



# BILLET D'ÉTAT

WEDNESDAY, 25th JUNE, 2008

VIII  
2008

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# ***B I L L E T D ' É T A T***

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## **TO THE MEMBERS OF THE STATES OF THE ISLAND OF GUERNSEY**

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I have the honour to inform you that a Meeting of the States of Deliberation will be held at **THE ROYAL COURT HOUSE, on WEDNESDAY, the 25<sup>th</sup> JUNE, 2008**, at 9.30am, to consider the items contained in this Billet d'État which have been submitted for debate by the Policy Council.

**G. R. ROWLAND**  
Bailiff and Presiding Officer

The Royal Court House  
Guernsey  
6 June 2008

## PROJET DE LOI

entitled

### THE CHARITIES AND NON PROFIT ORGANISATIONS (INVESTIGATORY POWERS) (BAILIWICK OF GUERNSEY) LAW, 2008

The States are asked to decide:-

I.- Whether they are of the opinion to approve the Projet de Loi entitled “The Charities and Non Profit Organisations (Investigatory Powers) (Bailiwick of Guernsey) Law, 2008” and to authorise the Bailiff to present a most humble petition to Her Majesty in Council praying for Her Royal Sanction thereto.

## HOME DEPARTMENT

### ELECTION OF NON-VOTING MEMBER

The States are asked:-

II.- To elect as a non-voting member of the Home Department, Mr Andrew Lucas Ozanne, who has been nominated in that behalf by that Department, to serve until May 2012 in accordance with Rule 4 (2) of the Constitution and Operation of States Departments and Committees.

## HOUSING DEPARTMENT

### ELECTION OF NON-VOTING MEMBER

The States are asked:-

III.- To elect as a non-voting member of the Housing Department, Mr Dudley Robert Jehan, who has been nominated in that behalf by that Department, to serve until May 2012 in accordance with Rule 4 (2) of the Constitution and Operation of States Departments and Committees.

**(NB Rule 4 (2) of the Constitution and Operation of States Departments and Committees provides:**

*“Any Department may nominate up to two non-voting members, who shall not be sitting Members of the States, and whose appointments shall expire at the same time as the terms of the four sitting Members of the States. No other nomination may be made. Such Members shall have the same rights and duties as ordinary Members (other than the right to vote).”*

## **POLICY COUNCIL**

### **ENERGY POLICY**

The States debated the Policy Council's original Energy Policy Report as a "Green Paper" at their meeting in December 2007. This debate effectively launched an eight-week period of public consultation on the draft. The feedback both from the States debate and also from this public consultation have proved to be very valuable and significant amendments have been made to the original report to reflect many of the views and comments submitted by companies, non-governmental organisations and members of the public who are involved/interested in the energy industry.

I am pleased to append to this report a complete copy of the Energy Policy Group's final Energy Policy Report.

Another key development since the publication of the original report has been receipt of the Island's latest Greenhouse Gas Inventory from AEA Technology in the UK. The headline figures were received in mid-January, with the detailed breakdown following on 7<sup>th</sup> April 2008. These figures show that the encouraging reducing trend over the period 2001-2004 has been reversed in 2005 and 2006.

This means that while the Island was well on course to meet its international obligations under the Kyoto Protocol, that is a 12.5% reduction in carbon emissions over the period 1990 to 2008/2012, it is now back at the same levels as the base year of 1990 (158 ktonnes of carbon compared with the target of 138 ktonnes).

This is very disappointing and results from a reversal of the trend for emissions from power generation to fall (10 ktonnes of carbon in 2004 vs. 28 ktonnes of carbon in 2006), together with the fact that emissions from road transport continue to grow (from 19 ktonnes in 1990 to a new record high of 30 ktonnes in 2006), along with emissions from shipping remaining at around 25 ktonnes. The contribution from aviation has fallen (to 20 ktonnes) from its historical height in 2001 (of 28 ktonnes), but this is still double the level of the base year.

Given the above, the Energy Policy Group chaired by Deputy Flouquet, has made a number of significant amendments to its original report. The principal changes include the following:

- Revision of Headline Policy 3 to include the aspirational target of an 80% reduction of carbon dioxide emissions by 2050 (on 1990 levels);
- Recognition that to meet the targets a three-pronged approach will be necessary:
  - firstly over time to replace energy from fossil fuels with low emission electricity (initially from imported electricity but in the longer term through locally based macro renewable generation), secondly a sustained approach to

reducing emissions from road transport and thirdly a major emphasis on energy efficiency initiatives for residential and business buildings;

- To delete the short term target for renewable electricity generation (5% by 2010) but retain 20% by 2020 – as this is far more realistic and practical;
- Establishment of an Energy Advice Centre;
- Investigate the feasibility and benefits of introducing an electric/fossil fuel hybrid powered or zero/low emission public transport fleet, including the States' vehicle fleet;
- Investigate the benefits of encouraging a move to zero/low emission vehicles within a policy of encouraging an overall reduction in the use of vehicles;
- Replace the previous recommendation directing the Policy Council to liaise with other departments and the OUR to instigate a study into macro-renewable energy with a more robust and fairer proposal to create a Guernsey Renewable Energy Commission to progress the creation of local macro-renewable electricity generation;
- Investigate the possibility of introducing a local carbon or energy tax, the revenue from which could be “ring-fenced” and used, inter alia, to fund an Energy Advice Centre and the Guernsey Renewable Energy Commission; and
- In the long term to make Guernsey a carbon neutral community by using low/zero emission electricity as the basis for the Island's power needs, alongside the introduction of appropriate carbon offsetting schemes for any remnant fossil fuel use.

The Policy Council believes that the development of an Energy Policy is an urgent priority for the States, both to continue to address issues of security/robustness of supply and also in regard to the challenges of climate change and the global imperative to reduce carbon emissions. While the latter certainly provides many challenges, it will also provide major opportunities for Guernsey in relation to the future generation of clean renewable power.

In endorsing the work of its Energy Policy Group, the Policy Council wishes to express its thanks to Deputy Flouquet and his colleagues on the Group, who have worked hard to review the various policy options for developing an Island energy policy. It is clear that Energy Policy internationally is moving at an incredible pace across the Developed World as nations respond to the challenges which lie ahead. It is aware that keeping abreast of such developments when the pace is so frantic is especially difficult.

In view of the fact that most of the work streams from the Energy Policy Report fall to the Environment, Commerce and Employment or Treasury and Resources Departments, the Energy Policy Group consulted these three Departments on its final report. The

responses from each are appended in full to this States report (the Treasury and Resource Department's response is its formal letter of comment on this States report).

The Policy Council is very pleased to see the high level of support for the policy, and acknowledges that resources will be needed (especially at the Environment Department) if the policy is to be implemented in a timely fashion. The Council supports the Commerce and Employment Department's view that the "Quick Wins" from the report should be prioritised. It further agrees that the Guernsey Renewable Energy Commission is the best way to progress macro renewable energy in Guernsey, and is particularly pleased that the Commerce and Employment Department has agreed to provide substantial funding for two years to help the Commission become fully operational.

The Policy Council does not dissent from the views expressed by the Treasury and Resources Department in its letter of comment. Indeed this is why many of the Energy Policy Report's work streams are to research impacts, costs and benefits before implementation.

The Council fully supports the Energy Policy Report, and recommends it to the States.

### **Recommendation**

The States are recommended to:-

1. Endorse the States' Energy Policy, including the Energy Hierarchy as set out in paragraphs 2.19 to 2.24 of the appended Energy Policy Report;
2. Agree the three Headline Policies set out in paragraph 1.3, and the work streams which underpin them, as set out in paragraphs 5.2, 8.2 and 13.2 of the appended Energy Policy Report;
3. Agree in principle (subject to further research as set out) the targets for reductions in carbon dioxide emissions, and the generation of electricity from local renewable sources, as set out in paragraph 2.18 of the appended Energy Policy Report;
4. Direct the Policy Council and the Lead Departments (as identified in the appended report) to progress the various work streams and to agree appropriate timeframes;
5. Note that the allocation of adequate resources is essential to the successful implementation and operation of the Energy Policy, and direct the Treasury & Resources Department to be mindful of this when considering resource requests from Departments, particularly the Environment Department, involved in the implementation of the Energy Policy;
6. Agree that progress in the various work streams will form part of the monitoring of the annual Government Business Plan (Priority 10 - Meet Energy needs more

efficiently and sustainably); and

7. Focus their interests in renewable energy on:-
  - (a) preparing the necessary legislation which will enable Guernsey to take advantage of tidal power opportunities as and when they arise;
  - (b) closely monitoring tidal power technologies and opportunities;
  - (c) encouraging, promoting and facilitating tidal power opportunities; and
  - (d) directing the Commerce and Employment Department to establish a Guernsey Renewable Energy Commission responsible for promoting and licensing macro-renewable energy projects within Guernsey; and
8. Direct the Commerce and Employment Department to monitor the issue of “Peak Oil” and report to the States as necessary.

L S Trott  
Chief Minister

19<sup>th</sup> May 2008

**States of Guernsey Policy Council**

**Energy Policy Group**

**Energy Policy Report**

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## Guernsey Energy Policy

### 1. Executive Summary:

- 1.1. There is strong evidence that climate change is happening and that it is being accelerated by human activity. The world is getting warmer. Levels of Carbon Dioxide in the atmosphere, one of the main causes of climate change, have risen by more than a third since the industrial revolution and are now rising faster than ever before. This has led to rising temperatures; over the 20<sup>th</sup> Century the earth warmed by about 0.6°C and is forecast to rise between 1.4°C and 5.8°C this Century, largely due to increased greenhouse gas emissions from human activity. Globally, the present decade is the warmest decade since records began.
- 1.2. The environmental, economic and social links between carbon-based energy and climate change are such that any responsible developed government must take reasonable steps to reduce its carbon footprint and minimise the impacts of climate change. The UK Government-commissioned report, the ‘Stern Review’ (2006), looks principally at the economic impacts of climate change by assessing a wide range of evidence on climate change and its associated economic costs. The evidence gathered by the review leads to a simple conclusion: **the benefits of strong and early action to ameliorate carbon emissions far outweigh the economic costs of not acting.**
- 1.3. Mindful of the need to take action at local level to help address the global issue of climate change, and of the economic benefits at civic, commercial and domestic level of improved energy efficiency; the Policy Council’s Energy Policy Group (EPG) has agreed three principal policy themes which have been chosen to help deliver secure and robust energy supplies to the Island, help a migration towards low carbon energy supplies, and help consumers (both domestic and commercial) become more efficient in their overall use of energy.

### **Headline Policies –**

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.**
- 1.4. All three of these policy goals will need to be achieved together. As far as possible, the States will ensure that the market framework and policy instruments reinforce each other to achieve these goals. Energy efficiency is

likely to be the cheapest and most pragmatic way of contributing to all three objectives. The UK government has estimated that energy demands across the UK can be cut by 30% through energy efficiency alone. Locally generated renewable energy will also play an important part in reducing carbon emissions, while at the same time strengthening our energy security and improving our competitiveness as cleaner technologies, products and processes develop.

- 1.5. In the field of energy policy, changes are happening rapidly. Globally, new policy instruments are developing and technology development, particularly in the areas of micro generation and wave/current power, is advancing rapidly. Thus, any energy policy, especially one which is intended to meet the needs of a small island community with limited influence on the international stage, must set in place short-timeframe hard policies and actions whilst at the same time setting softer policies and actions based on aspirations for the longer-term future. This energy policy has, therefore, been drafted in that context. It concentrates primarily on actions that can be delivered whilst balancing the three policy goals.
- 1.6. The Report focuses on on-island contributions to the overall carbon footprint. Off-island emissions, i.e. air and sea transport, are dependent on international developments. The Energy Policy Group considers that the most straightforward approach towards the long term goal of an 80% reduction in carbon emissions by 2050 is gradually to replace energy from fossil fuels with low emission electricity. The EPG recognises that both for road transport and for heating the island's building stock, an immediate switch to electricity is unrealistic, and should be viewed as a medium- to long-term objective. Fossil fuels will therefore continue to play a role in supplying the island's energy needs in the short- to medium-term. The gradual switch to low emission electricity will require the development of the island's infrastructure and the island's potential for renewable power to ensure island based generation of low emission electricity should the link to France fail.
- 1.7. To achieve more immediate objectives in a way consistent with the longer term goals, the EPG recommends that a three-pronged approach be adopted in the short-term:- first, a move to low emission electricity by reducing the quantity of oil used for electricity generation together with feasibility studies for electricity generation from renewables; second, a sustained approach to reducing the emissions from road transport; third, a major emphasis on energy efficiency initiatives for residential and business buildings.
- 1.8. The Policy Council issued the EPG's first Energy Policy Report as a "Green Paper" in the Billet d'État for the States meeting in December 2007. There followed a period of eight weeks' public consultation on this report. Both the EPG and the Policy Council have been very impressed by the high standard of many of the responses received to this consultation process. While several of the major responses came from commercial undertakings closely involved in the energy industry, many others came from non-governmental bodies or individual

members of the public. A full list of the names of the respondents is published as an appendix to this report.

**1.9.** The Group believes that it is important to establish targets both for the level of Carbon Dioxide emissions from Guernsey, and also for the generation of electricity from renewable sources. These targets cannot however be set on an arbitrary basis. The social, economic and environmental implications of the targets need to be properly assessed before the States commit to them. This is why the Group recommends that further work needs to be done to establish the local impacts of setting the following targets:-

- (a) to reduce Guernsey's carbon dioxide emissions by 30% on 1990 levels by 2020; and
- (b) to reduce Guernsey's carbon dioxide emissions by 80% on 1990 levels by 2050; and
- (c) to generate 20% of electricity from local renewable sources by 2020.

**1.10.** Amongst the many recommendations set out in this report, which will be key to achieving such targets are the following proposals (not in priority order):-

- States to lead by example, raising energy standards throughout the States' estate (with a view to rolling out the scheme to all public buildings, offices and homes on the Island), through building regulations, planning controls and possibly through grants, loans and subsidised insulation, a switch to energy efficient light bulbs and Combined Heat and Power (CHP) schemes (see paragraphs 4.5 to 4.17);
- Set public procurement policy to support reduced energy consumption and improved efficiency;
- Establish an Energy Advice Centre;
- Investigate the feasibility and benefits of setting targets to stabilise energy use in Guernsey at a set level;
- Investigate the feasibility and benefits of introducing an electric/fossil fuel hybrid-powered or zero/low emission public transport fleet, including the States vehicle fleet;
- Investigate the benefits of encouraging a move to zero/low emission vehicles within a policy of encouraging an overall reduction in the use of vehicles;
- Request the Office of Utility Regulation to liaise with Guernsey Electricity to ensure that more electricity is imported using the existing cable link, until local macro renewable electricity generation comes on stream;

- Investigate as soon as possible the benefits/drawbacks of additional external cable links;
- Maintain on-island generation capability to meet critical minimum levels;
- Identify the tools/mechanisms to offer as incentives for research and development of macro renewable electricity generation, including any legislation, contracts, and licences; establish the States' entitlement to exploit natural resources and investigate possible co-operation with other islands for jointly developing a larger renewable energy project. Additionally appraise the feasibility of generating electricity locally from on and off-shore wind power turbines;
- Create a Guernsey Renewable Energy Commission to progress the creation of local macro renewable electricity generation;
- Investigate the possibility of introducing a local carbon or energy tax, the revenue from which could be used inter alia to fund an Energy Advice Centre and the Guernsey Renewable Energy Commission; and
- In the long term, make Guernsey a carbon neutral community by using low/zero emission electricity as the basis for the Island's power needs, alongside the introduction of appropriate carbon offsetting schemes for any remnant fossil fuel use.

## **2. Introduction and Background:**

- 2.1.** In November 2005, the States approved the following recommendations from the Commerce and Employment Department, to:
1. 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 Island Electricity Grid (CIEG) cable link to France) were unavailable at the same time (the n-2 policy);
  2. agree 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 reinforcement of the existing CIEG cable link to France via Jersey;
  3. agree that the above assumptions should be reviewed prior to any decision being taken on major expenditure on generating plant and/or reinforcement of the existing CIEG cable link to France via Jersey;

4. initiate an Energy Policy Review Group to assess energy policy in general and possible future sources of renewable energy, including tidal power; and
  5. 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.
- 2.2. As such, the Energy Policy Group (EPG) was established by the Policy Council, and commenced meetings on 20<sup>th</sup> April 2006. Members of the Group, chaired by Deputy Bernard Flouquet, are Deputy Graham Guille, Deputy Scott Ogier, Deputy Mike O'Hara, and Deputy Charles Parkinson, together with officers from the Policy Council and the Environment, Commerce and Employment and Treasury and Resources Departments. In August 2006 Michelle Levrier was invited to join the Group, given her relevant knowledge and experience on environmental issues. In 2008 the Group expanded further with the appointment to it of Deputy de Lisle, as Environment Minister, and Professor Nick Day CBE, who each brought a strong interest in and valuable knowledge of environmental issues to the Group.
- 2.3. This Energy Policy Report addresses Resolutions 4 and 5 (above). Whilst the Group decided that it would not comment upon Resolutions 1 and 2, the Group's work has shown the fundamental importance of Resolution 3.
- 2.4. Since it was formed, the EPG has met regularly to discuss the issues surrounding an energy policy for Guernsey and to prepare this Report. During the course of the development of these policies, the Group has looked at many aspects of energy policy, and has heard from industry experts both locally and from the UK. Speakers to the Group have included HM Procureur, representatives from the Office of Utility Regulation (OUR), local energy providers including Guernsey Gas, Guernsey Electricity and Fuel Supplies, Amalgamated Facilities Management and two UK experts in renewable energy Professor AbuBakr Bahaj from the University of Southampton and Professor Peter Smith from the University of Nottingham.
- 2.5. The Group has also met with the Jersey Energy Policy Group to discuss possible areas of mutual interest. Whilst the Jersey policies were at the time considerably more advanced than Guernsey's, there has been a positive exchange of information and research between the Groups, which has been to both Islands' advantage. It is intended to maintain and develop contact between the two groups to mutual benefit, especially in the areas of macro-renewable energy production and use.
- 2.6. In terms of the Policy itself, the Group has decided to set three overarching policy objectives, cascaded down to action points that sit within individual Departments, or in some cases, the Policy Council. The Group has worked with each of these Departments in developing these action points to ensure that they are realistic and financially deliverable in a timely manner.

