



SCRUTINY COMMITTEE

THE STATES OF GUERNSEY

Review of “The Security of Guernsey’s Electricity Supply”

18th June 2014

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Acronyms & Definitions

Acronym	Definition
PC	Policy Council
T&R	Treasury and Resources Department
C&E	Commerce and Employment Department
EPG	Energy Policy Group
EPP	Energy Policy Plan
ERP	Energy Resource Plan
RET	Renewable Energy Team
GEL	Guernsey Electricity Limited
“N-2” Policy	Retaining sufficient sources of electricity to meet requirements, in any circumstances where two such sources (on- island generators or the Channel Islands Electricity Grid (CIEG) cable link to France) were unavailable at the same time
Merit Order	Least cost economic dispatch principle
SURE	Sure (Guernsey) Limited
GDP	Guernsey Data Park
CICRA	Channel Islands Competition Regulation Authority
OUR	Office of Utility Regulation
CIEG	Channel Islands Electricity Grid
ARE	Alderney Renewable Energy
EPP	Environmental Policy Plan
BAT	Best Available Techniques
EdF	Électricité de France S.A.
PV	Photovoltaic

Chairman's Introduction

The review focuses on how the States of Guernsey seeks to ensure security of electricity supply for the Island. The Scrutiny Committee decided to review the policy framework in place to ensure that the Island has security of electricity supply. The findings are based on the responses submitted to our consultation, the evidence gathered at public hearings and additional research throughout the process.

The Committee sought to analyse current policy in the context of the existing policy framework with the intention of commenting on the direction of existing and future policy. In producing this report, the Committee has made evidence-based recommendations with the aim of ensuring that Guernsey has a policy for the security of its electricity supply that is efficient and effective at meeting the Island's needs.

The key question facing the review panel was whether the approach taken by Guernsey Electricity Limited and the Government, that of trying to balance affordability, sustainability and security of supply, actually results in a sensible policy for the Island in terms of providing security of electricity supply that is in line with Government policy.

The Committee hopes that this report will serve to better inform the public and the States on the issues surrounding the security of electricity supply and that it will improve decision-making on future investment in electricity infrastructure investment which is of paramount importance to the Island.

The report follows the Westminster select committee model whereby evidence is gathered, through a call for evidence and public hearings, and presented in a report with evidence-based recommendations from the Committee.

A handwritten signature in black ink, appearing to read 'Robert A Jones', is displayed within a light gray rectangular box.

Deputy Robert A Jones
Chairman

Executive Summary

The review focused on how the States of Guernsey seeks to ensure security of electricity supply for Guernsey. The findings are based on research undertaken, responses submitted to the consultation, evidence gathered in public hearings and additional information gained throughout the process.

Guernsey Electricity Limited (GEL) state that they endeavour to provide a safe, stable energy supply to meet an ever-increasing demand while maintaining a responsible attitude towards the environment, ensuring consumers receive a value-for-money service while at the same time investing in the future to ensure the Island has a reliable power source in years to come.

The key question facing the review panel was whether the approach taken by GEL of trying to balance affordability, sustainability and security of supply actually resulted in a sensible policy for the Island in terms of providing security of electricity supply that is in line with government policy. Balancing economic factors with stability of supply and environmental responsibility is an ever-changing 'trilemma' that faces not just Guernsey, but energy companies and governments the world over.

The report contains a number of recommendations but in summary the Committee believe that the existing policy based on the principle of "N-2" has historically provided the Island with a secure supply of electricity. However moving forward it will be necessary to regularly review this policy to reflect changes in technology (including renewables), environmental thinking, and economic concerns and ensure the policy is adequately communicated to all interested parties.

Significant investment will be required to ensure the security of electricity supply in the future. It is essential these investment proposals are supported by a robust business case that demonstrates the logic of the recommended options. The view of the Committee is that this investment can be supported; however additional clarity is required on the projected costs of electricity to the consumer and the rationale of the proposed approach. Decisions of this magnitude must be fully understood and supported by the Government and made within an agreed energy policy framework. The Committee intends that this document will inform this process. The Government must also be proactive and innovative in promoting efficient use of energy, including renewables projects, within both domestic and commercial environments.

Additionally the changing dynamics of the international energy market can impact on the price of electricity in Guernsey. Therefore the Government must be fully engaged on an on-going basis in working with GEL to keep the electricity tariff steady enabling confidence in both domestic and commercial markets and allowing for future infrastructure investment through recently States agreed funding mechanism.

The Government must ensure that the roles and responsibilities of the various parties involved in electricity management and oversight are regularly reviewed, defined and clearly documented. The Committee acknowledges and fully supports the increased proactive approach within the Government in the establishment of the Treasury and Resources shareholder sub-committee.

The Committee intends that this report will serve to better inform the public and the States of Guernsey on the issues surrounding the security of electricity supply and that it will strengthen the decision making process with regard to future investment in electricity infrastructure which is of paramount importance to the Island.

1. Introduction

- 1.1. In October 2012 the Scrutiny Committee decided to review the policy framework in place to ensure the Island's security of electricity supply. The Committee sought to analyse the current policy in the context of the existing policy framework with the intention of commenting on the suitability of the existing and future policy. This included a review of the evidence gathered at public hearings together with the submissions received during a consultation phase and through the research process. In producing this report, the Committee has sought to make evidence-based recommendations to ensure that Guernsey has a security of electricity supply policy that is efficient and effective at meeting the Island's needs.
- 1.2. The review seeks to clarify how the States of Guernsey strives to ensure the Island's security of electricity supply; determine how effectively the security of electricity supply policy (the "N-2" policy) is implemented and adhered to; and assess whether Guernsey's current electricity supply policy is fit for purpose. This will include determining how the policy is planned, what considerations are taken into account, how the policy is monitored and reviewed and who is accountable for the policy's development and delivery. The review also evaluates the outcomes and impact of the current security of electricity supply policy.
- 1.3. Specifically the review considers the "N-2" policy in the context of existing policies including the tensions that arise from the competing demands of the 'merit order'; the Energy Resource Plan; and the Environmental Policy Plan. In this context the review also examines the compatibility of existing policies in providing strategic direction and security of supply for Guernsey while adhering to the principle of sustainability. In addition the review has sought clarity on how the 'energy vision for 2020' is to be achieved.
- 1.4. The fault in the cable link between Guernsey and Jersey, which occurred in April 2012, provided a stimulus for the review. As a result, Guernsey's link to the French electricity network was unavailable for circa six months. While repairs were being undertaken, Guernsey had to generate its electricity on-island to meet local demand. The initial fault in the cable resulted in power cuts and the consequential need for on-island generation had a negative environmental impact and increased costs to the consumer. The Committee felt it necessary therefore to seek clarification on Guernsey's security of supply policy (the "N-2" security of supply policy), and determine the impact this has for Guernsey.
- 1.5. The Energy Resource Plan adopted by the States in February 2012 is designed to set out a clear vision of Guernsey's future energy markets and will assist energy suppliers with their long-term planning and their capital investments. The review intends to clarify this vision which is complicated by competing demands of the "N-

2” security of supply policy with the ‘merit order’, the Energy Resource Plan and the Environmental Policy Plan. The Energy Resource Plan recognises that energy has become essential to the economic and social wellbeing of the Island and the Island needs to provide affordable security and resilience of energy supply¹.

- 1.6. There is also benefit in seeking clarification on how the ‘energy vision for 2020’ set out in the Energy Resource Plan will be progressed; in particular by providing greater detail on how its three specific objectives² are to be achieved. The Committee found that currently no guidance is given to departments as to how these are to be achieved and no reporting requirements are enforced. Changes in this area should assist to confirm the future development of Guernsey’s security of supply policy.
- 1.7. The review examines the local context to identify the major current issues and emerging themes. The monopoly provider of electricity, Guernsey Electricity Limited (GEL) is a limited liability company wholly owned by the States of Guernsey. Until 2001 all electricity was generated on-island by the burning of fossil fuels. In 1981 Jersey proceeded with installation of its first undersea power cable to France; Guernsey contributed to the cost of the second similar cable installation in 2000, and since 2001 has had the right to draw a minimum 16MW from France. The electricity is transferred through the France-Jersey cable and then through the Jersey-Guernsey cable. Guernsey can also use greater capacity than the 16MW if (but only if) surplus is available from Jersey up to a limit of 55MW.
- 1.8. Discussions are in place to install an additional Jersey-France cable from which Guernsey could increase its guaranteed minimum capacity from 16MW to 55MW. During winter months in particular, the surplus electricity available for import does not meet the Guernsey’s electricity demands. In 2010/11 the maximum electricity demand was 85MW³ (*maximum demand usually occurs at approximately 17.30 on a weekday evening in January or February and is associated with cold weather*), so even with the likely future increase in guaranteed capacity Guernsey cannot rely solely on imported electricity. In order to meet these demands, Guernsey is required to produce its own electricity as a supplement.
- 1.9. The Guernsey-Jersey cable is a ‘single point of failure’;⁴ therefore capacity for local generation is also required in the event of a break in supply through the import cable. In 2005 the States resolved *“to confirm their commitment to the existing policy of retaining sufficient sources of electricity to meet requirements, in any circumstances where two such sources (on-island generators or the Channel Islands*

¹ Chief Minister, Hansard Day 1, line 80

² ‘Maintaining the safety, security, affordability and sustainability of the Island’s energy supplies’; ‘Using energy wisely, efficiently and not wasting it’; ‘Reducing environmental impacts locally as part of our contribution to international initiatives as part of the global community’

³ Guernsey Electricity Supply – Future Strategy, March 2014

⁴ There is only one cable between Guernsey and Jersey, therefore, if one fault occurs in this cable the supply will be interrupted i.e. the term ‘single point of failure’.

Electricity Grid (CIEG) cable link to France) were unavailable at the same time". This is the "N-2" security of supply policy (the "N-2" policy)⁵.

- 1.10. Guernsey's imported energy is sourced largely from nuclear and, to a lesser extent, hydroelectric power, which carries with it low carbon emissions. Local electricity generation is by heavy fuel oil and diesel oil, which results in higher carbon emissions. Therefore, during times of high electricity demand, or a failure in supply via the Guernsey-Jersey-France cable, when Guernsey has to generate electricity on-island, the result is an increase in carbon emissions.
- 1.11. GEL is also mandated to follow the least cost economic dispatch principle (commonly referred to as the 'merit order')⁶. At present, importing electricity via the cable is more cost effective than on-island generation. However, should the cost of importing electricity rise above the cost of on-island fossil fuel generation, GEL is currently mandated to switch to on-island production. However, this situation has occurred only once during the last thirteen years which raises the question as to how this aspect of the 'merit order' functions.

"...there has only been one point in the last 13 years when it was cheaper – or one year, in the last 13 years – to generate cheaper on the Island. In fact, as we connected the cable to France, through Jersey, the prices were fairly equal. What I can say is the markets have diverged since that point and there has only been the one point in 2008, when it was actually cheaper – oh no, 2009 – to generate on-island than it was to import and that was because crude oil went from \$150 down to about \$30, only for a short time, though". (Hansard 6th November 2013 – Line 1176)

- 1.12. GEL is planning a large capital investment programme over the next five years as part of its asset management replacement programme. The Energy Resource Plan did not specify the funding policy for this programme and this has now been the subject of significant government activity. GEL has approached the Treasury & Resources Department to underwrite commercial loans required to fund the new cable links and this has been agreed in principle.

Departmental Mandates⁷

- 1.13. All departments are mandated to contribute to the achievement of strategic and corporate objectives and to actively support and participate in cross departmental working as part of the States Strategic Plan.
- 1.14. The Policy Council is responsible for the formulation and implementation of economic, fiscal, human resource, environmental and social strategic and corporate policies to meet objectives agreed by the States. It promotes the development and review of the States Strategic Plan through a process of direct consultation with

⁵ Detail on the "N-2" security of supply policy can be found in the Energy Resource Plan (via the link in footnote 4).

⁶ Additional detail on the 'merit order' is provided in the Energy Resource Plan (via the link in footnote 4).

⁷ <http://www.gov.gg/CHttpHandler.ashx?id=5392&p=0>

States Members and consultation with Departments and Committees. This is to ensure appropriate responses to strategic issues and allocate responsibilities and functions, thereby enabling the co-ordination of action to implement the States Strategic Plan.

- 1.15. The Policy Council has two sub-groups with mandates relevant to the security of supply: the Energy Policy Group has responsibility to oversee the development, monitoring and review of the States' Energy Policy and to co-ordinate its implementation as part of the States Strategic Planning process; and the Environmental Policy group has responsibility to develop, co-ordinate and review corporate environmental policy, including the development, monitoring and review of the Environmental Policy Plan as part of the States Strategic Planning Process.
- 1.16. The Commerce and Employment Department is responsible in this context for promoting the interests of all sectors of the economy creating awareness and fostering the image of the Island as a centre of excellence for business and commerce. The Department advises the States on matters relating to the creation of a dynamic and diversified economy through the promotion and development of commerce and industry that is sustainable and operates in accordance with the strategic, economic, social and environmental policies of the States.
- 1.17. Part of the Treasury and Resources Department's wide mandate relates to responsibility for the management of financial assets and the authorisation of financial borrowing with specific emphasis upon shareholders' functions and duties in respect of the States Trading Companies and other States owned entities.

2. Background

Introduction

“To provide a secure, sustainable and reliable electricity service to the Island, which is affordable to our customers whilst minimising the impact on the environment in which we live” (Mission statement, Guernsey Electricity)

“We all need electricity and we all want it 60 minutes an hour, 24 hours a day, seven days a week and 365 days a year. Of course, we also want it to be cheap. On top of all of that, we want it to be clean, green and renewable. This is the challenge that faces the energy industry in the 21st century. How do we balance the needs of our customers for secure, affordable, sustainable energy?”

(“The view from Here” – interview with Alan Bates, Managing Director Guernsey Electricity Limited - article from Aurigny’s in-flight magazine Envoyage – March 2014)

- 2.1. In April 2012 Guernsey suffered a significant power cut when the subsea electricity cable between Guernsey and Jersey failed. The power cut occurred at 6.51pm (peak time) and many homes and businesses were without power for around 40 minutes until on-island generation was initiated. The fault was identified and located but took three months to repair. Additionally, the piece of equipment which connects the cable to the on-island network failed in August and the facility to import electricity was not restored until the start of October 2012. As a result Guernsey had to generate its electricity on-island for five months at substantially higher cost than importation and, because of higher carbon emissions, to the detriment of the environment.
- 2.2. In June 2012 there was a further fault in the subsea cable infrastructure, this time in one of the two France-Jersey cables. In this case the fault was irreparable. The result was a reduction in the capacity available to Guernsey when supplies were reinstated in October 2012. Prior to April 2012, Guernsey was receiving up to 55MW from Jersey but with supplies to Jersey reduced, in October 2012 Guernsey’s supply fell to the contractual minimum of 16MW. Importing less electricity meant that Guernsey became more reliant on on-island generation by the power station, which was both more expensive and less environmentally acceptable than importing electricity from France via the cables.
- 2.3. These two significant failures in 2012 prompted the Scrutiny Committee, “the Committee”, to review the security of the Island’s electricity supply with a view to looking at how future power cuts could be prevented and how the impact of any future equipment failures could be minimised and mitigated against. The purpose of the review was to examine the policy framework in place for the supply of electricity on the Island, focusing on the security of supply and related economic

and environmental factors. And, in addition to examine how the States of Guernsey strives to balance these competing factors.

Methodology

- 2.4. The Committee appointed a panel of five members to carry out the review in September 2012. The panel produced 'Terms of Reference' for the review which were approved by the Committee in October 2012⁸. The review began with a 'Call for Evidence' during which the Committee sought the views of key stakeholders and interested parties on the Terms of Reference. Twenty-six responses were received from a cross-section of interested parties: commercial and domestic electricity customers, government departments and agencies, local interest groups and energy providers. Following the analysis of these responses and a period of research, two public hearings were held at which key witnesses were questioned by panel in order to further explore the issues raised both in the consultation responses and in the course of the panel's research⁹. The consultation exercise, panel research and hearings provide the evidence base for this report.

Scope

- 2.5. In keeping with its mandate¹⁰, the Committee began by looking at the policy framework which the States has in place for the use of electricity on the Island¹¹. The focus for the review was the strategic direction to, and oversight of, the security of Guernsey's electricity supply by states departments, rather than a review of GEL itself. The Committee has looked at whether there are any gaps in policy, if current policies lack clarity, and where policy improvements might be considered. The Committee also focused on the roles and responsibilities of the various states departments in the administration of policy, whether these are clearly defined, and how effectively departments work together¹². The review scope did not include the other islands in the Bailiwick.

Previous States Reports on Guernsey's Electricity Supply

- 2.6. Over the last fifteen years, there has been a number of States Reports considering the issue of electricity, and more widely energy policy on the Island. A summary of the key States Reports of the last fifteen years (since the commercialisation of GEL) is given below.
- 2.7. The existence of so many reports can lead to confusion as to precisely which policies and resolutions are current.

⁸ Appendix 1

⁹ Appendix 9 and 10 – Hansard Transcripts

¹⁰ Appendix 2

¹¹ Appendix 5 - a diagram which shows the policy framework

¹² Departmental mandates can be found at appendix 11

Billet XXIV, 2001 'The Future Provision of Electricity Services'

- 2.8. The purpose of this report was to ask the States to approve the transfer of the electricity undertaking from the States to GEL, as part of the wider commercialisation of utilities exercise being carried out at the time.
- 2.9. Following consideration of the 2001 report, the States resolved that the electricity undertaking of the States be transferred and vested in GEL on 1st February 2002, that assets be transferred into GEL, and that the States of Guernsey Electricity Board be dissolved. It also made resolutions relating to the appointment of directors, GEL staff pensions, and approved the draft Ordinance relating to the commencement and amendment of the Electricity (Guernsey) Law, 2001. The States also approved guidance on exercising the role of the shareholder.

Billet XX, 2005 'Electricity Generation Investment Options for Guernsey'

- 2.10. In the 2005 Billet the Commerce and Employment Department acknowledged the “trade-off” between economic, environmental and security factors, and the security of supply. The report referred to the Mott MacDonald report submitted in December 2004, which was not published for reasons of commercial sensitivity and which considered the ‘best’ investment options for generation and cables for the next 25 years based on current assumptions and variables such as future oil prices.

Security of Supply

- 2.11. The Mott MacDonald report recommended the continuation of the “N-2” policy and concluded that on-island generation provided the lowest cost option. However if this option was considered to be environmentally unacceptable, the alternative would have been reduced investment in on-island generation and a major upgrading of the cable links to France.
- 2.12. Mott MacDonald looked at the Best Available Techniques (BAT) approach to pollution control that balances affordable costs and benefits. It viewed renewable options available at the time as “fringe forms of generation, which will have to be backed up by more reliable sources of energy” and stated that their use would “increase costs” and “divert resources from other States projects”. Continuity of supply using renewables is a topical issue for distribution system planning and operation, especially due to the stochastic nature of power generation and time varying load demand.
- 2.13. Renewable options were assessed as being more expensive than the cost of electricity from other sources. There was a question at that time over whether renewable projects should be funded by the electricity consumer or by the States

as shareholder of GEL. The Policy Council “advised that it favours consideration of renewable energy issues as part of a wider review of energy policy, also encompassing energy efficiency measures”.

Cost

- 2.14. Mott MacDonald examined a number of scenarios involving various types of on-island generation plant and additional cable links to France, both direct and via Jersey. The scenarios took into account security, environmental factors, and the resulting costs that would have to be passed on to electricity customers or recouped in some other way.

