security and transition to decarbonisation within the hydrocarbon supply market. When considering the introduction of licencing to hydrocarbons it is possible to widen the remit of the Electricity (Guernsey) Law, 2001 to include hydrocarbons, which the States have the power to amend by Ordinance in section 36(1) to allow for this.

11.12.1 The work undertaken to date through the Hydrocarbon Supply Chain Programme has identified four options which are set out in section 10. The States must consider these options in the context of diminishing volumes of hydrocarbon demand over the medium term, the current and on-going societal dependency on hydrocarbons, known issues with the current supply chain with existing vessels approaching their end of life and emissions reductions aims via demand reduction or lower emission energy sources. The States' Trading Supervisory Board's St Peter Port Harbour Development Programme will consider all shipping requirements, which includes the importation of hydrocarbons. The support programme for the interim supply options, working with the supplier, will be undertaken by the Committee, and will be informed by the St Peter Port Harbour Development Programme.

Actions – the Committee *for* Economic Development is asked to consult and bring proposals to the States of Deliberation to give direction to the relevant regulator on licensing matters to provide for hydrocarbon supply security on-island measures and reducing emissions from the supply of hydrocarbons by Q4 2021.

Resource implications – see section 10. The Committee *for* Economic Development to submit a request for funding to meet the costs of this work as part of the 2021 Budget cycle.

Outcome – improved on-island security and emissions reduction drive from the supply of hydrocarbons.

Consumer value and choice

Establishment of an Energy Partnership

11.13 The Committee is recommending the formal establishment of an Energy Partnership bring together the States, energy providers, and the relevant regulator. The purpose of the Energy Partnership will be to work with government on the delivery of a number of elements of the policy, pro-actively provide efficiency and demand reduction measures through energy providers, promote consumer awareness of the environmental and financial benefits of energy efficiency via energy providers, to devise and promote measures to reduce energy demand, and to ensure consumers are provided with clear information on energy use.

Action – the Committee to establish terms of reference and membership by Q4 2020.

Resource implication – no new resource implication. Funding to be prioritised from within the existing Energy Policy budget overseen by the Committee.

Outcome – a mechanism to deliver energy efficiency, demand reduction and education to enable informed consumer decisions bringing together the views of the States, energy providers, community representatives and the relevant regulator to deliver solutions via the energy providers.

11.13.1 In order to ensure greater consumer value and choice, the States will support consumers being able to trade surplus energy with other consumers to maximise the use of local renewables.

Action – the Committee *for* Economic Development, working with the Energy Partnership and the Committee *for the* Environment & Infrastructure, to undertake work on energy trading as part of the investigations into licencing and tariffs.

Resource implications – the Committee *for* Economic Development to submit a request for funding to meet the costs of this work as part of the 2021 Budget cycle.

Outcome – cross-sector agreement on the best method through which to achieve this objective.

Equity and fairness

Prevention of fuel poverty

11.14 It is a stated objective of the Energy Policy to ensure that the changes to our energy system work for everyone – and that, moreover, they actively mitigate against fuel poverty rather than exacerbate or maintain fuel poverty.

Action– to direct the Committee *for* Employment & Social Security to co-ordinate an investigation of the most effective means of addressing energy poverty (incorporating the existing review of winter fuel allowance) and report back to the States by the end of Q2 2021.

Resource implications – no new direct resource implications. There is the potential for additional officer support from the Strategy and Policy team to undertake the policy development work if the requirement for that resource is demonstrated and agreed.

Outcome – ensure that technological changes and market developments do not create an environment that works only for the wealthiest in our community.

Energy suppliers

- 11.15 Based on the targeted consultation that has been undertaken, the Committee is of the view that a cost reflective tariff system must be put in place across all forms of energy supplies. This will incorporate a consistent and transparent charge for commodity, security, and service. The outcome must be that cost should be reflected in tariffs and recoverable for energy providers. This will ensure greater clarity for investment by commercial providers; and greater transparency for consumers in respect of what they can choose to pay for. To achieve this, a full and expedient review of tariffs will be undertaken by the Committee to provide clear direction for the relevant regulator.

Action - the Committee *for* Economic Development, working with the Committee *for the* Environment & Infrastructure, to undertake a review of cost reflective tariff structures and to bring proposals to the States of Deliberation to give direction to the relevant regulator by Q4 2020.

Resource implications – the Committee *for* Economic Development to submit a request for funding to meet the costs of this work as part of the 2021 Budget cycle.

Outcome – Creation of an open and level playing field for competition in the generation market and wider energy market; prospective investors into the renewable generation market fully understand connection and power purchase arrangements.

Property Energy Efficiency

- 11.16 The Committee seeks to work with the Development & Planning Authority as it investigates opportunities to further improve and expand building regulations to contribute to the emissions reduction target, both for ‘new builds’ and (recognising the small proportion of ‘new builds’) existing properties undergoing alterations. The Committee is aware of initiatives in other jurisdictions which have looked to impose either minimum standards or the requirement to report the energy standard of a building to enable the sale or rental of that property. The Committee acknowledges that, given the age and status of some buildings, some will struggle to meet the highest standards. The Committee is open to the idea of having the rental and sales markets having potentially different rules, given the lack of control a tenant has over upgrades to a rented property. The Committee seeks to work with the Development & Planning Authority as they investigate the means of measuring the building energy efficiency standard of housing stock.

Action - The Committee to work with Development & Planning Authority as it brings forward further recommendations to improve energy efficiency of

existing and future housing stock through building regulations together with the means of measuring the building energy efficiency standard of housing stock. The Committee to work with the Development & Planning Authority (and any other relevant expertise) to review the potential for, and impact of requirements to report building energy standards and/or to implement a minimum standard for the rental market and a reporting standard for the sales market and bring forward recommendations by the end of Q2 2021

Resources – no new direct resource implications identified.

Outcome – support a more efficient use of energy and demand reduction.