- 2.7. While the Group will not micromanage the implementation of these activities, a Policy Council Group will be needed to maintain oversight of the implementation of the energy policy as a whole, reporting back to the Policy Council, who in turn will report back to the States of Deliberation, as appropriate.
- 2.8. In March 2007, the UK Government published its draft Climate Change Bill. The Bill aims to create a new legal framework for the UK to achieve, through domestic and international action, at least a 60% reduction in carbon dioxide emissions by 2050, and a 26-32% reduction by 2020, against a 1990 baseline (Source: Meeting the Energy Challenge: A White Paper on Energy, DTI, May 2007). Subsequently the UK government has initiated a statutory review of the principal carbon dioxide emission target by the Independent Committee on Climate Change. The Committee, headed by Lord Turner, has been asked to consider whether the 2050 target should be increased to 80%. The Climate Change Bill was introduced in Parliament on 14 November 2007 and completed its passage through the House of Lords on 31 March 2008. The UK Government aims for the Bill to receive Royal Assent by summer 2008.
- 2.9. It is important to understand the basis of the international community's aspiration to achieve the much higher target of 80% reductions by 2050. It is believed by the Inter-governmental Panel on Climate Change (IPCC), which is an august body of 3,000 of the world's leading climate scientists, that the 80% reduction by 2050 is necessary to stabilise carbon dioxide in the atmosphere at 550 parts per million (ppm) CO<sub>2</sub> equivalent. Even this level is above that advised by the IPCC (i.e. 450 ppm CO<sub>2</sub> equivalent) as necessary in order to keep average global temperature rise below 2 degrees Celsius by the end of the present century and it should be noted that the current level in the atmosphere is already 430 ppm CO<sub>2</sub> equivalent. The November 2007 report from the IPCC warns that if the temperature increase exceeds the 2 degrees level there is likely to be "abrupt and irreversible climate change". The key word here is "irreversible"!
- 2.10. The UK Government also aims to see renewables grow as a proportion of the UK's energy supplies to 10% by 2010, with an aspiration for this level to double by 2020. (Source: Meeting the Energy Challenge: A White Paper on Energy, DTI, May 2007) These link to European Union proposals published in January 2008.
- 2.11. The EPG has considered whether Guernsey should mirror the UK's strategic aspirations, principally:
- (a) to reduce carbon dioxide emissions by 26-32% on 1990 levels by 2020; and
  - (b) to generate 10% of electricity from renewable sources by 2010 and 20% by 2020

- 2.12. Guernsey is currently committed to reduce CO<sub>2</sub> emissions by 12.5% on 1990 levels by 2012. The Island had until recently been out-performing this target, largely as a result of the switch to imported energy from the European grid. However, recently more electricity has been generated on island which has increased carbon emissions from that source. Emissions from road transport have also continued to rise. **The result is that the figure for carbon emissions for 2006 was higher than for 1990. That means that meeting the target for 2012 will require real effort and commitment, let alone meeting the much stricter targets for the longer term proposed in this report.**
- 2.13. The EPG believes that the target to reduce carbon dioxide emissions by 30% by 2020 is a reasonable target to set at this time. Therefore, the Group recommends that the States should direct research on the full economic, social and environmental implications of a 30% reduction in CO<sub>2</sub> emissions as part of the further development of the Energy Policy.
- 2.14. Guernsey Electricity currently has a licence condition placed on it by the Office of Utility Regulation that requires it to source electricity on a least cost basis; to do otherwise would render the company liable to penalties. However, as achievement of the Island's current Kyoto carbon dioxide reductions targets would be largely delivered by the maximum use of the French cable link there must be a commitment to refrain from using on-island fossil fuel generation when such generation would otherwise be considered desirable on cost grounds, if the reduced CO<sub>2</sub> footprint is to be maintained.
- 2.15. The Group believes that a further local target should be set of a reduction in CO<sub>2</sub> emissions of 80% on 1990 levels by 2050. The Group accepts that it will require Guernsey not only to take advantage of technology which is currently in its infancy in many areas, but also a major shift in public attitudes to using (or rather NOT using) energy. However, the continuing impact of mankind on this planet means that there is really no choice but to aim for such a target. The Group therefore recommends that the States should direct research on the full economic, social and environmental implications of an 80% reduction in CO<sub>2</sub> emissions by 2050 as part of the ongoing development of the Energy Policy.
- 2.16. Achieving UK target (b) presents the Island with very significant challenges. From discussions with Guernsey Electricity it is apparent that, while a target of 10% of electricity from renewables is achievable in a short time by importing electricity generated from renewable sources; if local generation of electricity from renewables is desired, 5% by 2012 might be more reasonable.
- 2.17. However, there are major cost implications of doing this, and it is highly questionable whether the minor contribution gained could be justified at this time. The EPG believes that Guernsey can make more impact by developing other areas of its Energy Policy at this time, specifically energy conservation measures. Nevertheless, in the longer term electricity from local renewable sources is expected to make an important contribution to the island's energy

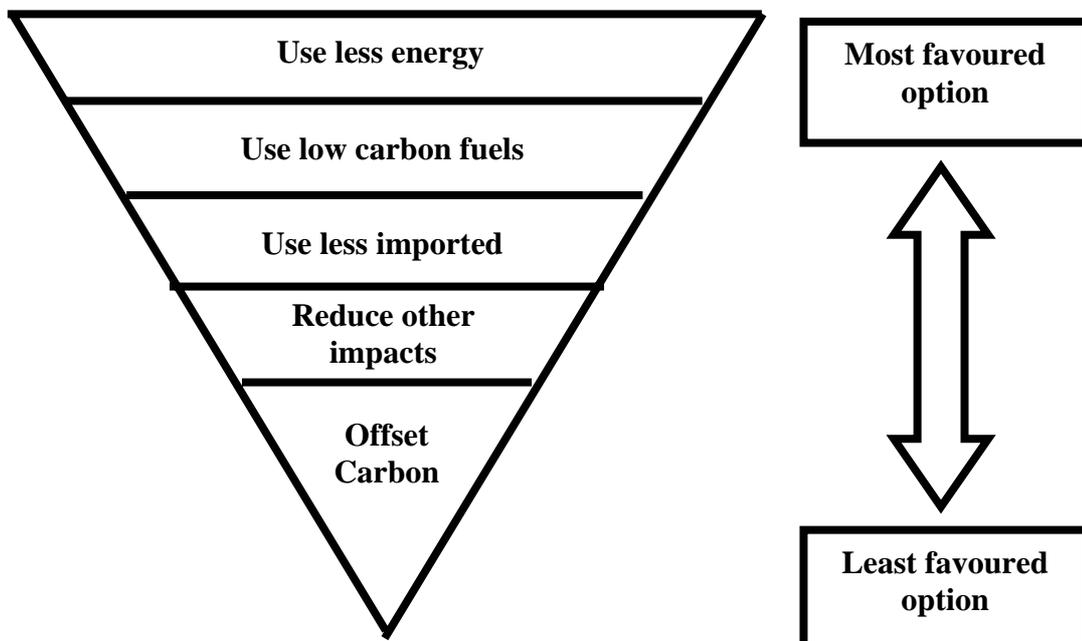
supply so it is recommended that appropriate “renewable targets” for the Island should be properly regarded as part of the on-going development of the Energy Policy. In that regard, proposals for a Guernsey Renewable Energy Commission are set out in more detail in Section 10 of this Report and in Appendix G.

**2.18. The Energy Policy Group therefore recommends that the States should further investigate the following targets:**

- (a) to reduce Guernsey’s carbon dioxide emissions by 30% on 1990 levels by 2020; and
- (b) to reduce Guernsey’s carbon dioxide emissions by 80% on 1990 levels by 2050; and
- (c) to generate 20% of electricity from local renewable sources by 2020.

*Formulating an Energy Hierarchy for Guernsey:*

**2.19.** As part of work to develop its 2007 Energy Policy, the States of Jersey devised a hierarchical system to demonstrate how the principles of its policy should be applied in practice. This model can also be applied to Guernsey’s Energy Policy. The EPG therefore recommends that the States of Guernsey should adopt the following Energy Hierarchy when making energy-related decisions, in order to achieve the overall long-term objectives of this Energy Policy:



- 2.20. Use less energy** – the Group acknowledges that there are economic, social and environmental consequences inherent in energy consumption. Rising energy costs will have adverse effects on the economy and on individual expenditure, particularly for low-income households. The Group therefore proposes that the first step to be taken in addressing these issues should be for the Island to use less energy.
- 2.21. Use low carbon fuels** – the use of low-carbon fuels and environmentally sustainable energy sources in order to minimise the environmental impacts of energy consumption is favoured.
- 2.22. Use less imported energy** – Guernsey’s reliance on imported energy sources makes it vulnerable to global energy prices. It is therefore the view of the EPG that Guernsey should encourage and facilitate the development of local generation of electricity from renewable energy sources, in order for the Island to become more energy self-sufficient. Nevertheless, in the short term, and as set out in 2.14 above, the Group believes that more electricity should be imported as a quick way of ensuring that local carbon emissions targets can be met.
- 2.23. Reduce other impacts** – In formulating an Energy Policy, it is important that care is taken to ensure that any reduction in carbon emissions is not compromised by increasing other forms of environmental pollution, for example, noise / visual pollution in the case of onshore wind power.
- 2.24. Offset carbon** – as referred to elsewhere in the Report, Guernsey’s reliance on essential transport links produces large carbon deficits. It could harm Guernsey’s economy to reduce the use of this transport. Therefore, it is the view of the Group that it may be possible to offset the carbon emissions from these sectors through international reforestation schemes, or other carbon offset initiatives. However, because this method does not actively contribute towards the reduction in energy use, it is the least favoured option in the hierarchy.

<b>Headline Policy 1 – reduce overall energy usage and minimise wastage</b>
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**3. Reasons to reduce overall energy usage and minimise wastage**

*Global Issues:*

- 3.1.** Everyone stands to lose as a result of the climate changing towards a warmer and more volatile world. Large numbers of people who are already affected by poverty, malnutrition and disease will face displacement and new hardships. In the developed world, industries, livelihoods and public health will face serious threats from drought, disease and extreme weather events.
- 3.2.** The impacts of climate change, to which greenhouse gas emissions contribute, will disproportionately affect those societies who have contributed the least to

the problem. Developing countries, as a result of climate change, are likely to suffer poor agricultural output, more natural disasters and increased deaths due to these factors and to the higher occurrence of diseases. It is a sobering fact that 20% of the world population consumes 80% of its resources.

***Local Issues:***

- 3.3. Energy use in Guernsey is increasing. Over the last ten years, total electricity consumption for both domestic and commercial use has risen by 30%, whilst the total number of consumers (both domestic and commercial) has only risen by 5.6% (Source: Sustainable Guernsey 2007. See also Appendix D – Figure 11).
- 3.4. Not surprisingly, per capita electricity consumption has also steadily risen over the last ten years from 4,350KWh to 5,456KWh per annum, resulting in 25% more electricity being consumed per person on Guernsey than ten years ago. (See Appendix D – Figure 12).
- 3.5. It is expected that these upward trends will continue. The data centres which have recently started setting up in Guernsey are significant users of electricity. If more locate here and if the existing ones increase their current levels of operation, it is likely that their usage will more than cancel out any reduction in electricity consumption from changes in other consumption patterns.
- 3.6. In this respect, the Group believes that the economic justification for the long-standing practice in the energy supply sector of effectively “rewarding” consumers for increased consumption, by giving lower prices for the biggest users, should be reviewed and, if appropriate, ended. It might be that high-volume users would have to prove that they had taken sufficient reasonable measures to reduce their energy use and increase efficiencies before they became eligible for a lower unit price. The current practice acts as a disincentive to use less energy.
- 3.7. In comparing prices via the Guernsey Household Expenditure Survey with those for the UK, Guernsey spends 3.4% of average household expenditure on fuel, light and power (coal, electricity, gas and oil) which is similar to the UK expenditure (3.3%). (UK RPI Weights, (2006), ONS, UK Government), (Guernsey RPI Weights, (2005/06), Policy and Research Unit, Policy Council).
- 3.8. The 2004/05 Jersey Household Expenditure Survey states that ‘within the housing group (housing, water, electricity, gas and other fuels), actual average spending on certain elements are noticeably higher in Jersey than the UK, with Jersey households spending on average 40% more on home energy than households in the UK. The latest Guernsey Household Expenditure Survey (December 2007) shows that average expenditure on fuel, light and power, in 2006 was £25.18 per week with electricity and oil costs contributing the greatest proportion (79%) of expenditure. However, the 2007 fourth quarter RPI revealed a 7.4% annual percentage change in fuel, light and power prices with

one half of the increase on the quarter. This reflects Guernsey's vulnerability to the vagaries of global energy prices. The experience of higher prices coupled with higher consumption in Guernsey would indicate that increasing prices alone are not likely significantly to reduce demand.

- 3.9.** The UK defines fuel poverty as an expenditure of 10% or more of total household income on heating and fuel. Heating costs inevitably contribute to a greater proportion of household expenditure amongst low-income households, particularly in the pensioner age group. Low income households tend to occupy the worst performing properties in terms of insulation, draught proofing and inefficient heating systems.
- 3.10.** Energy is often wasted because of poorly insulated buildings or where heating, ventilation, air conditioning and lighting are poorly controlled. Products are generally less energy efficient than they could be – for example, the average upright freezer on the market today uses nearly three times as much energy as the most efficient one. Energy saving light bulbs use less than a quarter of the energy of ordinary light bulbs, and also last ten times longer (The Energy Challenge – Energy Review, (2006), DTI – HM Government). Businesses and householders may not know how to cut energy use, which is just one of many demands on their time and capital.
- 3.11.** It would be worthwhile to consider the potential local issues which could arise following the UK Government's announcement that, as one of the "green" finance measures in its 2007 Budget, it will phase-out high-energy light bulbs in the UK by 2011. (Budget 2007 – Chapter 7: Protecting the Environment. HM Treasury, 2007). Similarly, in regard to the possible local "knock-on" effects, it should be noted that the European Council, in its Energy Action Plan, has invited the European Commission to rapidly submit proposals to enable increased energy efficiency requirements on office and street lighting to be adopted by 2008 and on incandescent lamps and other forms of lighting in private households by 2009 (Presidency Conclusions, European Council, 8/9 March 2007). It should be noted that Guernsey has been using high-efficiency sources for all street lighting since 1980.

***ENERGY FACTS...***

**Energy saving light bulbs can use less than ¼ of the energy of ordinary ones, and also last 10 times longer.**

**The saving in electricity costs over the lifetime of each energy efficient light bulb can be as high as £50. (Source: Office of Utility Regulation)**

- 3.12.** Furthermore, the UK Government announced, as part of its 2007 Budget, that from 1<sup>st</sup> October 2007 purchasers of new zero-carbon homes costing up to £500,000 would pay no stamp duty. Qualifying criteria for the relief require zero carbon emissions from all energy use in the home over a year. To achieve

this, the fabric of the home is required to reach a very high energy efficiency standard and to be able to provide onsite renewable heat and power (HM Revenue and Customs – Stamp Duty Land Tax: Relief for New Zero Carbon Homes – 21 March 2007). The regulations – The Stamp Duty Land Tax (Zero-Carbon Homes Relief) Regulations 2007 – came into force on 7 December 2007, In light of the UK measures, the Energy Policy Group recommends that investigations should be carried locally into mirroring this legislation.

- 3.13. As a general principle, the cheapest, cleanest and most pragmatic way of addressing Guernsey's energy policy objectives is to use less energy. The financial benefits of doing so are clear. Better insulated buildings and more energy efficient workplaces cut energy bills for householders and businesses. Reducing demand puts less pressure on energy supplies. Building design is a very important aspect of making new buildings energy efficient.
- 3.14. In order for Guernsey to reduce its carbon footprint (see Appendix C), pending the availability of developing clean energy technologies, a concerted effort aimed at raising public awareness of energy efficiency and energy saving measures is required. The States should lead by example, introducing an energy code following best practice guidelines which should not only exceed minimum building regulations for all new builds but also support the use of micro-generation and clean fuels in all new builds. The States should also create a public procurement policy which would support reduced energy consumption and improved energy efficiency where possible.
- 3.15. Energy leakage is also a matter of concern. The Group therefore recommends that the Environment Department should undertake investigations into where the key areas of loss are, and what can be done to address the issue.
- 3.16. Policy support from Planning Control and Building regulations would support micro-generation of renewable energy, such as photovoltaics, geothermic heat pumps and small wind turbines. The present tariffs for buy back of electricity generated through renewable energy projects need to be examined to encourage such projects. The further development of the Island's public transport system would also support energy efficiency goals. These issues are dealt with in more detail in the relevant parts of this Report.
- 3.17. The Group also recommends that the States monitor the development and impact of developmental policies in the UK and Europe, including, for example, the UK Electricity and Gas (Energy Efficiency Obligations) Order 2004, which requires certain energy suppliers who supply at least 50,000 domestic customers on a relevant date to meet energy efficiency targets.
- 3.18. In order to encourage the take up of micro generation technologies at the domestic level, the EPG proposes that investigations should be undertaken into requiring, by 2012, that at least 10% of the energy in all new buildings is provided by renewable sources.

- 3.19. In order to encourage the installation of micro-generators and energy efficiency measures by consumers, the Energy Policy Group believes that the Treasury and Resources Department should investigate schemes for offering subsidies and/or grants and/or tax rebates for such things, possibly on a means-tested basis.

4. **Requirements to reduce overall energy usage and minimise wastage**

*Local Requirements:*

- 4.1. Efficient and robust energy supplies and the progressive switch towards increased renewable energy supplies will not be enough to deliver the goals of this energy policy. Additional measures will be needed, for example to stimulate further energy efficiency in business, in the public sector and in households. Policies to raise energy efficiency will have an important rôle. The States need to explore ways of stimulating investment in energy efficiency equipment and measures, including the operations of GEL.
- 4.2. Demand can be reduced through better energy efficiency. In the longer term reliability may also be enhanced by ending Guernsey's complete dependency on imported electricity and locally generated electricity and other energy sources all of which rely on imported fossil fuels, e.g. through the use of technologies which will enable the Island to diversify its fuel options. Technologies and pricing structures that enable and encourage users to manage their electricity and gas demands away from peak periods can also help to reduce the maximum demand for on-island back-up generation.
- 4.3. Overall, there is a need to remove the least energy efficient products from the market, encourage competition to bring forward improved products, and make it easier for people and businesses to choose the best. Ways to do so include minimum standards, voluntary agreements with industry, fiscal measures, procurement policy, and better information on product performance.
- 4.4. In businesses and the public sector, there are many ways to reduce energy use. Improving insulation, heating, lighting and equipment are important, particularly in the commercial and public sectors. There are also many other opportunities in day-to-day operations and production processes. Many savings can occur at the time of investment in new or replacement plant. Technologies include more efficient motors, variable speed drives, heating and cooling plant and proper pipe insulation. Savings can also come through making productive use of otherwise 'waste' heat and cooling, and avoiding unnecessary heating and cooling through better design and control.

***ENERGY FACTS...***

**The States of Guernsey – through their various departments and agencies – account for almost 10% of energy consumed in Guernsey.**  
(Source: Office of Utility Regulation)

- 4.5. The States estate should set an example in introducing energy efficiency and energy reduction measures. There should again be an Energy Efficiency Officer to advise States' Departments on how they can save energy, and best practice.
- 4.6. Government procurement has been identified as an area that could more strongly support sustainable development goals. In particular, there are certain goods with high energy efficiency standards which provide value for money in areas such as IT equipment, boilers, lights and lighting systems and refrigeration equipment.
- 4.7. Furthermore, the States should take steps to develop an awareness of the importance of design and layout, and in particular the structural orientation of new development, to the optimum conservation of energy. Additionally, the construction industry should be encouraged to take advantage of these opportunities in the design of new development.
- 4.8. There is a need for States Departments to realise the benefits of a 'spend to save' mentality, especially when considering the lifecycle of buildings.
- 4.9. Building Regulations should be modified to incorporate measures to further improve energy efficiency. Whilst the Energy Policy Group has considered the possibility of mirroring Building Regulations used in the UK, the Group decided that it would be more appropriate for the Island to develop its own, Guernsey-specific Building Regulations. These would be reviewed to recommend standards appropriate for Guernsey's climate and logistical position. Notwithstanding this, if there is any delay in implementing such custom-made regulations, the Group believes that the most recent UK building regulations should be enacted as an interim measure.
- 4.10. The Group also recommends that the Environment Department should give consideration to amending Building Regulations so that large and high energy consuming building projects are obliged to generate a proportion of the electricity they will use on site. For example, they could have ground-source heat pumps and roofs covered with photovoltaic cells and solar thermal panels. Housing estates could have communal "green" items such as heat pumps. Excess heat from industrial users could be made available to nearby houses, as GEL already does at Northside.
- 4.11. It also believes that the Environment Department should strongly consider the establishment of an Energy Advice Centre, possibly through a private/public partnership.
- 4.12. Free advice to households, businesses and public sector bodies on how to save energy is a vital part of any energy efficiency strategy. Raising awareness and providing targeted advice and information is a cost effective way of overcoming barriers to energy efficiency. Such a centre would offer advice to all energy consumers on the availability of low energy use products, such as low energy

light bulbs and white goods, vehicles, insulation, micro-generation and products such as solar thermal panels. Clever technology is increasingly available to manage things such as central heating systems to reduce the cost of operating them. In essence, it should do anything and everything that it can which promotes and leads to a reduction in local energy consumption and a change in public perceptions and attitudes to achieve that.