Resolutions

- 2.15. The States:
- i. confirmed its commitment to the “N-2” policy;
 - ii. agreed that electricity pricing policies should be based on the assumption that, over the coming 25 years, generation requirements will be met by a combination of replacing on-island generation plant and re-enforcement of the existing CIEG cable link to France via Jersey;
 - iii. agreed that assumptions should be reviewed prior to any decision being taken on major expenditure on generating plant and/or re-enforcement of the existing CIEG cable link to France via Jersey;
 - iv. agreed to the initiation of an Energy Policy Review Group “to assess energy policy in general and possible future sources of renewable energy, including tidal power”;
 - v. agreed that the Policy Council should report back to the States on energy policy, including what investment should be made to assess renewable energy sources and how such investment should be funded.

Billet XXVI, 2007 ‘Energy Policy Report – Green Paper’

- 2.16. The Policy Council published its Energy Policy Report ‘Green Paper’ in December 2007 which was noted by the States and presented for public consultation.
- 2.17. Following the period of public consultation, the Energy Policy Plan was published in Billet VIII, 2008 (see below).

Billet VIII, 2008 ‘Energy Policy Plan’

- 2.18. The States noted the Energy Policy Plan in 2008. The Plan focused on initiatives intended to reduce the Island’s carbon emissions by various methods such as

increasing energy efficiency, establishing an Energy Advice Centre and using macro-renewables. It also sought to address issues of security/robustness of supply. The Energy Policy Plan subsequently evolved into the Energy Resource Plan (ERP) published in Billet III, 2011 (see below).

Billet III, 2012 'Energy Resource Plan'

- 2.19. The ERP is the corporate energy document for the States of Guernsey and is one of a suite of plans that form part of the States Strategic Plan. The ERP acknowledges that Guernsey faces unprecedented energy challenges in the coming years and that it is essential that the States adopts an integrated and coherent energy policy supporting the States Strategic Plan in a coordinated manner. The Plan's purpose is to clarify the energy policy of the States which in turn may guide the investment decisions of states departments. Its policies are intended to be taken into account when other Resource Plans and States policy documents are prepared.
- 2.20. The plan is based on an energy vision for 2020 and sets the high level, strategic agenda for energy use in Guernsey on which specific policies and programmes can be developed. The plan has the following aims:
- There will be a gradual decarbonisation of Guernsey's energy generation;
 - There will be a diversification of energy generation between low carbon and renewables;
 - The States will continue to provide a sustainable and secure energy supply for Guernsey; and
 - There will be greater transparency in energy decision making to all stakeholders.
- 2.21. The three headline policies/objectives of the current Energy Resource Plan are:
- Maintaining the safety, security, affordability and sustainability of the Island's energy supplies
 - Using energy wisely and not wasting it
 - Reducing environmental impacts locally as part of our contribution to international initiatives as part of the global community.
- 2.22. The Plan outlines the Island's aspiration for energy diversity and commits to two longer-term targets for decarbonisation but does not include a roadmap for how these will be achieved. The Plan stated that *"it would be presumptuous and premature at this moment to set out a detailed roadmap showing how Guernsey will achieve its targets"* (emissions targets) but the Committee believes that specific

targets will need to be set sooner rather than later if the 80% target is to be reached by 2050.

“However in terms of emission targets the States remain committed to the following targets: to reduce Guernsey’s carbon dioxide emissions by 30% on 1990 levels by 2020; and to reduce Guernsey’s carbon dioxide emissions by 80% on 1990 levels by 2050¹³”.

- 2.23. The plan aims to give additional clarity to the development of macro-scale renewable energy production as the sector develops.
- 2.24. When discussing Guernsey’s energy requirements the ERP recognises that Guernsey would face unprecedented energy challenges over the coming decade and states that:

“The complex supply and demand side issues combined with the often conflicting objectives will require both strategic management and strong leadership by the States...the market alone cannot deliver a sustainable energy infrastructure for the future and the States will have to adopt a more interventionist role than it has in the past.”¹⁴

Resolutions

- 2.25. The States resolved to approve the revised ERP and departments must now show evidence that they are taking into account the objectives of the ERP when preparing new policies.

Environmental Policy Plan (EPP)

- 2.26. The EPP recognised that managing energy demand, the Island’s carbon footprint and climate change impacts would be significant challenges faced by the Island. The Plan stated:

“Consideration of our environment will be core to all policy decisions and actions. Environmental Policy will be equal, not subservient, to economic and social policy. The quality of our environment will be protected and enhanced. The Island will respond in an environmentally sustainable way to local issues and existing and emerging global challenges.”¹⁵

- 2.27. Aspirations for reducing greenhouse gas emissions and increasing the use of energy generated from renewable sources appear in the EPP which forms part of the States Strategic Plan, but the plan does not contain specific targets.

¹³ Energy Resource Plan, paragraph 9.11

¹⁴ Energy Resource Plan, paragraph 9.3

¹⁵ Energy Resource Plan, paragraph 8.1

3. Current Policy on Security of Electricity Supply

Introduction

- 3.1. Current policy relating to the security of electricity supply is referred to as the “N-2” policy. After consideration of a report dated 17th October 2005 on 30th November 2005¹⁶ the States resolved to confirm their commitment to:

“...the existing policy (“N-2”) of retaining sufficient sources of electricity to meet requirements in any circumstances where two such sources (on-island generators or the CIEG cable link to France) were unavailable at the same time”.

- 3.2. Witnesses at the hearing used similar though varied definitions of the “N-2” policy. The definition needs to be clarified, particularly in relation as to whether or not the policy includes the cable link.
- 3.3. Witnesses were questioned on their perception of the “N-2” policy, its performance history, suitability both at the current time and for future use, on-going cost implications and environmental impact.

Background to “N-2”

- 3.4. The “N-2” security criterion was adopted by the States of Guernsey Electricity Board prior to commercialisation of the electricity undertaking in 2002 and has been in continuous use since. The security criterion was questioned prior to commercialisation by the then Office of Utility Regulation (OUR) and considered fit for purpose. Subsequently, the OUR recommended that the Commerce and Employment Department seek States’ approval of the criterion due to the significant on-going capital expenditure required by GEL to meet “N-2”.

Varying Definitions of “N-2”

- 3.5. The Chief Minister stated that in 2001 the States of Guernsey had resolved at the time of cable connection with Jersey to retain on-island generation sufficient to meet demand and subsequently in 2005, following a report submitted by the Commerce and Employment Department, the “N-2” policy was documented as a resolution of the States of Guernsey.

“...we have to be able to demonstrate that there is sufficient generating capacity to cover a situation if two of the principal, major supplies of energy fail. It could be two generators or a cable and a generator”. (Hansard – 6th November 2013, line 55)

¹⁶ Billet D’État No XX dated 11th November, 2005

- 3.6. However in its written response to the Scrutiny Review Panel, the Policy Council provided a different view of the “N-2” security policy, which is approved by the States and currently used by GEL and the Channel Island Competition Regulation Authority (CICRA). Here the Policy Council stated that GEL is required to have sufficient generating capacity to meet the highest ever demand on Guernsey’s electricity system (84MW) in the event that the two largest on-island sources of electricity generation (2 x 19.5MW Thomassen gas turbines) are unavailable. Furthermore, it is assumed that in an “N-2” scenario, the minimum guaranteed capacity provided by the CIEG cable link (16MW) remains available to GEL. The Policy Council further maintained that GEL currently meets the “N-2” security criterion because *without* the two largest sources of on-island electricity generation (2 x 19.5MW Thomassen gas turbines) but *with* the minimum firm capacity provided by the cable link (16MW) contributing to the sum of other on-island generation sources, the highest ever demand on the system (84MW) would not exceed what GEL could generate under those circumstances (91.9 MW). The Policy Council sets out the security criterion calculation as: *“Total capacity minus two largest sources, (130.9 -19.5-19.5) = 91.9MW⁴”*. Policy Council (2012). Letter to Scrutiny Committee Chairman, 13 December 2012¹⁷.
- 3.7. Therefore, the States security of supply policies can broadly be stated as being:
- (i) to ensure sufficient on-island generating capacity in the event that the CIEG cable link is unavailable;
 - (ii) to ensure sufficient on-island generating capacity in the event that the two largest on-island sources of generation (but not the CIEG cable link) are unavailable.
- 3.8. The security criterion is generally phrased in terms of the system’s ability to survive with the loss of major generation assets. Operators consider factors such as the size of the electricity system in terms of numbers of power generating installations, nature and extent of transmission, distribution systems and numbers of customers served and may use mathematical probability models to derive a “loss of load probability” for any system.
- 3.9. The Policy Council also stated that it was essential that all parties involved in power system planning, operation and regulation had a common understanding of the meaning of the criterion. Our review has identified confusion in the past over the

¹⁷ Appendix 8 – Current Sources of Electricity Generation

correct definition of the “N-2” policy and will recommend that this matter is addressed¹⁸.

Justification and Review of “N-2”

- 3.10. The Policy Council saw the “N-2” policy as a standard approach for an island such as Guernsey with a highly developed economy and a high dependency on automation. The States’ Energy Policy Advisor stated that:

“...there are a number of ways of trying to achieve correct probability that the power system would be adequate. All your security of supply criterion does is govern the probability that the system will be adequate. “N-2” is very common for small isolated power systems of which Guernsey is one. “N-1” is another one you could use. If you were operating a large system, you would use a fairly complex mathematical probability model to determine your likelihood of success. It is a very common policy, which is why, I would imagine, the consultants who examined it regarded it as reasonable in all the circumstances”. (Hansard – 6th November 2013, line 239)

- 3.11. GEL pointed out that expectations relating to the reliability of electricity supply had changed significantly over the past 40 years:

“I just think that many people in the Island, 30 or 40 years ago, were comfortable with the sort of electricity supply we had. I think today the expectation is a lot higher, especially from younger people as well, and our security standards are on a par with the UK or better. We try to maintain that and I think that is what people expect in a safe society”. (Hansard – 6th November 2013, line 946)

- 3.12. In 2005 the criterion was debated and endorsed by the States. The wording of the ERP produced in 2011 explained the States’ resolution:

“To confirm their commitment to the existing policy of retaining sufficient sources of electricity to meet requirements, in any circumstances where two such sources (on-Island generators or the Channel Islands Electricity Grid (CIEG) cable link to France) were unavailable at the same time (the n-2 policy)”. (States of Guernsey (2012) Billet D’État III, pages 143-144)

- 3.13. The panel questioned the Policy Council representatives as to how the “N-2” policy was determined. The States Economist replied:

“What one does is one takes the assessment of the probability of failure, the assessment of the cost of that failure and weighs that up against the costs of the redundancy required to resist that failure. So, it is a balance in the end, but you balance up the risks against the probabilities and the scale of those risks. Then you come to a rational decision which, at the end of the day, is based on your appetite for risk. If you are risk averse with a closed economy that has very limited options,

¹⁸ See Appendix 8 for a breakdown of the current sources of generation

then you might take a higher risk aversion than you would do in a much larger jurisdiction". (Hansard – 6th November 2013, line 259)

- 3.14. The States Economist added that the cost of failure of the “N-2” policy would affect society as a whole: businesses, households and individuals. He also stated:

“...your reference to the trilemma of security of supply, sustainability and affordability, that is inherently a policy trade-off and is the fundamental reason for the current review by the Energy Policy Group of security policy... it is always going to be a tension when you have three not necessarily mutually exclusive, but competing priorities”. (Hansard – 6th November 2013, line 351)

Other Security of Supply Policies

- 3.15. In addition to the “N-2” policy, the States Resolution from 2001 required GEL to maintain sufficient on-island generating capacity in the event of the CIEG cable link being unavailable. Specifically, the States resolved in December 2001 to approve, for inclusion in the Strategic and Corporate Plan, strategic guidance for GEL, which stated (*inter alia*):

“However electricity services are to be provided in future, they are to be provided within a policy of retaining sufficient on-island generating plant to meet the total long-term demand, to cover for the possibility of interruption or unavailability of power through the cable link to France”. (States of Guernsey (2001) Billet D’État XXIV page 1612)

Adequacy of Current Security Policy

- 3.16. The Chief Minister stated that the current policy provided security of supply. This has been tested in recent times following the failure of the cable link and the need to rely on GEL having the ability to generate sufficient on-island supply to cover demand. The Minister of the Treasury and Resources Department told us that the fact that on-island generation “kicked-in immediately” was proof to him that there had not been any failure which local generation had failed to meet.

“...it has probably had its most severe test in the last 12 months with the loss of the cable link to France and, given that we were importing so much of our electricity through that link and having to then import 100% on-island and clearly that literally kicked in immediately, so I think that is probably the best proof that, in the ten years or so that the policy...there have not been any failures that have not been met by local generation”. (Hansard – 6th November 2013, line 2294)

- 3.17. GEL has recently installed a new generator, which is the start of their asset replacement programme to update aging plant. The Company believed it would be expected to maintain provision to meet maximum demand from on-island generation. However, future policy will in part depend upon decisions over the future cable infrastructure.

- 3.18. The Minister of the Commerce and Employment Department stated that the “N-2” policy had been extremely successful and was the key policy with the Department having strategic responsibility for ensuring security of supply through the Energy Policy Group and the Commerce & Employment Department Board. Commerce & Employment were very happy with the current “N-2” policy, which they reported did not include the contract to draw 16 megawatts via the Jersey cable link.
- 3.19. Sure (Guernsey) Limited’s (Sure) written submission was more critical of GEL’s performance than were their witnesses at the subsequent public hearing. The written submission criticised the 20 minute delay in GEL’s back-up generators kicking in in the event of a “*failure in primary source*” and went on to say that “*losing 20 minutes of power supply is not acceptable for Enterprise customers relying on CWG’s networks. Many institutions in the finance sector also operate in environments where 20 minutes of downtime could cause real reputational damage and business loss*”. To guard against such problems Sure told us that they had invested in their own battery and generator back-up system.
- 3.20. Given such own back-up provision, we were curious to understand what the problem was and pursued the matter at the public hearing. In response to questions Sure witnesses told us that their own back-up was to ensure their clients had 99.999% availability.
- “...the clients that we host at our data centre for instance, are global customers who bring their business to Guernsey and then distribute worldwide. They require levels of performance that is almost 100%. Now, we cannot guarantee 100% but it is 99.999% availability. So to provide that, it is essential that we supplement what the Guernsey Electricity provides with our own capabilities, and there is a number of levels of protection we have in our networks to deliver that level of service”.*
(Hansard – 8th January 2014, line 105)
- 3.21. Sure went on to say that the back-up cut in seamlessly and customers were not aware of any interruption. When we asked what the problem was therefore, Sure referred to the additional cost they faced in using their own back-up supply instead of GEL. This struck us as another line of argument entirely. The issue became even less clear when Sure told us that they would always feel the need to have their own back-up, no matter what provision GEL made.
- 3.22. To summarise, Sure will invest in their own back-up, no matter what; that back-up is designed to ensure that any outages lasting up to 20 minutes pass unnoticed by their customers. After 20 minutes the GEL’s on-island generators have kicked-in. The problem, it appears, is the cost to Sure of generating that electricity, not the capital cost of providing the back-up – Sure witnesses told us that they would always invest in that – but they begrudged the extra cost of self-generation, for up

to 20 minutes. We therefore asked Sure how significant the cost of electricity was to their business and the response came back:

“In excess of £1.3million... a significant cost, but it is not the major cost of our business...it is one of many elements of costs we have in our business”.
(Hansard – 8th January 2014, line 247)

- 3.23. To conclude, when we tried to pin down the real impact on Sure of power outages it came down to the concern that during the first 20 minutes of an outage:

“We obviously take a hit on the diesel and the fuel that is used, and there is obviously the wear and tear on the equipment, as well”. (Hansard – 8th January 2014, line 269)

On reflection, we believe Sure’s written submission exaggerated their problem with the reliability of GEL’s electricity supply.

- 3.24. Nevertheless Sure were broadly supportive of GEL, whom they saw as keeping its ‘finger on the pulse’ with regard to all developments. This was in contrast to the views expressed by Guernsey Data Park (GDP) that GEL needed to become more of an economic enabler as well as a supplier of electricity.
- 3.25. Returning to the matter of how far the “N-2” policy needed to extend, GDP made the point as did others that “N-2” could only apply to the availability of power at central distribution point. Outages which were down to the on-island distribution network were a separate matter and, unless every road was to be dug up and additional cables laid (an unrealistic scenario), a back-up supply to all residential properties was impossible to achieve. This view was echoed by GEL. Sure also considered that the “N-2” policy should be developed into a more detailed policy document explaining how the policy will be implemented and maintained to assist “future reference and measurement of key performances”¹⁹.
- 3.26. GDP told us that historically the “N-2” policy had worked but, citing the ageing plant, they questioned whether it was the correct policy for the future. In their view, GEL should aspire to be an economic enabler to the Island rather than simply a supplier of a utility service.

“Electricity is a real key enabler to the Island’s economy, and the development of the economy, and GEL has historically been able to sit there and be the supplier of almost a uniform, one size fits all service. If GEL was re-purposed to become a facilitator for economic development that would be extremely useful.”

(Hansard – 8th January 2014, lines 796)

¹⁹ Sure (Guernsey) Limited, Consultation Response, 7 December 2012

3.27. GDP welcomed the review of the “N-2” policy and added that they considered GEL to have changed for the better following the cable failures.

3.28. CICRA also welcomed the review:

“...we start from the principle that actually security of supply is inherently a matter for public policy, as it involves trade-offs which are properly matters for the elected States. In fact one of the reasons we welcome this review is because the “N-2” policy has not been scrutinised for several years and it is a key input to electricity regulation”. (Hansard – 8th January 2014, lines 906)

3.29. CICRA added that in its existing format the “N-2” policy was scant in detail and that both the regulator and GEL have been required to fill in some of the details:

“In our view, it is very welcome that the States is looking, through both this process and through the Energy Policy Review, to asserting its role as the determiner of security of supplies policy”. (Hansard – 8th January 2014, lines 914)

Monitoring of Current Security Policy

3.30. The Chief Minister stated that the programme of reinvestment under discussion between the Treasury and Resources Department and GEL would involve a re-examination of the suitability of the “N-2” policy. The forthcoming Policy Council report, Guernsey Electricity Supply – Future Strategy would address these issues and would be placed before the States in the first half of 2014.

3.31. GEL confirmed that as the strategic plan was developed, in terms of both importation and generation, the security of supply policy should be independently reviewed to give assurance that it was meeting best practice. They agreed that the company would consider adopting an “N-1” policy as part of their future strategic plans to review security of electricity supply for the Island.

3.32. Both Sure and GDP welcomed the current reviews and hoped for greater industry involvement and transparency in the oversight of the “N-2” policy and the formation of future policy. CICRA also welcomed the review process currently underway.

3.33. The Minister of the Commerce & Employment Department confirmed that any decision changing the security of supply policy was for the States to make and that greater reliance on large cables to import power to the Island would necessitate careful consideration of the future suitability of the “N-2” policy by the States.

3.34. The Minister of the Treasury and Resources Department stated that monitoring and reviewing the “N-2” policy was primarily the responsibility of the Policy Council through the Energy Policy Group.

“It is primarily the responsibility of the Policy Council through the Energy Policy Group and that group includes representatives of Treasury and Resources, Commerce and Employment, and the Chief Minister on behalf of the Policy Council itself. So, that is how the policy is monitored. Treasury and Resources have a role in ensuring that the company complies with the policy, and that is primarily done through its regular dialogue with the company. Formally, under the terms of the memorandum of understanding, considering the business plan and the strategic plan of the company which we do annually. And then informally, there is a high degree of informal contact between the company at officer level and also political level, so we have an on-going role in ensuring that the policy is adhered to. In terms of, the second part of the question, how is its review undertaken? That, as I said, would be through the Energy Policy Group. And how often? Well, I think it is probably an on-going issue, but I think it has probably been brought to the fore with the loss of the cable link last year and, therefore, then reconsidering what the options are, including what alternative cable links there will be. So, I think we are in the midst of that on-going review, with a view to bringing a revised... or bringing a Billet to the States early next year, which we would envisage being a tripartite-owned Billet, from the States’ report from Policy Council, Treasury and Resources and Commerce and Employment, with a view to the States then having an opportunity to consider whether n – 2 is appropriate or whether there are any changes that we would recommend”. (Hansard – 6th November 2013, line 2352)

- 3.35. Any increase in the capacity and number of subsea cables would call into question the cost of maintaining the “N-2” policy. The policy would therefore be kept under review in order to ensure that the Island has the energy policy it wanted.
- 3.36. The Treasury and Resources Minister stated the Department had responsibility for ensuring that the “N-2” policy was delivered via their shareholder role, their relationship with GEL and involvement with the Energy Policy Group. They further told us that the “N-2” policy should be kept under review and this should include the consequences of the on-going costs of maintaining a high level of electricity supply security.
- 3.37. Treasury and Resources will bring a Billet before the States in 2014. It will be tripartite owned in the form of a States report from the Policy Council, the Treasury and Resources Department and the Commerce and Employment Department, and will invite the States to debate whether the “N-2” policy remains appropriate. The Minister stated that his Department had a role in deciding and approving Guernsey’s long-term security of supply policy as detailed within the Memorandum of Understanding.