Support a vibrant economy

- 11.17 The work to date by Guernsey Finance and the Guernsey Financial Services Commission to support the development of green finance and investment is welcome. The Committee also welcomes the States in November 2019 supporting further funding of £300,000 from the Future Guernsey Economic Fund to support this initiative in 2020. It is important for Guernsey's reputation as a green finance centre that the States agree to the vision for Guernsey's energy future and prioritise the decarbonisation of the Island's energy system.

Action – the Committee *for* Economic Development Committee to consider appropriate States' support for further investment in green finance.

Resource implications – the Committee *for* Economic Development to submit a request for funding to meet the costs of this work as part of the 2021 Budget cycle.

Outcome – continuing development of green finance opportunities in Guernsey and support investment in decarbonisation and renewables.

Greater local independence

- 11.18 Changing the requirements for the merit order dispatch (the merit order dispatch defines the way of ranking energy dispatch and currently ranks purely based on ascending order of price) of energy can ensure that greater support is given to the on-island (including offshore) generation of renewables. This in turn will provide greater independence from other energy economies.

Action – the Committee *for* Economic Development to bring proposals to the States of Deliberation to give direction to the relevant regulator regarding the revision of the requirements for the dispatch of electricity by Guernsey Electricity Limited (known as the "merit order") to place any pre-committed energy production, prioritising on-island renewable generation, ahead of flexible dispatchable production.

Resource implications – the Committee *for* Economic Development to submit a request for funding to meet the costs of this work as part of the 2021 Budget cycle.

Outcome – provide greater support for the on-island (including offshore) generation of renewables.

Summary of actions and timeline

- 11.19 The Committee has set out in table 5 below, several key milestones in the process of achieving the Energy Policy objectives.

TABLE 5: MILESTONES		
Date	Milestone	Responsible body
Quarter 2, 2020	States to consider Energy Policy propositions and policy letter.	Committee <i>for the</i> Environment & Infrastructure
Quarter 2, 2020	Shareholder direction to be issued to Guernsey Electricity Limited, directing it to continue to progress its project to introduce a second interconnector.	States' Trading Supervisory Board
Quarter 3, 2020	Proposals for the revision of the merit order arrangements.	Committee <i>for</i> Economic Development
Quarter 4, 2020	Formal establishment of the Energy Partnership.	Committee <i>for the</i> Environment & Infrastructure
Quarter 4, 2020	Definition of "low carbon" and "low emission" energy sources.	Committee <i>for the</i> Environment & Infrastructure
Quarter 4, 2020	Proposals for Direction to the relevant regulator following a review of the structure of a cost reflective tariff system.	Committee <i>for</i> Economic Development
Quarter 4, 2020	Through the States' Trading Supervisory Board St Peter Port Harbour Development Programme report to the States' future ports requirements (which includes consideration of infrastructure options for Hydrocarbons).	States' Trading Supervisory Board
Quarter 2, 2021	Establish a target for the generation of locally sourced renewable energy	Committee <i>for the</i> Environment & Infrastructure

Quarter 2, 2021	Report back on the most effective means of addressing energy poverty.	Committee <i>for</i> Employment & Social Security
Quarter 2, 2021	Recommendations to improve energy efficiency of housing stock brought to the States of Deliberation for approval.	Committee <i>for the</i> Environment & Infrastructure
Quarter 2, 2021	Proposed Support programme for interim hydrocarbon supply solutions	Committee <i>for the</i> Environment & Infrastructure
Quarter 4, 2021	Proposals for direction to the relevant regulator on the licensing framework for the energy market and to support the on-island (including offshore) generation of renewables.	Committee <i>for</i> Economic Development
Quarter 4, 2021	Business case for second interconnector to be laid before the States of Deliberation for approval.	States' Trading Supervisory Board
Quarter 1, 2022	Expiry of Guernsey Electricity Limited's exclusive rights in the supply and conveyance sectors of electricity market, under present schedule (set in 2011) – Relevant Regulator to renew GEL licence in absence of further direction or the implementation of a new licencing system	Committee <i>for</i> Economic Development
Quarter 2, 2022	Revised Electricity Strategy to be laid before the States for approval.	Committee <i>for the</i> Environment & Infrastructure
2023	Position on introduction of environmental or energy-related taxes to be reviewed by May 2023 for inclusion in the 2023 budget.	Committee <i>for the</i> Environment & Infrastructure, working with the Policy & Resources Committee
Following cable installation and Electricity Strategy approval	Revised approach to on-island generating capacity to be brought to the States	Committee <i>for the</i> Environment & Infrastructure
2030	Achievement of States' interim greenhouse gas emissions reduction	Committee <i>for the</i> Environment &

	target of 57% on 1990 levels.	Infrastructure
2050	Achievement of greenhouse gas emissions target of net zero.	Committee <i>for the</i> Environment & Infrastructure

12. Extant States' Resolutions and Prioritisation of Legislation

- 12.1 The Committee has identified that if the States approve the Energy Policy, the following extant resolutions will be superseded and therefore, the Committee proposes, should be rescinded, and/or amended as follows:

TABLE 6: EXTANT STATES' RESOLUTIONS FOR RESCISSION AND/OR AMENDMENT

Resolution Date	30 th September, 2011
Billet and Article	Billet d'État XV of 2011, Article XIV
Original Sponsor	Commerce and Employment Department
Title	Review of Utility Regulation
Resolution	11. To: d) Direct the Commerce and Employment Department to monitor the development of the energy sector in the Channel Islands and bring forward a review of these arrangements by 31st January 2022 or sooner in the event of any material changes to the structure of the sector.
Update	With regard to Resolution 6 of this policy letter, the proposals in this policy letter seek to open section(s) of the electricity market to competition in order to support the development locally of renewable energy generation and storage, and to increase energy security through increasing the contribution made by renewables to the Island's energy mix. The Committee considers that this Energy Policy serves to fulfil the function of the review of arrangements in the energy sector which is the subject of this aspect of the resolution. As a consequence of this policy letter, this extant States' resolution is superseded and should be rescinded.