- 4.13.** ‘Warm Front’, until recently the main UK Government initiative targeting fuel poverty, delivers a package of measures, typically including central heating and insulation, to households on benefit. Its primary focus has been on the owner-occupied and privately rented sectors. ‘Warm Front’ covers England with each of the devolved administrations having a similar programme. ‘Warm Deal’ in Scotland and the ‘Home Energy Efficiency Scheme’ in Wales are both similar schemes. In Scotland, a series of new initiatives has been recognised as successfully targeting households in fuel poverty. These are in addition to the Warm Deal initiative, and include a new Housing Act, setting tighter energy efficiency standards for new dwellings, and a new non-means-tested central heating grant. In 2004, the Scottish Executive announced a series of targets, including the provision of central heating to all council houses outside Glasgow and all housing association tenants, extending to all elderly households (in public or private housing). The UK Government’s Decent Homes Standard targets social housing (local authority and housing associations) and aims to eradicate fuel poverty by 2010 by ensuring that all social housing meets set standards of decency.
- 4.14.** The Group believes that the centre could be run as a public-private partnership. Companies could assist in its funding and provision of advice as part of their commitment to tackling these issues. Those in the energy products sector could also benefit from selling more of their products. The Centre could also receive funding from a carbon or energy tax if that were introduced. (see section 11 for more details).
- 4.15.** Locally, the States of Guernsey’s Social Security Department has confirmed that it would be willing to consider linking energy efficiency grants to social security benefits, having regard to the UK Government’s Warm Front and Decent Home schemes.

***Examples of Energy Efficiency in action***

- 4.16.** Locally, the States’ Housing Department has already embarked on a programme of upgrading insulation and energy efficiency in social housing.
- Part of the modernisation programme for the States’ housing stock includes cavity wall and loft insulation that will significantly improve the thermal efficiency of the properties and reduce the energy costs for tenants.

- In addition to the energy efficiency elements which form part of the modernisation programme for States Houses, the Housing Department insists that sustainable solutions are incorporated into all future Housing Association new build schemes which are part-funded by the States
- The Department has advised the Guernsey Housing Association that all new properties it builds with the assistance of States grant funding must incorporate energy efficient designs and enhancements. In order to achieve this, the Association have appointed the Building Research Establishment (B.R.E.) from the U.K. to advise them on incorporating sustainable solutions and highly energy efficient systems into the design and specification of all their new developments.

(Source: Housing Department, 2007)

The States' Culture & Leisure Department is already taking steps to become more energy efficient:

- The Department has installed specialist equipment (thermal wheels in air handlers), which allows fresh air flow into its buildings with minimal loss of heat.
- External lighting is linked up to light sensor switches and timers within the Building Management System (BMS), ensuring that lights are activated only when needed, and go off no later than required.
- Energy efficient light bulbs in its buildings create the same levels of illumination, but use lower wattage.
- Use of destratification fans in the Castle Cornet Hatton Gallery ensure that heat rising into the loft space is pushed back down, resulting in more even room temperature at different levels, and less energy required to heat the space.
- Automation of various pumps and plant at Beau Sejour on the BMS ensures that use is limited to specific need by linking to time clocks, temperature, humidity etc.

(Source: Culture & Leisure Department, 2007)

- 4.17.** These initiatives are examples of the implementation of Culture and Leisure's business plan. The section on energy use is a highly commendable model which other Departments should strongly consider adopting. It states:

***Energy Policy:***

The Culture and Leisure Department is conscious of the need to use energy effectively and efficiently at all times. Not only is wasted energy an unfair cost that has to be paid for by the taxpayer, there is often a hidden cost to the

environment in terms of both short term pollution and long term damage to the planet.

To ensure that all energy is used wisely the Department shall:

- conduct regular monitoring of all energy usage across its properties;
- encourage all staff and contractors working on its behalf to be energy conscious in their everyday actions and responsibilities;
- keep abreast of advances in energy management with the aim of achieving a continuous reduction in consumption through automation of controls, improved insulation and the use of other energy saving technology where such investment will generate a financial payback period or other tangible benefits;
- establish a charging policy for services provided which takes into account the energy cost in providing that service;
- make full use of green (non carbon generating) energy sources where this is practical and economically feasible;
- comply with all legislation, regulation and best practice to ensure that emissions from combustion is kept to a minimum through correct and timely servicing of all plant equipment and vehicles;

support other States departments in energy saving policies and initiatives.

- 4.18.** The feasibility and benefits of setting targets to stabilise energy use in Guernsey at set levels should be investigated.
- 4.19.** The Group does not consider that the development of crops for bio-diesel or ethanol would be appropriate on-island, due to limited agricultural land. It would be much better to use such land to grow food crops and thus reduce “food air miles”.

***Transport:***

- 4.20.** As referred to in the Executive Summary, the EPG recognises the significant role of road, air and sea transport in contributing to the Island’s carbon emissions. Acknowledging this, the Group is of the mind that road transport is an area where the States should initially focus their efforts to make an impact in terms of reducing carbon emissions.
- 4.21.** In 2006, the States approved a Road Transport Strategy [Billet d’État VII, 2006]. The Road Transport Strategy includes a range of measures designed to discourage unnecessary vehicle use on the Island, and encourage increased use of public transport. However, the feasibility and benefits of introducing an electric/fossil fuel hybrid-powered or zero/ low-emission public transport fleet,

and encouraging the use of such vehicles within the States transport fleet, should be investigated by the Environment Department.

- 4.22.** Within a policy of encouraging an overall reduction in the use of vehicles locally, the Environment Department should also encourage a move to zero- or low-emission vehicles. Hybrid powered vehicles (typically a petrol engine assisted by an electric motor) are now established technology. Although there are few pure electric vehicles yet available, the technology is developing rapidly and Guernsey, with its short distances, is an ideal location for their use. The work of the Energy Policy Group adds further impetus to the need for the States to progress the Road Transport Strategy with vigour.
- 4.23.** The Group believes that a strong impetus would be given to purchasing zero- and low-emission vehicles if there was a financial incentive to do so. It, therefore, suggests that the Environment Department should investigate a replacement for the current first-registration fee. It is presently £35. However, there is merit in replacing it with a vehicle emissions tax at a much higher level which should directly reflect the carbon emissions of the vehicle. There could be a sliding scale so that vehicles which will pollute the most have the highest levy. Similar proposed schemes have seen fees range from £0 for the lowest emitting vehicles to £3,125 for the worst offenders. However, the Group believes that Guernsey could go further and subsidise the purchase of vehicles with zero or very low emissions, using a portion of the money from the tax levied on more polluting vehicles. At the moment very low emissions vehicles tend to be more expensive because the technology they use is still in its infancy. A subsidy would help overcome that problem. However, caution would be needed to ensure that this did not lead to an overall rise in the number of vehicles.
- 4.24.** The carbon emissions of all new vehicles are readily available because they must be declared within the EU. They should be made publicly available in Guernsey so that purchasers can make informed choices.
- 4.25.** It should be noted that LPG is currently not taxed locally. Cars are available which can be powered by either petrol or LPG. LPG emits less carbon than oil for an equivalent energy output. In the short- to medium-term they would therefore help reduce local carbon emissions without needing any reduction in vehicle use.
- 4.26.** In terms of carbon emissions from air and sea travel, whilst the EPG acknowledges that these sectors contribute notably to the Island's emissions total, the Group is also mindful of the need for Guernsey to maintain and encourage adequate transport links to and from the Island. It is the view of the Group, therefore, that to target this sector with measures which would ultimately discourage the development and maintenance of off-island transport links would conflict with States policy which seeks to encourage and support these vital links.

- 4.27. However, the EPG recommends that the States should keep a watching brief on international developments aimed at addressing emissions from air transport.

***NB** The EPG has agreed sets of subordinate policies within each Headline Policy. It should be noted that some subordinate policies may be applicable to more than one Headline Policy.*

**5. Policies, related projects and initiatives that will help to reduce energy usage and minimise wastage**

**5.1. Subordinate Policies:**

**A. States to set example of Energy Efficiency and Energy Reduction across the States' estate (by a set volume by a set date).**

- i. Raise energy efficiency standards throughout the States' estate.
- ii. Lead by example – introduce an energy code and best practice into States new build and refit.
- iii. Appoint an Energy Efficiency Officer.
- iv. Set energy efficient public procurement policy throughout the States.
- v. Emphasise the need for all States Departments to realise the benefits of a 'spend to save' mentality, particularly when considering the lifecycle of buildings.
- vi. Support recycled products through demand. Lead by example - consider procurement policies that commit to using recycled and recyclable products.

**B. Encourage energy efficiency and energy use reduction across the community.**

- i. Explore ways of stimulating investment in energy efficiency equipment and measures, including the operations of GEL.
- ii. Consider linking energy efficiency grants to social security benefits.
- iii. Investigate viability of a loan fund to support energy saving developments.

- iv.** Investigate the possibility of exemptions from document duty for new zero carbon homes
- v.** Develop an awareness of the importance of design and layout, and in particular, the structural orientation of new development, to the optimum conservation of energy; and to encourage the construction industry to take advantage of these opportunities in the design of new development.
- vi.** Develop Building Regulations for Guernsey that take into account the need to improve energy efficiency measures in buildings.
- vii.** Investigate feasibility of large and high energy consuming building projects having to generate a proportion of their own electricity demand
- viii.** Establish an Energy Advice Centre, possibly in consultation / partnership with the private sector;
- ix.** Investigate feasibility and benefits of setting targets to stabilise energy use by set levels.
- x.** Investigate feasibility and benefits of introducing an electric/fossil fuel-hybrid public transport fleet, and/or States' vehicle fleet;
- xi.** Investigate the benefits of encouraging a move to zero- or low-emission vehicles within a policy of encouraging an overall reduction in the use of vehicles.
- xii.** Investigate the feasibility and benefits of introducing, at first registration, a vehicle emissions tax for all vehicles on a sliding scale, with a subsidy for zero or very low emission vehicles.
- xiii.** Identify key areas of energy leakage and the possible measures to be taken to address it.
- xiv.** Review the economic justification for differential prices based on volume consumption and, if appropriate, encourage the abolition of the practice of lower unit prices for larger energy users.
- xv.** Investigate the feasibility and benefits of requiring, by 2012, that at least 10% of the energy in all new building is provided by renewable sources.

## 5.2. Related Projects/Initiatives

Project/Initiative	Lead Department
<p><b>A. i)</b> Raise energy standards throughout the States' estate, (with the view to rolling out the scheme to all public buildings, offices and homes on the Island), through building regulations, planning controls and possibly through grants, loans and subsidised insulation, light switch and CHP schemes.</p>	Environment Department
<p><b>A. ii)</b> Lead by example – introduce energy code and best practice into States new build and refit</p>	Treasury & Resources Department
<p><b>A. iii)</b> Appoint an Energy Efficiency Officer</p>	Treasury & Resources Department
<p><b>A. iv)</b> Set public procurement policy to support reduced energy consumption and improved efficiency</p>	Treasury & Resources Department
<p><b>A. v)</b> Emphasise the need for all States Departments to realise the benefits of a 'spend to save' mentality, particularly when considering the lifecycle of buildings.</p>	Treasury & Resources Department
<p><b>A. vi)</b> Support recycled products through demand. Lead by example – consider procurement policies that commit to using recycled and recyclable products.</p>	Treasury & Resources Department
<p><b>B. i)</b> Explore ways of stimulating investment in energy efficiency equipment and measures, including the operations of GEL.</p>	Treasury & Resources Department/ Commerce & Employment Department
<p><b>B. ii)</b> Direct Social Security Department to consider linking energy efficiency grants to Social Security benefits (e.g. the UK governments Warm Front and Decent Homes schemes).</p>	Social Security Department
<p><b>B. iii)</b> Investigate viability of a loan fund to support energy saving developments with repayment through the resulting revenue savings.</p>	Environment Department/ Treasury & Resources Department

<b>B. iv)</b> Investigate the possibility of exemptions from document duty for new zero carbon homes	Treasury & Resources Department
<b>B. v)</b> Develop an awareness of the importance of design and layout, in particular, the structural orientation of new development, to the optimum conservation of energy; and to encourage the construction industry to take advantage of these opportunities in the design of new development	Environment Department
<b>B. vi)</b> Develop Building Regulations for Guernsey that take into account the need to improve energy efficiency measures in buildings	Environment Department
<b>B. vii)</b> Investigate the feasibility of large and high energy consuming building projects having to generate a proportion of their own electricity demand	Environment Department
<b>B. viii)</b> Establish an Energy Advice Centre, possibly in consultation/partnership with the private sector	Environment Department
<b>B. ix)</b> Investigate the feasibility and benefits of setting targets to stabilise energy use in Guernsey at a set level.	Environment Department
<b>B. x)</b> Investigate the feasibility and benefits of introducing an electric/fossil-fuel hybrid-powered or zero- or low-emission public transport fleet, including the States' vehicle fleet	Environment Department
<b>B. xi)</b> Investigate the benefits of encouraging a move to zero- or low-emission vehicles within a policy of encouraging an overall reduction in the use of vehicles.	Environment Department
<b>B. xii)</b> Investigate the feasibility and benefits of introducing, at first-registration, a vehicle emissions tax for all vehicles on a sliding scale, with a subsidy for zero or very low emission vehicles.	Environment Department
<b>B. xiii)</b> Identify key areas of energy leakage and the possible measures to be taken to address it.	Environment Department
<b>B. xiv)</b> Review the economic justification for differential prices based on volume consumption and, if appropriate, encourage the abolition of the practice of lower unit prices for larger energy users	Commerce & Employment Department
<b>B. xv)</b> Investigate the feasibility and benefits of requiring, by 2012, that at least 10% of the energy in all new building is provided by renewable sources.	Environment Department

## **6. Short- to medium-term delivery of low carbon electricity in Guernsey and the cable link**

### *Local Issues:*

- 6.1** Until 2000 all locally consumed electricity was generated on-island. The cable link to France then came into commission. In the first full year it halved the amount of local carbon emissions from electricity generation. However, GEL recently has increased the amount of electricity which it has been generating itself because the cost of imported electricity has risen. That has led to an increase in local carbon emissions and has been a major contributory factor to the fact that Guernsey's carbon emissions are now above 1990 levels when they should be 12.5% below by 2010. If the initial volumes of imported electricity had been, and were, maintained then Guernsey would at least be at 1990 levels.
- 6.2** The Group, therefore, believes that in the short- to medium-term, i.e. until there is local macro renewable generation, there is no alternative but to import more electricity through the cable link. This will have a noticeable effect on locally produced carbon emissions and make it easier to achieve the targets for reducing carbon emissions.
- 6.3** The Group has noted that recent decisions of data centres to set up in Guernsey could have a significant effect on the amount of electricity consumed locally. They tend to be inefficient users of electricity because much of their consumption is for air conditioning to keep their computers at the correct temperature. If the States wish such centres to operate in Guernsey then they must recognise their substantial electricity use and ensure there are policies in place to meet the demand. The Group therefore believes that, even with the reduction in general electricity consumption which should come from energy efficiency initiatives, the demand for electricity locally will continue to rise. In order to meet that demand and to have any chance of meeting our international responsibility to reduce carbon emissions, imported electricity will have to be used as it is low carbon. Therefore, the Group believes that the States should request the OUR to liaise with GEL to ensure that more electricity is imported until local macro renewable electricity generation comes on stream.
- 6.4** However, at present, the cable capacity between Jersey and France limits the amount of electricity which can be imported here. In light of that and the above, the Group believes that GEL should be investigating an additional cable link either direct to France (or to Jersey with a third Jersey-France cable) now so that it can be commissioned as soon as possible to ensure that the economy can maintain its vibrancy under the new tax strategy. In light of those discussions, GEL and the Treasury and Resources and Commerce and Employment Departments will also need to reconsider how and when local generating plant is replaced.
- 6.5** In the long-term an additional cable link will, however, assist greatly in fulfilling the aims of the energy policy by being part of the essential infrastructure which

will be necessary for locally generated macro renewable electricity to be exported to the European grid.

- 6.6 However, the Group does not believe that using the cable link(s) to import electricity is a sensible long-term solution in terms of giving Guernsey security of supply and robustness.
- 6.7 The Group has also considered whether the current cable link should be exploited even further in terms of reducing carbon emissions by instructing GEL to use it to import renewably produced electricity. About 80% of EDF's output is from nuclear power plants. However, it generates some electricity from renewable sources, primarily hydro-electric dams but also from wind farms and the Rance tidal barrage. Guernsey could buy green electricity to further reduce its carbon footprint. There would be a premium to pay for such electricity. However, if only a small proportion of local electricity was "green" the increase in bills would be limited. GEL states that there is about a 10% surcharge for renewable electricity. It has estimated that if it were required to import say 5% of the island's consumption using an EDF "green" tariff the overall cost increase per unit would be about 0.5%. Obviously, if the proportion were higher then the cost would also rise as it would be less diluted by ordinary electricity costs.
- 6.8 It would also be possible for GEL to agree to offer Guernsey consumers the choice of a local "green" electricity tariff. For a premium they would be able to choose to have all their electricity supplied from renewable sources in France. The Group believes that many people locally might choose to avail themselves of such an opportunity. If the premium received by EDF all went to constructing more renewable electricity generation capacity the Group believes that it would be beneficial. However, it has decided that it would rather see such capacity created locally as soon as possible for the future benefit of this community. It therefore believes that any premium which local consumers are willing (or possibly obliged) to pay should be invested in creating local renewable energy projects. It does not therefore recommend that such a green tariff should be introduced at this time.

***ENERGY FACTS...***

**All energy imported through the cable link includes a cost for the carbon emitted in its generation at source. This is not currently the case with on-island power generation, where there is no charge for producing carbon.**

**Headline Policy 2 – ensure a diverse and robust energy supply, which is sufficient for Guernsey's needs**

**7. Reasons to ensure a diverse and robust energy supply, which is sufficient for Guernsey's needs**

*Global Issues:*

- 7.1. Oil, upon which so much of the world's economy and social infrastructure is based, is a finite resource. The issue of "Peak Oil" is now increasingly understood and accepted. In simple terms global peak oil will occur when global demand outstrips global supply. While the lack of audited figures on oil reserves makes analysis difficult, many authorities expect the turning point to be reached within the next decade. Thereafter demand will outstrip supply, which will have huge consequences for the global economy and national infrastructures. It is therefore no surprise that planning for a new energy future is a high priority now for all governments. Whilst smaller jurisdictions cannot drive the agenda, they do need to be able to respond effectively. Therefore, Guernsey needs to monitor the situation with regard to peak oil so that it can plan for its likely effects. Robust, diverse energy supplies are the key to the ability to respond.
- 7.2. The Stern Review suggests that the investment in energy technologies that takes place in the next 10-20 years will have a profound effect on the climate in the second half of this century and into the next. Globally, our actions now and over the coming decades could create risks of major disruption to economic and social activity, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20<sup>th</sup> century. And it will be difficult or impossible to reverse these changes (Stern Review, 2006).
- 7.3. The UK Government Climate Change Bill aims to set out a framework for moving the UK to a low-carbon economy. The Bill proposes a series of targets for reducing carbon dioxide emissions, including making the UK's targets for a 60% reduction by 2050 and a 26 to 32% reduction by 2020 legally binding ['Draft Climate Change Bill Published'. DEFRA, 2007]. It is due to receive Royal Assent in summer 2008. As explained in paragraph 2.8, the UK government has commissioned a statutory review of the 2050 target to see whether the figure should be raised to 80%.
- 7.4. Additionally, the UK Government's 2007 Budget included 'green' measures such as not levying income tax or capital gains tax on income derived from micro-power generation in the home.
- 7.5. At the Spring European Council on 8/9<sup>th</sup> March 2007, EU Heads of Government agreed an ambitious, independent binding target to reduce Europe's greenhouse gas emissions by at least 20% by 2020 (compared to 1990 levels) and to increase this commitment to a 30% reduction if agreement is reached internationally. They also decided to increase the use of renewable energy sources so that they make up to 20% of EU energy consumption by 2020, with differentiated overall targets for Member States [source: UK Government Draft Climate Change Bill, March 2007].