Conclusions and Recommendations

- 3.1. The “N-2” policy should continue subject to regular on-going review to allow for adjustment/change if/when technological advance allows for a change in the required level of security of supply policy.
- 3.2. Clear comprehensive explanation of the “N-2” policy to be documented and advertised in easily retrievable form.
- 3.3. The EPG to produce a consolidated policy document containing details of all policies relating to security of supply.

4. Future Energy Infrastructure Plans

Introduction

“Our long term strategy is to invest in undersea connections to Europe. We have shown our commitment to this over the last couple of years through our involvement in the new cable link between Jersey and France which will increase our import capacity and we have also been active in planning for further cable links between Guernsey and Jersey and direct from Guernsey to France. Installing new cables will improve our resilience and allow us to access more affordable supplies of electricity. It is also important to note that electricity imported from France is lower carbon, being 30% hydro-electric and 70% nuclear”.

(Alan Bates, Managing Director Guernsey Electricity 11th March 2014)

- 4.1. Guernsey has reached a critical point at which strategic decisions about major investment in the future energy infrastructure requirements of the Island must be made. GEL has acknowledged that large-scale investment in electricity infrastructure is now required²⁰ and the Policy Council Green Paper published in March 2014 presents various options for significant future investment over a period of 25 years²¹.
- 4.2. Some future infrastructure plans have already been confirmed while others are still to be decided from the options being put forward. This section looks at the electricity infrastructure in place, and what will be needed in future to ensure security of supply.
- 4.3. Several reports have been written over the last decade with evidence-based recommendations, but little follow-up action appears to have been taken and few objectives met – one explanation may be the four-yearly electoral cycle and subsequent change of political leadership on energy policy groups. The Committee found evidence of procrastination and an historic reluctance to invest. However the Policy Council now appear to be taking action and its recent Green Paper put forward options for future investment. The Committee would expect to see action taken as soon as possible after the States Report on Future Electricity Strategy has been debated.

Current Infrastructure

- 4.4. Guernsey has two sources of electricity: on-island generation at the power station located on the Bridge, St Sampson and importation from the French power grid via

²⁰ Hansard, Day 1, line 979

²¹ Policy Council Green Paper – Guernsey Electricity Supply - Future Strategy, p.18

Jersey through a subsea cable. On-island generation uses fossil fuels – heavy fuel oil and gas oil – to run its generators. The imported electricity from *Électricité de France S.A. (EDF)* is from relatively ‘clean’ sources, made up of a guaranteed 30% hydroelectric and 70% nuclear.

- 4.5. The cost of generating electricity on-island in 2012²² was over £6m more than importing electricity through the cable. The current wholesale price of electricity in Europe is in the region of 5 to 6p per kilowatt hour (kWh), whilst production from the existing diesel plant in Guernsey costs 9 to 10p/kWh depending on fuel price. Importation is therefore currently a far cheaper option; although the relative costs of importation and on-island generation are subject to fluctuations in global energy prices (consider for example the oil price peak in 2008²³).

“Energy prices over the last decade...have changed dramatically. A lot of that has been associated with the volatility of the oil price. The oil price in the late 1990s was \$10 a barrel. It peaked in 2008 at over \$150 a barrel. That had a knock-on effect to the other energy markets.” (Hansard 6th November 2013 – line 991)

- 4.6. Importation also aligns with Guernsey’s low-carbon aspirations, so the Island is currently in the fortunate position of not having to make a choice between a low-cost and a clean, low-carbon energy supply as, of the options currently available, importation best meets both criteria:

“You might regard the Islands, both Jersey and Guernsey as being rather fortunate, inasmuch as that we are not having to choose between a low cost supply and an environmentally sensitive supply. We might well be having to make that choice, but actually, because of our situation relatively close to Europe, we are able to choose a supply, an imported supply, which fits both of those two characteristics... And I know that there are many other European islands who are very envious of that position – because they cannot get access to a grid network because they are too far away... And so that is a matter of our good fortune, if you like, and that reinforces the Minister’s answer that importation is likely to be, in the long term, part of the Island’s future. It does not mean it is the only part of our generation ability and it does not mean that we will not be using renewable resources in the future. It just means that it is a long-term part of our strategy”.

(Hansard 6th November 2013 – line 1995)

²² To end of financial year – *Guernsey Electricity Annual Report and Financial Statements, March 2013*

²³ Could use this as a reference if required: DECC Quarterly Energy Prices – December 2013
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/267320/qep_december_2013.pdf

Future Infrastructure

- 4.7. In its recent Green Paper the Policy Council asks the States to decide whether it wishes to retain on-island generation or move to a future where all Guernsey's electricity is imported.
- 4.8. Lower carbon emissions, and a lower price, provide a firm business case for Guernsey to move from on-island generation to importation, which indeed it did prior to the failure of the cable links. The risk lies in the vulnerability of the cable links – Guernsey is reliant on both the Jersey to France link and the Guernsey to Jersey link being fully functional. If either of these cables fails the Island is left with on-island generation as the only option. Even in a situation where there are two cables to Guernsey from different sources (e.g. Jersey and France, as seen in Appendix 5), a fault could occur in both cables at the same time. The Committee therefore considers that on-island generation must continue to be available as a back-up source for when the cables are not available or unable to meet demand.
- 4.9. The Green Paper accepts that Guernsey can benefit from European energy security in the form of purchasing cheaper nuclear energy from France over the long-term. We are nervous of relying upon this approach as significant price increases present a real threat and are completely beyond Guernsey's control. The Island should 'hedge' against potential future price increases in imported nuclear energy. A significant price rise in energy from France would require a review of the cable prioritisation, as would any developments in renewable energy which could be used to supplement the cable links and replace on-island generation. The Green Paper alludes to the potential volatility of European energy supply; maintaining on-island generation has the advantage of allowing Guernsey to partially offset this risk²⁴. The overriding benefit of on-island generation is that, with the correct level of contingency (currently "N-2"), a supply can always be made available – the risk of on-island generation failing is lower than the risk of both the cables being out of service, and renewables failing to provide a continuous supply. The price for this level of security is the cost of maintaining the power station on standby indefinitely and the environmental cost of the higher carbon emissions it produces in operation.
- 4.10. The Energy Policy Advisor highlighted as 'highly significant', the fact that two sources of electricity supply gave Guernsey the benefit of being able to switch from one to the other, either to secure supply, or to obtain the lowest cost power at any given time – in the past local generation had been cheaper than importation and could be again in the future.

²⁴ Green Paper – page 20, paragraph 15.6

‘There is a significant strength in having [a] diversified resource’

(Hansard – 6th November 2013, line 499)

- 4.11. But the Policy Council held the view that multiple importation cables would call into question the need for on-island generation. A significant increase in the amount of power imported via cables would equate to additional on-island generation capacity being maintained to ensure that the “N-2” policy can be maintained.

“This comes back to where we started from, which is the “N-2” debate. You will see that quite a lot of generators themselves are coming to the end of their natural life, although there may be an argument as to how long they can be sustained. But it is precisely the “N-2” against “N-1” debate that will determine to a certain extent the investment profile and the investment programme for replacement of the on-island generating capacity”. *(Hansard 6th November 2013 – line 505)*

“If you increase the importation significantly, say 40 or 50 (MW) – and I believe, potentially, we could do that, once the cables are back operating – if you took that higher figure, then clearly it will skew the figures quite considerably and you will need possibly more on-island generators in order to compensate for it (“N-2” policy)”. *(Hansard 6th November 2013 – line 548)*

- 4.12. This question has been raised again recently by GEL following the publication of the Green Paper.

“We are also pleased that the States has stressed the importance of on-island resource. This supports our decision to invest in new diesel plant to support our cable link plans. The new medium-speed diesel is the first step in modernising our fleet and making sure they are future proof and fit for purpose. On-island generation is likely to remain a requirement until large scale electricity storage technology is available in the future.”

(Alan Bates, Managing Director Guernsey Electricity 11th March 2014)

- 4.13. Sure and GDP both agreed that significant investment in cable infrastructure was the way forward; it offered the best in affordability and reliability as well as a lower carbon option.

Security of Fuel Supply

- 4.14. In 2011 a new deal was signed between CIEG and Électricité de France (EdF) safeguarding Guernsey’s access to power imports until 2023. The need was to provide better fuel import security and improve fuel handling safety.

- 4.15. The Public Services Department has concerns that on-island generation is reliant on oil supply, import and discharge to the Island, which has its own vulnerabilities. The

current arrangements present three principal risks, commercial/contractual risk, environmental risk and practical risk²⁵:

- *Commercial risk/contractual risk*

Oil suppliers (i.e. refineries) can choose to do business with whom it wishes and is not obliged to sell to any particular buyer which puts places like Guernsey in a particularly disadvantageous position. We are completely reliant on a niche specialised fleet that are few in number. Anything that affects the supplier's view of those ships immediately affects the island's source of supply.

The refineries do not want their fragile reputation to be associated with substandard shipping, either directly or perceived. The refinery/supplier's shipping risk is managed by a specialist ship vetting department who are independent of the commercial team and, in major oil companies, have an extremely powerful say in business decisions. Each and every ship is vetted for approval on each and every loading...The significance of the sensitivities and power of the vetting process ought not to be underestimated. What is an acceptable ship, ship-owner, operator or classifications society today, can suddenly change overnight.

- *Environmental risk*

The heavy fuel oil required to support Guernsey's power station causes the very worst in terms of damage to the flora and fauna and is extremely difficult to remove and recover. When the cable link is down, there is a commensurate significant increase in the number of fuel deliveries with increased environmental risk. As regards St Sampson, we are already operating way outside what are considered to be acceptable industry standards elsewhere.

- *Practical risk*

Out of the 5,500 petroleum ports around the world, there are about 25,000 oil tanker berths, only two fully dry out, of which Guernsey has both. The safety margin in respect of the ships that deliver fuel is at the very limit in several ways such as ship length, manoeuvrability, under keel clearance, tidal windows, speed of current across the harbour entrance, etc. Fortunately at present the heavy oil is being delivered ex Fawley on ships that are within the acceptable margins.

Increasing the operational risk any further, beyond that already accepted is not one that would be considered except in absolute extremis.

- 4.16. The proposed solution to these safety concerns is to create a deep water berth which will "assure the long term secure delivery of hydrocarbon fuels to the Island through provision of an 'always afloat' berth²⁶." Deep water berth investigations

²⁵ Public Services Department Consultation response dated 4 December 2012

²⁶ Billet XIX, 2013 Capital Prioritisation, p. 1675

were approved as part of the Capital Prioritisation debate in September 2013 and form part of the Ports Master Plan. Investigations will seek a solution which is appropriate to the Island context and represents value for money. Options for implementation of the project and associated costs will be presented to the States in the future.

- 4.17. The Guernsey Ports Master Plan 2013 puts the estimated cost of one option for an offshore fuel berth in the order of £112m. Deep water berths will be required as long as heavy fuel oil (HFO) imports are needed for on-island electricity generation. This should be factored into the cost of the various options in the Green Paper, if this has not already been done.

Environmental Aspirations and Targets

- 4.18. Any future energy infrastructure developments must take into account environmental considerations. The States of Guernsey aspires to meet the Kyoto targets of a reduction in greenhouse gas emissions of 12.5% by 2008 to 2012 (average) compared to 1990²⁷. By February 2014 Guernsey exceeded the target with a decrease of 19.5%²⁸, but greenhouse gas emissions increased by 24.3% in 2012 due to the cable link failure and need to generate electricity on-island. GEL has since given an undertaking to address the recent spike in greenhouse gas emissions by importing more low-carbon power through new and improved cable links:

“Getting back to our previous import capacity is obviously a priority for the company...A long-term low-carbon strategy for electricity supply for Guernsey also plays an integral part of the island’s strategic initiative to counter long-term climate change effects”.²⁹

- 4.19. Although the States/GEL does not have any specific emission targets in place³⁰ to measure itself against, the following principles have been agreed and should be followed in relation to energy supply:

Energy Resource Plan 2011

The Energy Resource Plan looks at the environmental issues involved with energy³¹. The plan is based on a vision which includes:

- *A gradual decarbonisation of Guernsey’s energy generation*
- *A diversification of energy generation between low carbon and renewables*

²⁷ Guernsey Annual Greenhouse Gas Bulletin, 2012 – Issue date 26th February 2014

²⁸ Cumulative percentage change between 1990 and the 2008 to 2012 average

²⁹ Guernsey Press Article, 3 March 2014 p.19 – quote from Operations Director Bob Beebe

³⁰ Energy Policy Advisor, Hearing Day 1, lines 602 ‘There is a general clear air requirement but there are no specific emission targets...’

³¹ Hansard, Hearing Day 1 line 691 (Damon)

The Plan also sets long-term targets for the reduction of carbon emissions.

GEL Mandate to Use Low Sulphur Fuel Oil

GEL currently has a mandate to try and use low sulphur fuel oil wherever possible, on the basis that using that and running the engines efficiently enables GEL to calculate its emissions and carbon intensity.

Environmental Policy Plan

The Environmental Policy Plan includes aims to reduce greenhouse gas emissions and increase the use of energy generated from renewable sources.

- 4.20. There are no emissions limits set by Environmental Health or any other body which GEL has to meet³², although GEL does liaise with Environmental Health and the Health and Safety Executive³³.

- 4.21. The Minister of the Commerce and Employment Department acknowledged that more resources could be placed at the Government's disposal to communicate messages from the ERP a lot better than in the past:

"I think in terms of engagement with general consumers, I think there is more work to be done there. There may need to be some more resources placed at Government's disposal to, perhaps, communicate those messages a lot better than we have done in the past". (Hansard 6th November 2013 - line 2166)

- 4.22. The Policy Council's Green Paper acknowledges the objective of "minimising atmospheric emissions"³⁴, and the Government accepts that the Island should be a "good international neighbour" in terms of carbon emissions.

"We are in a period where we understand that we have to be good international neighbours and be aware of our own carbon footprint, and therefore on-island generation... is perhaps not the best way forward, and being able to use greener – and I include in green nuclear energy which is low carbon, but a lot of people may not think it is green – but being able to tap into the European grid, is clearly a sensible way forward for us in Guernsey and our own renewable energy policy". (Hansard 6th November 2013 - lines 2054)

"To the best of my knowledge, unless anything has changed, there are no specific emission targets. There is a general clear air requirement but there are no specific emission targets, but then, of course, the emissions are emitted 55 metres up in the air, which is the purpose of the chimneys". (Hansard 6th November 2013 – line 601)

³² Hansard Day 1, Dep Ogier/Alan Bates exchange, lines 1228 - 1231

³³ Hansard Day 1, Bob Beebe, lines 1350-51

³⁴ Green Paper, March 2014, p.3

“...one of the things that needs to come out of the Energy Resource Plan, is more specific direction in terms of the environment”. (Hansard 6th November 2013 – line 1215)

“The overall picture of trends in emissions is positive. It’s reassuring that we still managed to meet the Kyoto target, despite the effects of the failure of the electricity link with France. It is clear that managing the way we generate electricity in the future is going to play a key role in controlling the Island’s emissions”.³⁵

- 4.23. GEL has carried out a recent customer survey to assess the demand for and willingness to pay for green power.³⁶ GEL indicated that the Company takes account of the environmental impact of its operations, with regard to both the running of the power station and also the sourcing of imported electricity.

“...in terms of sustainability, we take account of the environmental impact of our operations, not just by the running of the power station, but also the sourcing of electricity imported”. (Hansard 6th November 2013 – line 1206)

However GEL admitted that as the Company is mandated to supply electricity at lowest cost environmental considerations cannot play a primary role.

“Currently we cannot and we believe that one of the things that needs to come out of the Energy Resource Plan is more specific direction in terms of the environment”. (Hansard 6th November 2013 – line 1215)

- 4.24. The Committee considers that environmental aspirations and targets need to be clarified and agreed. It is currently unclear what they are and how they are prioritised – doing so will inform future energy strategy.
- 4.25. GDP supported the proposed new cable infrastructure as offering a solution which would take advantage of low-carbon nuclear power. They stated that environmental issues were a major driver in securing new business in the Island and were of major importance to the Company. However when pressed, GDP told us they were unwilling to pay any more for their electricity in either extra costs for ‘greener’ power, or extra ‘green’ taxes. They considered that importation of ‘greener’ European nuclear power would be cheaper allowing for the addition of a small ‘green’ charge if required. It was their opinion that the addition of ‘green’ taxes to the current tariff would price their business out of the market.
- 4.26. GDP added that Guernsey had an opportunity to move towards more sustainable environmentally friendly imported power via the new cable infrastructure. They did not see a contradiction between achieving a perceived ‘gold-plated’ supply via new cable infrastructure and the provision of a low-cost supply. They were confident

³⁵ Press release – quotation from the Chair of the Energy Policy Group, 26 February 2014: <http://gov.gg/article/111260/Latest-Greenhouse-Gas-Emissions-Figures-Kyoto-Protocol-target-met>

³⁶ Hansard Day 1, Alan Bates, line 729

that importing low-emission electricity from Europe, even taking into account the extra capital cost, would lead to lower priced electricity in the Island.

Use of Renewable Energy

- 4.27. The Energy Resource Plan stated that Guernsey had concentrated its efforts on developing the framework for licensing marine renewable technologies but that the costs of producing energy from tidal power remained high and commercial viability was unlikely to be achieved for at least five years³⁷. The report stated:

*“The States therefore believe that the development of local renewable electricity generation, in whatever form, should be determined by the maturity and cost of available technology, with the full scale exploitation of our local resources delayed until demonstrably viable technology is available at an affordable cost. However the States is committed to 20% of its electricity supplies to be met by renewable sources by 2020”.*³⁸

- 4.28. Connection to the European grid enables Guernsey to import not only carbon-neutral nuclear power, and also some renewable energy (currently 30% hydroelectric power)³⁹. The use of renewable energy technologies is the ideal solution from an environmental perspective; however some of these are emerging technologies which have yet to be proven or tested and come at considerably higher cost than existing energy sources. There is the added complication that many renewables provide an intermittent supply.
- 4.29. The States of Guernsey is making progress with its own renewable energy projects, such as the proposed installation of solar panels (thermal and photovoltaic) on Sir Charles Frossard House. Similar projects are intended for installation on other States-owned properties. These developments are encouraging but more could be done by the States to encourage private initiatives using renewables, not least by providing advice to the general public and business on the use of renewables and energy efficiency.

Macro-renewable Energy

- 4.30. We are aware that some local businesses feel there are barriers put in place by either Environment Department and/or GEL to discourage micro-renewable generation. Given the environmental benefits of renewables, we recommend that the Policy Council carry out a review to identify barriers to environmentally suitable

³⁷ Estimate by Alderney Renewable Energy developments in 2014

³⁸ Energy Resource Plan, section 9.14

³⁹ Hansard Day 1, Deputy Stewart, lines 1982-83

micro-generation by homeowners and businesses with a view to the relevant departments/GEL having a coordinated approach to removing these barriers.