Resolution Date	25 th June, 2014
Billet and Article	Billet d'État XII of 2014, Article III
Original Sponsor	Policy Council, Commerce and Employment

	Department, and Treasury and Resources Department
Title	Guernsey Electricity Supply - Future Strategy
Resolution	4. To continue the present mandate for the Commerce and Employment Department to investigate and prepare for the use of renewable energy as part of the Island's energy mix as detailed in section 17 of that Report.
Update	Due to the changes in the machinery of government made in 2016, responsibility for advising the States on matters relating to energy including renewable energy now rests with the Committee for the Environment & Infrastructure. In addition, the Committee's policy proposals serve to supersede this extant States' resolution. The Committee therefore proposes that this extant States' resolution should be rescinded.

Resolution Date	9 th April, 2015
Billet and Article	Billet d'État VI of 2015, Article III
Original Sponsor	Commerce and Employment Department, and Treasury and Resources Department
Title	Alternative Framework for the Oversight of Guernsey Electricity Limited and Guernsey Post Limited
Resolution	1. To direct that Guernsey Electricity Limited and Guernsey Post Limited be made exempt from the licensing and regulation provisions within the respective electricity and postal laws by no later than 1 st January 2016.
Update	<p>If the proposals in the Energy Policy are approved this extant States' resolution would become superseded to the extent that it relates to the regulation of Guernsey Electricity Limited and the wider electricity sector.</p> <p>The Committee therefore seeks States' approval to amend this extant States' resolution, but only insofar as it relates to regulation of Guernsey Electricity Limited and the wider electricity sector. The Committee makes no recommendations in respect of the regulatory oversight of Guernsey Post Limited and of the postal sector, which is outside of the scope of this policy.</p> <p>As a consequence of this policy letter, this extant States' resolution, so far as it relates to Guernsey Electricity Limited and the electricity sector is superseded and</p>

	<p>should be amended such that:</p> <ul style="list-style-type: none"> • “Guernsey Electricity Limited and” and “respectively electricity and” are deleted; and • “law” is substituted for “laws”.
Resolution	4. To direct the Commerce and Employment Department, in liaison with the Law Officers of the Crown, to report on the detailed legislative changes necessary to give effect to the Departments’ joint proposals.
Resolution	5. To direct the Commerce and Employment Department to report on the effectiveness of the replacement oversight arrangements by no later than three years from the date on which these arrangements come into effect.
Update	As a result of this Energy Policy, this extant States’ resolution would become superseded to the extent that it relates to the regulation of Guernsey Electricity Limited and the wider electricity sector. The Committee would like to clarify that by making the changes outlined to Resolution 1, resolutions 4 & 5 cease to relate to Guernsey Electricity and the wider electricity sector and so no further changes to the extant resolutions is required.

Resolution Date	18 th February, 2018
Billet and Article	Billet d’État III of 2016, Article XVII
Original Sponsor	Commerce and Employment Department
Title	Legislative changes relating to the future oversight of Guernsey Electricity Limited and Guernsey Post Limited
Resolution	1. To direct that the Regulation of Utilities (Bailiwick of Guernsey) Law, 2001 is amended by removing postal and electricity services from the definition of "utility services" (as indicated at section 3.3 of that policy letter), in order that the regulation of those sectors is no longer a responsibility of the Guernsey Competition and Regulatory Authority.
Resolution	2. To direct that the Electricity (Guernsey) Law, 2001 and the Post Office (Bailiwick of Guernsey) Law, 2001, are amended, with the intention that the Commerce and Employment Department (or the committee of the States which has responsibility for utility regulation as successor to the Department) may discharge the regulatory functions under the Electricity (Guernsey)

	Law, 2001 and the Post Office (Bailiwick of Guernsey) Law, 2001, as indicated in sections to 3.15 of that policy letter.
Update	<p>As a consequence of the proposals in the Energy Policy, these extant States' resolutions would become superseded to the extent that they relate to the regulation of Guernsey Electricity Limited and the wider electricity sector, and the Guernsey Competition and Regulatory Authority's responsibilities for the same. The Committee therefore seeks States' approval to amend these extant States' resolutions but only insofar as they relate to regulation of Guernsey Electricity Limited and the wider electricity sector, and the Guernsey Competition and Regulatory Authority's responsibilities for the same. The Committee makes no recommendations in respect of the regulatory oversight of Guernsey Post Limited and of the postal sector, which is outside of the scope of this policy.</p> <p>As a consequence of this policy letter, this extant States' resolution is superseded and should amended to delete:</p> <ul style="list-style-type: none"> • in resolution 1, "and electricity"; and • in resolution 2, "the Electricity (Guernsey) Law, 2001 and" on both occasions it appears."

Resolution Date	16 th March, 2016
Billet and Article	Billet d'État VII of 2016 Article IX
Original Sponsor	Social Welfare Benefits Investigation Committee
Title	Comprehensive Social Welfare Benefits Model
Resolution	2. To direct the Committee <i>for</i> Employment & Social Security to report to the States of Deliberation, no later than October 2017, with recommendations for reform of the arrangements for winter fuel allowances to householders receiving supplementary benefit.
Update	The Committee proposes that the work of this extant States' resolution should be incorporated into the recommendation which seeks States' approval to direct the Committee <i>for</i> Employment & Social Security, working with the Committee <i>for the</i> Environment & Infrastructure, to investigate the most effective means of addressing energy poverty. This resolution would therefore be superseded and would require rescission

	by the States.
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13 Compliance with Rule 4