*Local Issues:*

- 7.6. Geographically, Guernsey has one of the world's strongest tidal streams, making it ideal for tidal energy initiatives, which would also help to diversify the Island's energy supplies. **Whilst direct investment into a tidal energy scheme from States general revenues is not proposed at this time, it is vital that the necessary legislation is in place that will allow investment in such initiatives to take place.** Such legislation will make clear the responsibilities involved in establishing a tidal energy project, especially in regard to contracts and licensing of the sea floor. The funding of any such projects will be a matter for the Guernsey Renewable Energy Commission (discussed later in this report) to consider.
- 7.7. Legislation outlining the States' entitlement to exploit natural resources is a further requirement, as is the need to investigate possible co-operation with other jurisdictions in regard to jointly developing larger scale renewable energy projects. Whilst the Policy Council does not recommend that the States should directly invest financially in tidal energy research, it does believe that the States should encourage, promote and facilitate tidal power opportunities, and recognise their role in facilitating, encouraging and promoting Guernsey as a good base for tidal power and companies to invest in tidal power opportunities. In order to progress that, proposals for a Guernsey Renewable Energy Commission are set out in more detail in Section 10 of this Report.
- 7.8. At present, Guernsey is almost entirely dependent upon imported energy, or imported fuels for energy production. As a result of this, the Guernsey energy market is very vulnerable to global fluctuations in supply, prices and competition. Guernsey has until recently experienced relatively low energy costs. However, energy costs everywhere are increasing, and are forecast to continue to increase into the immediate future.
- 7.9. Guernsey requires a resilient energy system, without significant weaknesses, which works well and recovers quickly if problems occur. This means a diverse system based on a mix of fuel types, a variety of supply routes, efficient international markets, back-up facilities such as storage and on-island production and robust infrastructure. Developing low carbon options will also create further opportunities to increase energy reliability.
- 7.10. The goal is that people and businesses can rely on secure supplies of energy – gas, oil, motor fuel and electricity – at predictable prices delivered through the market. Reliable energy supplies are an essential element of Guernsey's progression towards sustainable development. However, energy supplies will never be totally secure as long as energy is imported.
- 7.11. According to the latest Customs & Excise figures, Guernsey used just over 2,000 litres of fossil fuel per person in 2006 (see table below).

<b>Oil imports in 2006 (in litres)</b>	<b>Guernsey</b>	<b>Jersey</b>
Transport	45,000,000	55,529,380
Heating/Electricity	79,673,000	68,135,299
<b>Total</b>	<b>124,673,000</b>	<b>123,664,679</b>
<b>Total litres per capita</b>	<b>2,084</b>	<b>1,418</b>
Source: the Customs & Excise services of Guernsey and Jersey		
<b>KEY:</b>		
Transport = leaded and unleaded petrol and aviation fuel (but not diesel, as it was not taxed in Guernsey and therefore not recorded by Customs)		
Heating/Electricity = kerosene, gas oil fuel oil (but not LPG, which is not recorded by Customs)		

- 7.12.** In 2006, the total amount of oil imported to the Island rose by 14% on 2005 figures to 124,673,000 litres. This rise is in part due to increased quantities of heavy fuel oil imported by Guernsey Electricity for local power generation and increased demands for transport fuel [source: Sustainable Guernsey 2007].
- 7.13.** During 2005/06, the per capita consumption of gas was 2176.6 kWh [source: Guernsey Gas; quoted in Sustainable Guernsey 2007]. The total annual gas consumption for 2005/06 was 132,834,000 kWh. Per capita consumption of gas in Jersey is lower, at 1,400kWh per head. This compares with 11,300kWh in the UK [source: States of Jersey Energy Policy 2007].
- 7.14.** Per capita consumption of electricity in Guernsey in 2006 was 5,456kWh [source: Sustainable Guernsey 2007]. In Jersey, the total final consumption across all sectors of electricity per head of population is 7,000kWh/capita. This compares to 5,700 in the UK [source: States of Jersey Energy Policy 2007].
- 7.15.** Renewable energy may be imported using the cable link. Importing renewable power would put a further restraint on Guernsey Electricity and would tend to reduce on-island generation from oil. However, it would also cause GEL to have to pay the price for imported power plus the additional premium for a renewable source. As stated above, the Group has decided that renewable electricity should not be expressly imported at this time.
- 7.16.** According to Guernsey Electricity, the lead time for any local renewable energy project would be about four years, but this would be critically dependent on planning consent [see Section 10 of this Report for more information on renewables]. The utility has said that imports and local generation are not mutually exclusive; the one could lead to the other, provided the financing issues are addressed. However, it has advised that the States should recognise the

competitive nature of the heating market and the need for a holistic approach to energy policy.

- 7.17.** Opportunities for on-island renewable energy generation at the micro scale, for example, solar power, should be facilitated and possibly subsidised. This would require support through both planning policy and building regulations. There is a need to recognise that planning policy and legislation cannot be applied in such a way that they give unjustifiable priority to one policy area over another; and factors such as neighbourhood impacts, overlooking, noise, and heritage would also need to be taken into account and balanced.
- 7.18.** Micro-generation such as photovoltaics, wind turbines and geothermic and ground-source heat pumps need promoting. The setting of higher tariffs for buy back schemes, setting minimum rates paid for electricity units generated and sold back into the electricity grid, could work as an incentive for micro generation schemes on the Island.
- 7.19.** At present, GEL pays domestic consumers who produce electricity from micro-generation a buy back rate which is the marginal production cost of electricity. It is currently about 5p per kWh, which is less than half the retail price at which consumers generally must purchase their electricity as it does not include all of GEL's costs. This lower rate acts as a disincentive to users to install micro-generators. In addition, customers wishing to sell electricity to GEL must first install a special meter at a cost of about £100.
- 7.20.** Although the low rate reduces the incentive to install micro-generators, it should be borne in mind that owners of such generators primarily save money by reducing their consumption of retail priced units, rather than generating income from selling electricity to GEL at the buy-back rate. Nevertheless, the Group believes that the OUR should consider whether the buy-back rate should be increased. It also believes that GEL should not charge for the provision or installation of the extra meter.
- 7.21.** The Portuguese government has recently announced legislation which will require all new homes to have solar thermal panels to heat water. It also makes it easier for micro-generators to sell electricity to the grid and they will be paid much more than the retail price they are charged. Grants towards installation costs are also available.
- 7.22.** Geothermal energy comes from the decay of naturally radioactive isotopes in granite rocks in the continental crust. In soil, even at shallow depths, geothermal heat flow and heat retained from summer solar warming means that subsurface temperatures are higher than winter air temperatures. This heat source can be exploited using a heat exchanger known as a ground-source heat pump that uses upward and downward pipes about 100 – 150 m long set into the ground and circulates water within the loop to transfer heat from the ground to the properties above. Other variations in the design of ground-source heat

pumps use a system of shallower pipes rather than deep boreholes. When demand is low during the summer the underlying soil and rock reheats for winter use. A variant on this is to use heat pumps – effectively reversible air conditioners – to pump excess heat downwards in summer and upwards in winter, offsetting at least some of the high energy cost of air conditioning. On relatively large sites such as Mixed Use Redevelopment Areas (MURAs), Housing Target Areas (HTAs) and social housing developments where piling is already indicated, the installation of ground-source heat pump systems could be considered as a cost-effective method of district heating. There is also unexplored potential in examining the distribution or reutilisation of waste heat produced by industrial plant on the Island to offset primary energy use for heating and cooling. GEL already uses waste heat to heat States Works, Marine and General and its own offices, tank farm and other site buildings. [Source: Webb. ‘Energy: Fossil Fuels, Nuclear and Renewables’. Open University, 2006]

- 7.23.** The Office of Utility Regulation, in conjunction with Guernsey Electricity, should be requested to investigate further the implications of favouring low-carbon power generation, and to produce a joint report back to the Policy Council, via the Energy Policy Group, on how tariffs may be introduced to reflect the States’ Energy Policy.
- 7.24.** Additionally, in light of the “green finance” measures proposed in the UK Government’s 2007 Budget, the Group recommends that in Guernsey investigations are undertaken into exempting income derived from micro-power generation in the home from income tax.
- 7.25.** Research into the viability of cables linking the major Channel Islands to each other and to the European Grid, via France, should be investigated further. This cable linking is sometimes called ‘daisy chaining’ and should be set up to allow the system to be fed from any point in the event of a failure anywhere and would allow for supply in any direction from different sources. Such a system of linkage would also enable the export of electricity from renewable micro- and macro-generation sources within the whole Bailiwick. Alderney is already investigating tidal generation projects and cable links will be necessary if they are to fulfil their proper potential. Linking would also ensure the resilience of Guernsey’s electricity supply. The Island’s own capacity to generate electricity to meet critical minimum levels should be maintained in case of energy supply problems. The concept of daisy chaining, its benefits and drawbacks will need to be investigated before any significant investment decisions are made for future generation by Guernsey Electricity. These deliberations will need to be informed by the States’ Energy Policy.
- 7.26.** Energy plants fuelled from residual waste on the Island would also fit in with the Energy Policy, and should be further pursued. Residual wastes represent an increasingly important fuel source. Using residual wastes as fuel can have important environmental benefits. They can provide safe and cost-effective disposal options for wastes that could otherwise present significant disposal

problems. It can help reduce CO<sub>2</sub> emissions, through displacement of fossil fuels. Methane, for example, is 23 times more damaging than CO<sub>2</sub> for global warming. If biodegradable waste is diverted from landfill, methane emissions can be avoided.

- 7.27. Any energy that is recovered from biological wastes can be regarded as renewable energy. It comes from plant material (either directly, or in the case of animal wastes, paper or card, indirectly). As plants grow, they absorb carbon dioxide from the atmosphere. When this biomass material is used as a fuel, the carbon dioxide is returned to the atmosphere in a "carbon neutral" cycle. If biomass is used to displace fossil fuels instead of being left to decompose naturally, it will actually help to limit the emission of carbon dioxide and methane into the air.

**8. Policies, related projects and initiatives that will ensure a diverse and robust energy supply, which is cost effective**

**8.1. Subordinate Policies:**

**A. To maintain energy costs at a level that supports economic growth.**

- i. Request the OUR to liaise with GEL to review the implications of favouring low-carbon power generation with a view to ensuring that as much low emission electricity is imported as is reasonable using the existing cable link, until local macro renewable electricity generation comes on stream.
- ii. Investigate as soon as possible the benefits / drawbacks of additional and/or 'daisy chain' cable links to the European Grid.
- iii. Maintain on-island electricity generation capability.
- iv. Support micro-generation of renewable electricity, via planning policy and building regulations.
- v. Request the OUR, in partnership with GEL, to research the level of buy back tariffs that would encourage small-scale renewable electricity generation and whether the charge for the installation of the export meter should be abolished and then to produce a joint report back to the Policy Council, via the Energy Policy Group, on how such tariffs and costs may be amended to reflect the States' Energy Policy.
- vi. Support the generation of energy from residual waste products, (which are deemed as 'renewable').
- vii. Encourage the production and consumption of local food products (including milk).

- viii. Investigate the possibility of exempting income derived from micro-generation from income tax.
- ix. Direct the Commerce and Employment Department to monitor the issue of “Peak Oil” and report to the States as necessary.

## 8.2. Subordinate Policies:

<b>Project/Initiative</b>	<b>Lead Department</b>
A. i) Request the OUR to liaise with GEL to review the implications of favouring low-carbon power generation with a view to ensuring that as much low emission electricity is imported as is reasonable using the existing cable link, until local macro renewable electricity generation comes on stream	Commerce & Employment Department
A. ii). Investigate as soon as possible the benefits/drawbacks of additional / daisy chain cable links.	Treasury & Resources Department
A. iii). Maintain on-island generation capability to meet critical minimum levels.	Commerce & Employment Department
A. iv). Support micro-generation – via planning policy and building regulations.	Environment Department
A. v). To request the OUR, in partnership with GEL, to research the level of buy back tariffs that would encourage small-scale renewable electricity generation and whether the charge for the installation of the export meter should be abolished and to produce a joint report back to the Policy Council on how such tariffs and costs may be amended to reflect the States’ Energy Policy.	Commerce & Employment Department
A. vi). Support the generation of energy from residual waste products, (which are deemed ‘renewable’).	Environment Department
A. vii). Encourage the local production and consumption of food products (including milk)	Commerce & Employment Department
A. viii). Investigate the possibility of exempting income derived from micro-generation from income tax	Treasury & Resources Department
A. ix). Monitor the issue of “Peak Oil” and report to the States as necessary.	Commerce & Employment Department

**Headline Policy 3 – Switch progressively to clean renewable energy sources to achieve a long-term reduction of Carbon Dioxide emissions of 80% by 2050.**

**9. Reasons to switch progressively to clean renewable energy sources to achieve a long-term reduction of carbon dioxide emissions of 80% on 1990 levels by 2050.**

*Global Issues:*

- 9.1** The Stern Review (2006) concludes that there is overwhelming scientific evidence that climate change is a serious global threat that demands an urgent global response. Having assessed evidence on the impacts of climate change and on the economic costs and risks, the report concludes that the benefits of strong and early action to address climate change far outweigh the economic costs of not acting. The costs of stabilising the climate are significant but manageable; delay would be dangerous and much more costly. Furthermore, the report states that action on climate change is required across all countries. It calls for strong, deliberate policy action in order to motivate the take-up of the range of options that exist to cut emissions (Stern Review, HM Treasury, 2006).
- 9.2** There is strong evidence that climate change is happening and that it is being accelerated by human activity. The world is getting warmer. Levels of Carbon Dioxide in the atmosphere, one of the main causes of climate change, have risen by more than a third since the industrial revolution and are now rising faster than ever before. This has led to rising temperatures; over the 20<sup>th</sup> Century the earth warmed by about 0.6°C and is forecast to rise between 1.4°C and 5.8°C this Century, largely due to increased greenhouse gas emissions from human activity. Globally, the present decade is the warmest decade since records began.
- 9.3** As referred to in the Stern Report, climate change is a global problem. It has to be tackled globally. Guernsey cannot solve this problem alone. The United Nations Framework Convention for Climate Change, and its Kyoto protocol, demonstrates that it is possible to reach global agreement on action, but far more needs to be done. Guernsey's own actions will have little impact on climate change unless they are part of a concerted international effort.
- 9.4** As previously mentioned, the UK and the EU have announced proposals to address climate change. It should be noted that at this stage, the UK Climate Change Bill is still going through Parliament (draft Climate Change Bill, (2007-8) HM Government). However, the European measures have been endorsed by the European Council. (Presidency Conclusions, European Council, 8/9 March 2007).

*Local Issues:*

- 9.5** The consequences of changes in global temperatures, rainfall patterns and sea level rise are all likely to impact significantly upon Guernsey. Mean annual air temperatures have been recorded on Guernsey since 1847. These figures show a rising trend over the last half a century. An average increase of 0.015°C per year has been measured, resulting in an overall increase of nearly 1°C over the whole period (see Appendix A – Figure 1). Mean sea water temperatures around Guernsey have also risen - temperatures recorded since 1980 show an average increase of approximately 1.7°C over the 27 year period (see Appendix A – Figure 2).
- 9.6** Data collected on the average spring flowering date of 21 of Guernsey's more common spring flowering species of plants show that flowering dates have become significantly earlier in the last twenty years. Of the 21 Spring flowering species, 19 have shown some evidence that they are flowering earlier, 7 of which are statistically significant. Overall, the mean flowering date of the 21 species has become significantly earlier, by almost exactly one day per year. The mean flowering date of the 21 species has become earlier by 21 days in the past 21 years (see Appendix A – Figure 3). This is likely to be almost entirely due to an increase in temperature.
- 9.7** As stated in the introduction, the Group believes that in the longer term the major energy source on Guernsey should be low emission electricity, phasing out the use of fossil fuels. There are obviously major implications for how energy is consumed, and for the island's infrastructure. In particular, the grid will need significant upgrading to cope with a major increase in demand. The Group envisages that this will be a long-term ongoing project, with major costs over the next two or three decades. How to manage the changeover to an all-electric society will be a major challenge for States Departments to address, and the entire island to deal with in years to come.
- 9.8** The Group accepts that such a policy, in the longer term, will lead to the redundancy of the local gas and fuel oil infrastructures. This obviously has major implications for the companies which currently provide these services. However, the Group accepts that in the short- to medium-term existing technologies and fossil fuel supplies have an important part to play in ensuring that Guernsey continues to have a reliable source of energy.

**10. Local opportunities for the macro-generation of electricity from renewable sources**

- 10.1.** The two most feasible initiatives for the macro-generation of electricity from renewable sources on Guernsey are wind (onshore/offshore) and tidal power.

*Wind Power:*

- 10.2.** Guernsey Electricity (GEL) has advised that onshore wind power generation would be the cheapest macro-generation option. However, GEL also advises

that with estimated tower heights of 60 metres, such proposals would be likely to face opposition from local residents from both a visual and noise perspective.

- 10.3. GEL advises that whilst offshore wind generation might be more acceptable than onshore, the costs would be roughly double that of onshore wind generation, and would be similar to the costs incurred in developing tidal power facilities.
- 10.4. Whilst wind would be the cheapest macro-generation option, meeting a target of 10% electricity from renewables through wind power would, according to Guernsey Electricity, require significant investment and development. A 10% contribution to Guernsey's consumption of electricity (for the year 2006/2007, this figure will be approximately 360,000MWh) amounts to about 36,000MWh.
- 10.5. GEL estimates that it would require an array of 14 wind turbines with tower heights of about 60 metres to generate enough electricity to achieve this 10% target. Assuming suitable onshore sites could be found (previous discussions with planning and parish authorities, and residents have suggested that onshore wind turbines would not be acceptable), the rough estimates of capital cost for such a project would be in the area of £8.5 million, and the production cost approximately £35/MWh, depending on precise capital costs, interest rates and amortisation period. GEL has said that this delivered energy cost is competitive with local oil generation or imports.
- 10.6. Furthermore, the States of Guernsey's Environmental Health Department advises that whilst the case for experimentation in producing power from tidal flows is well-founded and should not result in significant environmental pollution, the same cannot be said of onshore wind power. Environmental Health is particularly concerned that onshore wind power generation on Guernsey would create significant noise pollution. Huge numbers of domestic wind turbines would be required if they were to make any meaningful contribution to local generating capacity.

***Tidal Power:***

- 10.7. This Report has already stated that, whilst direct investment into a tidal energy scheme from States general revenues is not proposed at this time, it is vital that the necessary legislation is in place that will allow investment in such initiatives to take place.
- 10.8. GEL advises that tidal power has an aesthetic advantage over wind power generation – it can be virtually invisible, as well as being a predictable output from a source which is highly suitable to the island.
- 10.9. GEL estimates that by about 2012 it should be possible to construct a tidal farm using 1.5MW machines for about £2.5m per machine, with the more machines used the lower costs per unit. However, it adds that this figure can only be made more accurate by practical experience on pilot installations elsewhere, and that

this estimate assumes technology development, as pilots are much more expensive.

- 10.10.** GEL estimates that each 1.5MW machine would produce about 1.1% of Guernsey's electricity requirements, and that 5 turbine units generating 5.5% of the Island's requirements could be delivered for about £12.5m in 2007 money.