- 4.31. The Committee recognised that GEL has an obligation to *supply* electricity to customers; however, when it comes to an obligation to *purchase* electricity in a non-grid system it is unreasonable to expect GEL to accept and pay for micro-generation irrespective of whether it is needed and whether GEL can sell it on. Micro-generation has a role to play but there is a balance to be struck. Our review identified that some businesses feel that the barriers to micro-generation are prohibitive at present.
- 4.32. GEL told us that it is keen to encourage islanders to install their own renewable resources. However, GEL currently applies a standby charge to customers with renewable installations greater than 25kW capacity (installations of this size tend to be for commercial customers) to recover the costs of providing the infrastructure to supply electricity to that customer. GEL recognises that this charge may act as a disincentive to individuals investing in renewable power and is currently reviewing the level of the charge and its coverage to ensure it is appropriate. We request GEL to provide us with the outcome of its review and with an explanation of the rationale behind its policy.
- 4.33. In addition, there may be an option to investigate “feed-in tariffs” which are higher than those currently offered by GEL. This approach is used in other jurisdictions to provide an incentive for renewables projects. We recommend that the Energy Policy Group considers this option as part of its future energy strategy.
- 4.34. We were surprised to learn that a proposed six acre trial site of solar photovoltaic (Solar PV) panels supported by the Energy Policy Group on a derelict vinery site had been blocked due to planning reasons; the land was classified as horticultural and PV installation would require a change of use to light industrial. The Committee recommends that the Environment Department work to resolve this issue so that the Renewable Energy Team can progress with this project and begin testing the suitability of larger scale renewable projects on-island.

“I think renewables are one of those things where the will is there, the technology is not, just yet. But, I think we need to keep abreast of it. Certainly my RET team is keeping abreast of it. Solar PV is a bit of a frustration but the planning, as we know, there is the whole Strategic Planning Review underway, and I hope that we will be able to release some land, but perhaps particularly in the north of the Island which is not so useful for agriculture, that could be used for some of these solar PV sites”.
(Hansard 8th January 2014 – line 1710)

- 4.35. The potential for the use of renewables to generate electricity is covered in detail by the Renewable Energy Team in the Green Paper. Tidal and wave generation

have developed far more slowly than forecast. The Commerce and Employment Department/Renewable Energy Team believe that small-scale renewables are unlikely to play a major part in the island's electricity future, but are nevertheless desirable in the context of diversifying electricity sources and reducing global emissions.

- 4.36. Renewables provide an intermittent power source; for example Solar PV is only available in daylight hours and tidal stream gives four periods of generation per day. Electricity storage is not currently a commercially available technology. Guernsey has the potential to successfully exploit renewables such as tidal stream, wave and offshore wind once the technologies are proven and cost effective. The States should therefore have a medium-term aim of using renewables as a significant contributor to on-island electricity generation, and in some cases as a potential export option. To do so will require support and investment but it will deliver an increase in energy security from diverse locally-sourced supplies.
- 4.37. A vision for the future would be for the Island to utilise a balance of electricity generated from renewable and cable importation sources, whilst retaining but reducing reliance on cable importation and on-island generation at the power station, in order to support local renewable generation as required. Additionally, investment in further cables will provide suitable infrastructure to enable exportation of energy.
- 4.38. Developments in renewable energy are kept under continuous review by the Commerce and Employment Department through the Renewable Energy Team, who acknowledge that a fresh policy approach would have to be considered before any large scale deployment of local renewables is undertaken.⁴⁰
- 4.39. Following publication of the Green Paper GEL has cautiously reaffirmed commitment to renewable energy:

“We believe that everyone wants to see Guernsey generating its energy from the natural resources we have available to us. However we also know that the public do not want tariffs to be overly affected. It is important therefore, as the States notes, to ensure that renewable technology is proven commercially viable for our small island, before significant investment is made. An important point though is that our current strategy for secure importation through additional cable investments fully supports the implementation of renewable projects in the future”.

(Alan Bates, Managing Director Guernsey Electricity 11th March 2014)

⁴⁰ This paragraph based on information provided in the Policy Council's Green Paper on Electricity Strategy, March 2014

- 4.40. The Committee believes that historically the Commerce and Employment Department has adopted a realistic yet cautious, risk aware approach towards renewables. We recommend that this approach is reviewed due to the proactive steps currently being taken by Alderney (via ARE) and the European Union in this area.

Energy Efficiency and Demand

- 4.41. The EPG is looking at energy efficiency, mindful that Jersey has had some success with efficiency projects⁴¹. There are funding implications. EPG is looking ‘extremely seriously’ at providing more information to consumers on how they can use energy wisely, via the States website, for example (energy saving advice is provided by GEL on their website).

“If you actually go on to gov.gg, you cannot find any advice about energy whatsoever, and I think that that is something that Energy Policy Group realises, that is something that needs to be put right. I think for people to make the right decisions, they need information”. (Hansard 6th November 2013 – line 2151)

- 4.42. The Committee encourages the EPG to work with GEL in investigating and introducing more energy efficiency/demand control measures for the island as a whole, for example by looking the introduction of smart meters together with wider promotion of the energy efficiency message.
- 4.43. The States has its own programme of energy efficiency measures which are coordinated by the Strategic Property Unit of the Treasury and Resources Department⁴². However the Commerce and Employment Minister was not convinced that this was a job well done.

“I think if I am going to be absolutely honest, I think we do an absolutely rubbish job at telling consumers how they can save energy, and that is something that the Energy Policy Group is looking at very closely at the moment. If you actually go on to gov.gg, you cannot find any advice about energy whatsoever, and I think that that is something that Energy Policy Group realises, that is something that needs to be put right. I think for people to make the right decisions, they need information... I have to say that is one area where I think the States of Guernsey actually should lift its game and it is actually an area that Energy Policy Group is now looking at extremely seriously and to see whether there are some resources to actually make sure that people understand how to use their energy wisely”.

(Hansard 6th November 2013 – line 2147)

⁴¹ Hansard, Hearing Day 1 Chief Minister line 620

⁴² Hansard Day 1, Energy Policy Advisor, lines 2197-2199

"I think we have a duty as Government to ensure that consumers are aware of how they should be saving electricity, how they can use it more efficiently. I do not think that we do that particularly well as a Government, and the thing with Guernsey Electricity is they have got this smart metering. They went to Las Vegas and picked up a lovely award there... a few years ago...they picked up an award in Las Vegas. I would like to be able to monitor my electricity in real time, so I know when my wife has left all the lights on, or I have, and to be able to – and I am sure it would be of benefit to a lot of people to be able to – monitor their electricity in real time, to be more efficient. Basically, the more efficient we can be as consumers, both commercially and domestically, the less draw there is on our resources". (Hansard 8th January 2014 – line 1751)

- 4.44. The EPG is planning for an increase in energy demand. At present, greater energy demand is offset by greater energy efficiency,⁴³ meaning that energy consumption is currently steady. However the Commerce and Employment Minister had a mixed view on this subject.

"Whether energy consumption will go up or down is very difficult. What we can say is that appliances – whether it is computers, whether it is washing machines, whether it is fridges – are becoming more and more energy efficient, and in industry as well, it is in everyone's interest now to be energy efficient and for manufacturers to make energy efficient hardware. So, but then... where we had one television, we have now got three or four and probably a different charger – I do not know how many chargers I have got! But, I think people, and through technology, they will become more efficient. So, that is why I made the point about, I think actually as Government we need to educate consumers more on how they can better use their energy". (Hansard 6th November 2013 – line 2204)

- 4.45. GEL had carried out a twenty-five year modelling exercise to look at options for importation and generation, which took account of numerous sensitivities, including demand, all of which had been factored into its analysis⁴⁴.
- 4.46. In considering any future electricity strategy, the Policy Council and GEL were mindful that electricity must not be considered in isolation but as part of the wider use of energy on-island, including gas and oil. We note the Policy Council's Green Paper focused on electricity but further consideration needs to be given to how electricity fits into wider energy policy:

"Also, electricity cannot be looked at in isolation. Electricity is part of the energy market for Guernsey and in terms of heating, represents only about a quarter of that market or less. The larger part of that market is oil, so I think to look electricity in terms of security on its own is wrong. In terms of energy security you need to look at the whole market". (Hansard 6th November 2013 – line 1496)

⁴³ Strategic Planning Officer, Hansard Day 1, line 627

⁴⁴ Hansard Day 1, lines 1238-1243, Alan Bates

- 4.47. As part of wider energy policy consideration must also be given to the recent shale gas discovery and opportunities for ‘fracking’ in the UK which could have implications for the Island’s future energy use⁴⁵. This subject has been considered by CNG Services Limited⁴⁶.

“Obviously, we do keep an eye on the whole energy market, not just the electricity market and certainly the impact different fuel evolutions can have on those markets. In terms of shale gas and what effects it will have on the energy market, in particular the electricity market, it may well bring the electricity market down if there is some very cheap gas fuel”. (Hansard 6th November 2013 – line 904)

Policy Direction

- 4.48. In order to decide on future investment options, the States needs to provide clarity on policy, particularly with regard to balancing the competing priorities of cost, security and environmental factors which are present in the electricity ‘trilemma’. We were encouraged therefore that this was addressed by the Policy Council in its Green Paper:

“The purpose of this report is to ensure that the States has an appropriate policy in place to guide Guernsey Electricity in making investment decisions which are appropriate for the island’s aspirations, bearing in mind that all islanders will bear the cost of those investments in some way⁴⁷”.

“...there is a need for the States to resolve the hierarchy of potentially conflicting policies namely the requirement to reduce the carbon intensity of energy as set out in the Energy Resource Plan, the N-2 policy, and the obligation to supply at lowest Cost”. (Minister, Environment Department – Response to Scrutiny Committee’s consultation – 7th December 2012)

The Committee was encouraged that there was recognition of the need to clarify states department roles in providing GEL with direction. The Commerce & Employment Department considered that it had a role in providing strategic direction to GEL on future policy, whilst the Treasury and Resources Department gave guidance to GEL on balancing the conflicting policies and priorities of the States. Alan Bates confirmed at the hearing that there had been some confusion in the past over which department would provide direction to GEL:

“I think there was some, as we highlighted in our submission, accountability/responsibility confusion in the past. We are hoping that can be further clarified as we go forward as we make much larger investments”. (Hansard 6th November 2013 – line 1355)

⁴⁵ <http://www.bgs.ac.uk/research/energy/shaleGas/howMuch.html>

⁴⁶ <http://www.cngservices.co.uk/onshore-gas-developments/>

⁴⁷ Guernsey Electricity Supply, Future Strategy – March 2014, p. 1

Confirmed Plans

- 4.49. In the States of Deliberation on Wednesday 29th May 2013⁴⁸, the Minister for the Treasury and Resources Department announced that Guernsey and Jersey Electricity had signed an agreement on future cable initiatives. The following three projects were announced:

Initiative	Description	Date
Normandy 3 Project	The installation of a new 100MW cable between Jersey and France	Early 2015 ⁴⁹
Normandy 1 Project	An overlay of the failed EDF 1 cable between Jersey and France	2016 (subject to planning permission from the French authorities)
GJ2 Project	The full scoping, assessment and evaluation of a project to install a second additional cable between Guernsey and Jersey	To be confirmed

The current arrangement whereby the Company can draw power from the Jersey link is insufficient. Under the new agreement from May 2014 Guernsey will be entitled to draw 40 MW on a single cable with provision to increase this to 60 MW⁵⁰.

Normandy 1 and 3

- 4.50. Normandy 1 and 3 cables will allow Guernsey to import almost 90% of the Island's current electricity demands through the cable and reduce reliance on on-island generation⁵¹. The new cables will therefore reduce production costs and the expectation is that the payback period will be short and may even provide an opportunity to reduce electricity tariffs⁵².

GJ2

- 4.51. But the Normandy 1 and 3 cables still leave the island with a 'single point of failure' risk to its supply which is why GEL wants to install a second additional cable between Guernsey and Jersey (GJ2) and/or a direct link to France to give Guernsey and Jersey greater security (see Appendix 8).

⁴⁸ Hansard – 29th May 2013

⁴⁹ Updated PC Electricity Strategy Green Paper (Appendix 1)

⁵⁰ Hansard Day 2, Alan Bates, lines 18-20

⁵¹ Minister, Treasury and Resources Department

⁵² Hansard – 29th May 2013 – line 356 – 357

4.52. Sure was encouraged by the recently agreed future cable infrastructure plans and praised the way that Guernsey and Jersey were working together to plan for the future.

4.53. Future cable plans were welcomed by GDP as well:

“We firmly believe that new cable infrastructure to Jersey and France is the way forward for the Island for a number of reasons. A lot has been talked about sustainability of supply and we see that as a holistic approach to cost, that certainty of supply... the environmental issues and all of those, which we do not think can really be achieved with on-island generation. Certainly, I think that has been proven with the emissions that we have seen as we have had to generate more and more on-island. So we certainly see that importing more electricity from the continent and the European grid, to take advantage of that greener energy, or low carbon energy, is certainly the way forward for the Island”. (Hansard – 8th January 2014, line 588)

Other Cable Options

- Direct Link to France

4.54. The Policy Council has proposed other options for cable infrastructure investment in its Green Paper, several of which include either one or two direct cable links to France. Although these options require substantial capital outlay, they have been calculated as being more cost-effective than solely on-island generation over a 25 year period.

- Link to Alderney – France-Alderney-Britain (FAB)

4.55. A direct link to Alderney to connect with the FAB link is being kept under consideration by GEL but would appear to be some years away:

“We have looked at cable links to Alderney for the rationale of supplying Alderney with electricity. Obviously, with Alderney’s plans to do with France/Alderney/Britain, there are also obviously opportunities in the future to look at potential connections to Alderney, because that would open up both the UK and the European market. We currently understand those plans are set to move into the 2020s and we need to look at some cable solutions earlier than that. But I would say we have not discounted that as an option.” (Hansard 6th November 2013 – line 886)

4.56. On 10th April 2014, subsequent to the public hearings, Alderney Renewable Energy (ARE) announced signature to a joint venture called Race Tidal Ltd with OpenHydro, part of the French company DCNS, which amounts to a key milestone ensuring the development of a 300MW tidal array in Alderney’s territorial waters. The Committee believes that the Government should consider the implications of this development in greater detail in relation to the Island’s future security of electricity supply strategy.

- 4.57. The agreement forges a joint venture to develop a major European tidal array. Once operational in 2020 Alderney's territorial waters will contain one of the world's largest tidal energy resources, with the current planned phase comprising 150 turbines to produce enough power for over 150,000 homes. Total tidal array resources in Alderney's territorial waters are estimated to be in excess of 3000 MW. The current 300MW tidal array project is expected to reach full scale deployment from 2020 to coincide with the commissioning of the FAB interconnector. ARE stated that:

"The economic development of Alderney's tidal power projects will provide Europe with a new source of predictable, clean, renewable energy and improve the security of energy supplies. The joint venture partnership that we have in place with OpenHydro is a critical piece in the jigsaw as we move to now make significant progress towards creating one of the largest renewable energy projects in European coastal waters". (ARE, Nick Horler, Executive Chairman)

- 4.58. The Committee is unclear if GEL was fully appraised of the advanced nature of the tidal array in Alderney's territorial waters and if it had considered this in its future planning. The Committee question whether GEL has reassessed its options following the ARE announcement. Currently it remains unclear if the ARE development will be considered within future energy security strategy being decided by the States.

Ageing Plant and Distribution Network

- 4.59. Cable infrastructure improvements are only part of the answer. GEL will also need to invest in replacement generation equipment and the distribution network. Many of the generators at the power station are old, costly to repair and becoming less reliable. They will need to be replaced by generators such as the recently introduced £14m 17MW 'Wartsila' medium speed diesel generator or quick start gas-turbines which have high operating costs. At present, with the cable link out of action, any generator problems will have a considerable impact on security of supply as the cable is not available as back-up to cover downtime in generation equipment while repairs are made.
- 4.60. The Policy Council acknowledged the problem of ageing plant which will need replacing at huge cost in addition to the substantial investment required to install a new and extended cable infrastructure. If the "N-2" policy is to be retained then major investment is unavoidable. Reliable and secure energy provision at the level required by an island economy heavily dependent on a financial services industry inevitably attracts higher costs.
- 4.61. GEL's distribution network is vulnerable to risks – such as water ingress and cable strikes – which cause disruption and inconvenience to the public. The Committee

wishes to see a breakdown of the number of outages in GEL's annual report to the shareholder, with reasons for these outages along with measures taken to prevent future occurrences. Details of planned investment in both the generation equipment and distribution network should also be provided.

- 4.62. The "N-2" policy applies to the generation of power, not the distribution network. The Committee accepts that an "N-2" policy for the island's distribution network would result in unaffordable electricity prices for the consumer, as well as creating unacceptable levels of disruption. As GEL explained:

"Everyone can have a very secure supply in their house, but they will not be able to afford to use their electricity". (Hansard – 6th November 2013, line 1081)

- 4.63. GEL expressed the view that if customers were faced with having to pay more for their electricity supply in order to provide "N-2" security to the distribution network, they would rather accept limited, infrequent power outages of less than one hour.

"When you are talking about whether people are willing to pay more, that is one area I think they probably are saying, 'Actually, we would like to be back on within an hour, but we are not willing to pay an awful lot more to have three or four cables down the same street to have two connections, for every connection, to our own house.'" (Hansard – 6th November 2013, line 1085)

- 4.64. Sure stated that on-island distribution problems, with electricity substations directly affected their customers who suffered loss of broadband services. While accepting that the cost of addressing "N-2" at consumer level is prohibitive, the public needs to be reassured that GEL is doing all it can to minimise outages and the disruption they cause.

Sustainability

- 4.65. The ERP provides what is now seen as the classic description of sustainability (with which we concur) as follows:

"To maintain and build on the high quality of life enjoyed by the Island's community by providing the energy needed to allow economic growth at a financial price that is affordable for all consumers and at an environmental cost that does not compromise the ability of future generations to meet their own needs".⁵³

- 4.66. The Committee identified that the current guardians of the ERP do not fully understand the meaning of 'sustainability' in the context intended within the Plan.

⁵³ Energy Resource Plan 2012- section 10.1

The Chief Minister stated that he believed the EPG interpreted the word to mean “resilient”:

“Sustainable in this context, I believe is resilient. This became an issue last summer when we were faced with the situation when the cable broke and we had a presentation from Guernsey Electricity on the implications and, at that stage, the recognition that Guernsey Electricity may have to accelerate the replacement of one of its generators and that then linked in with a concern that we had, or the group had, because of the environmental impact. If you suddenly had to resort more heavily on-island generation, then our ability to achieve some of the environmental targets becomes more difficult”. (Hansard 6th November 2013 – line 581)

- 4.67. The Minister of the Commerce and Employment Department stated that sustainability was “achieved through the “N-2” policy”⁵⁴ and indicated by implication that he also interpreted the meaning as ‘resilience’.

“I think by having both your on-island generation and developing the cable links and keeping that mixed flow of electricity, and that is working to the current policies. It is clearly delivering that sustainability”. (Hansard 6th November 2013 – line 2121)

- 4.68. The Minister added:

“Sustainability, in my view, is about continuation of supply...and I think policy does give that sustainability.” (Hansard 6th November 2013 – line 2230)

- 4.69. The Minister of the Treasury and Resources Department acknowledged that he knew there was a definition included within the ERP:

“... I guess the balance of low carbon, which, of course, is being seen as achieved through the cable link. There is a question of sustainable, and what is the interpretation of sustainable, in an environmentally sustainable sense or in an economically sustainable sense? I think the Energy Resource Plan has an interpretation of that”. (Hansard 6th November 2013 – line 2574)

However he then went on to say:

“I think that (sustainable) is reliability, I think is my interpretation of sustainable, and being there when you need it.” (Hansard 6th November 2013 – line 2596)

- 4.70. GEL stated that the Company took account of the environmental impact of its operations both in running the power station and sourcing imported electricity but agreed that their current mandate of supplying electricity at the least cost caused confliction.