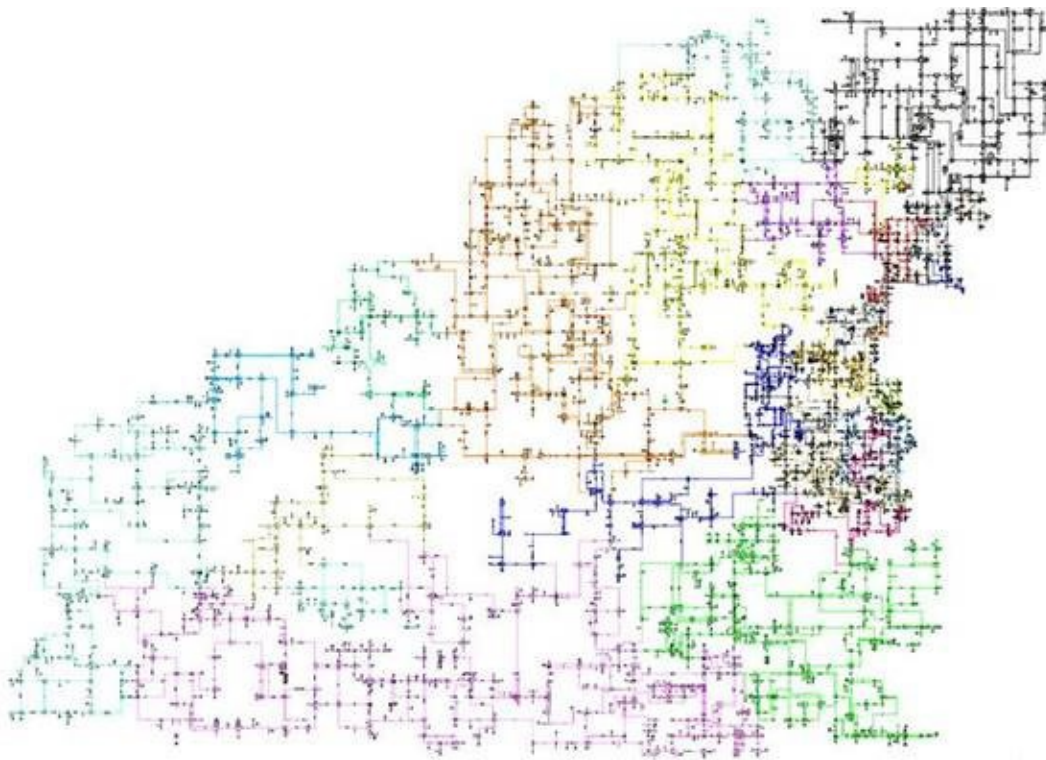
- 13.1 Rule 4 of the Rules of Procedure of the States of Deliberation and their Committees sets out the information which must be included in, or appended to, motions laid before the States.
- 13.2 In accordance with Rule 4(1), the Propositions have been submitted to Her Majesty's Procureur for advice on any legal or constitutional implications.
- 13.3 In accordance with Rule 4(3), the Committee has included Propositions which, although they do not have immediate financial implications, could create a future need for the States to provide funding as set out in paragraphs 10.2 to 10.17. It is the expectation of the Committee that requests for funding will be made through future budget and capital investment rounds and expenditure prioritised alongside other spending requests.
- 13.4 In accordance with Rule 4(4) of the Rules of Procedure of the States of Deliberation and their Committees, it is confirmed that the propositions above have the unanimous support of the Committee.
- 13.5 In accordance with Rule 4(5), the preparation and agreement of the propositions and content of the policy letter relate to the duties of the Committee *for the* Environment & Infrastructure. The Committee consulted the Committee *for* Employment & Social Security on the 21st January 2020, the States Trading Supervisory Board on the 23rd January, the Committee *for* Economic Development on the 30th January 2020, and the Policy & Resources Committee in relation to the propositions and policy letter.