***Cost Comparisons:***

- 10.11.** Guernsey Electricity has compared the possible costs involved in creating an additional modern diesel plant on Guernsey, installing on- and off-shore wind-power, and constructing a tidal plant:

- 7.5MW of modern diesel plant, with exhaust cleaning, would have a capital cost of about £3.75m
- 7.5MW of onshore wind-power would have a capital cost of about £8.5m
- 7.5MW of offshore wind-power would have a capital cost of about £12.5m, depending on size
- 7.5MW of tidal generation would have a capital cost of about £12.5m\* – once production of the devices is established – depending on size
- GEL adds that the life-cycle costing for the diesel option depends on the cost of fuel, and that, given the global demand, it should be assumed that fuel costs will rise over time.

*\* It should be noted, however, that tidal generation technology is in its infancy and that these cost estimates must therefore be viewed with a considerable degree of caution.*

***Financing the additional cost of generation from renewable sources in Guernsey:***

- 10.12.** The Energy Policy Group has considered how the additional cost of electricity generation from renewable sources in Guernsey could be financed. Options have included the possible introduction of a carbon tax, or direct States subsidy.

- 10.13.** Under Headline Policy 2 – to ensure a diverse and robust energy supply, which is sufficient for Guernsey's needs – the Energy Policy Report ("EPR") recommended that:

- The Policy Council should identify the tools/mechanisms to offer as incentives for research and development of macro-renewable electricity generation, including any legislation, contracts and licences; and establish States' entitlement to exploit natural resources and investigate possible co-operation with other islands for jointly developing a larger

renewable energy project. Additionally, they should appraise the feasibility of generating electricity from on- and off-island wind power turbines.

- Direct the OUR to liaise with GEL to review the implications of favouring low-carbon power generation, with a view to ensuring that as much low emission electricity is imported as is reasonable using the existing cable link, until local macro renewable electricity generation comes on stream.

**10.14** In addition to these proposed projects, the EPG in its original report (which formed the basis of the Policy Council’s “Green Paper”) also identified a number of initiatives relating to Headline Policy 3. These further initiatives included a recommendation for the Policy Council to liaise with the Treasury and Resources, Commerce and Employment and Environment Departments and the OUR to request GE to bring forward a research proposal which is costed and explains from where the funding will come, in order to research the macro-renewable power generation options for Guernsey.

**10.15** In its response to these macro-renewable energy proposals set out in the EPR “Green Paper”, GE put forward three separate recommendations, namely:

- That the Policy Council be directed to request GE to bring forward appropriate plans for the construction of a commercial scale plant(s) (total annual output of at least 25,000MWh) no later than 31<sup>st</sup> December 2010; and
- That the Policy Council be directed to appraise the plans, including consideration of the financing arrangements, with appropriate resolutions laid before the States no later than 31<sup>st</sup> December 2010; and
- That the Treasury and Resources Department be directed to request GE to enter discussions with European suppliers to import at least 12,500 MWh of electricity from renewable sources each year from 2009 with the Commerce and Employment Department directing the OUR to allow reasonable additional costs to be recovered from all electricity customers.

**10.16** However, a number of responses to the consultation on the EPR from individuals identified an alternative mechanism of exploiting Guernsey’s natural resources. This approach focused on the need to attract inward private sector investment into macro-renewable projects within Guernsey. In order to facilitate the successful implementation of this approach, it was suggested that the States establish a framework to entice, encourage and enable private business to deploy commercial scale operations in Guernsey’s territorial waters. The Alderney Commission for Renewable Energy (ACRE) was a specific model that was highlighted as a possible alternative model that might be suitable for Guernsey.

- 10.17** The ACRE was established in 2005 and until November 2007 it was lodged in the Alderney States' offices before moving into its own offices in St Anne's. It comprises three Commission members who have provided their time free of charge and its main expenditure has been the salary of a part-time secretary shared with other departments and also travel costs for visits to trade conferences. ACRE is currently funded by the States of Alderney, but the expectation is that as further licences are awarded the Commission will become self-funded.
- 10.18** ACRE awarded a five-year contract in December 2005 with a private company, Alderney Renewable Energy (ARE), which gave the company exclusive access to carry out tests and measurements in Alderney's territorial waters. The contract enables ARE to deploy test turbines (subject to ACRE consents and approval) and if it satisfies the targets set out in its contract it will be granted a Master Power Generating Licence giving it exclusive access to 50% of Alderney's territorial waters for a minimum of 50 years. The Commission will then be able to attract other developers to use the remaining waters which will be open for competition.
- 10.19** The Group notes ACRE's achievements in recent years and believes that the introduction of such a model in Guernsey has a number of significant attractions.

#### **Diversification of risk & access to wider range of skills and experience**

- 10.20** The Group, whilst welcoming and encouraging the development of tidal and wind power technologies, does recognise that investment in macro-renewable technology is at the current time a relatively risky option. An AEA Report in June 2006 commented that *"There is a wide range of ocean and wave and tidal stream devices being researched, showing that R&D is far from producing optimum design solutions. As yet, the level of understanding gained through demonstration is not sufficiently developed to identify which schemes will perform in the harsh marine environment as predicted and prove the most cost effective."*<sup>1</sup>
- 10.21** Clearly there have been advances since June 2006 and, for example, the Group is aware that Marine Current Turbines (MCT)<sup>2</sup> has recently announced that it has joined with npower renewables to help deliver a commercial-scale tidal stream project, off the coast of Anglesey, north Wales. This initiative is planned to be capable of generating 10.5 MW of power drawn from the sea's tidal currents. npower renewables and MCT will take forward the project through a newly created development company, SeaGen Wales. Subject to successful planning consent and financing, the tidal farm could be commissioned as early as 2011 or 2012. The Group notes MCT's views that:

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<sup>1</sup> "Review and Analysis of Ocean Energy Systems, Developments and Supporting Policies" AEA Energy & Environment June 2006.

<sup>2</sup> GE has a £250,000 investment in MCT.

- the development represents a significant step in commercialising the technology not only to deliver the country’s carbon reduction targets, but also opens up new opportunities for its SeaGen technology to be deployed in other parts of the world; and
- npower renewables’ extensive experience in developing offshore renewable projects in the UK and Europe will be hugely valuable in taking forward the Anglesey project<sup>3</sup>.

**10.22** Similarly in January 2007 Nova Scotia Power awarded a contract to OpenHydro to establish a tidal energy demonstration project in the Bay of Fundy, Canada, which, when completed, will be the largest in-stream tidal generating unit integrated into an electricity grid in the world. Following the successful completion of this installation, Nova Scotia Power plans to develop large utility scale tidal farms in the Bay of Fundy. The Group notes that OpenHydro was selected by Nova Scotia Power following a global procurement process that considered over 20 technology suppliers world-wide and that James Taylor, Nova Scotia Power's General Manager of Environmental Planning and Monitoring, believes that “By selecting OpenHydro, Nova Scotia Power has chosen a company which has been most successful in demonstrating their design in ever increasing sizes. They offer a simple and environmentally friendly unit which we believe will allow our demonstration project to be successful.”<sup>4</sup>

**10.23** The Group believes that developments such as these demonstrate growing confidence in the technologies but it remains conscious that relying solely on GE using MCT’s technological design may leave Guernsey too reliant on one technology. On the other hand by attracting inward investment and a number of interested parties Guernsey may attract a wider portfolio of technologies and so diversify the technological risk and avoid placing “all of Guernsey’s eggs in one basket”.

**10.24** The Group believes therefore the States should commence work on facilitating and promoting market deployment by developers in Guernsey’s territorial waters. The Group believes that an open approach to investment, which at the same time does not exclude GEL from the opportunity to invest in macro-renewables projects, will allow Guernsey greater access to a wider range of skills and experience in renewable technologies whilst simultaneously diversifying the risk associated with macro-renewables.

### **Funding**

**10.25** Whilst the GEL proposals show the company is willing to invest in macro-renewable project(s) the source of funding for that investment is uncertain. GEL has indicated that the 25,000 MWh project in its proposals would have a total

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<sup>3</sup> [http://www.marineturbines.com/mct\\_text\\_files/080207\\_Skerries.pdf](http://www.marineturbines.com/mct_text_files/080207_Skerries.pdf)

<sup>4</sup> <http://www.openhydro.com/news/OpenHydroPR-150107.pdf>

investment cost of at least £20m. There appear to be five main options available:

- The company has substantial cash reserves on its balance sheet, but these reserves have been accumulated under the Save to Spend policy to fund future already identified capital expenditure projects.
- The Treasury and Resources Department, as shareholder, could forego its dividends for a period of time to fund any macro-renewable project(s). However, it is uncertain whether the dividends foregone would be sufficient to fund the necessary investment.
- GEL could increase electricity tariffs through a premium to fund the investment i.e. introduce a Save to Spend Fund for macro-renewable electricity generation. GEL has not provided any indication of the magnitude of any premium that might be necessary to achieve this objective. However, it is possible that in order to Save to Spend, GEL would need to charge a premium for a number of years in order to accumulate sufficient reserves to fund an investment programme.
- Another option might be for GEL to borrow from the private sector the necessary amount to fund the investment. Clearly the principal and the interest would need to be repaid, presumably by electricity customers.
- The final possible source of funding would be for the States to provide GEL with the necessary financial resources. The Group recognises that with the introduction of Zero Ten the competition for funding for infrastructure projects will become more intense in the coming years.

**10.26** The Group recognises that private sector investment in macro-renewables overcomes many of the issues faced by raising the required investment. As a relevant comparison, the Group notes with interest recent developments in Bhutan where India's proposed agreement for a 1,095 MW hydropower project and a 400 kV double-circuit transmission network to bring electricity to the Indo-Bhutan border has received formal approval. This project has been costed at US\$875 million comprising a grant of 40% of the total cost from India and the remainder as a loan at an interest rate of 10% per annum, payable in 12 equal annual instalments commencing a year after the date of commercial operation.

**10.27** The Group considers there are clear similarities regarding renewable resources between Bhutan's capacity for hydropower and Guernsey's tidal natural resources. Given its abundance of snow-capped mountains and vast network of rivers and streams, Bhutan currently produces only 1.5 percent, or 428 megawatts (MW), of its assessed potential. Guernsey currently generates zero MW of its potential tidal power. Projections for power needs in neighbouring Asian countries (i.e. potential buyers of Bhutan's surplus renewable electricity are likely to exceed Bhutan's potential). Forecasters estimate that, by 2020, Bhutan will be exploiting just 8 percent of its capacity, which, if exported,

translates into \$400 million to \$500 million a year for the country. The Group believes that if developers can meet Guernsey's demand using renewables and export to European markets then the States may be able to benefit financially through the use of licensed operators in Guernsey's territorial waters.

**10.28** Given the above, the EPG now recommends that the States should direct the Commerce & Employment Department to establish a Guernsey Renewable Energy Commission, responsible for promoting and licensing macro-renewable energy projects within Guernsey. Draft terms of reference for such a Commission are included at Appendix G of this report.

## **11. A carbon or energy tax.**

**11.1.** The Group believes that a local carbon or energy tax should be properly investigated by the Treasury and Resources Department. Although some consumption and products which are polluting are already taxed, such as motor fuel, that tends to be to generate revenue and is not necessarily directly connected to the fact that they are polluting or to how polluting they are. Carbon emissions are not taxed directly. There is therefore little or no direct financial incentive to reduce emissions. **Sir Nicholas Stern called this the greatest failure of the market mechanism there has ever been.** More and more countries are moving towards to levying carbon taxes and set out below are reasons for their introduction and how they might work.

**11.2.** A carbon or energy tax would be a type of environmental tax. They are fiscal mechanisms which are introduced and applied with the aim of reducing actions which are damaging to the environment. They work in two main ways. Firstly, they increase the cost of doing something so that it becomes less attractive to do and thus demand for it reduces. They can also cause a switch to a different, less damaging behaviour. Secondly, they can work through the way that the money collected is spent. The monies raised can be used to offset the effect of the damaging action which is being taxed. This can be refined to create a virtuous circle. The tax raises revenue which is put into an environmental fund. That fund is used to create alternatives and to educate people to change their behaviour. That education should then lead to a reduction in use or a switch to less damaging alternatives, which should also be the result of having put a price on the use of the damaging behaviour.

**11.3.** A carbon tax would be levied on any fuel source which emitted carbon when used. It would be sensible to levy the duty in proportion to the amount of carbon emitted so that lower carbon products had an advantage over higher ones. That should provide an incentive to move towards ever lower carbon products. It would also encourage energy saving and efficiencies.

**11.4.** It could have an immediate and beneficial impact on Guernsey's carbon emissions. As local electricity is generated by burning fossil fuels, it would be subject to the new tax. However, imported electricity would be subject to a lower rate or be exempt because it causes far fewer emissions and the EU

emissions levy has already been applied. Therefore, the calculations as to whether or not to import electricity would be altered significantly in favour of importation for much of the time. Local electricity generation, and with it local carbon emissions, would thus fall substantially.

- 11.5.** If the European Emissions Trading Scheme (ETS) is used as a model then the rate could be relatively low. The ETS prices carbon at about £17 or £18 per tonne. That translates to 5 pence per litre of oil (depending on the type of oil). In light of recent increases in fossil fuel prices, that would be a modest extra increase. However, the Group also thinks that there could be merit in phasing in such a tax, with the future levels publicised well in advance. For example, it could start at 1 penny per litre and be increased by 1 penny each year over a number of years until it reached the then European or some other international standard. That would enable consumers to make informed choices about their consumption and the replacement of energy consuming items knowing what the tax would be in future.
- 11.6.** The Group believes that it would be sensible to create the virtuous circle described above in Guernsey. Therefore, it does not believe that the proceeds of a carbon or energy tax should go into General Revenue. It would prefer it to go into a special fund which was used to pay for specific energy saving measures and related projects only. This is also relevant at present when individuals have borne some of the effects of the introduction of Zero-10. A carbon tax would be somewhat regressive, i.e. hit the poorest sectors of the community hardest, as they spend the largest proportion of their income on energy and are least able to afford to take measures to prevent that, such as improving their accommodation or buying new, low energy products. Therefore, there would be merit in using some of the money raised to provide assistance in the form of benefits or grants on a means-tested basis to alleviate that. Home improvements would also help with Guernsey's overall efficiency. Therefore, although the cost per unit of energy would have increased, the overall bill would be less because there would be a reduced requirement to use energy.
- 11.7.** In addition, it could be used to fund relevant initiatives such as the Guernsey Renewable Energy Commission and the Energy Advice Centre proposed elsewhere in this report. Their purpose is also to reduce carbon emissions and, if successful, they should lead, in the long-term, to a reduction in energy bills which means that the effect of the tax would be mitigated. **Like taxes on tobacco, this is a levy which would have achieved its purpose completely if it raised no money at all.**
- 11.8.** While the Group points out above some of the principal merits of a carbon (or energy) tax, it recognises that there may be other ways to raise funds for the necessary carbon reduction initiatives (e.g. limiting any energy tax to one or more sectors such as road transport fuel). The Group therefore strongly recommends that the Treasury and Resources Department, in close liaison with the Policy Council, should fully research the various "carbon/energy tax"

options with a view to bringing forward a report to the States on the most appropriate solution(s) for Guernsey.

**12. Reducing Guernsey's carbon footprint: the rôle of carbon offsetting.**

*Global Requirements:*

- 12.1.** The United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol are the starting point for international efforts to cut emissions. The UNFCCC aims to prevent dangerous man-made climate change and commits developed countries to taking the lead in tackling climate change. The Kyoto Protocol set legally binding targets for them to reduce Greenhouse Gas emissions by around 12.5% on 1990 levels, in the period 2008-12.
- 12.2.** To help meet reduced emissions targets, countries can use international emissions trading or receive credits for reductions achieved by supporting projects in other countries. The development of emissions trading in the next few years will primarily be dependent on developments at EU level. There are draft legislative proposals to broaden and strengthen the Emissions Trading Scheme (ETS). Currently, the (ETS) sets each participant a cap or target level of emissions. Each participant then receives tradeable allowances equal to its cap. To comply with the scheme, each participant must hold allowances at least equal to its emissions. Participants therefore have three choices:
1. To meet their cap by reducing their emissions;
  2. To reduce emissions below their cap and sell or bank the excess allowances; or
  3. Let their emissions remain above their cap and buy allowances from other participants.
- 12.3.** The best strategy for each participant depends upon the price of allowances in the market compared to the costs of reducing their own emissions. In this way, emission reductions from participating parties will be achieved at minimum cost across the European Union.
- 12.4.** In the European Council Action Plan (2007-2009) Energy Policy for Europe (EPE), the Council underlined the central role that emissions trading must play in the EU's long-term goals to reduce GHG emissions, and stressed the importance of the review by the Commission of the EU ETS in delivering an improved EU ETS.
- 12.5.** Carbon offsetting is an activity that compensates for all or part of the carbon dioxide emissions of a party, by reducing the emissions – or increasing the carbon dioxide absorption – of another party. This reduces net greenhouse gas emissions with the goal of combating global warming. Carbon offsets may be purchased from a variety of commercial and non-profit organisations. The rates currently tend to be between £2 and £15 per metric tonne of CO<sub>2</sub>.

- 12.6.** The most common form of offset is reforestation schemes. The offset merit of trees lies in their capacity to absorb carbon dioxide (sequester carbon) by using photosynthesis to combine water with carbon dioxide from the atmosphere, thereby forming wood and releasing oxygen. Thus, forests that are increasing in area or density are carbon sinks, and mature forests are carbon stores. In principle, the potential is very large. In its 2001 assessment, the Intergovernmental Panel on Climate Change (IPCC) estimated the potential of biological mitigation options (mainly forests) in the order of 100 Gt Carbon by 2050, equivalent to about 10% – 20% of projected fossil fuel emissions during that period.
- 12.7.** A wide variety of reforestation schemes is certified under the Clean Development Mechanism/ Joint Implementation schemes of the Kyoto protocol and can be used to claim carbon credits, in the form of allowances purchased from carbon emission trading schemes such as EU ETS. Such schemes can include re-creating natural forests (reforestation or avoided deforestation), but more commonly involves tree farming on plantations for logging or other commercial purposes complementing the profit from selling offsets. Forestation schemes often produce higher carbon sequestration rates as they generally include growing trees where there have previously been none, for example on agricultural lands where the baseline of existing carbon is comparatively low.
- 12.8.** As a result of the decision to develop a common European energy policy, the first proposals ‘Energy for a Changing World’ have been published by the European Commission, following a consultation process that took place in January 2007. It is claimed that these proposals will lead to a ‘post-industrial revolution’, or low-carbon economy, in the European Union, as well as increased competition in the energy markets, improved security of supply, and improved employment prospects. The Energy Policy proposals have been adopted by the European Commission, and the Action Plan for the Energy Policy for Europe has been endorsed by the European Council.

***Local Requirements:***

- 12.9.** Guernsey is a signatory to the United Nations Framework Convention on Climate Change and has been included in the UK ratification of the Kyoto Protocol. In doing so, the States of Guernsey agreed to reduce CO<sub>2</sub> emissions by 12.5% on 1990 levels, by 2012. Guernsey is not independently bound to these emission reductions, rather its emissions inventory is added to that of the UK’s. When the cable link to France was established in 2000 the Greenhouse Gas emissions from electricity produced on Guernsey initially fell dramatically (see Appendix B). However, since then emissions from that source have increased because they are dependant on how much electricity is imported and how much is generated on-island from heavy fuel oil – a decision which to date has largely been taken purely on commercial grounds.