⁵⁴ Hansard 6th November 2013 – line 2071

Conclusions and Recommendations

- 4.71. The Committee welcomes the publication of the Policy Council's Green Paper in March 2014. The subsequent States Report to be published in June 2014 needs to provide a business case for the preferred investment option with a cost benefit analysis for each alternative.
- 4.72. On-island generation in some form will have to remain as cable links will always be vulnerable to damage. This policy should be reviewed annually in light of energy prices and the availability of renewable technologies.
- 4.73. The Committee believes that it is important to publish more energy statistics that give a clear indication of the current position from all the relevant agencies including GEL, CICRA, EPG and the Policy Council.
- 4.74. Clear energy policies must be defined showing how environmental, financial and security of supply considerations interact and are prioritised.
- 4.75. The States needs to clarify and agree its environmental aspirations and targets. It is currently not clear what they are and how they are prioritised – this will inform future energy strategy.
- 4.76. The Government must fully understand and endorse sustainability in its classic meaning as defined in the ERP ensuring it is adopted across all government departments.
- 4.77. Departmental responsibilities for providing guidance and policy direction to GEL need to be clarified to prevent confusion over competing priorities and States policies.
- 4.78. More should be done by the States to encourage the use of renewables and Government should do more to provide advice on the use of renewables and energy efficiency to the general public and businesses. Given the environmental benefits of renewables the Committee recommends that the Government investigate any barriers to micro-generation.
- 4.79. We request GEL to provide us with the outcome of its review into charges levied against individuals investing in renewable power and publish an explanation of the rationale behind its policy. Information on the ARE development emerged subsequent to the Committee's hearings, we do not therefore know whether the Government has considered the implications in relation to the Island's future security of electricity supply strategy. We recommend that the Government investigates the implications of ARE and publishes its findings.

- 4.80. The Committee is concerned that the business case for enhanced cable infrastructure could be over optimistic. We would like reassurance that the GEL's business case has been subject to independent verification.

5. Energy Policy – Costs and Future Funding

Introduction

“We (GEL) aim to keep electricity prices affordable by assessing infrastructure investments against the impact this may have on customers’ bills. If the costs for infrastructure used by customers rise above the prevailing RPI level on average then the investment affordability has to be questioned. However, it is worth remembering that volatility in tariffs is usually created by the wholesale energy markets which represent approximately 60% of our tariffs whereas infrastructure costs are 10%”.

(Alan Bates, Managing Director Guernsey Electricity 11th March 2014)

- 5.1. Highly reliable and secure energy provision inevitably attracts higher costs and there is an inherent balancing act between cost, sustainability and reliability. If the “N-2” policy is to be retained then huge investment is unavoidable.
- 5.2. The overarching factor concerning the cost of electricity generation has been the higher cost of on-island generation compared to that of cable importation; hence the price increases following the cable failures in 2012. However GEL has a mandate to supply electricity at least-cost generation whether through on-island generation or cable importation.
- 5.3. Maintaining the “N-2” policy requires GEL to retain additional redundant machinery to enable on-island power generation to a level corresponding to that imported by cable. This creates additional costs to cover maintenance of the generation equipment, the storage of sufficient heavy fuel on-island to run the resource at short notice and the staff needed to maintain what amounts to an insurance policy. An alternative security policy could be considerably cheaper but only be achieved at higher risk to the security of the Island’s electricity supply.
- 5.4. A significant part of the generation machinery is at the end of its useful life and other elements are rapidly approaching that point too. The cost of replacement is substantial. Therefore the cost of maintaining the “N-2” policy will involve substantial financial investment in addition to the major financial investment required install the planned cable infrastructure. As the States Economist stated:

“...one of the consequences of “N-2” is the additional capital cost that the States or Guernsey Electricity therefore have to carry. And given the extra redundancy that one has on Island, one of the issues it to analyse the legitimacy of the “N-2” criterion in any review”. (Hansard – 6th November 2013, line 180)

- 5.5. The States’ Energy Advisor explained that the “N-2” policy was adopted by the States at the time of the commercialisation of GEL in full awareness of the capital expenditure implications. Mott MacDonald had been commissioned to examine the

suitability of an “N-2” policy and recommended it as appropriate for the Island’s economy and size – describing it as a very robust approach to security. The Chief Minister stated:

“Guernsey has an advanced economy: it expects a reliable electricity supply. The two things fit together”. (Hansard – 6th November 2013, line 214)

- 5.6. However, the review had not taken account of affordability of the policy.

“In terms of a policy, it (“N-2”) was about keeping the lights on and about supplying the maximum demand in the Island. We have actually achieved that. The “N-2” policy has served the Island very well in the past. However, it did not take account of affordability. It did not take account of environmental impacts and it did not take account of network reliability. We believe that any revision to security of supply for the Island should take account of those factors. Also, electricity cannot be looked at in isolation. Electricity is part of the energy market for Guernsey and in terms of heating, represents only about a quarter of that market or less. The larger part of that market is oil, so I think to look electricity in terms of security on its own is wrong. In terms of energy security you need to look at the whole market”. (Hansard 6th November 2013 – line 1490)

- 5.7. CICRA maintained that the trade-off between resilience and price was for politicians to determine. The States needed therefore to decide on the quality of service that the Island wanted. In contrast to the Mott McDonald review, for CICRA the question over whether the “N-2” policy offered value for money was an extremely important one, “with two distinct sides of a ledger in terms of security supply”.

“The costs of outages are very visible. The costs of ensuring security of supply are potentially less visible, but are no less tangible and real and it is very important to engage in that trade-off...I think that importance of focusing on both sides of the ledger is very important”. (Hansard 8th January 2014 –line 1107)

“...there really are those two aspects to security of supply. There is the long term security of supply against the overall level of demand from the Island. Security against outages like cable failures or break-down of an engine, security of the supply of oil that is needed to run on-island generation and that has one set of solutions. And then, is there the security supply in terms of meeting the minute by minute demand for electricity on the Island? Those two things do have quite different aspects, quite different solutions, and really have differing impacts on the costs of maintaining security of supply. And, in particular, if you think about how you meet the minute-by-minute demand for electricity, there are short peaks in demand every day for half an hour or an hour, and in order to meet those you may need a substantial amount of kit that is used very infrequently, which may only be switched on for a short period each day in order to meet that peak in demand, particularly if you are relying on on-island generating kit, rather than just increasing the amount of power that you draw through the cable link”.

(Hansard 8th January 2014 –line 1124)

- 5.8. The Treasury and Resources Minister agreed that it was appropriate to consider an “N-1” policy in view of its cost-reduction potential. However, the Department did not have a firm view in advance of a decision being made on the correct energy policy for the Island.

“I think Government has a role in determining energy policy and, will no doubt, need to do that, cognisant of and thinking about the effect of energy policy on pricing to the consumer. But that is at a much higher level than determining the individual pricing I would suggest”. (Hansard – 6th November 2013, line 2546)

- 5.9. The Minister stated that there would always be a trade-off between providing security of electricity supply and the significant cost implications of achieving this.

“Certainly, one of the questions is the cost of the “N-2” policy and certainly, I think one of our thoughts is that clearly, if we were to have more than one cable to France, for example, and therefore did not have a single point of failure at risk with France, then that may provide an opportunity to actually have less local generation required... without prejudicing security of supply”. (Hansard – 6th November 2013, line 2500)

- 5.10. The issue surrounding the suitability of the “N-2” policy was reiterated by CICRA, they commented:

“Whether that benefit overall is sufficient to justify the additional costs that it builds into the electricity supply market is a question that we think is best left, where possible, to customers but where customers cannot choose the appropriate standard of service, it becomes a political and affordability issue. This is particularly important in an environment where electricity supplies are already substantially more expensive than in the UK and France, and perhaps more importantly, in Jersey”. (GCRA/CICRA written consultation response)

- 5.11. Peak electricity demand occurs for only a very short period of time. Providing sufficient duplicate generation to meet peak demand means that customers contribute to the high capital cost of providing equipment that spends most of its time redundant. CICRA suggested that:

“For the future, in assessing the appropriateness of the standard, consideration should be given to the trade-off between the cost of this standard of service and the benefits that it has delivered. In particular this should be looked at in comparison with the number and duration of substantial island wide outages suffered in Jersey which operates to a lower N-1 standard of supply security”. (GCRA/CICRA written consultation response)

- 5.12. Sure acknowledged that the security and affordability of the Islands’ electricity supply to both commercial and domestic consumers was of paramount importance to the success of the Island as a whole. In their view, Guernsey did not experience many of the disruptive issues surrounding electricity supply suffered by other similar island populations:

“We see a completely different level of service here and reliability that is unmatched by other comparative jurisdictions around the world”. (Hansard – 8th January 2014, line 46)

- 5.13. The cost of various options for future Island electricity supply is addressed in the recent Green Paper⁵⁵. Figure 2 below extracted from the Green Paper, demonstrates the substantial future investment required to ensure future security of supply policy.

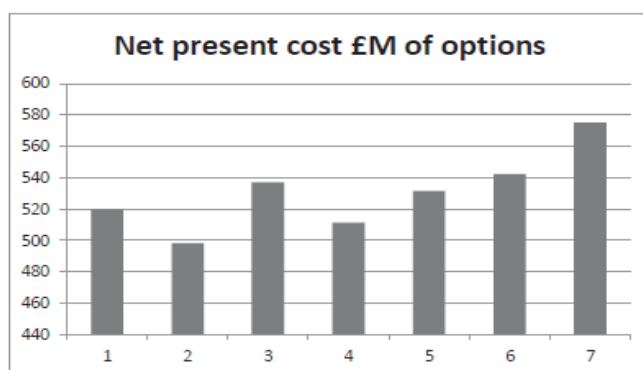


Fig. 2 Net present cost of various options for island supply

Electricity Tariff

- 5.14. GEL referred the Committee to a report completed by CICRA at the end of 2012 following a 9% price increase in the electricity tariff and just prior to Jersey Electricity increasing their electricity tariff by 9.5%.

“Just to clarify the position now, Guernsey is roughly on average about 17% more than Jersey Electricity in price. Why is that? Well, Guernsey Electricity is currently generating 70% of electricity for the Island using its diesel generators, so only 30% is importation. Jersey are currently importing almost 80% of their electricity from France, and only generating 20%...Well, I think we have already indicated that it is significantly more to generate using on-island generation, varying over the time of the year, but generally I would say at least half, if not more again, and that is one of the reasons. So the question should be ‘how is electricity in Guernsey so cheap?’ currently on that basis. Well, the basis is we are on a route where last year we posted a £3.4 million loss, this year we are looking to break even, and with more importation in the future, we are hoping to return to the sort of profitability level required for investment in the Island”. (Hansard – 8th January 2014, line 1500)

- 5.15. GEL went on to say that electricity prices over the previous ten years had changed dramatically largely due to volatility in the price of oil.

“The oil price in the late 1990s was \$10 a barrel. It peaked in 2008 at over \$150 a barrel. That had a knock-on effect to the other energy markets. Approximately two

⁵⁵ Guernsey Electricity Supply – Future Strategy: published March 2014; page 18

thirds of Guernsey Electricity's cost to sales is the cost of the product, the purchased product, and on that basis, if there is enough volatility in those markets, that does flow through to tariffs. What I can say, under the previous regulatory price control model, the flow-through of those prices did not always align with the change in the wholesale markets, which did cause some confusion in terms of why prices were moving at certain times". (Hansard – 6th November 2013, line 992)

- 5.16. GEL also acknowledged that domestic and commercial consumers were often separate and distinct markets:

"One of the things we are doing, with such a fundamental change in infrastructure, as in more importation and less on-island generation, we will be carrying out a review of all our tariff offerings to the market, and make sure they actually match the market". (Hansard – 8th January 2014, line 1538)

- 5.17. The Minister of the Commerce and Employment Department told us that he did not believe that the new energy strategy would lead to an increase in electricity prices. On the contrary, he stated that the EPG favoured some smoothing/stability of pricing rather than fluctuation due to investment in infrastructure.

"A lot of it depends on timing, and a lot of it may also depend on also some of the generation equipment that Guernsey Electricity has. It is fairly old, some of that might need to be replaced as well. So it is balancing the replacement costs over the efficiency of the slow diesels, and medium diesels. There are a lot of factors that have to be taken into account on pricing. But, I think it would be... in my personal view, to connect a cable and then suddenly drop the prices and then if they were any problems outstanding, then the prices go up again, I think that creates a lot of uncertainty in the market. What is probably best is to try and get a uniform price set out that does not rise or lower into greater margins that give people some certainty that will take into account blips along the way". (Hansard – 8th January 2014, line 1569)

- 5.18. On local electricity price tariffs he went on to say:

"My personal view is that it would be better, rather than the prices going up and down, to probably have some sort of smoothing. I can see a point where prices might drop, when the Normandie 1 cable is put back in and we may be able to draw – although we say that cable is 16 – if we are able to draw up to 40 or 50 megawatts off that, then that could reduce the price. I think it could send a very confusing message to consumers, in my own view, if the price zooms up and down. So, I think, in fairness, although the price hike of 9% was I think a shock to some people, when you actually look at our domestic tariff in context with other European countries, for example, Denmark, you are somewhere over 25 pence for a kilowatt hour, and in Germany just well over 20 pence per kilowatt hour. We are much cheaper than Belgium; we are cheaper than, I believe, the Netherlands, cheaper than Spain and Portugal. So, we are slightly more expensive than Jersey, and the reason for that is Jersey gets more of its power from France; it has less on-island generating capacity. But, even if you were to drop one of the main... if you went to an n-1, I think the figures that I have seen show that the drop in price would only be about 0.6 of a percent, if I am right. So, where we fit in Europe – yes, there are some

cheaper, but we tend to sit in about the middle, to be honest, at the moment with our pricing". (Hansard – 6th November 2013, line 1848)

- 5.19. What he did not mention, however, was the point made by GDP that these comparisons of domestic tariffs did not take account of the high levels of tax which form part of domestic prices in several European countries, Denmark in particular.

"We look at the European pricing as the pricing once you take away all the taxes and other areas that are in Europe and are priced to consumers. Once you strip all of that away and get down to the bare bones of the price per kilowatt of that electricity, we are significantly higher". (Hansard – 8th January 2014, line 682)

- 5.20. GEL agreed with the concept of providing stability and predictability within the pricing structure:

"Obviously, one of our objectives is to introduce some sort of stability and predictability into our tariff structures. That can be done in certain ways. Obviously, you just referenced the influence investment can have on that stability. Also the wholesale markets can have probably a bigger effect on the stability and predictability; we try and manage both those". (Hansard – 8th January 2014, line 1580)

Price to Industry

- 5.21. GDP questioned why electricity prices in Europe and Jersey were cheaper than in Guernsey. They told us that Jersey Electricity has a policy of retaining its electricity tariff within +/- 10% of the European average price.
- 5.22. GDP would like to see recognition of the differing needs of customers rather than the current 'one size fits all' approach. In particular, they looked for a tariff which took account of circumstances where a company had its own back-up generation infrastructure and therefore did not require the same level of resilience from GEL. They told us that electricity costs were seen as a barrier to new business in Guernsey. There was a tension between reliability and cost and they thought that a different balance between the two needed to be struck.
- 5.23. We see merit in GDP's suggestion of a tariff which encourages those companies which place a high value on reliability to invest in their own back-up. Domestic customers and the finance and related industries do not have identical needs, a fact GEL acknowledged (see paragraph 5.16 above). Rather than have domestic consumers pay for a reliability that they do not need, it would be better for those industries to take their own measures, thereby saving GEL costs which can be passed back in the form of a special tariff for those industries. In fact, as both Sure and GDP told us, in an industry which is acutely sensitive to outages, there are no circumstances under which companies would not have their own back-up provision.

Impact on Economy

- 5.24. The Commerce and Employment Minister's view was that, when it came to attracting new business to the Island, a resilient electricity supply was assumed and the price was not disputed.

"We have proved that we have got a really resilient supply, with a loss of minutes to consumers in recent times. It is actually nearly as good as, for example, you would expect on mainland UK or France...I think more difficult is our cost of internet connectivity as opposed to the energy supply. Generally, I would say there is a higher level of satisfaction and, certainly, it is not an issue, and I know of a couple of major companies that are moving here over the next couple of months and they have moved, one from the UK, and one from mainland Europe – both of whom are quite content with the resilience of supply". (Hansard – 6th November 2013, line 2022)

- 5.25. The Minister considered that the Island's current policy provided electricity at reasonable cost and added:

"I think the difficulty is that in a market such as ours, if we were to give tariff advantages to commercial organisations, then this will have to be borne by the taxpayers, one way or the other – either the other electric users, domestic users of electricity, or the taxpayers generally. Bearing in mind most of our taxpayers are individuals, since Zero-10, then that will mean more of the burden borne by the man in the street. So, I think that might be a policy that would not find favour with the public". (Hansard – 8th January 2014, line 1616)

- 5.26. GDP insisted that the cost of electricity in Guernsey was a major barrier to business; that the price of electricity in comparison with other jurisdictions was a concern; and that a different balance needed to be struck in the 'trilemma' between reliability, cost and resilience. Additionally, they felt that if a 'green tax' was added to the current tariff, the cost of electricity would price their business out of the market.

- 5.27. GDP's comments about the potential impact which high electricity costs have on business would have been more persuasive had they been able to quantify the significance of electricity costs for their own business. When we asked them they replied:

"I would not like to put a number on it, but it is perhaps one of the largest costs". (Hansard – 8th January 2014, line 736)

When pressed to give us even a rough percentage, the response was:

"I do not want to put a number on it, but it is one of the largest costs". (Hansard – 8th January 2014, line 740)

We consider GDP to have exaggerated the impact of electricity costs as a deterrent to business investment in Guernsey.

- 5.28. Nevertheless, electricity supply and price are major factors for the Island's economy and GDP wanted to see GEL take on a more proactive, enabling role:

"It would be extremely useful if GEL was, as it were, re-purposed to become an economic enabler on the Island, rather than just a mere supplier of a utility service. Electricity is a real key enabler to the Island's economy, and the development of the economy, and GEL has historically been able to sit there and be the supplier of almost a uniform, one size fits all service. If GEL was re-purposed to become a facilitator for economic development, that would be extremely useful. One of the effects of that would be prices closer to the European norm, European average".
(Hansard – 8th January 2014, line 792)

- 5.29. The Company stated that the cable infrastructure would be the most cost-effective way to look at the importation of power over the medium and long-term. Further that the base price per kilowatt of electricity imported from France, even taking into account the repayment costs relating to the infrastructure investment, should equate to cheaper electricity prices than those currently charged in the Island.

- 5.30. Both commercial consumers at the public hearing stated that data customers would not tolerate any disruption in electricity supply and required near 100% reliability. The two companies therefore maintained their own backup generation in order to ensure that their customers were never aware of any power spikes or interruption.

"...we will always have to invest in our own infrastructure to give us another level of protection, and that will always be the case". (Hansard – 8th January 2014, line 166)

- 5.31. Sure explained that it was far more cost effective to purchase electricity from GEL than to self-generate, and that they worked with GEL to produce a consistent service and pre-empt potential problems. They emphasised the significant costs of operating their business and stressed that they were always looking to optimise their expenditure in order to keep down prices in the highly competitive market. The Company stressed that the cost of electricity was always of primary concern to their customers.