Yours faithfully

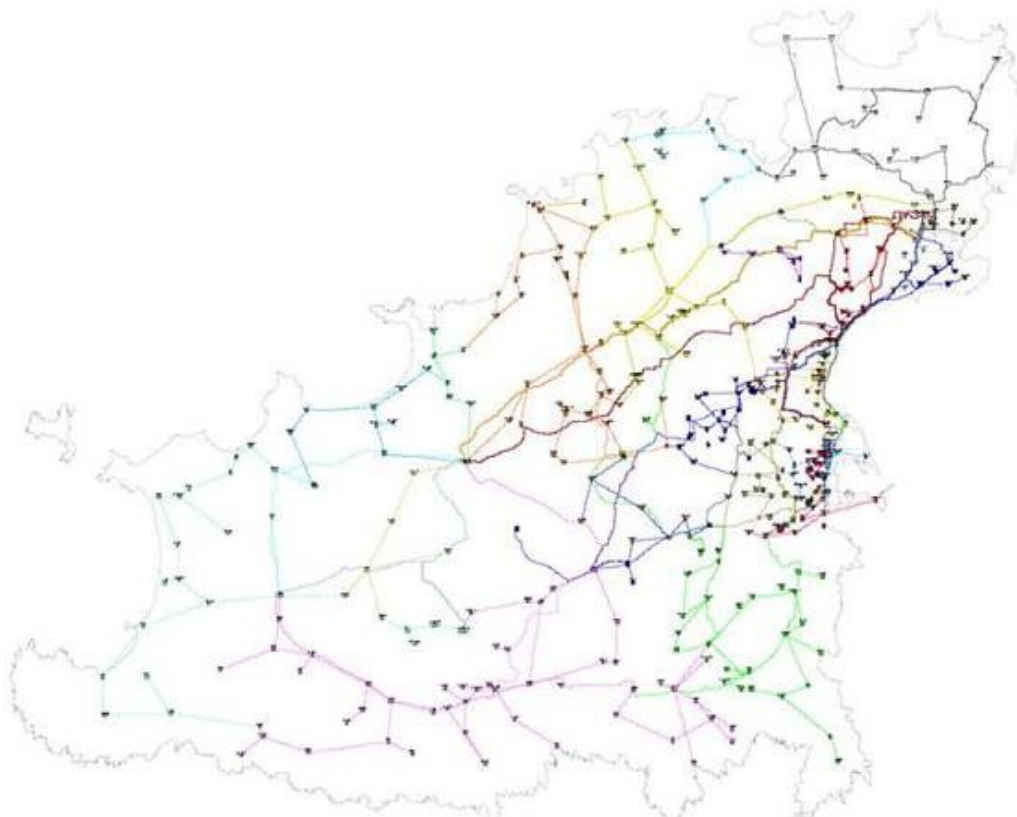
B L Brehaut
President

M H Dorey
Vice-President

H L de Sausmarez
S Hansmann Rouxel
S L Langlois



Low Voltage network



High Voltage network

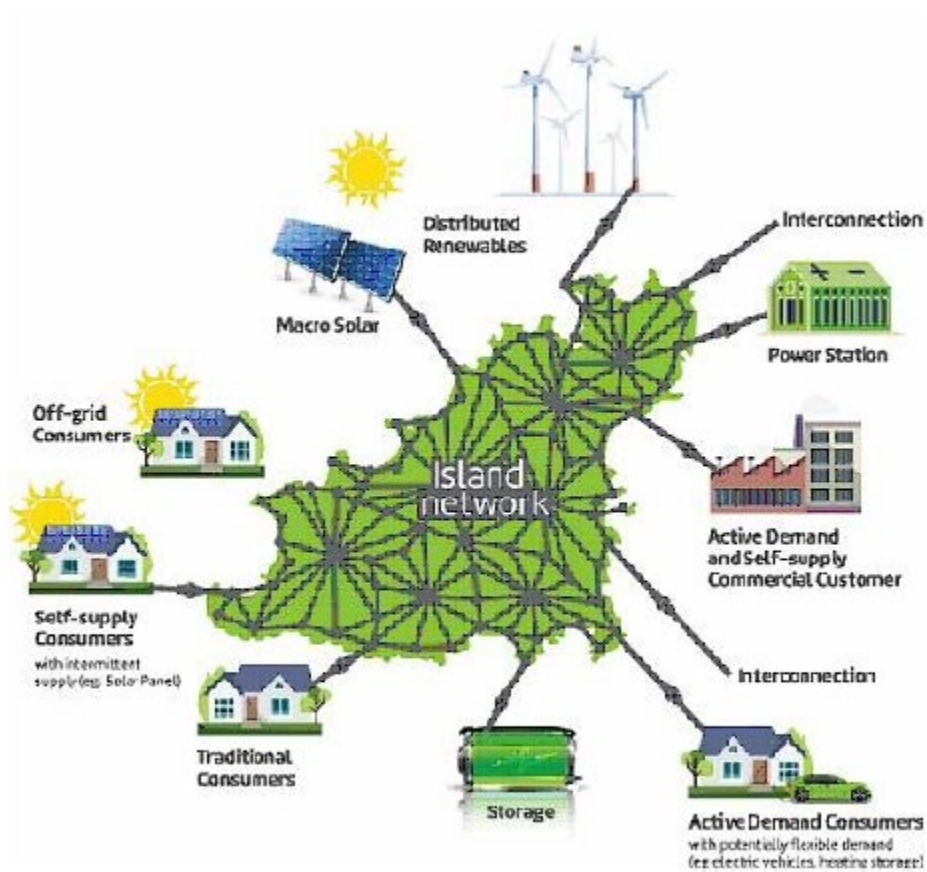
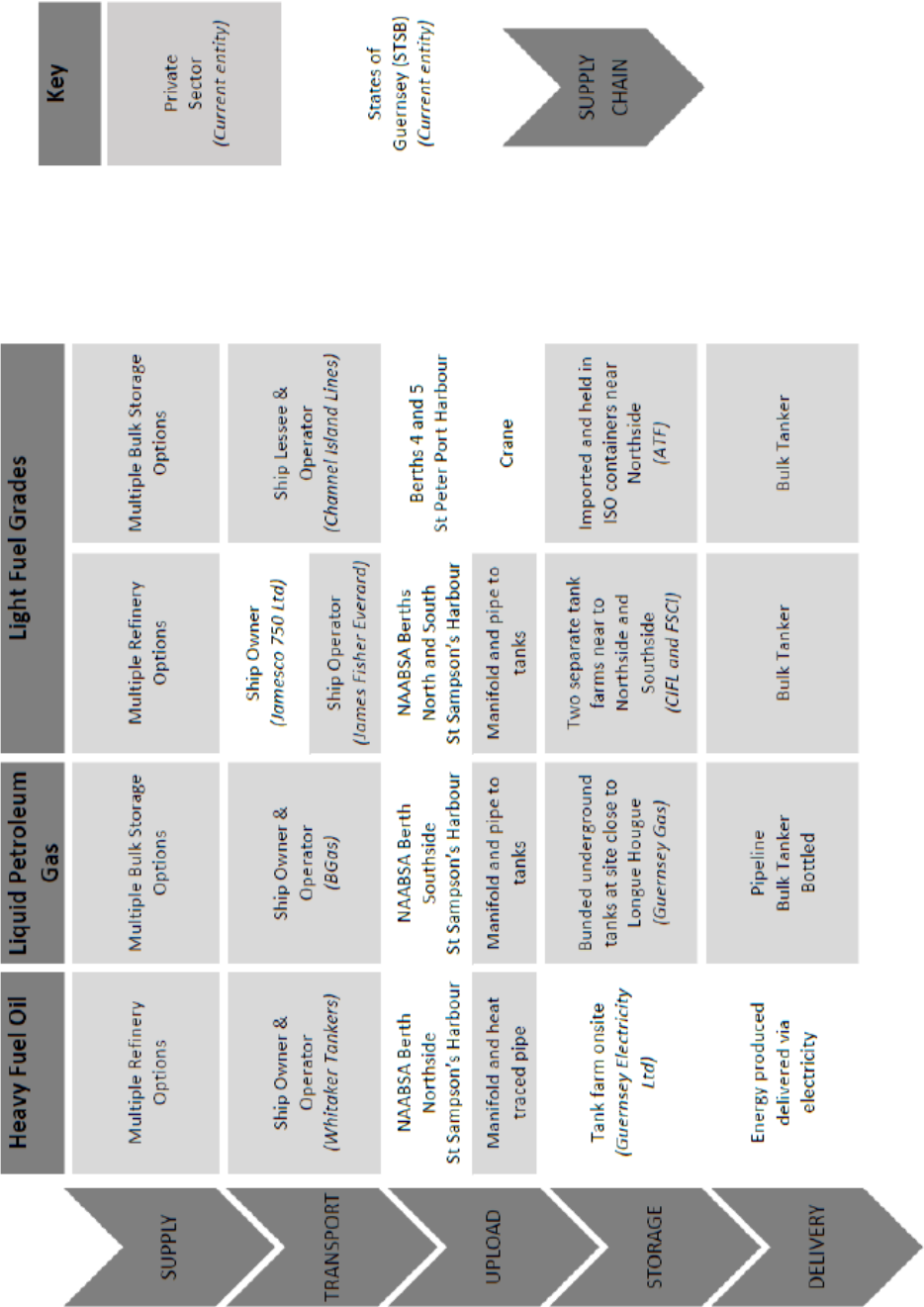