- 12.10.** Despite the fact that neither the States of Guernsey nor Guernsey-registered businesses have actually been set emission caps, there are Guernsey-registered businesses exploring investment opportunities under the EU Emissions Trading Scheme. In response to this interest, the States of Guernsey have agreed that the UK Government can act as Designated National Authority, allowing Guernsey-registered businesses entry into the EU Emissions Trading Scheme. It is important to keep up to date with carbon trading initiatives so that Guernsey businesses are able to capitalise on these emerging markets. Emissions trading is seen as an important international initiative in regulating national and international carbon emissions, and therefore taking action to mitigate the effects of global climate change.
- 12.11.** Guernsey's greenhouse gas inventory (see Appendix B) clearly shows how the Island's necessary reliance on international modes of transport, such as shipping and air travel, produces large carbon deficits. Whilst reducing the need for such modes of transport may be unrealistic, it may be possible to offset the carbon emissions they create through international reforestation schemes, or other offset initiatives.

***Local Proposals:***

- 12.12.** The Group considers that research on the various forms of carbon offsetting is necessary in order to address the Island's levels of carbon emissions, particularly from road, air and sea transport. The Energy Policy Group acknowledges that this Report does not bring forward proposals to tackle energy use by the aviation or shipping industries in isolation. National governments have accepted that these measures should be examined with the international community, or at least at European level. Furthermore, in terms of emissions from road transport, the States have already agreed upon a Road Transport Strategy, in order to address this issue. This report adds renewed impetus to the implementation of this strategy, in addition to recommending several important additional work streams.
- 12.13.** The Energy Policy Group does not support carbon offsetting as a long-term solution to Guernsey's carbon emissions as it simply transfers the problem elsewhere and does not deal with the consumption of fossil fuels themselves. It gives a false sense of achievement. As a finite resource the consumption of fossil fuels in the very long-term will not be possible.
- 12.14.** However, the Group considers that further investigation should be pursued in regard to funding reforestation schemes abroad and/or other offset initiatives, in order to offset the Island's carbon footprint. Using figures from the Stern Report, the Group has produced a rough calculation that sets the cost of rendering the Island 'carbon neutral' through reforestation abroad at about £0.5m per year. Such a sum could be raised by the introduction of relevant green taxes. Carbon offsetting would be combined with other, pragmatic, on-island programmes, such as improved energy efficiency, reducing wastage, etc.

Other viable schemes, which could receive funding through sums raised from green taxes locally, include insulation, micro-renewable generation and energy efficiency grants. It is essential that any offsetting schemes which Guernsey supports are fully monitored to ensure that they meet their declared targets.

**12.15.** In addition to looking at national and international initiatives at central government level, the Group considers that there is much to learn from practical initiatives at local government level, from authorities which are 'leading the field,' including other island communities around the world.

**13. Policies, related projects and initiatives that will help to switch progressively to clean renewable energy sources, reducing Carbon Dioxide emissions and thus reducing Guernsey's carbon footprint.**

**13.1. Subordinate Policies:**

**A. Reduce Guernsey's carbon footprint**

- i.** Support micro generation of renewable energy through relevant planning policy and building regulations.
- ii.** Further develop public transport, and encourage zero/low emission transport options.
- iii.** Monitor the development and impact of developmental policies in the UK and Europe, including, for example, the UK Energy Efficiency Ordinance.
- iv.** In addition to looking at national/international initiatives at central government level, research practical initiatives at local government level; and examine approaches to Energy Policy adopted by other island communities worldwide.
- v.** Investigate financial incentives such as carbon trading, and other clean energy projects, that will promote renewable energy and efficiency.
- vi.** Research the possibility of investing in viable reforestation projects abroad or other offset options, including funding mechanisms, which will allow Guernsey to offset carbon emissions.
- vii.** Create a Guernsey Renewable Energy Commission to progress the creation of local macro renewable electricity generation.
- viii.** Investigate the possibility of introducing a local carbon or energy tax the revenue from which could be used to fund inter-alia an Energy Advice Centre and the Guernsey Renewable Energy

Commission.

- ix.** In the long-term, make Guernsey carbon emissions free by moving towards having electricity as virtually the only power source.

**13.2. Related Projects/Initiatives:**

<b>Project/Initiative</b>	<b>Lead Department</b>
<b>A. i)</b> Support micro-generation of renewable energy – Photovoltaics or geothermic/ heat pumps, small wind turbines, etc., (including planning controls and building regulations).	Environment Department
<b>A. ii).</b> Support further development of public transport, and encourage zero/low emission transport options.	Environment Department
<b>A. iii).</b> Monitor the development and impact of developmental policies in the UK and Europe, including, for example, the UK Energy Efficiency Ordinance	Policy Council
<b>A. iv).</b> In addition to looking at national/international initiatives at central government level, research practical initiatives at local government level; also, examine approaches to Energy Policy adopted by other island communities, world wide.	Environment Department
<b>A. v).</b> Identify mechanisms including financial incentives such as carbon trading and other clean energy that promote renewable energy and efficiency	Environment Department
<b>A. vi).</b> Investigate viable options (including international forestation) which would enable Guernsey to offset carbon emissions	Environment Department
<b>A. vii).</b> Create a Guernsey Renewable Energy Commission to progress the creation of local macro renewable electricity generation.	Commerce & Employment
<b>A. viii).</b> Investigate the possibility of introducing a local carbon or energy tax the revenue from which could be used to fund an Energy Advice Centre and the Guernsey Renewable Energy Commission.	Treasury & Resources/ Policy Council
<b>A. ix).</b> In the long-term, make Guernsey carbon emissions free by moving towards having electricity as virtually the only power source	Policy Council

***Reviewing the Energy Policy:***

- 13.3. The Group considers that there should be a formal review of the States' Energy Policy in five years' time, with annual monitoring of key performance indicators being reported within the annual Government Business Plan.

***Finance:***

- 13.4. Given the current financial position of the States of Guernsey, it should be acknowledged that the development and implementation of the Energy Policy will place significant additional demands on several departments, **in particular the Environment Department.**
- 13.5. The Treasury and Resources Department and the States should be aware, therefore, that additional resources will be necessary in order to progress the work. Some of this additional cost should be balanced by reduced energy consumption across the States' estate. This is an area where the States may well need to adopt a "spend to save" policy.

***Government Business Plan:***

- 13.6. In July 2007, the States debated Guernsey's first Government Business Plan (GBP). The GBP identifies the States' Priorities for action during the remainder of this States term, and the action plans to be pursued in each case.
- 13.7. Principally, this Energy Policy supports the objective of Service Priority 10 – 'Meet energy needs more efficiently and sustainably' – which has as its Level 1 objective, the aim to adopt policies which ensure a diverse and robust supply of energy sufficient for Guernsey's needs while also improving energy efficiency both to minimise the need to import energy and to reduce the island's carbon footprint.
- 13.8. In addition, the Government Business Plan objectives supported by this Energy Policy include –

**Fundamental Priorities:**

2. – Plan for sustainable economic growth.
3. – Contain public finances and maintain economic growth.

**Service Priorities:**

11. – Investigate the impact of climate change.
15. – Protect and Enhance the Environment, Biodiversity and the Countryside

**13.9.** At their July 2007 meeting, the States approved GBP Priority 10 ('Meet energy needs more efficiently and sustainably'), and Priority 11 ('Investigate the impact of climate change').

**13.10.** The States also agreed to investigate the development of a new priority action plan cascade, Priority 15, 'to Protect and Enhance the Environment, Biodiversity and the Countryside'.

#### **14. Conclusions**

**14.1.** The three headline policies of this Energy Policy and the key goals they represent are interlinked. Performance in any one area will help performance in the others - performance in all three areas is essential to the overall success of the Energy Policy. All three of these policy goals can be achieved together. As far as possible the States will ensure that the market framework and policy instruments reinforce each other to achieve the goals this policy sets out. Energy efficiency is likely to be the cheapest and most pragmatic way of addressing all three objectives. Renewable energy will also play an important part in reducing carbon emissions, while also strengthening energy security and improving our industrial competitiveness as we make use of cleaner technologies, products and processes. It also offers the possibility of income generation.

**14.2.** There will from time to time be tensions between different objectives. For example, extremely high energy prices would undoubtedly promote energy efficiency and thereby help to reduce carbon emissions. But they would also have a negative effect on people on low incomes and on business. There is no simple mechanism for determining the relative 'weights' of differing objectives. However, the following considerations will help guide the policy making process:

- Significant and damaging climate change is an environmental issue that must be addressed. Guernsey is committed to its obligations set out in the Kyoto Protocol and needs to maintain emissions reductions over the forthcoming years.
- Reliable energy supplies are fundamental to Guernsey's economy as a whole and to sustainable development. An adequate level of energy security must be satisfied at all times in both the short and longer term.
- Liberalised and competitive markets will continue to be a cornerstone of energy policy. Where the market alone cannot create the right signals (for example on the environment) steps that encourage business to innovate and develop new opportunities to deliver the outcomes needed must be taken.

- These energy-related policies will have different impacts on the different sectors of society. Specific measures will be needed for particular groups of people (for example, to support those for whom energy bills form a disproportionate burden).

## **15. Recommendations:**

The Policy Council is asked to endorse this report and to recommend the States to:-

1. Endorse the States' Energy Policy, including the Energy Hierarchy as set out in paragraphs 2.19 to 2.24;
2. Agree the three Headline Policies set out in paragraph 1.3, and the work streams which underpin them, as set out in paragraphs 5.2, 8.2 and 13.2;
3. Agree in principle (subject to further research as set out) the targets for reductions in carbon dioxide emissions, and the generation of electricity from local renewable sources, as set out in paragraph 2.18 of this report;
4. Direct the Policy Council and the Lead Departments (as identified in this report) to progress the various work streams and to agree appropriate timeframes;
5. Note that the allocation of adequate resources is essential to the successful implementation and operation of the Energy Policy, and direct the Treasury and Resources Department to be mindful of this when considering resource requests from Departments, particularly the Environment Department, involved in the implementation of the Energy Policy;
6. Agree that progress in the various work streams will form part of the monitoring of the annual Government Business Plan (Priority 10 - Meet Energy needs more efficiently and sustainably); and
7. Focus their interests in renewable energy on:-
  - (a) preparing the necessary legislation which will enable Guernsey to take advantage of tidal power opportunities as and when they arise;
  - (b) closely monitoring tidal power technologies and opportunities;
  - (c) encouraging, promoting and facilitating tidal power opportunities; and
  - (d) directing the Commerce and Employment Department to establish a Guernsey Renewable Energy Commission responsible

for promoting and licensing macro-renewable energy projects within Guernsey; and

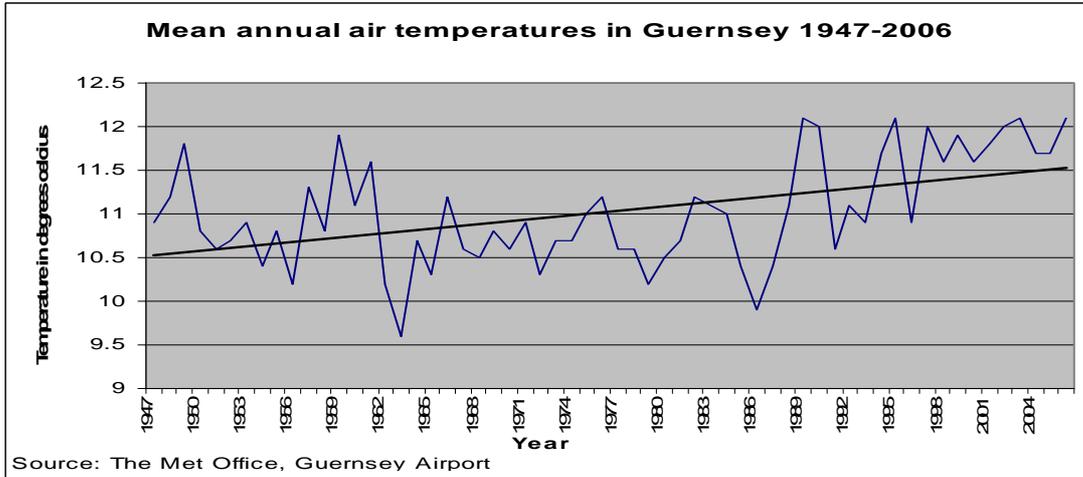
8. Direct the Commerce and Employment Department to monitor the issue of “Peak Oil” and report to the States as necessary.

Deputy B Flouquet  
Chairman  
Energy Policy Group

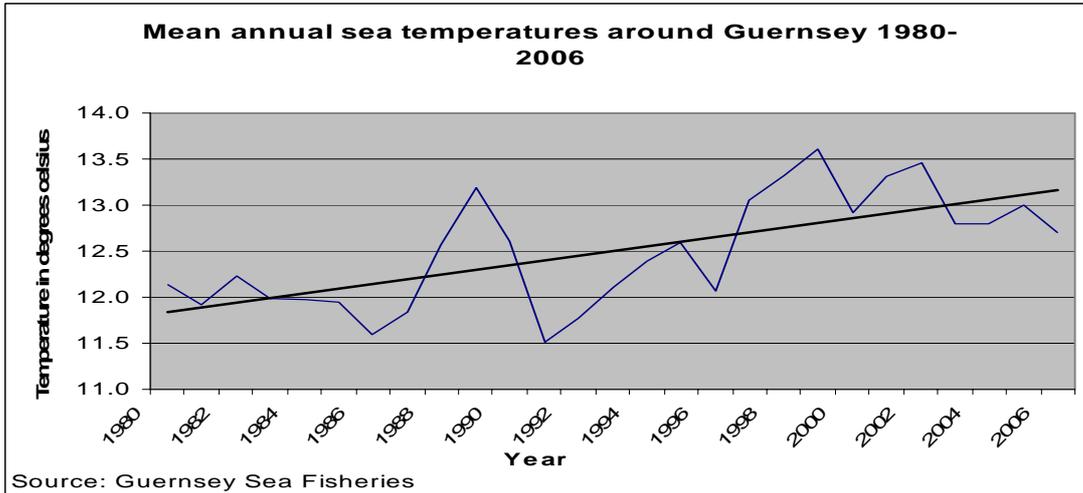
28<sup>th</sup> March 2008

**Appendix A: Climate Change Indicators**

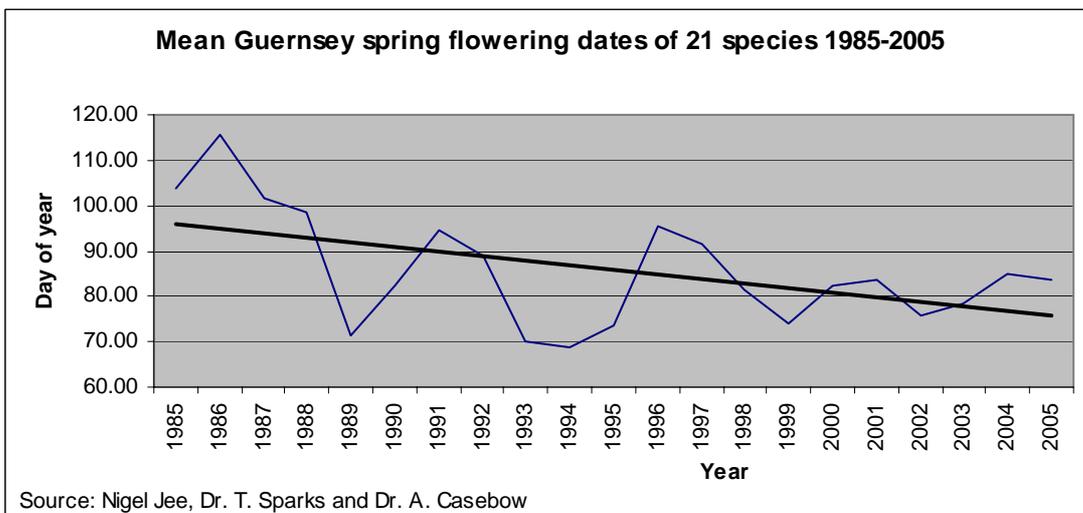
**Figure 1:**



**Figure 2:**



**Figure 3:**



**Appendix B:****Extracts from Guernsey's Greenhouse Gas Emissions Inventory****Table 1: Emission of Greenhouse Gases by Sector 2004 (ktonnes)**

<b>Main Greenhouse Gases (ktonnes)</b>				
<b>Source</b>	<b>Carbon</b>	<b>Methane</b>	<b>Nitrous Oxide</b>	<b>Total</b>
	<b>C</b>	<b>CH4</b>	<b>N20</b>	<b>(3 Gases)</b>
Energy - Stationary Combustion ( <i>e.g. power station</i> )	40.00	0.01	0	40.01
Energy- Road Transport ( <i>vehicle emissions</i> )	25.00	0.01	0.02	25.03
Industrial/domestic machinery	13.00	0	0.02	13.02
Shipping	26.00	0.01	0.01	26.02
Aviation	22.00	0.02	0	22.02
Industrial processes	0	0	0	0
Solvent Use	0	0	0	0
Agriculture	0	0.40	0.01	0.41
Land use change and forestry	0	0	0	0
Waste	0	1.00	0	1.00
<b>Total</b>	<b>126.00</b>	<b>1.45</b>	<b>0.06</b>	<b>127.51</b>

**Table 2: Emission of Greenhouse Gases by Sector 2006 (ktonnes)**

<b>Main Greenhouse Gases (ktonnes)</b>				
<b>Source</b>	<b>Carbon</b>	<b>Methane</b>	<b>Nitrous Oxide</b>	<b>Total</b>
	<b>C</b>	<b>CH4</b>	<b>N20</b>	<b>(3 Gases)</b>
Energy - Stationary Combustion ( <i>e.g. power station</i> )	54.00	0.01	0	54.01
Energy - Road Transport ( <i>vehicle emissions</i> )	30.00	0.01	0.02	30.03
Industrial/domestic machinery	13.00	0	0.02	13.02
Shipping	25.00	0.01	0.01	25.02
Aviation	20.00	0.02	0	20.02
Industrial processes	0	0	0	0
Solvent Use	0	0	0	0
Agriculture	0	0.40	0.01	0.41
Land use change and forestry	0	0	0	0
Waste	0	1.00	0	1.00
<b>Total</b>	<b>142.00</b>	<b>1.45</b>	<b>0.06</b>	<b>143.51</b>

Source – Tables 1 and 2: AEA  
Energy and Environment

**F-Gases**

**The data for analysis of the F-Gases contribution to emissions is not available by sector. Analysis of the total of ktonnes of carbon equivalent indicates a reduction in HFC and SF6. Overall totals of F-Gases have decreased from the 2004 figure of 2.29 ktonnes to 2.26 in 2006.**

Please note that the Green House Gas emissions data are derived as part of the UK National Atmospheric Emissions Inventory and are estimates. Total emissions are calculated based on the total supply of fossil fuels in a country - the "reference approach." These data correspond to International Panel on Climate Change (IPCC) Source/Sink Category 1. The reference approach uses data on a country's total energy supply and includes refining, flaring, and other "fugitive emissions" that do not result directly from end-use fossil fuel combustion.