"...we are always interested in some type of tariff that would help us manage the nature of our electricity consumption a little bit better. There is not a tariff that is oriented towards our business. We have spoken with GEL on this, but we have not been able to come up with maybe a more effective tariff that meets the demand use that we have for our business". (Hansard – 8th January 2014, line 255)

"Wherever we can optimise the use of electricity and achieve a tariff that is reflective of our consumption needs is good, because it helps us at the end of the day to make sure our services remain competitive, consumers benefit from it and Guernsey itself is marketable on the international arena". (Hansard – 8th January 2014, line 276)

- 5.32. Sure praised the service and reliability of GEL in relation to other comparable island jurisdictions. The Company felt it had a good working relationship with GEL but

would like to be more involved in the formation of policy and were disappointed that the States had extended the generation and distribution licence to GEL until 2020 without consultation. Overall, however, Sure complimented GEL for its communication with industry and their closing remark referred to development of price modelling:

“...we would like to work more on pricing modelling, focusing on our unique requirements of electricity consumption, so that we can optimise our expenditure and make sure that we remain competitive in this jurisdiction”.
(Hansard – 8th January 2014, line 478)

- 5.33. GDP were firmly of the view that the security and cost of electricity were not in conflict:

“Importing low emission electricity from Europe, even though that requires the capital cost of new cables, we would see a lower price of electricity here...we do not see it as a contradiction”. (Hansard – 8th January 2014, line 857)

Price to Domestic Customers

- 5.34. The Commerce and Employment Minister commented that Guernsey came in the middle of the range in Europe when one compared domestic electricity tariffs and cited Germany, Denmark, Spain and Cyprus as all charging more. He added that most Guernsey residents expected a very high level of security of supply due to reliance on electricity.

“I think what people get in Guernsey, at the moment, both sitting on C&E and on Policy Council, is actually pretty good value for money”. (Hansard – 8th January 2014, line 1476)

- 5.35. The Minister expressed the viewpoint that Guernsey was quite well off regarding electricity tariffs:

“I do not think people pay a high price in comparison domestically to the rest of Europe. I think we are kind of there in with the pack... To be honest, there can always be room for more efficiencies, and I know that both T&R and the shareholder sub-group will be looking for that, and I know that Alan and his team are looking for that. But in general, I think people here in Guernsey – and I speak as a consumer as well as a Minister – I think we get a pretty good deal and a very good service”. (Hansard – 8th January 2014, line 1489)

- 5.36. CICRA thought that GEL could “work harder” at providing a reasonably priced electricity tariff for consumers. They considered that both Jersey and Guernsey had basically the same power source in terms of components of electricity supply and therefore the question arose as to why there was such a big price gap. CICRA only partially understood the rationale behind the price gap.

“It is probably better to compare the total average price of electricity and perhaps that might help in terms of discussing this aspect, and it goes back to what do you

want for your money? So I do not think we can simply talk about prices; I am talking about some measure of quality of service, and it relates to your previous question, in that the question is what do you want? I think if you are looking for example at the power failure of 2012, the evidence is that Guernsey Electricity performed infinitely better than Jersey Electricity in terms of customer supply that was lost. In Jersey, they lost just under 300 minutes in the calendar year that they reported on. In Guernsey, we lost just under seven minutes. So Guernsey Electricity's performance was a lot better...if you look at price, and if we are looking at the total average price, so the average total price in the last financial year that Guernsey Electricity reported is round about 14.4p per kilo watt hour, and the last two years between Guernsey and Jersey you find a range of about 19% to 26% higher in Guernsey than in Jersey". (Hansard – 8th January 2014, line 1157)

CICRA considered GEL's reliability to measure up well in comparison to Jersey Electricity, especially in light of the system failures during 2012.

Borrowing to Fund Investment

- 5.37. Historically GEL's investment has been funded by a 'save to spend' approach. However, the Chief Minister acknowledged there had been tension with CICRA relating to a concern that the cost of investment was not necessarily reflected in the price of electricity.

"The policy has, in the past, I believe, been 'save to pay'. I mentioned at the outset that there is a sort of tension with CICRA, which I am sure they will be able to elaborate on, but the concern is that the cost of investment is not necessarily reflected in the price – this is where CICRA comes into it – in the tariff prices charged to consumers". (Hansard 6th November 2013 – line 380)

- 5.38. The States Economist reiterated this point and added that in the States' Budget of 2011/2012 the Treasury and Resources Department had been granted devolved responsibility to underwrite any borrowings for GEL and its investment programme.

"...the historic tension that the Chief Minister refers to with the Regulator had been an assessment of the current capital infrastructure of Guernsey Electricity. There was a legacy dispute about what was a fair assessment of the capital costs that Guernsey Electricity had to carry. In a small jurisdiction, they are disproportionately large because we do not have economies of scale". (Hansard – 6th November 2013, line 389)

- 5.39. The Minister of the Commerce and Employment Department was asked about the role of the Regulator in the context of major investments in infrastructure:

"Well, very little input from the regulator on that...there was a policy, 'save to spend' in the past which clearly, with the amount of investment, we would be saving for an extremely long time, and that policy now is not in place by the Regulator. I think it is the responsibility of Government, frankly, to ensure that we have strategically a resilient supply of electricity. Regulators regulate...they might have a view on whether our policies are appropriate or not, but we make the policy. I think there is a huge amount of investment that needs to be looked at, going forward with the numerous cables and options. I think, really, the role of the

Regulator, at a time when we are going through so many changes, is actually quite a difficult one for them". (Hansard – 6th November 2013, line 1936)

- 5.40. The Minister was adamant that he would not want to involve CICRA in capital investment decisions:

"I think that is a matter for the shareholder and GEL, to look at the most appropriate way and cost effective way of funding what will be a huge capital investment over the coming six years, I guess, over the next few years". (Hansard – 6th November 2013, line 1963)

- 5.41. Consideration of how future investment was to be funded would, according to the Minister of the Treasury and Resources Department, include the question of whether the costs were to be borne by present and future consumers, through higher charges, or by the tax payer.

"...ultimately, any future investment has got to be paid for by either consumers or the taxpayer. Those are really your only two options, and there is always going to be a consideration of whether all the burden should fall on consumers, and whether it should fall on the current consumers which, of course, has been the policy of 'save to spend' – current consumers need to generate enough profit to enable the company to invest in the future – or, in fact, whether it is future consumers who pay, because they enjoy the assets over the life of the assets and that could be 25, 30 or 40 years. So, that is if you like an endemic consideration with any investment". (Hansard – 6th November 2013, line 2384)

Future Investment

- 5.42. The 'save to spend' policy to fund future investment gave rise to tension with CICRA over the prices charged to consumers. In the States' 2013 budget the Treasury and Resources Department was granted devolved responsibility to stand behind borrowings required by GEL for its future infrastructure investment programme: that decision could mean the end of the 'save to spend' policy. There was the view that in a small jurisdiction capital costs were disproportionately large because the Island lacked economies of scale.

- 5.43. GEL now considers external borrowing as the preferred method of funding large infrastructure projects; currently GEL is funding its very large scale projects via a combination of equity and external debt.

- 5.44. The forthcoming Energy Policy Report will ask States Members to consider whether the electricity consumer or the taxpayer should fund future investment in energy infrastructure.

"It may help the Committee just to point out that that question you just asked is actually one of the questions which the States will be invited to consider. Precisely what you are asking: should it be taxpayers, should it be electricity customers, or should it be a combination of the two? And the States will be invited to consider that very question". (Hansard 8th January 2014 – line 1673)

- 5.45. GDP welcomed the intended new cable infrastructure plans agreed by GEL but questioned whether the “N-2” policy would then remain the appropriate policy. They saw long-term borrowing over the life of the cables as the way forward and believed that this would assist in bringing prices down through the importation of low- carbon power from the European grid.

Conclusions and Recommendations

- 5.1. Electricity prices should remain steady allowing for on-going recoupment of infrastructure investment costs.
- 5.2. The Commerce and Employment Department should take into account the cost of electricity to industry as a potential barrier to doing business in Guernsey and encourage GEL to become an economic enabler.
- 5.3. The EPG/CICRA should benchmark GEL’s prices against other jurisdictions with reasoning being given for higher tariffs.
- 5.4. The Government should continue to support GEL’s policy of borrowing to fund infrastructure investment.

6. Government Oversight and Regulation

Introduction

- 6.1. In 2001 GEL became a States-owned trading company functioning without political representatives on its board but working to a Memorandum of Understanding. During the public hearing GEL, the Policy Council representing the EPG, the Commerce and Employment Department and the Treasury and Resources Department all portrayed current government oversight arrangements as joined-up and efficient. Presumably the situation was not without its faults; however, as we were told that the newly-formed Treasury and Resources shareholder sub-committee would further enhance existing oversight arrangements. During the hearings the subject of regulation was discussed in some detail and the message that emerged was that the relationship with CICRA was under review.

Government – Roles and Responsibilities

- 6.2. The Chief Minister confirmed the Policy Council's role as that of co-ordinator between the Treasury and Resources and the Commerce and Employment Departments and confirmed the intention to bring a report before the States reviewing the security of supply policy in June 2014. The longer term picture is also being discussed within the EPG as well as with GEL via the Energy Policy Sub-Group.

"The Policy Council does not give direct guidance. Guidance is given through Treasury and Resources. Again, I come back to the situation last summer: Treasury and Resources were represented on the Energy Policy Group and, through that, Treasury and Resources were able to have dialogue with Guernsey Electricity as to the way forward". (Hansard – 6th November 2013, line 701)

"Having presented the Energy Resource Plan, the role really at the moment is that of co-ordination, to ensure that the different Departments in the States of Guernsey are actually operating together. We are trying to deliver a joined-up approach and to ensure there is a momentum, for example, in bringing the report to the States next year". (Hansard – 6th November 2013, line 609)

- 6.3. Regular meetings are held between the Commerce and Employment and the Treasury and Resources Departments in addition to those which take place as part of the EPG. The Commerce and Employment Minister agreed that his Department had a role in providing strategic direction to GEL on balancing government fiscal and economic policies along with the ERP.
- 6.4. The Treasury and Resources Department conducts a regular dialogue with GEL formally under the terms of the Memorandum of Understanding. In addition, the Department considers GEL's business and strategic plans informally at both political and officer levels to ensure that policy is adhered to.

- 6.5. The Treasury and Resources Minister confirmed that the Department, as the shareholder of GEL, exercised shareholder functions, primarily to ensure that an appropriately skilled board was in place to run the Company. The Department had recently created a shareholder sub-committee of the board, whose function and mandate was to discharge its role as a more active shareholder.
- 6.6. GEL holds regular meetings with the Treasury and Resources Department, we were told, along with weekly phone contact. GEL also works very closely with the Commerce and Employment Department and in particular the RET. GEL admitted to past confusion over accountability but expected the situation would be given further clarification as GEL moved forward with significant investments.
- 6.7. The role of the Policy Council through the ERP is to co-ordinate this area of policy which forms part of the States' Strategic Plan.

"What the Energy Resource Plan has done really is to bring into play the environmental issues involved with energy. Before that, obviously, you have got Commerce and Employment and T&R having responsibility for electricity issues and, within that, there was not really a strand of identifying environmental concerns. That has really been introduced through the introduction of the Energy Resource Plan in 2012". (Hansard – 6th November 2013, line 691)

The Shareholder Role

- 6.8. The Treasury and Resources Minister described GEL as a state-owned (as opposed to state-run) monopoly which is run at arm's length by the Government. The current model of commercialisation has a role for the Treasury and Resources Department as shareholder.

"It is shareholders which exercise shareholder functions, including, of course, the appointment of the board, which we discharged by way of the AGM and then the appointment of directors through the articles, by ensuring, through the memorandum of understanding, that there is proper process by which directors are appointed with the appointments committee of the board of GEL, a proper selection processes, all those sorts of things. So, we regard our role as shareholder to ensure that there is an appropriately skilled board in place which should then be left in place to run the company. Now, I think the Commerce and Employment Department, in 2011, did make observations in relation to the level of scrutiny when they were reporting to the States on the regulation of utilities, about the need for a, what they termed, 'the shareholder resource', and that is something which we have given quite a lot of consideration to, which is seeking to understand and ensure that we described our role, effectively, as shareholder so that the shareholder role is one that is, perhaps, more active and less passive. And the shareholder, for example, starts to think about what objectives it wants from its shareholding, what are its purposes, and that is something that we are addressing. We have recently, as a board, created a shareholder sub-committee of the board, under the Rules of the States, whose sole function and mandate is to start to discharge that role as a more active shareholder". (Hansard – 6th November 2013, line 2439)

6.9. The Department was working with the current structure and sought to ‘tweak and improve’ GEL via the shareholder sub-committee, providing proactive oversight and discharging the shareholder role in a different way to that which had been done over the previous ten years.

6.10. The Treasury and Resources Minister told us that good governance;

“...comes back to the memorandum of understanding, reviewing the business plan, reviewing the annual accounts, meeting with the board, ensuring that they have adopted, for example, remuneration committees, appointments committees: that they have adopted best practice in relation to corporate governance”.
(Hansard – 6th November 2013, line 2657)

6.11. He indicated that the Treasury and Resources sub-committee would ensure that the shareholder function was given appropriate prominence at political level. He described the Department’s role in governance of GEL as being on behalf of the States of Guernsey as shareholder which is:

“...discharged through the regular dialogue, both formally and informally, and then through the other function that we have... as I say it is not really a governance issue per se because it deals more with the energy policies, through the Energy Policy Group. But, in terms of governance, we do that directly as Treasury and Resources, as shareholder”. (Hansard – 6th November 2013, line 2610)

6.12. As the shareholder the Treasury and Resources sub-committee’s role was to ensure that the “N-2” policy was delivered and reviewed through a business relationship with GEL and the EPG;

“...to the review that policy, including the consequences on costs of maintaining a high level of security”. (Hansard – 6th November 2013, line 2564)

6.13. On the Government/GEL relationship, he said:

“...there is a good level of dialogue between the relevant parties and again, at officer level and also at a political level. I have not noticed anything or sensed anything that is falling between the cracks or has been delayed unnecessarily. So, I think given our system of governance and our system of government and the mandates we hold, then it seems to discharge that function reasonably well.”
(Hansard – 6th November 2013, line 2638)

CICRA – Roles and Responsibilities

6.14. CICRA is the regulator of the electricity sector in Guernsey under the Electricity (Guernsey) Law, 2001. Its principal aim is to protect the interests of Guernsey’s electricity consumers, and to ensure that electricity supply meets all reasonable demands. CICRA has recently published its Strategic Plan and Work Programme for 2014 which sets out its focus on two areas:

- Ensuring that the interests of Guernsey electricity consumers are protected, while adopting a cost-effective approach to regulation – after consultation with the Commerce and Employment Department, implement appropriate regulatory regime for GEL, which balances the desire to minimise the cost of regulation with the impact of tariff changes on consumers
- Supporting the States of Guernsey in developing an appropriate energy plan for the long term, sustainable development of the energy sector in Guernsey – Contribute to deliberations of the Scrutiny Committee in relation to security of electricity supply

6.15. In addition CICRA has a number of other activities planned for 2014, as well as statutory obligations, which include determining disputes between customers and GEL under The Electricity (Guernsey) Law, 2001.

CICRA – Future Role

6.16. CICRA’s future role, alongside the new Treasury and Resources sub-committee, and a more active shareholder, is now unclear. CICRA was conscious of potential areas of overlap and discussions were being held with the Commerce and Employment Department to decide how best to reconcile the role of an independent regulator with that of a more active shareholder.

6.17. The Commerce and Employment Minister confirmed that CICRA’s role was under consideration, reviewing whether regulation remained ‘fit for purpose’ and continued to offer relevant expertise and cost effectiveness. The Minister stated that the Department would encourage GEL to be more proactive in the interests of business and that this aspect would be encouraged via the Treasury and Resources sub-committee.

“CICRA’s role is under review. But notwithstanding that, I think for T&R to put in place more expertise, and to take a more active role as a shareholder, rather than being a fairly passive shareholder, which I believe they have been, in my view, in the past, is a good thing because they can be a little bit more proactive with the company, particularly at a time when there is likely to be a huge amount of investment and to have that better shareholder oversight, and more expertise brought in, particularly with the quality that I know they have on that sub-group, should be welcomed, in my view”. (Hansard – 8th January 2014, line 1390)

6.18. GEL agreed that scrutiny of a state-owned organisation was required at the appropriate level but questioned whether this had to be achieved by regulation.

“Do you need scrutiny of a state-owned organisation? I would say yes, you need the appropriate levels of scrutiny in a state-owned organisation. Does it have to be via regulation? I would probably say no. You do not need specific regulation to create the results you want. So my personal view is, yes, we need scrutiny and we need

scrutiny particularly in the areas I mentioned, to do with service standards, and efficiency, and what we offer to our customers". (Hansard 8th January 2014 – line 1351)

- 6.19. GEL thought that there did not need to be an excessive focus on profitability. GEL was not driven to create massive profits for shareholders but rather to create enough profit to reinvest in new infrastructure. GEL's Managing Director advocated a more proactive stance:

"I think, one of the things to explore, and particularly with T&R sub-group, is about that more pro-active nudge, from time to time, from the board management at Guernsey Electricity, rather than just having this reactive approach which we appear to have had over the recent years". (Hansard – 8th January 2014, line 1364)

- 6.20. CICRA told us that they replicated competitive market pressures on GEL but with a "soft touch", taking into account existing policy by looking at cost components, challenging them and comparing with other similar jurisdictions.

- 6.21. The Minister confirmed that the on-going discussions included the question as to whether CICRA should be retained as Regulator or whether this function could be delivered by the new sub-committee. But a clear sense was conveyed that all was not well. In the view of the Minister for Commerce and Employment:

"...regulators do what they do – they regulate. They tend not to be particularly proactive". (Hansard 8th January 2014 – line 1364)

CICRA – Price Control

- 6.22. CICRA stated that they set a price control on GEL that took account of the Company's means of investment, operational costs, and return on infrastructure and capital investments. They added that they benchmarked pricing in various jurisdictions.

"One of the things that we have considered is, for example, who should share in security of supply, so in the exchange line cost that customers bear, there is a question of should the single home owner out in Torteval be bearing the costs of a very high level of security supply that perhaps a finance business engaging in transactions of millions of pounds a day need, and in our response reflects this – there are some business that actually can afford interruption because they have backup". (Hansard – 8th January 2014, line 1059)

- 6.23. CICRA's principal regulatory tool is price. GEL must seek prior agreement of the Regulator for any rises in electricity tariffs.

- 6.24. The Minister of the Commerce and Employment Department added that since the cost of regulation was borne by the consumer, that regulation needed to be proportionate and represent value for money.

"...it is in the public domain, that Treasury and Resources and C&E have also been looking at whether CICRA is giving value for money in terms of its regulation of

Guernsey Electricity. Is the cost of regulation, which, of course, has to be borne by the consumer, is that appropriate? What sort of regulation should we be having? So these are things that Treasury and Resources and C&E have been working on to get the right level of regulation, proportionate regulation and are we getting value for money? Is the cost of regulation... is the burden of that regulation appropriate? So, I think we do try and look at every area". (Hansard – 8th January 2014, line 1911)

- 6.25. For the Managing Director of GEL regulation needed to achieve three things: first it should look at efficiency; second good service standards; and third profitability:

"...one of the problems with Guernsey, the regulation of Guernsey Electricity, was it very much focused on profits and money, and potentially not as much as it should have done on efficiency and service standards. I think because of that and the use of price control in one of the times of the worst changes in the price volatility of fuel products, have created a regulation that cost an awful lot of money and did not add a lot of value and potentially de-focused the organisation. So I do not think regulation has currently been successful in Guernsey, although some of the things that regulation tries to achieve are good points". (Hansard – 8th January 2014, line 1339)

"I think when Guernsey Electricity was commercialised in 2001, it had a very clear view of where it wanted to go and what it wanted to achieve. I think through regulation, and the circular actions of both parties potentially, it went round and round and did not really understand where it was going and actually probably got lost in 'who is best at predicting the future for price control?', where really it should be saying 'what does the Island need in terms of infrastructure going forward?' I think now that we have had a break for a couple of years of that sort of intense price control, and obviously the reminder, as mentioned, of a cable failure in 2012, the company is much more focused on where it needs to go and what it needs to achieve". (Hansard – 8th January 2014, line 1434)

- 6.26. The Managing Director said that the Company was "driven by being more efficient" and admitted that whilst he could not claim that GEL was 100% efficient:

"We are fairly efficient and we are now striving to become more efficient. We have to balance that off, though, against the risks of doing those efficiency advantages". (Hansard – 6th November 2013, line 1260)

- 6.27. GDP explained that historically CICRA had looked to influence GEL's efficiency by price control and this had led to a long-term breakdown in the relationship. However this situation had improved in recent times and GDP expected that the new Treasury and Resources sub-committee oversight would equate to far greater activity by the shareholder.