Figure 1: Fuel Supply Matrix Overview – All Fuel Grades



APPENDIX D



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Via e-mail

5 February 2020

Dear Barry

Energy Policy 2020-50 – draft policy letter

Thank you for the further opportunity to comment on the emerging energy policy and the draft policy letter. The Committee welcomed the opportunity to discuss this with you and Deputy Dorey at its meeting on 30 January.

The Committee's view is that it is clear that much work has been undertaken since our previous meeting on this matter last year. The Committee welcomes the fact that many of the revisions have come as a result of the technical consultation carried out with stakeholders in 2019.

The Committee has a critical role in working with the Guernsey Competition and Regulatory Authority to ensure that the regulatory and licensing framework in Guernsey is fit-for-purpose for the future. The Committee welcomes the objectives set out in the draft policy that relate to those matters. The Committee will ensure that this role is discharged effectively, subject to the agreement of the States of Deliberation.

The Committee also has an important role in ensuring Guernsey's ongoing compliance to the rules of the World Trade Organisation. The Committee welcomes the fact that officers have been cognisant of the importance of this matter in developing the proposals in the draft policy letter. The Committee will continue to ensure that this approach is maintained as the further work set out in the policy letter is developed.

The Economic Development Strategy put forward by the Committee and approved by the States of Deliberation in 2018 included a commitment to redoubling Guernsey's efforts to developing a renewable energy sector. A clear energy policy has been needed in order to take that forward in a meaningful and effective way. The proposals in the draft policy are

consistent with this, and the Committee welcomes the opportunity to have an active role in developing this sector as part of the energy policy.

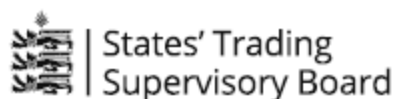
The Committee notes that the UK Government has recently announced its intention to bring forward the introduction of a ban on selling new petrol, diesel, or hybrid cars in the UK from 2040 to 2035 at the latest, in order to achieve its target of emitting virtually zero carbon by 2050. In light of the UK's policy, the Energy Policy will therefore need to take into consideration the availability and potential infrastructure requirements of electric vehicles in the Bailiwick.

The Committee's view is that the resilience and security of Guernsey's energy supply is essential to Guernsey's economy continuing to develop and grow. The Committee – by majority - therefore welcomes the commitment for a detailed business case on a new interconnector to be brought to the States of Deliberation as early as possible in the new term, so that the matter can be considered fully.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'C Parkinson', written in a cursive style.

Deputy Charles Parkinson
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26th February, 2020

Dear Barry

Draft States' Energy Policy 2019-2050

I am grateful to you for the opportunity to append a Letter of Comment from the States' Trading Supervisory Board (the "STSB") to your Committee's policy letter on the draft States' Energy Policy (the "Policy").

The STSB's mandate is to carry out the States' role as shareholder in their incorporated companies. These include both Guernsey Electricity Limited ("GEL") and Jamesco 750 Limited ("Jamesco"). It is also responsible for the management and operation of Guernsey Harbours. Each of these has significant interests in the Energy Policy. As the shareholder and custodian of these significant States' assets, the STSB has a responsibility to ensure it fully understands the opportunities and risks that the Policy presents for both companies (and the wider market) and that it advises the States accordingly.

General Observations

The STSB supports a number of the objectives and initiatives set out within the policy letter, including:

- The progressive decarbonisation of the Island's energy mix. This is consistent with the steps that GEL is taking in this area as part of the Environmental Sustainability Strategy it has already published, including:
 - switching its electricity imports from a mix of nuclear and hydroelectric sources to one made up completely of renewables such as solar, wind and hydroelectric;
 - investing in "grid scale" renewable generation, such as the solar PV installations at the power station and Guernsey Post Headquarters. The advantage of such "grid

scale” initiatives is that all Islanders are able to benefit on an equitable basis from renewables. Further opportunities are being progressed, including the Waste Transfer Station and the colleges under the Transforming Education Programme, and GEL has set itself a target to ensure that total installed capacity across the Island reaches 20MW by 2050;

- phasing out the use of high sulphur fuel at the power station by 2022;
- eventually, phasing out the use of all hydrocarbons from its electricity generation.
- An increase in the Island’s energy independence and security through the development of more local renewable energy sources and storage, together with the economic development opportunities this provides;
- An acknowledgement that, in an open energy market, all suppliers should have a shared responsibility for security of energy supplies. At the moment, the substantial cost burden that the States’ current “N-2” electricity security policy places on GEL prevents it from operating more efficiently. There is a need to ensure that this burden is shared by all licensed electricity generating companies in the event that this market place is to be opened up to more competition;
- The need to ensure that a cost reflective tariff system should be put in place across all forms of energy supplies. In GEL’s case, its cost base is split almost 50:50 between fixed and variable costs, but this is not reflected in its tariff structures, where approximately 10% of its revenues are generated through fixed charges and 90% through its variable charges. This means that the unit costs of electricity supplied by GEL compares poorly with the unit costs of alternative suppliers that might be available now or in the future, as fixed costs are being recovered through the variable charges. Therefore, a cost reflective tariff system must be a pre-requisite of a more open energy market; and,
- Confirmation that a second interconnector would be a critical component in delivering the Policy and would enable a review of the existing “N-2” security policy, with a view to relaxing this to a less costly standard.