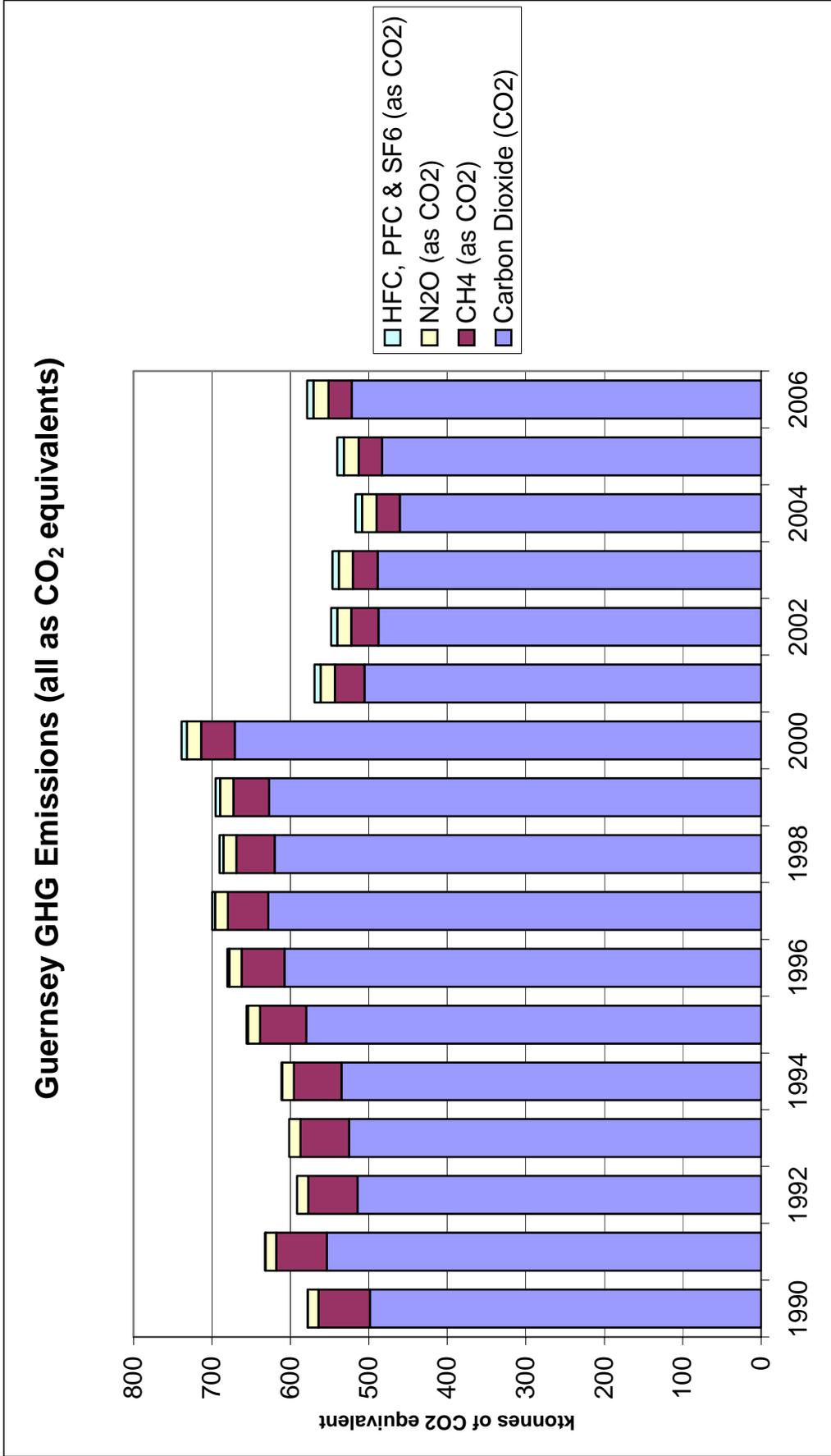
EMEP/CORINAIR Atmospheric Emission Inventory - **Kyoto Protocol Greenhouse Gas Emissions Inventory**

**Table 3**  
**AL POLLUTANTS (ktonnes of CO2 equivalent)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Carbon Dioxide (CO <sub>2</sub> )	499	554	514	525	535	580	607	628	620	627	67	506	488	489	461	483	522
CH <sub>4</sub> (as CO <sub>2</sub> )	65	65	63	62	61	59	55	51	49	45	43	38	35	31	30	30	30
N <sub>2</sub> O (as CO <sub>2</sub> )	14	14	14	14	15	15	15	16	16	17	18	18	18	18	18	19	19
HFC, PFC & SF <sub>6</sub> (as CO <sub>2</sub> )	0	0	0	0	1	2	3	4	5	6	7	8	8	8	8	9	8
<b>TOTAL (as CO<sub>2</sub>)</b>	<b>578</b>	<b>632</b>	<b>591</b>	<b>602</b>	<b>611</b>	<b>656</b>	<b>680</b>	<b>700</b>	<b>690</b>	<b>695</b>	<b>739</b>	<b>569</b>	<b>548</b>	<b>546</b>	<b>517</b>	<b>540</b>	<b>579</b>
<b>TOTAL (as Carbon)</b>	<b>158</b>	<b>172</b>	<b>161</b>	<b>164</b>	<b>167</b>	<b>179</b>	<b>186</b>	<b>191</b>	<b>188</b>	<b>190</b>	<b>201</b>	<b>155</b>	<b>149</b>	<b>149</b>	<b>141</b>	<b>147</b>	<b>158</b>

**Source: AEA Environment and Energy**

Figure 4



Source: AEA Environment and Energy

## Global Warming Potential (GWP)

Global warming potentials (GWPs) are used to compare the abilities of different greenhouse gases to trap heat in the atmosphere. GWPs are based on the radiative efficiency (heat-absorbing ability) of each gas relative to that of carbon dioxide (CO<sub>2</sub>), as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO<sub>2</sub>.

The GWP provides a construct for converting emissions of various gases into a common measure, which allows climate analysts to aggregate the radiative impacts of various greenhouse gases into a uniform measure denominated in carbon or carbon dioxide equivalents.

The generally accepted authority on GWPs is the Intergovernmental Panel on Climate Change (IPCC). In 2001, the IPCC updated its estimates of GWPs for key greenhouse gases.

Table 4 shows GWP defined on a 100-year horizon (IPCC, 1996). A range of GWP values is shown for HFCs and PFCs because these refer to a number of species, each with its own GWP. By weighting the emission of a gas with its GWP it is possible to estimate the total contribution to global warming of greenhouse gas emissions.

**Table 4 GWP of Greenhouse Gases on a 100-year Horizon (t CO<sub>2</sub> equiv/ t gas)**

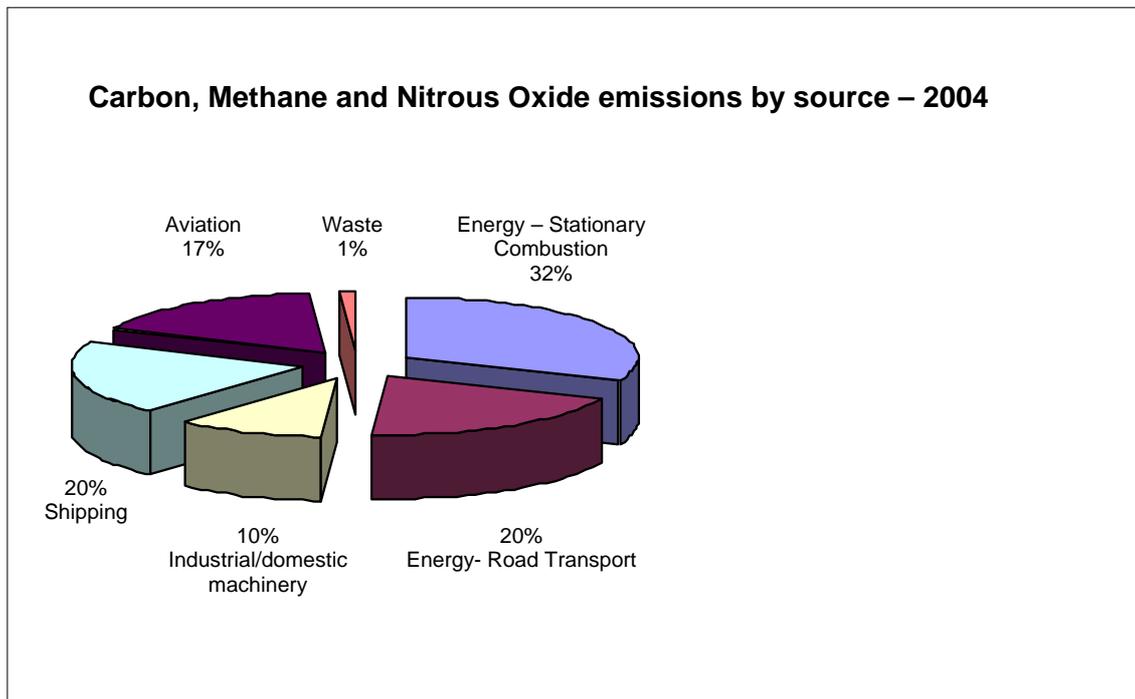
Greenhouse Gas	Global Warming Potential (t CO <sub>2</sub> equiv / t gas)
Carbon Dioxide	1
Methane	21
Nitrous Oxide	310
HFCs	140-11700
PFCs	6500-9200
SF <sub>6</sub>	23900

## Main trends

- Compared with 1990 (base year) levels the estimated annual proportion of carbon (all greenhouse gases) emitted in Guernsey is the same in 2006 at 158 ktonnes. However during this 17 year period the annual rate of emissions has fluctuated ranging from a lower level in 2004 of 141 ktonnes to a high of 201 ktonnes at the turn of the century.
- From 1990 to 2000 Guernsey's rate of greenhouse gas pollution increased year on year by 27% and subsequently decreased over the period to 2004, by 30%. Since then the level of pollution has risen by 12% (2006) which remarkably is a very similar figure (12.5%) used by the UK and Channel Islands as the Kyoto Protocol reduction target.

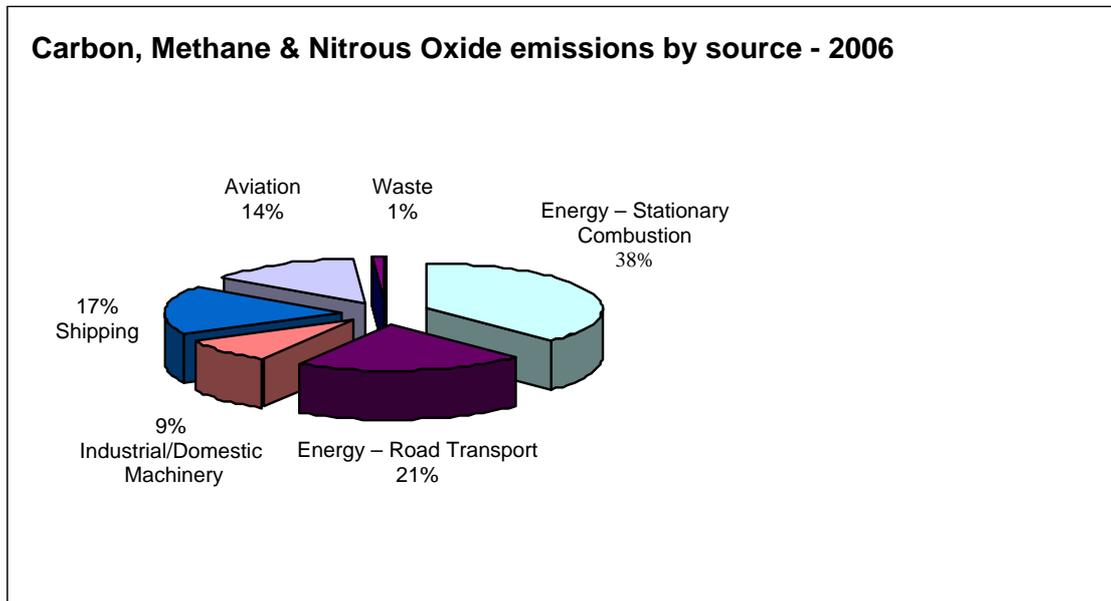
- Not surprisingly CO<sub>2</sub> emissions contribute the greatest proportion (89%) of greenhouse gas pollution averaging at 512 ktonnes over the period. However between 1990 and 2006, the overall total cumulative quantity of greenhouse gas emissions has been 9,757 ktonnes.
- The greatest contribution to carbon emissions in 2004 and 2006 are from stationary combustion i.e. the Island's power station especially during 1990s followed by motor vehicles, aviation and shipping.

**Figure 5**



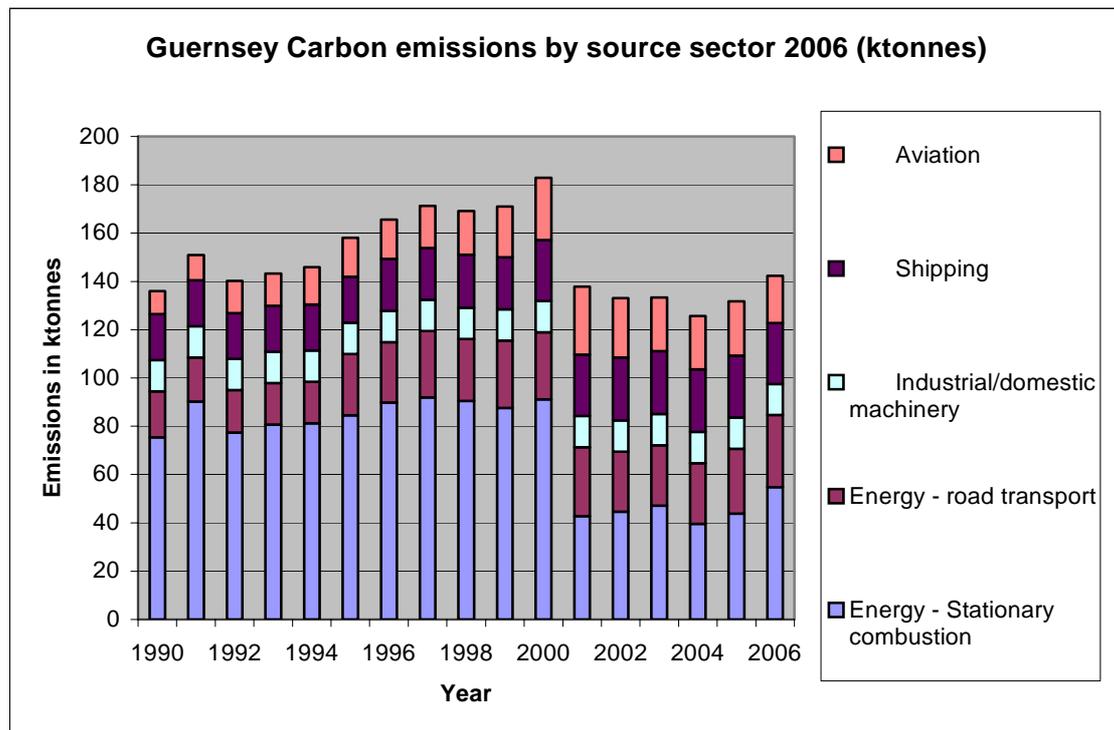
Source: AEA Technology

Figure 6



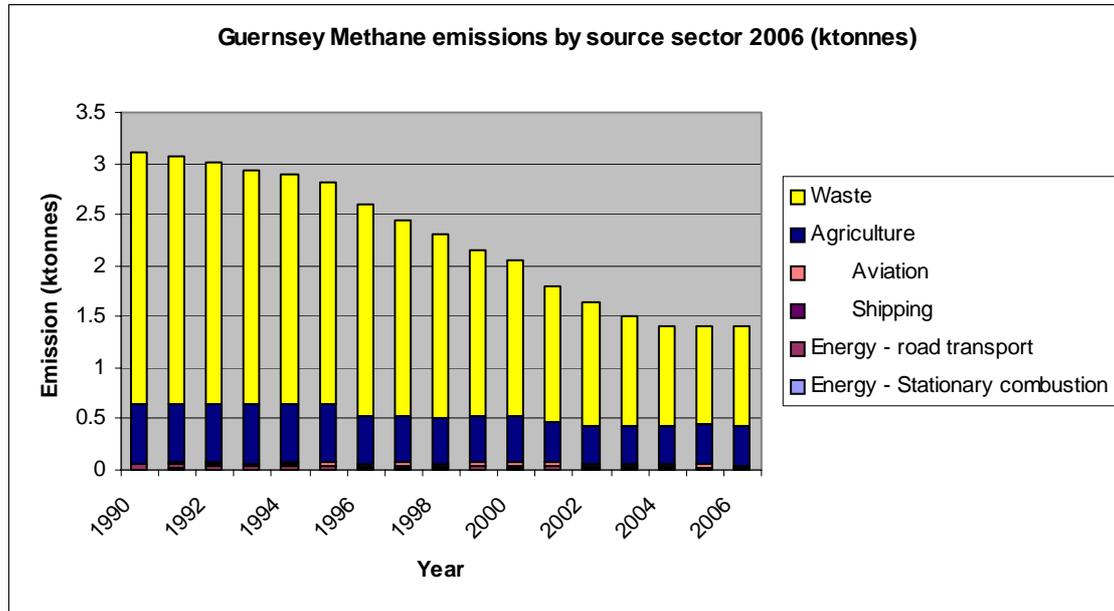
Source: AEA Technology

Figure 7



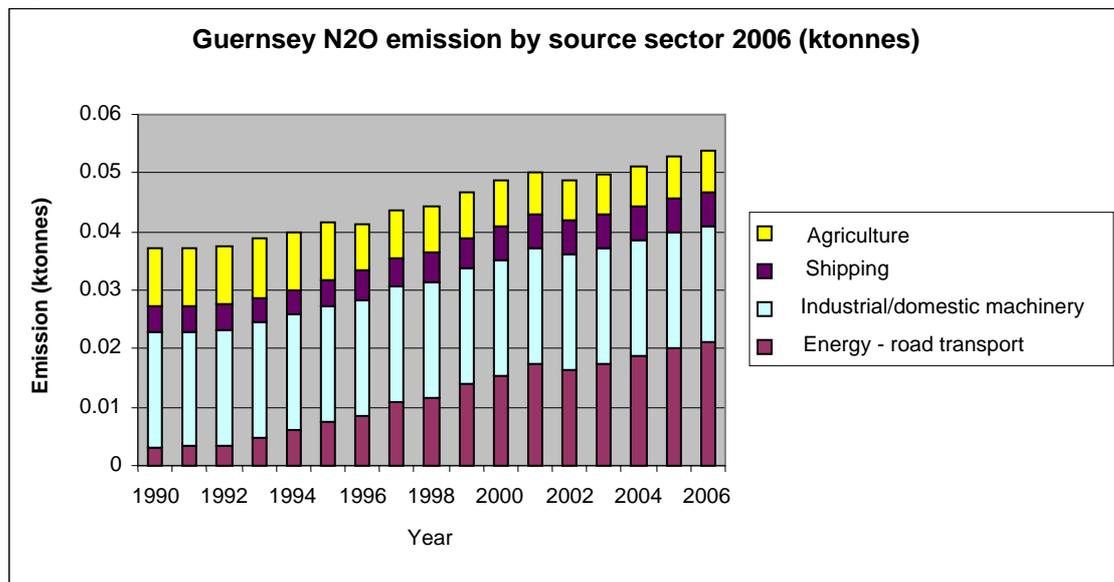
Source: AEA Technology

Figure 8



Source: AEA Technology

Figure 9

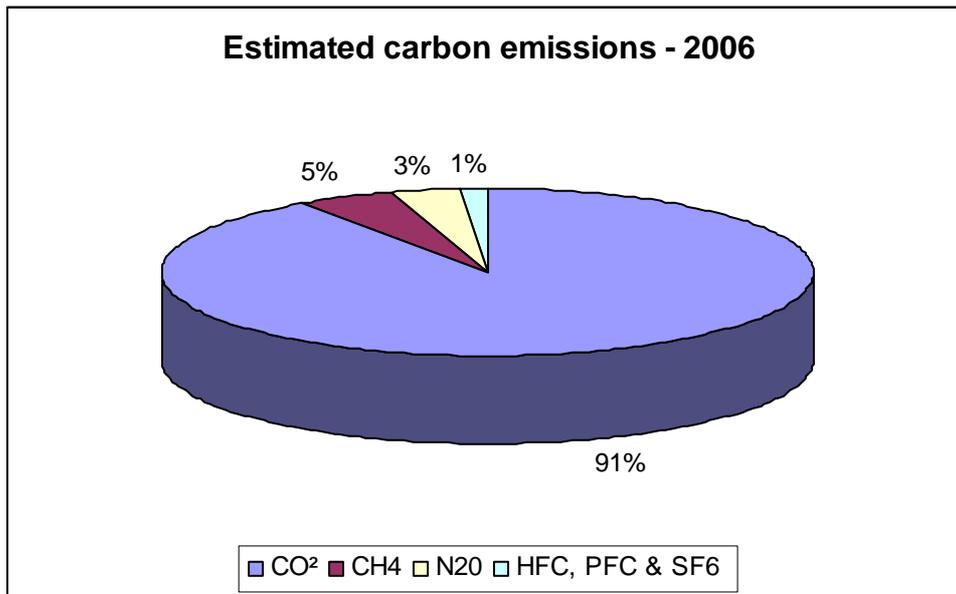


Source: AEA Technology

\*Please note that both 'Energy – other mobile sources' and 'Energy – stationary combustion' are relatively insignificant producers of Methane.