Brief History of Commercialisation

- 6.28. The commercialisation of the electricity utility in Guernsey took place on 1st February 2002 when the former States of Guernsey Electricity Board was transferred to GEL as wholly owned by the States of Guernsey.

- 6.29. In its 2005 report⁵⁶ the NAO concluded “that the principle of commercialisation and regulation is sound for electricity but there has been a lack of clarity on objectives, roles and responsibilities, and the cost of regulation has been higher than might be expected.”

The primary aims of commercialisation were:

- To free GEL from constraints which prevented it from acting efficiently and effectively; and to separate clearly the roles of management, the shareholder and the regulator
- To ensure security of supply, continuity and reliability of supply
- To ensure that customers receive supplies of the highest possible standard at the lowest price
- To facilitate the economic development of the jurisdiction

- 6.30. The NAO report detailed the criteria to be fulfilled by CICRA in respect of GEL as being to protect consumers and to ensure continuity of supply for Guernsey through price control, target-setting and monitoring. In that way separation of the roles of operation, policy, ownership and regulation was to be achieved; that in principle should have allowed for clear and accountable decision making. The report highlighted the following issues which existed before 2005:

- Pre-2005 there were problems due to lack of clarity and common understanding
- There existed little external pressure for GEL to improve efficiencies or improve quality of service
- Regulation was necessary to prevent GEL abusing market position and to provide incentives for greater efficiency and quality of service that would normally exist in a competitive market
- Excessive demands for information by the then OUR led to an adversarial relationship with GEL
- Over the longer term the issues to confront include the potential for increased electricity charges from EdF, need for more environmentally friendly supply and relationship between Jersey Electricity and GEL

- 6.31. The report stated that the framework set up by commercialisation reduced the constraints on GEL and in principle separated the roles of manager, shareholder

⁵⁶ “Review of Commercialisation and Regulation in the States of Guernsey” – National Audit Office 2005

and regulator. It also mentioned that the States should review its guidance to the Treasury and Resources Department to ensure that there was no overlap or ambiguity.

The Commercialised Monopoly

- 6.32. For the Commerce and Employment Minister the best deal for Guernsey's tax-paying citizens amounted to:

"...a well-run, well managed state-owned, if you want to call it a monopoly, that basically acts like a paternal grandfather, making sure that we have a good supply for the Island's economy, delivered at the right price. I think to start letting all and sundry coming in here and rock up and do their own electricity, I think, no thank you very much indeed, and I would imagine my Board would consider that for about a nanosecond before they chucked it out". (Hansard – 6th November 2013, line 2271)

- 6.33. The Minister suggested that GEL could be more efficient but added that:

"...on balance, I think they (GEL) deliver a good, reliable product at a reasonable price and that is all you can ask for and when you are an island of 63,000 people shoved in the bay of St Malo, you have very little choice, and if you are looking at such a small market, I mean 85 megawatts is the winter peak, it is hardly Las Vegas...so, I think the economies of scale are not there, and then you are going to need to regulate all these things". (Hansard – 8th January 2014, line 2264)

- 6.34. CICRA thought that the question of whether the best interests of Guernsey were maintained though GEL's monopoly of electricity supply was a difficult one. However, CICRA considered that ultimately if the incentives on GEL were comprehensive and strong enough the potential benefits of competition became more questionable. GEL, in response, pointed out that they did not have a monopoly of energy supply and therefore did operate in a partially competitive environment. CICRA indicated that clearer policy was required in order that GEL could run at maximum efficiency.

- 6.35. Sure recognised GEL as being forward thinking in its planning, and trying to be as efficient as possible in order to provide security of electricity at the best possible price available on the market. However, Sure believed that GEL lacked elements of a fully commercial organisation. An assertion that was backed up by the fact that at the moment GEL is wholly supported and indirectly controlled by the States of Guernsey. GEL has had funds underwritten by the Government, has been granted a government-sponsored monopoly for electricity supply and may be in receipt of public funds in the future. Sure clearly outlined their view during the public hearing:

"When you say 'commercialised', they (GEL) still hold a monopoly in terms of the provision of generation and distribution. So, 'commercialised' to me would mean that they are lot more oriented towards the market demands, the consumer requirements, being competitive in terms of the pricing, making sure that the

affordability of electricity is the best it can be and that they are constantly planning for the future – to make sure that the protection of this very important resource for us is provided for in the best possible way. That would be my view”.

(Hansard – 8th January 2014, line 426)

“...competition brings a whole new layer of focus, believe this. It will challenge you to look at every aspect of your business, right from people right down to infrastructure, the way you do things, how you distribute and that may not be a focus on the commercial side”. *(Hansard – 8th January 2014, line 431)*

- 6.36. Sure wanted more flexibility in the tariff structure to assist them in managing business demands and the needs for electricity as competitively as possible in what was a very competitive global market place.

“...under a state monopoly, you are very much focused on delivering an objective which simply is, making sure the reliability is there and that it is at an affordable price. It is not about make sure it is the best possible price you have, in fact re-think your business, think out of the box, transform your organisation to bring the price even lower or in fact diversify your thinking to create new lines of business, new technologies in the market, and so on. You are not driven to think that way; that is not my experience anyway in state monopolies”. *(Hansard – 8th January 2014, line 455)*

- 6.37. GDP told us that GEL’s purpose needed to be made very clear and that the Company’s behaviour needed to match that purpose. They thought that GEL had been very slow to change since commercialisation with change acceleration only seen during the previous year following the cable problems.
- 6.38. The Committee considers that currently the advantages or disadvantages of commercialisation remain unclear. GEL had received limited political oversight during the last ten years. This had led to uncertainty as to the current levels of efficiency of GEL and therefore the Committee welcomes future scrutiny through the Treasury and Resources shareholder sub-committee in this regard.

GEL – Commercialisation and Regulation

- 6.39. The Managing Director of GEL stated that, following commercialisation in 2001 the company had a clear view of its direction and aspirations for achievement. However, this view had been clouded by regulation and the circular actions of both parties who had concentrated on the issue of ‘who is best at predicting the future for price control?’ when the question should really have been, ‘what does the Island need in terms of infrastructure going forward?’.
- 6.40. GEL’s board structure and governance post commercialisation had encouraged the Company to be more proactive and evaluate risk effectively in a way that did not skew good business strategy.

“...my view of commercialisation is it has made the business more effective in what it needs to deliver for the Island. It does need scrutiny and it does need direction

from the States, as 100% state owned, but I think commercialisation can be very successful. There is still a little way to go. I think it has got lost in regulation for a significant time and only now is it really striving ahead". (Hansard – 8th January 2014, line 1411)

- 6.41. In compliance with Companies Law GEL had a board of directors comprised of both executive and non-executive directors. The Treasury and Resources Department did not have a member on the Company board but the Memorandum of Understanding required GEL to present their annual strategic plan and financial performance.

"We follow all the good practices associated with corporate governance... we do have audit and risk committees, and remuneration and nomination committees. We also have, within the Company, other governance associated committees. Probably one of the main governance issues is back to the shareholder: we have a memorandum of understanding with our shareholder as well". (Hansard 6th November 2013 – line 1282)

- 6.42. The Managing Director felt that there had been confusion concerning accountability and responsibility between the Company and states departments. However, the comments made at the public hearing clearly showed that GEL was currently communicating well with the Government.

"We, obviously, within the last 18 months are spending an awful lot of time with Treasury and Resources and the Energy Policy Group, in terms of putting forward our concerns and the factors we think should be considered in determining any policy going forward." (Hansard – 6th November 2013, line 1454)

"The last direction in terms of policy was the Energy Resource Plan. We actually present our strategic plan to Treasury and Resources on an annual basis, and we get feedback on that strategic plan at that point as well. So, we get some direct input into our strategic planning and, obviously, in terms of policy, we end up with various directions, the last being the Energy Resource Plan". (Hansard – 6th November 2013, line 1461)

- 6.43. The Commerce and Employment Minister was asked to comment on the Government's perception of CICRA's regulation of GEL and the Government's view of CICRA's effectiveness. He responded that current policy confirmed CICRA as Regulator but this was subject to review.

"I think any regulation should be examined from time to time, to see whether it is fit for purpose, whether the expertise is there within the regulation and whether that regulation is cost effective. I think it is right that any form of regulation from time to time is reviewed by the Government". (Hansard – 8th January 2014, line 1327)

- 6.44. The Minister added that the current review of CICRA's role would consider what regulation was most appropriate for GEL in the future.

"I will come back to my three points – fit for purpose regulation, are we getting the sort of regulation that we really want? Is the expertise there? And, of course, is that

regulation –because the Regulator is funded by the taxpayer – cost-effective regulation?” (Hansard – 8th January 2014, line 1380)

- 6.45. CICRA took a different view and felt that they had been hampered by having to operate in a climate of permanent revolution.

“A state of constant revolution does not really assist either the regulator or the supplier in bedding down a means of trying to get on and form regulation”. (Hansard – 8th January 2014, line 1026)

Conclusions and Recommendations

- 6.1. The Committee believes that clearly defined roles and responsibilities of the various parties including government departments, Policy Council, Treasury and Resources Department along with its shareholder sub-committee, CICRA, GEL board are essential.
- 6.2. The Committee strongly believes that the shareholder should play a more proactive role in the supervision of GEL; finding a balance between beneficial political accountability via an active shareholder role but avoiding undue political interference.
- 6.3. The Committee strongly believes that the future role of CICRA must be considered by Guernsey Government and clarity provided in respect of their role within the new oversight framework being proposed within government.
- 6.4. The Committee believes that adherence to the six core principles of good governance is vital in this area.
- 6.5. The Committee also believes that the Government should publish additional information relating to the overall governance of GEL to promote transparency and clarity of the current business model.

7. Conclusions & Recommendations

Current Policy on Security of Electricity Supply

The existing policy based on the principle of “N-2” has historically provided the Island with a secure supply of electricity. Therefore the “N-2” policy should continue.

However a clear comprehensive explanation of the “N-2” policy needs to be documented and advertised in easily retrievable form and included in a consolidated policy document containing details of all policies relating to security of supply.

Changes in technology, environmental thinking and economic concerns mean that the “N-2” policy should be subject to regular review whilst ensuring the policy is effectively communicated to all interested parties.

Recommendations on the Current Policy on Security of Electricity Supply

- 7.1. The “N-2” policy should continue subject to regular on-going review to allow for adjustment/change if/when technological advance allows for a change in the required level of security of supply policy.
- 7.2. Clear comprehensive explanation of the “N-2” policy to be documented and advertised in easily retrievable form.
- 7.3. The EPG to produce a consolidated policy document containing details of all policies relating to security of supply.

Future Energy Infrastructure Plans

The Committee welcomes the publication of the Policy Council’s Green Paper ‘Guernsey Electricity Supply – Future Strategy in March 2014’. Significant investment will be required to ensure the security of electricity supply in the future. It is essential these investment proposals are supported by a robust business case that demonstrates the logic of the recommended options. This investment can be justified; however additional clarity is required on the projected costs of electricity to the consumer and the rationale of the proposed approach.

The Committee strongly believes that decisions of this magnitude must be fully understood and supported by the Island’s Government and made within an agreed energy policy framework. The Green Paper will inform this process but the Government must also be proactive and innovative in promoting the efficient use of energy, including renewables projects, within both domestic and commercial environments.

In addition, clear energy policies must show how environmental, financial and security of supply considerations interact and are prioritised. The States need to clarify and agree its environmental aspirations and targets. At present it is unclear what they are and how they are prioritised to inform future energy strategy. The Government must fully understand and endorse sustainability as defined in the ERP ensuring it is adopted across all government departments. Departmental responsibilities for providing guidance and policy direction to GEL need to be clarified to prevent confusion over competing priorities and States policies.

More could be done by the States to encourage the use of using renewables and the Government could do more to provide advice on the use of renewables and energy efficiency to the general public and businesses.

Recommendations for Future Energy Infrastructure Plans

- 7.4. The Committee welcomes the publication of the Policy Council's Green Paper in March 2014. The subsequent States Report to be published in June 2014 needs to provide a business case for the preferred investment option with a cost benefit analysis for each alternative.
- 7.5. On-island generation in some form will have to remain as cable links will always be vulnerable to damage. This policy should be reviewed annually in light of energy prices and the availability of renewable technologies.
- 7.6. The Committee believes that it is important to publish more energy statistics that give a clear indication of the current position from all the relevant agencies including GEL, CICRA, EPG and the Policy Council.
- 7.7. Clear energy policies must be defined showing how environmental, financial and security of supply considerations interact and are prioritised.
- 7.8. The States needs to clarify and agree its environmental aspirations and targets. It is currently not clear what they are and how they are prioritised – this will inform future energy strategy.
- 7.9. The Government must fully understand and endorse sustainability as defined in the ERP ensuring it is adopted across all government departments.
- 7.10. Departmental responsibilities for providing guidance and policy direction to GEL need to be clarified to prevent confusion over competing priorities and States policies.
- 7.11. More should be done by the States to encourage the use of renewables and Government should do more to provide advice on the use of renewables and energy efficiency to the general public and businesses. Given the environmental benefits of renewables the Committee recommends that the Government investigate any barriers to micro-generation.

- 7.12. We request GEL to provide us with the outcome of its review into charges levied against individuals investing in renewable power and publish an explanation of the rationale behind its policy.
- 7.13. Information on the ARE development emerged subsequent to the Committee's hearings, we do not therefore know whether the Government has considered the implications in relation to the Island's future security of electricity supply strategy. We recommend that the Government investigates the implications of ARE and publishes its findings.
- 7.14. The Committee is concerned that the business case for enhanced cable infrastructure could be over optimistic. We would like reassurance that the GEL's business case has been subject to independent verification.

Energy Policy – Costs and Future Funding

The Committee believes that electricity prices should remain steady to allow for recoupment of infrastructure investment costs. In addition, the Commerce and Employment Department should consider the cost of electricity to industry and encourage GEL where possible to act as an economic enabler.

In order to ensure appropriate pricing in future, the Energy Policy Group via CICRA should benchmark GEL's tariff structure against other jurisdictions and where significant divergences arise fully investigate the reasons for higher tariffs.

In order to ensure appropriate development of a secure future supply of electricity for the Island the Government should support GEL's policy of borrowing to fund significant infrastructure expenditure.

The changing dynamics of the international energy market can and potentially will affect the price of electricity in Guernsey in the future. Therefore the Government must work with GEL to keep the electricity tariff at a reasonable level thereby enabling confidence in both domestic and commercial markets and allowing for infrastructure investment through the recently States agreed funding mechanism.

Recommendations on Energy Policy – Costs and Future Funding

- 7.15. Electricity prices should remain steady allowing for on-going recoupment of infrastructure investment costs.
- 7.16. The Commerce and Employment Department should take into account the cost of electricity to industry as a potential barrier to doing business in Guernsey and encourage GEL to become an economic enabler.

- 7.17. The EPG/CICRA should benchmark GEL's prices against other jurisdictions with reasoning being given for higher tariffs.
- 7.18. The Government should continue to support GEL's policy of borrowing to fund infrastructure investment.

Government Oversight and Regulation

Government must ensure that the roles and responsibilities of the various parties involved in electricity oversight and management are regularly reviewed, defined and documented clearly. The Committee acknowledges and fully supports the more proactive approach within Government represented by the establishment of the Treasury and Resources shareholder sub-committee and believes that clearly defined roles and responsibilities of the various parties including government departments, Policy Council shareholder sub-committee, CICRA and the GEL board are essential.

In addition, CICRA's future role should be reviewed by Government and clarity provided in respect of the regulator's role within the new oversight framework being proposed within Government.

The Committee also believe that it is appropriate to publish additional information relating to the overall governance of GEL. Currently GEL is wholly supported and indirectly controlled by the States of Guernsey but the benefits of this model are unclear. GEL's governance needs to meet the highest possible standards in terms of transparent, informed decision-making and risk management.

Recommendations on Government Oversight and Regulation

- 7.19. The Committee believes that clearly defined roles and responsibilities of the various parties including government departments, Policy Council shareholder sub-committee, CICRA, GEL board are essential.
- 7.20. The Committee strongly believes that the shareholder should play a more proactive role in the supervision of GEL; finding a balance between beneficial political accountability via an active shareholder role but avoiding undue political interference.
- 7.21. The Committee strongly believes that the future role of CICRA must be considered by Guernsey Government and clarity provided in respect of their role within the new oversight framework being proposed within government.
- 7.22. The Committee believes that adherence to the six core principles of good governance is vital in this area.

- 7.23. The Committee also believes that the Government should publish additional information relating to the overall governance of GEL to promote transparency and clarify of the current business model.

Appendix 1 – Terms of Reference for the Review

Guernsey's Security of Electricity Supply

Background

The States of Guernsey's current security of electricity supply policy is the 'n-2' policy⁵⁷.

Review Objective

To evaluate the policies of the States of Guernsey in securing electricity supply for Guernsey.

In doing this, the Committee will:

1. Clarify how the States of Guernsey seeks to ensure security of electricity supply for Guernsey;
2. Determine how effectively the security of electricity supply policy (the 'n-2' policy) is implemented and adhered to;
3. Assess whether Guernsey's current security of electricity supply policy is fit for purpose. This will include determining:
 - a. How the policy is planned for;
 - b. What considerations are taken into account;
 - c. How the policy is monitored and reviewed;
 - d. Who is accountable for the policy's development and adherence.
4. Evaluate the outcomes and impact of the current security of electricity supply policy;
5. Make evidence-based recommendations to ensure Guernsey has a security of electricity supply policy that is efficient and effective at meeting the needs and requirements of Guernsey;
6. Evaluate the progress of the Energy Resource Plan's Objective 1: *"to maintain the safety and security of affordable and sustainable energy supplies"*;
7. Any other or ancillary issues that may arise during the course of the review that the Committee may identify as being worthy of further consideration.

⁵⁷ In 2005, the States resolved as follows: "To confirm their commitment to the existing policy of retaining sufficient sources of electricity to meet requirements, in any circumstances where two such sources (on-island generators or the Channel Islands Electricity Grid (CIEG) cable link to France) were unavailable at the same time (the n-2 policy)." Source: Policy Council and Commerce and Employment Department 'Guernsey Energy Resource Plan', 14th November 2011.

Appendix 2 – Scrutiny Committee Mandate

SCRUTINY COMMITTEE

Constituted with effect from 1st May, 2004 by Resolution of the States of 31st October 2003.

CONSTITUTION

A Chairman, who shall be a sitting member of the States.
Eight members, who shall be sitting members of the States.

MANDATE

- (a) Through a process of political scrutiny, to subject Departments and Committees to regular reviews with particular emphasis on:
 - (i) Determining the effectiveness of the policies of, and services provided by, Departments and Committees;
 - (ii) Assessing the performance of Departments and Committees in implementing policies and services;
 - (iii) Identifying areas of policy or service delivery that might be inadequately or inappropriately addressed;
 - (iv) Identifying new areas of policy or service delivery that may require implementation;
 - (v) Determining how well a new policy or service or project has been implemented including the development processes and whether the desired outcomes were achieved;
 - (vi) Promoting changes in policies and services where evidence persuades the Committee that these require amendment;
 - (vii) Holding reviews into such issues and matters of public importance that the Committee may determine from time to time.
- (b) To liaise with the Public Accounts Committee to ensure there is appropriate co-ordination of the entire scrutiny process.
- (c) To develop, present to the States for approval as appropriate, and implement policies on the above matters which contribute to the achievement of strategic and corporate objectives.