There are a number of points within the Policy that the STSB would like to address in more detail and I have set these out below.

Competition in the Energy Market

The pillars set out in the Policy include facilitating a competitive energy supply market using shared critical infrastructure as appropriate. In support of that pillar, the propositions include a direction to the Committee for Economic Development to undertake a technical consultation on a licensing framework for targeted competition to support establishing on-island renewable energy.

Looking specifically at the electricity sector within the wider energy supply market, the STSB has previously made clear to you its concerns that there is insufficient evidence currently available to support competition in both the electricity supply and generation markets. A key concern is whether the costs of the regulation that will be required to enable a competitive market will be outweighed by the benefits. In 2020, GEL has been advised by CICRA that it anticipates charging the company £120,000 for its regulatory activity. These are costs which have to be met by consumers and the STSB would be concerned if any changes to the regulatory regime to enable competition resulted in material increases in those costs.

In its report for your Committee, PwC includes the following statements:

“Given the size of the Guernsey energy market, competition may not generate adequate benefits to outweigh the costs of that competition. While wholesale competition in supply may not be worthwhile, competition in renewable generation may be beneficial if niche suppliers have more expertise in developing renewable generation capacity.”

“A proportionate regulatory regime should be developed to allow Guernsey to realise the benefits of competition while minimising the costs. Further analysis of the costs and benefits may be required to determine what the appropriate level of regulation is.”

“The consequences of the changes to the regulatory regime that would be required should be carefully considered. A cost-benefit analysis would help to determine the proportionate level of regulation for a more competitive market.”

Therefore, the STSB welcomes the commitment in the Policy firstly to ensuring that any competition within the market place needs to be aligned to Guernsey’s scale and size and, secondly, to reducing the need for new legislation and regulation. It also welcomes the assurances you have provided to it during the consultation process that the focus will only be on if and how changes to the market structures might facilitate the establishment of more on-island renewable energy, rather than opening the market to wholesale competition.

In considering these issues, we must, of course, acknowledge that GEL’s licence exclusivity currently only exists in the supply and conveyance sector of the electricity market, whereas the generation sector is already open to licences being granted to competitors.

Against the background of the above, the STSB believes it is important that the proposed technical consultation on a licensing framework for targeted competition should include the following activity:

- A full cost-benefit analysis of any licensing framework being considered that addresses not just the regulator’s costs and the licence fees payable, but also the administrative and operational compliance costs to licensees (GEL or other) of meeting the requirements of the regulator, which ultimately have to be recovered from customers. This would be consistent with the recommendations of the PwC report and would enable the States to determine whether the costs of the regulatory framework that will

be required to enable a competitive market will be outweighed by the benefits;

- An assessment of the pros and cons of retaining the existing arrangements within the electricity sector, where GEL currently has exclusivity in the supply and conveyance markets, but where the generation market is already open to licences being granted to competitors. This would explore the opportunities that the States has to use GEL as a vehicle for decarbonisation, building on and developing the initiatives that it has or is already putting in place, examples of which I have set out earlier in this letter.

In this scenario, GEL could source the electricity it supplies not just from imported renewables or its own on-Island generation facilities, but from local renewable generating companies. If necessary, appropriate direction could be given to GEL by the States, as shareholder, on the priority or “weighting” that it should give to procuring local renewables to assist in the stimulation of this market. This system could also accommodate peer-to-peer trading whereby “prosumers” could trade with each other through a system of metering offsets (or net metering) that GEL could administer, but without having to liberalise (and incur the cost of regulating) the supply markets;

- In the event that further liberalisation of the electricity supply markets is envisaged, an assessment of the impacts on GEL, its structure and its financial performance would also be required.

In suggesting the above, I should stress that the STSB’s position should not be inferred as being “protectionist” of GEL. Indeed, it already operates in a competitive market place and it has been clear from our discussions that GEL itself is not opposed to competition within the generation markets where this can be used to encourage the development of locally based renewables. However, we need to be wary about the potential unintended consequences that could arise from changes in market structures and how this could prejudice the strategic role that the Policy anticipates GEL will play in delivering its objectives by adversely and materially affecting the Company’s commercial viability.

Guernsey Electricity – Additional Interconnector

The STSB welcomes the proposition within the Policy that the States is asked:

- To approve the cable strategy set out therein and, specifically, the introduction of a new interconnector between Guernsey and France, subject to the development of a business case; and,
- To direct the STSB to report back to the States with a full business case for that new interconnector from GEL.

Installing a second interconnector between Guernsey and France (“GF1”) would deliver added resilience to the Island’s electricity supplies by providing an alternative route to the existing interconnector between Guernsey and Jersey (“GJ1”). It would also provide the Island with a supply capacity which would remove virtually all carbon emissions associated with electricity generation from the Island, with imports being sourced from renewable

sources. It will enable GEL to comply with the air quality and emissions legislation being introduced by the States and will enable the company to meet the forecast increases in demand for electricity arising from the energy market transition.

Importantly, GF1 would act as an enabler for the development of local renewable electricity generation over the energy market transition period. It would overcome the challenges associated with the intermittency of renewable sources and the difficulties that they can present for maintaining the stability of the grid. It would also allow the Island to adopt a lower security of supply standard, reducing it from its current "N-2" level to "N-1" or, possibly, just "N". This would enable GEL to decommission much of the older on-island diesel generating plant at the power station.