- (d) To exercise the powers and duties conferred on it by extant legislation and States resolutions.
- (e) To be accountable to the States for the management and safeguarding of public funds and other resources entrusted to the Committee.

Appendix 3 – Key Documents Reviewed

Date	Document Title
Billet d'État No VIII, 2000	States Advisory and Finance Committee Report – 'Future Arrangements for the Provision of Postal and Electricity Services'
Billet d'État No XVIII, 2001	States Board of Industry – 'Regulatory Framework for Utility Services in Guernsey'
Billet d'État No XXIV, 2001	States Advisory and Finance Committee Report - 'The Future Provision of Electricity Services'
Electricity (Guernsey) Law, 2001	Consolidated Text
May 2002	OUR Report Document No. 02/19 – 'Electricity in Guernsey: Moving Forward – From Policy To Implementation'
Billet d'État No I, 2003	States Board of Industry – 'Review of Guernsey's Retail and Generation Electricity Markets'
March 2003	OUR Report Document No. 03/07 – 'Price Regulation of Electricity Services'
Billet d'État No XV, 2005	Guernsey Electricity Activity Report
Billet d'État No XX, 2005	'Electricity Generation Investment Options for Guernsey'
Billet d'État No X, 2006	Review of Regulation and National Audit Office - 'Review of Commercialisation and Regulation in the States of Guernsey'
March 2006	Guernsey Electricity Limited – Financial Framework
Billet d'État No XXVI, 2007	Energy Policy Report – Green Paper

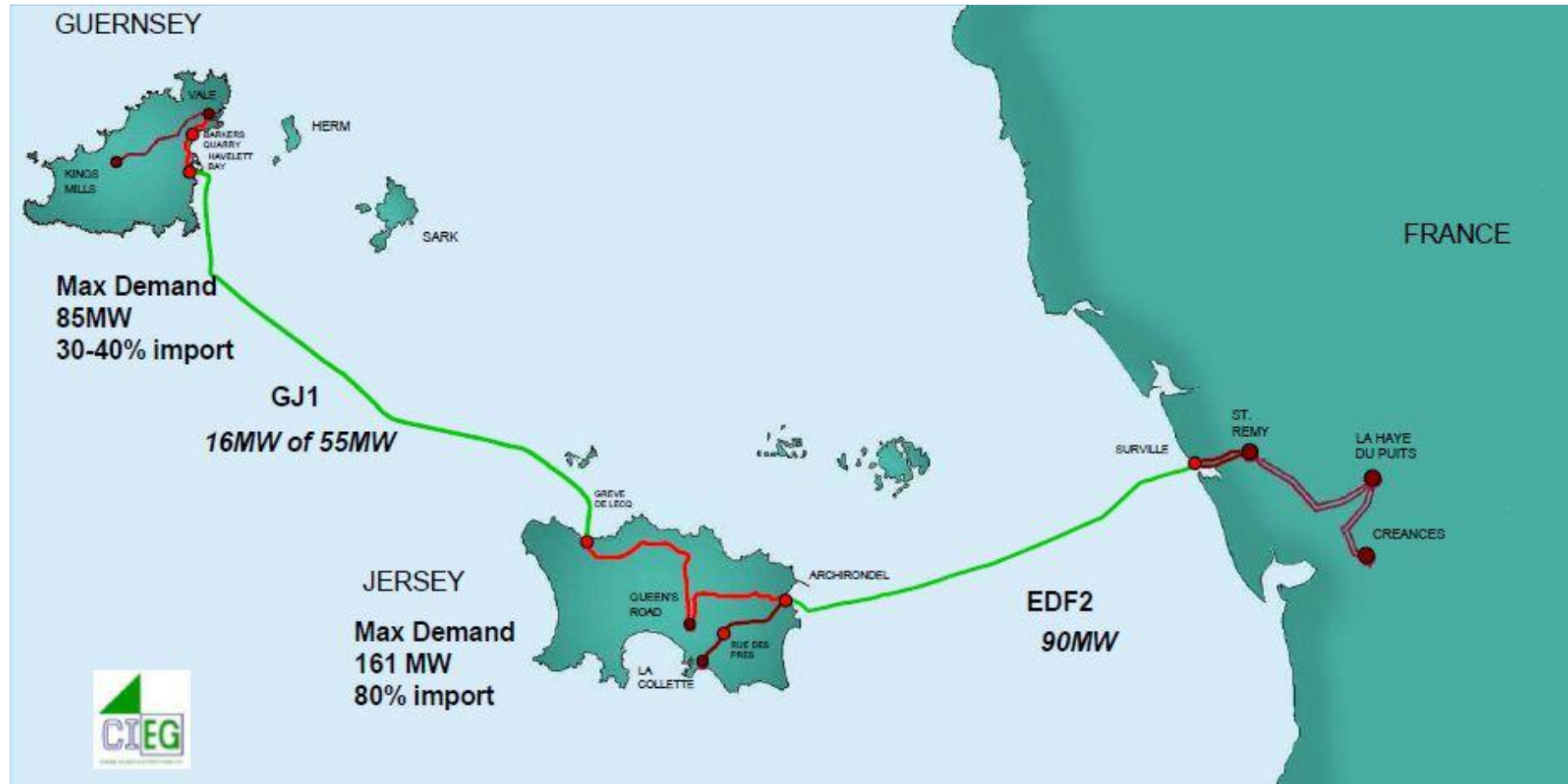
Billet d'État No VIII, 2008	Energy Policy Plan
2009	Environmental Policy Plan
November 2010	OUR Report Document No. 10/13 – 'Guernsey Electricity Limited Price Control'
Billet d'État No XV, 2011	Review of Utility Regulation
2011	OUR – Price Review
Billet d'État No III, 2012	Guernsey Energy Resource Plan
Billet d'État No XXVI, 2012	Guernsey Electricity Limited – Borrowing
December 2012	CICRA – 'Review of the Electricity Market in Jersey'
Billet d'État No XIX, 2013	'Capital Prioritisation'
March 2013	Guernsey Electricity Ltd Annual Report and Financial Statements
December 2013	DECC Quarterly Energy Prices
March 2014	Policy Council Green Paper – 'Guernsey Electricity Supply – Future Strategy'
February 2014	Guernsey Annual Greenhouse Gas Bulletin, 2012
	Guernsey Electricity Limited – Statement of Opportunity
	Consultation Responses x 26

Appendix 4 – States Guidance to the Advisory and Finance Committee in Exercising on Behalf of the States the Role of Shareholder of Guernsey Electricity Limited

1. The extent of the activities of Guernsey Electricity Limited shall be to carry on business as a producer, generator, conveyor, supplier, marketing agent and distributor of electrical energy together with any other services that are ancillary or related to or may be conveniently combined with such electrical energy services in the Bailiwick of Guernsey and elsewhere.
2. However electricity services are to be provided in future, they are to be provided within a policy of retaining sufficient on-island generating plant to meet the total long term demand, to cover for the possibility of interruption or unavailability of power through the cable link to France.
3. Guernsey Electricity Limited shall not be permitted to apply for any licence for the provision of telecommunications services under the Regulation of Utilities (Bailiwick of Guernsey) Law, 2001.
4. Financial performance targets for Guernsey Electricity Limited shall be set so as to:
 1. deliver improved efficiency in fulfilling the requirements of the Public Supply Obligation imposed under the regulatory regime whilst drawing a balance between seeking a commercial return on the resources employed and the effect on the community of any increase in charges which may result; and
 2. achieve as soon as is practicable an appropriate commercial return on the resources employed in the provision of other services.
5. Without an express resolution of the States, no property or buildings which are essential to fulfilling the Public Supply Obligation imposed under the regulatory regime shall be disposed of except by acquisition by the States under appropriate terms.
6. Policies for the provision of services and other activities of Guernsey Electricity Limited shall have regard to the Economic, Social and Environmental policies adopted by the States and set out in this Strategic and Corporate Plan.
7. Guernsey Electricity Limited shall be required to comply with best practice on corporate governance, financial management and controls.

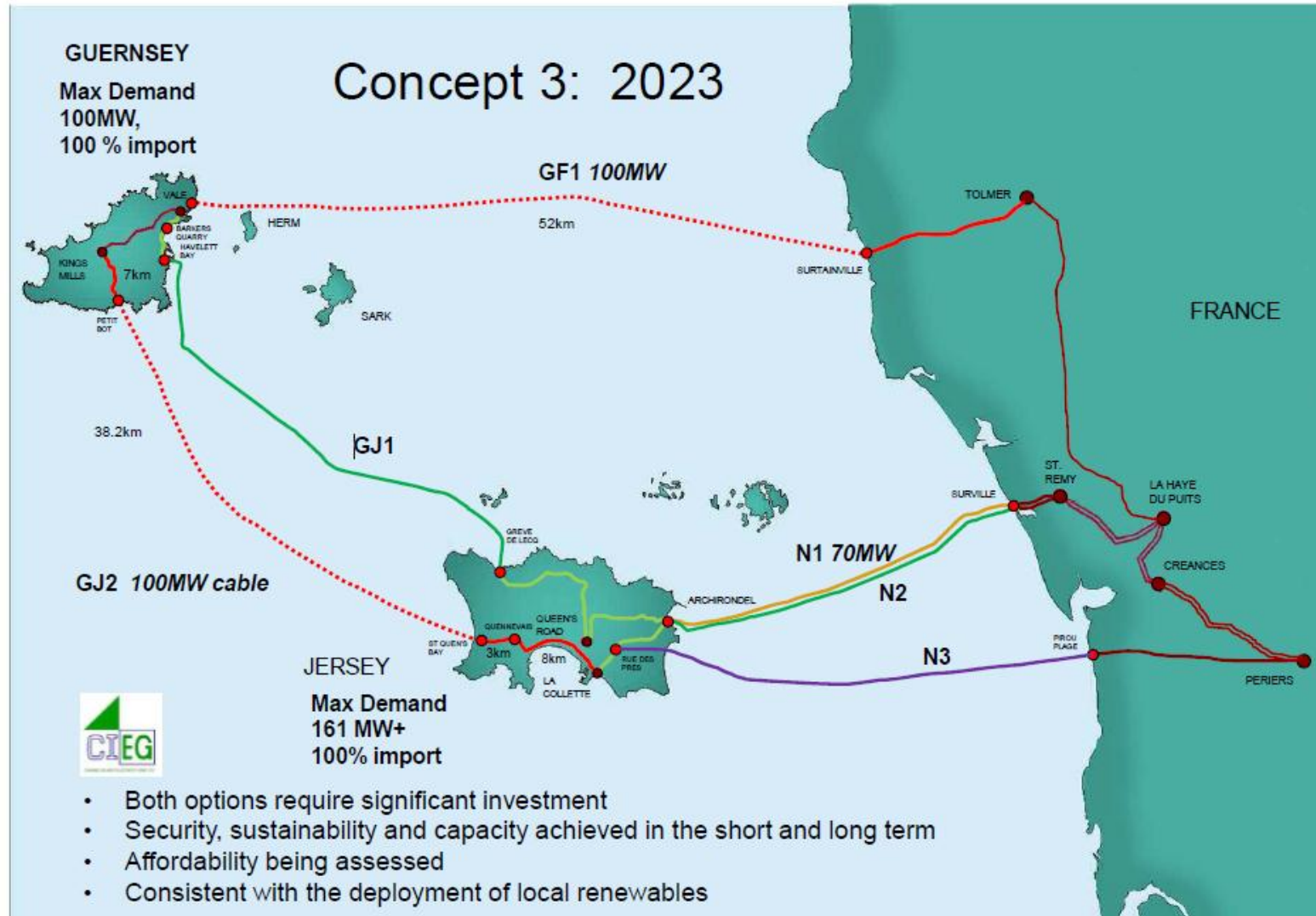
Appendix 5 – Current and Proposed Future Electricity Cable Infrastructure

Current Electricity Cable Infrastructure



© Guernsey Electricity Limited

Future Electricity Cable Infrastructure



Appendix 6 – States Energy Policy Framework

States Energy Policies

The following policies were identified as being relevant:

Policy	When and Where Documented	Department/Body Responsible
The need to ensure security, continuity and reliability of supply as well as ensuring that consumers receive electricity supplies that are of the highest possible standards at the best possible prices	The Electricity (Guernsey) Law, 2001; Billet XVIII, 2001 – Regulatory Framework for Utility Services in Guernsey	Regulator
“N-2” Policy (security of supply) Based on a review by Mott MacDonald (Hansard Day 1, line 1451)	Billet d’Etat XX and Resolutions, 2005, ‘Electricity Generation Investment Options for Guernsey’	Commerce and Employment
Energy Hierarchy Headline Policies <ol style="list-style-type: none"> 1. Reduce overall energy usage and minimise wastage 2. Ensure a diverse and robust energy supply, which is sufficient for Guernsey’s needs 3. Switch progressively to clean renewable energy sources to achieve a long-term reduction of Carbon Dioxide emissions of 80% from 1990 levels by 2050 	2008, Billet d’Etat VIII and Resolutions –‘Energy Policy’	Policy Council (Energy Policy Group)
Objectives of the Energy Resource Plan to be taken into account when preparing new policies: <ol style="list-style-type: none"> 1. To maintain the safety and security of affordable and sustainable energy supplies 2. To use energy wisely, efficiently and not waste it 3. To reduce environmental impacts of our energy consumption as part of our contribution to international initiatives as part of the global 	2012, Billet d’Etat III and Resolutions ‘Energy Resource Plan’	Policy Council / Commerce and Employment Department

community		
Electricity services to be provided within a policy of retaining sufficient on-island generating plant to meet the total long term demand, to cover for the possibility of interruption or unavailability of power through the cable link to France	Billet XXIV, 2001 (p.1612); States Strategic and Corporate Plan; Hansard Day 1, line 1449-50	Electricity provider (GEL)
GEL has a least cost generation mandate – obliged to supply the Island at the least cost, whether it be on-island generation or importation	The Electricity (Guernsey) Law 2001; Hansard Day 1, line 1197	GEL
Quality of fuel oil mandate which sets emission targets – GEL has a mandate to use low sulphur fuel oil wherever possible	Hansard, 6 th November 2013	GEL
Guernsey Electricity Supply – Future Strategy	March 2014	Policy Council (Energy Policy Group)

Appendix 7 – Electricity Cable/Equipment Faults

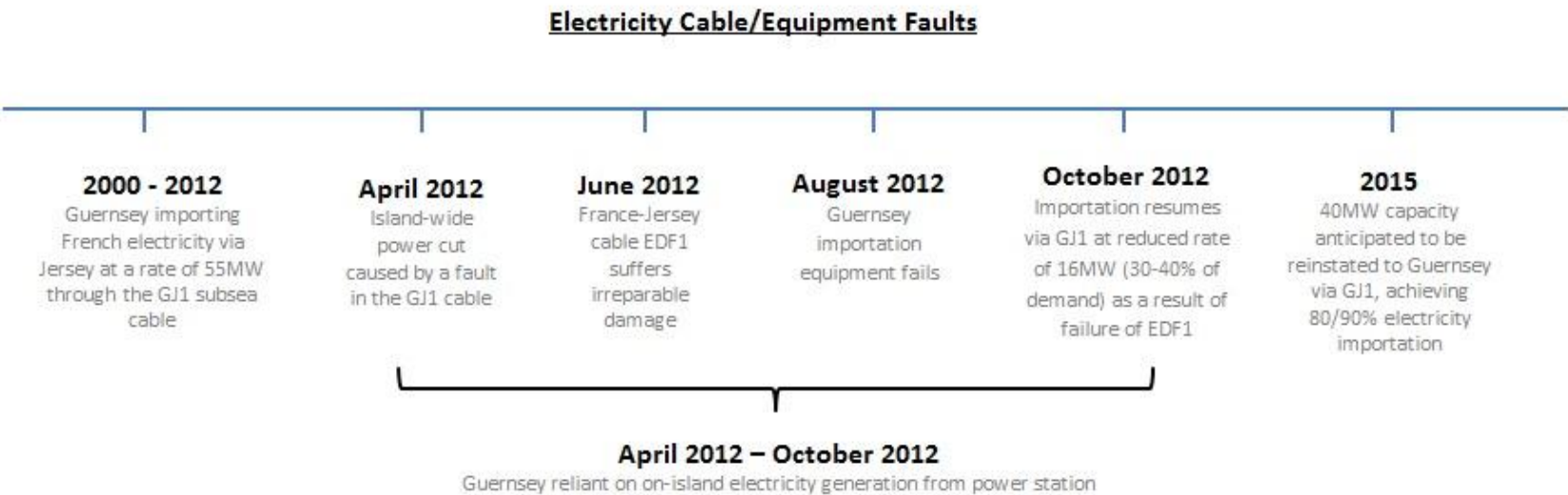


Figure 1 – Electricity cable/equipment faults timeline

Appendix 8 – Current Sources of Electricity Generation

The following shows the current sources of electricity generation in Guernsey and also how the “N-2” security criterion is calculated.

GEL’s Present Generating Fleet

Machine	Date	Rating (megawatts)
Sulzer slow speed diesel engine 1C	1979	12.2
Sulzer slow speed diesel engine 2C	1980	12.2
Sulzer slow speed diesel engine 3C	1982	12.2
Sulzer slow speed diesel engine 4C	1987	13.8
Sulzer slow speed diesel engine 1d	1993	14.5
Thomassen gas turbine GT2	1996	19.5
Thomassen gas turbine GT3	1997	19.5
Alstom gas turbine GT4	2003	11
Wartsila medium speed diesel generator	2012	17
Total capacity (on-island generation)		131.9
Jersey/Guernsey No 1 cable (GJ1)	2000	16
Total capacity (all sources)		147.9
Total capacity (minus 2 largest sources – “N-2”)		108.9
Total capacity (on-island generation minus 2 largest sources)		<u>92.9</u>
Highest ever demand		84 ⁵⁸

Appendix 9 – Hansard 6th November 2013

<http://www.gov.gg/scrutinymeetingtranscripts>

Appendix 10 – Hansard 8th January 2014

<http://www.gov.gg/scrutinymeetingtranscripts>

Appendix 11 – Panel Membership

Name	Role
The Late Alderney Representative E. Paul Arditti	Chairman (2012 - January 2014)
Deputy Robert A. Jones	Chairman (March 2014 to date)
Deputy Scott J. Ogier	
Deputy Paul R. Le Pelley	
Deputy Barry J.E. Paint	
Deputy Lester C. Queripel	

Appendix 12 – Respondents

Name	Organisation / Role
Deputy Peter Andrew Harwood	Chief Minister, Policy Council (2012)
Deputy Jonathan Paul Le Tocq	Minister, Home Department & Deputy Chief Minister (2012)
Deputy David B Jones	Minister, Housing Department
Deputy Alvoid (Al) H Brouard	Minister, Commerce and Employment Department
Deputy Roger Domaille	Minister, Environment Department (2012)
Deputy Yvonne Burford	Environment Department (2012)
Deputy Gavin A St Pier	Minister, Treasury and Resources Department
Deputy Paul Anthony Luxon	Minister, Public Services Department
Deputy Kevin Andrew Stewart	Minister, Commerce and Employment Department
Guernsey Renewable Energy Team	Commerce and Employment Department
Guernsey Electricity Limited	
Channel Islands Competition and Regulatory Authority (CICRA)	
Sure (Guernsey) Limited	
Long Port Group – Guernsey Data Park Limited	
Guernsey Chamber of Commerce	
Institute of Directors, Guernsey Branch	
Northern Trust International Fund	
Administration Services (Guernsey) Limited	
Constables, Castel	
Constables, St Saviour	
Constables, St Martins	
Dr Douglas Haughey	
JJ Collier	
Mr Richard Lord	Sustainable Guernsey
Meadowcroft Limited	The Renewables Team
Jersey Electricity plc	
Manx Electricity Authority	