The STSB acknowledges that the costs of the GF1 project are significant, with current estimates putting it at £85m. This includes estimated costs of up to £10m to reach a position where the required permissions and consents are approved by the various French authorities, prior to the placement of cable procurement contracts. It is estimated that between £6m and £7m of these costs will be incurred in developing the project to a full business case stage for submission to the States in early 2021. The costs are broken down as follows:

Activity	£'000	Comment
External project management and internal staff costs	1,350	
Route engineering, including surveys and UXO	3,200	
Environmental consultation and consenting	2,950	Includes EIA
Network studies, electrical engineering & design, land cable & equipment specification	2,350	
Total	9,850	

Whilst a focus of the full business case will be on identifying and finalising the costs of the project, we should acknowledge that it will also identify the transformational and savings opportunities it will present for GEL. These include:

- Reductions in operating expenditure arising from the decommissioning of diesel generating plant;
- Savings in capital expenditure that would otherwise be necessary for the replacement of the elderly diesel generating plant;
- Reduced costs associated with the importation, storage and use of heavy fuel oil;
- Savings arising from the operation of the power station in future on a back-up basis, rather than its current 24/7 basis;
- Reductions in transmission losses, which will be lower for imports direct from France rather than those via Jersey.

The full business case will demonstrate that there is no “do nothing” option. In the event that the GF1 project is not approved by the States, then in order to meet the Island’s electricity security standards, GEL will need to start investing in the replacement of the generating plant at the power station, which by extension, will also entail the ongoing generation of electricity in Guernsey using fossil fuels, whilst foregoing the transformational opportunities associated with the changing role of the power station. Whilst there will be a difference in capital expenditure phasing between these two scenarios, previous financial modelling undertaken by GEL has so far shown there to be only marginal difference in the overall present value of costs between the scenarios when operational benefits are taken into account.

Timeframes

GEL has already undertaken a significant amount of work on the development of a business case for a second interconnector between the Island and France and this is continuing. The STSB welcomes the support set out in principle in the Policy for a second interconnector, but must caution that much greater clarity around the future market structure and, most importantly, the regulatory arrangements that underpin it, will be required before that business case can be completed with the necessary degree of confidence and certainty.

In this respect, the STSB would like to note that the milestones set out in the Policy do not anticipate a final decision being made on a future licensing framework for the energy market until Q4 of 2021. Given the potential complexity of the work that will be entailed, this is probably realistic, but it does mean that GEL will continue to operate in something of a regulatory vacuum which creates an extended period of strategic and financial uncertainty for it from a business planning perspective.

The STSB is also concerned that, with GEL’s current period of exclusivity in the supply and conveyance areas of the electricity market due to expire in Q1 of 2022, there will be a wholly inadequate lead-in time for the company to adjust to any changes in those areas of the market, if that is eventually what is decided. We would therefore like to suggest that early consideration be given to a short to medium-term extension of the period of exclusivity to address that concern. This would also allow the States time to develop the necessary systems, structures and legislation that might be required to support whatever framework is eventually agreed.

Hydrocarbons Supply Chain

Whilst the majority of this letter is focused on the issues around the electricity market and GEL itself, the STSB should also flag the asset management and planning challenges that are beginning to face Jamesco.

Changes in the regulatory environment mean that Jamesco has recently had to invest circa £1.4m on the installation of a Ballast Water Management System (BWMS) on the Sarnia Liberty to enable it to continue trading. The same modifications are now being made to the Sarnia Cherie as they need to be completed prior to her next special survey in 2022.

Looking further ahead, both vessels are scheduled to be withdrawn from service in 2028. Whilst it is conceivable that this may be extended, there is a risk that the operation of the vessels could be restricted beyond that point. Quite properly, therefore, Jamesco needs to start considering whether or not they should be replaced, recognising that the lead-in period for their replacement is four years.

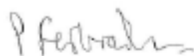
These issues have been fully articulated as part of the research and consultation that has taken place as part of the development and analysis of options for the future hydrocarbons supply chain. However, the STSB would like to reiterate the importance of the States establishing strategic clarity in this area, as this will be of fundamental importance in ensuring that we can make timely decisions with Jamesco on whether or not to make these strategic investments for the Island.

Of course, it is acknowledged that the issues in relation to Jamesco are not just a function of the future hydrocarbons supply chain, but also of the work that the STSB is undertaking on the Island's future harbour requirements. The three issues are inextricably linked. As the Policy notes, the STSB is carrying out a detailed analysis of the future harbour requirements, including:

- Considering any requirements for new berth facilities east of the QEII marina or nearer to St Sampson's Harbour; and,
- An assessment of the impacts, practicalities and potential benefits of relocating some commercial port operations away from St Peter Port.

The STSB anticipates reporting to the States with the results of the above by the end of 2020. It welcomes the short-list of options for the future hydrocarbons supply chain that has been set out within the Policy and will use these as inputs into the work that it is undertaking on the future harbour requirements.

Yours sincerely



Deputy Peter Ferbrache
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2 March 2020

Dear Deputy St Pier

Preferred date for consideration by the States of Deliberation

In accordance with Rule 4(2) of the Rules of Procedure of the States of Deliberation and their Committees, the Committee *for the* Environment & Infrastructure requests that the propositions relating to the States of Guernsey's Energy Policy 2020-2050 policy letter be considered at the States' meeting to be held on 22 April 2020.

This date is requested as it will enable the States to progress, within this political term, the policy priority area contained in the Future Guernsey Plan of "Meeting Guernsey's Energy Needs". This will enable work to begin on delivering the actions contained within the Energy Policy.

The propositions are asking the States to approve the adoption of an Energy Policy for the island which aims to facilitate decarbonisation, security, value, equity, economic enabling and energy independence. Consideration of the propositions in April 2020 will allow the actions required to deliver on the energy policy to begin this political term.

Yours sincerely

Deputy B L Brehaut
President
Committee *for the* Environment & Infrastructure