**Appendix C:**

Calculation of Guernsey's carbon footprint is based on data obtained from the Guernsey Greenhouse Gas Inventory. The footprint has been produced using a standard primary estimation methodology which differs from the conversion factors used in measuring GHG emissions.

**Figure 10 Guernsey's Carbon Footprint based on GWP, estimates for 2006**

Source: AEA Technology

\* Note: CO<sub>2</sub> converted from Carbon (RMM of CO<sub>2</sub>/RAM of C)

Source: AEA Technology

## Appendix D

### Electricity Consumption

Figure 11

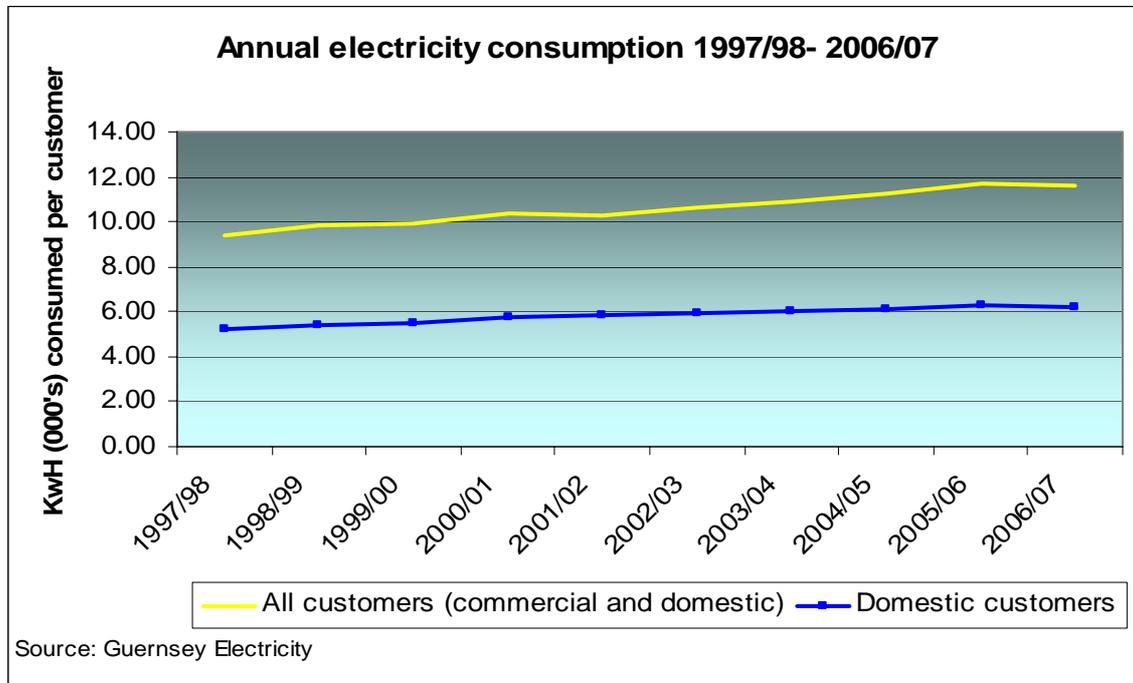
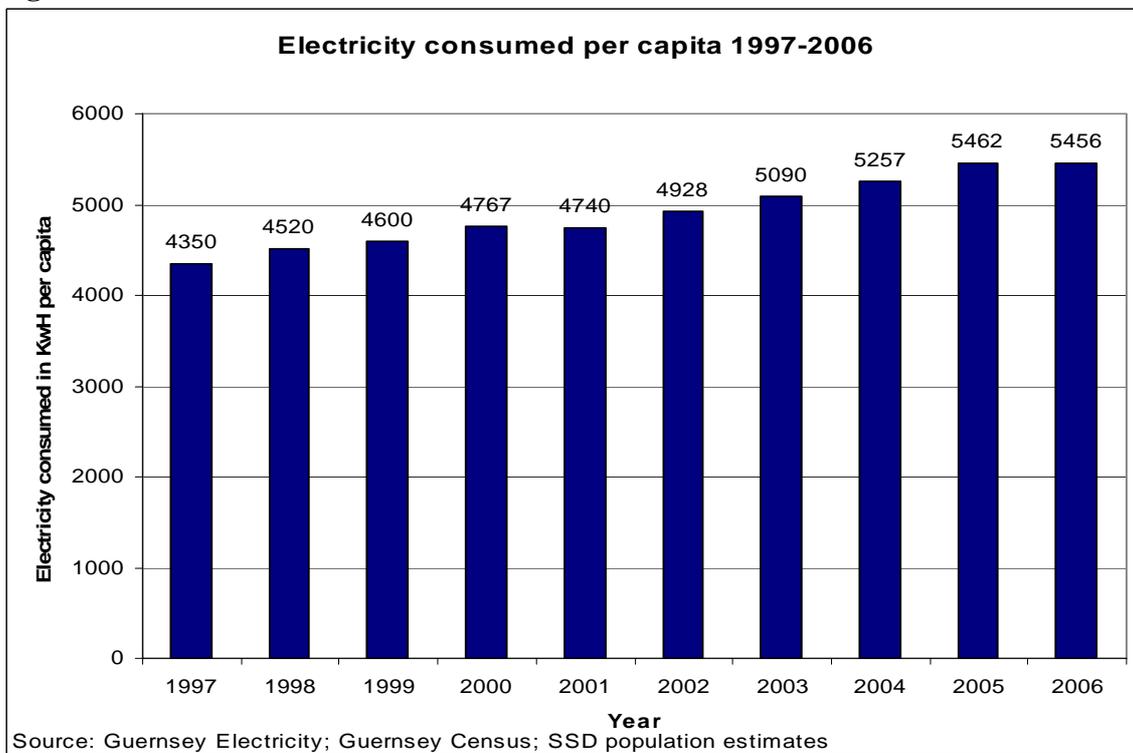
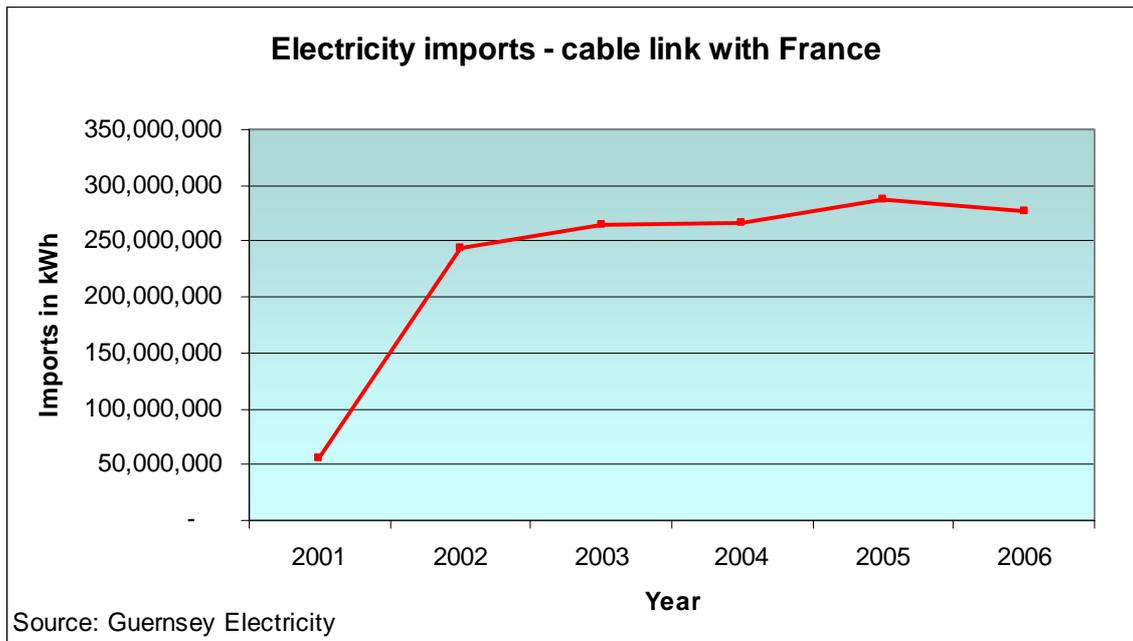


Figure 12

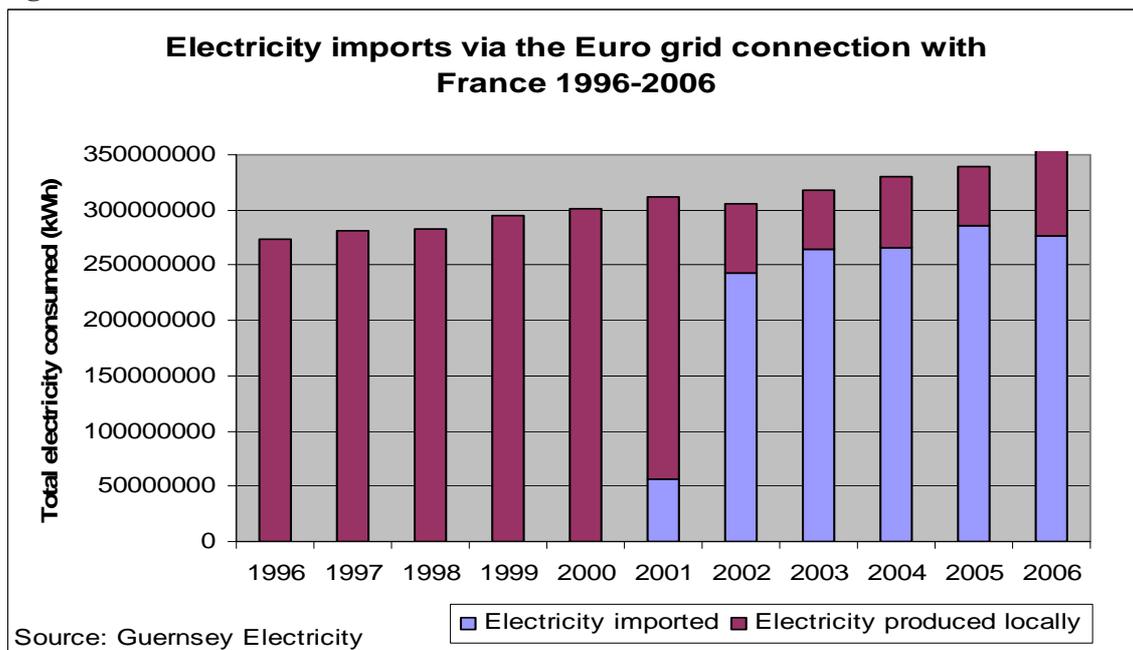


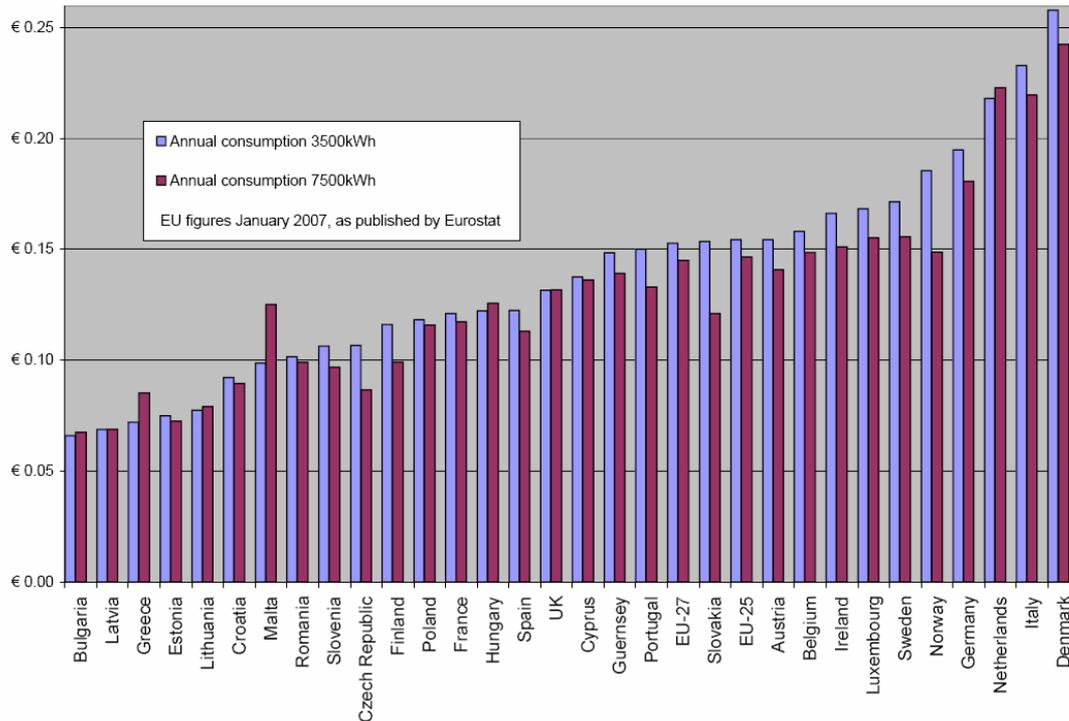
In regard to Figure 14 (above), 'Electricity consumed per capita 1997-2006', it should be noted that whilst these figures are attributed to per capita averages, they are estimated and based upon total electricity figures, which includes both commercial and domestic electricity use. Population figures are gathered from the 2001 Guernsey Census and from Social Security Department estimates.

**Figure 13**



**Figure 14**



**Figure 15: End User Price Graph**

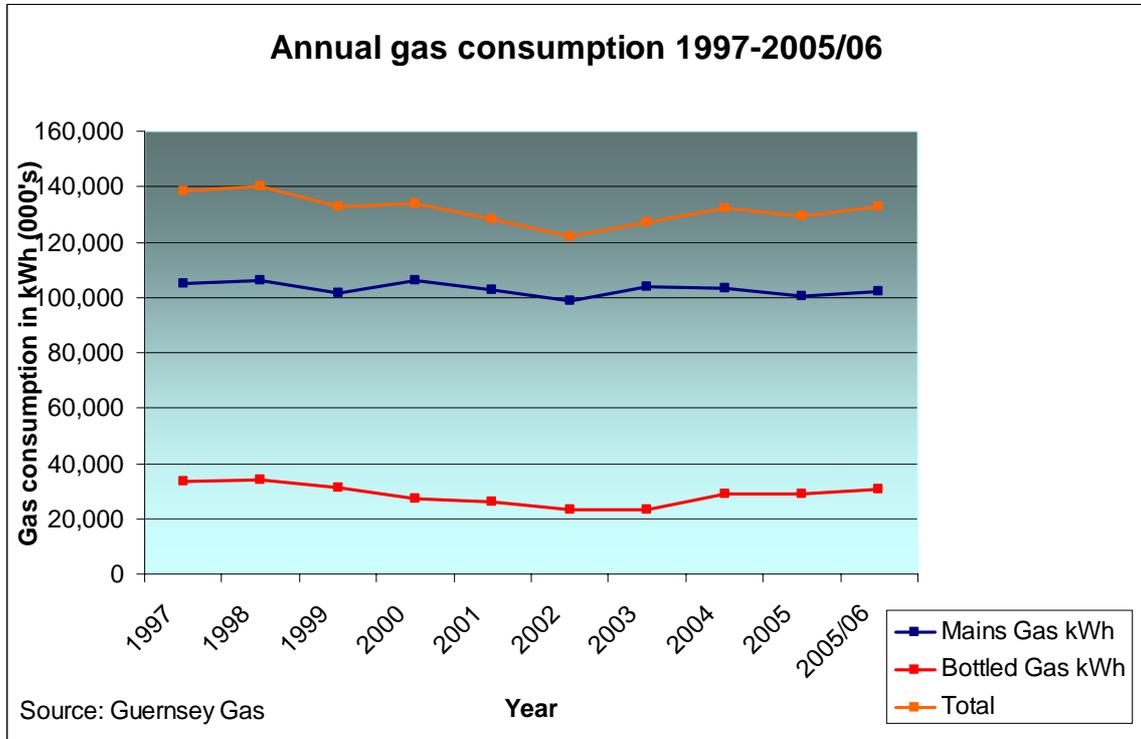
Source: Guernsey Electricity

**NB** The figures in Figure 17 are prepared on the basis of average prices for domestic customers, so that individual tariff offerings in the various countries, including Guernsey, are excluded. Prices were those ruling in January 2007, when the EU figures were published. They therefore exclude the 14% rise applied to prices in Guernsey in April 2007, but also prices rises in many other territories. Prices include the standing charge. The figures are calculated for two volumes of electricity consumption, 3,500kWh and 7,500kWh annually, to illustrate the difference in costs between larger and smaller users.

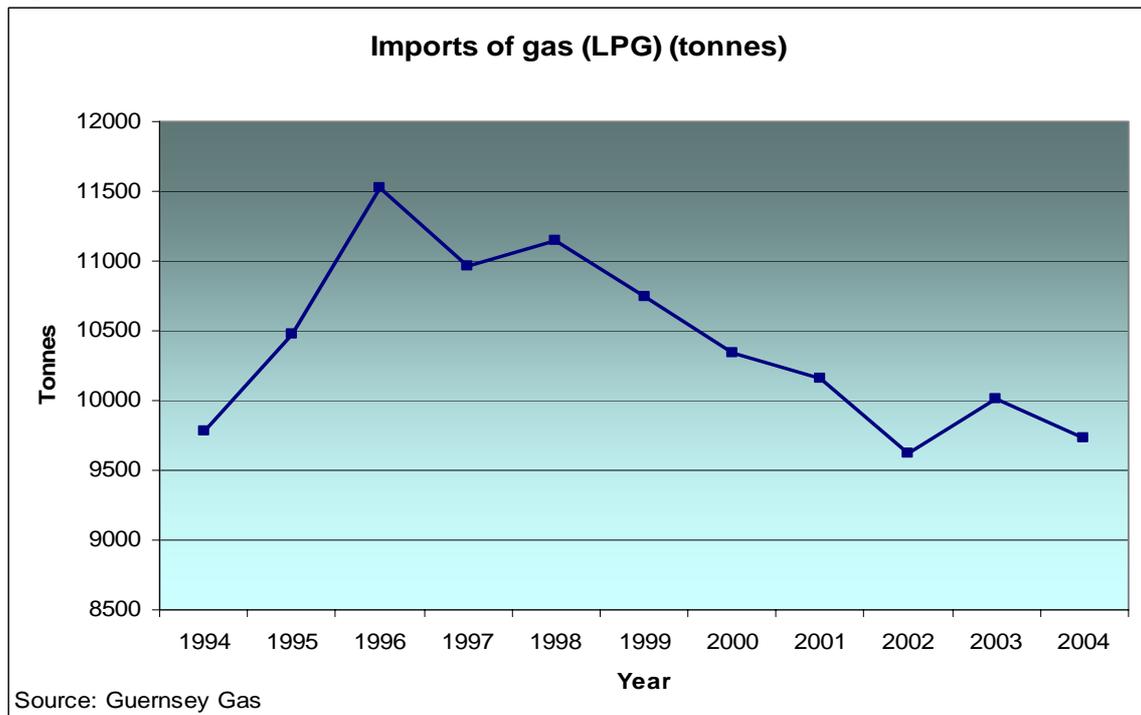
**Appendix E**

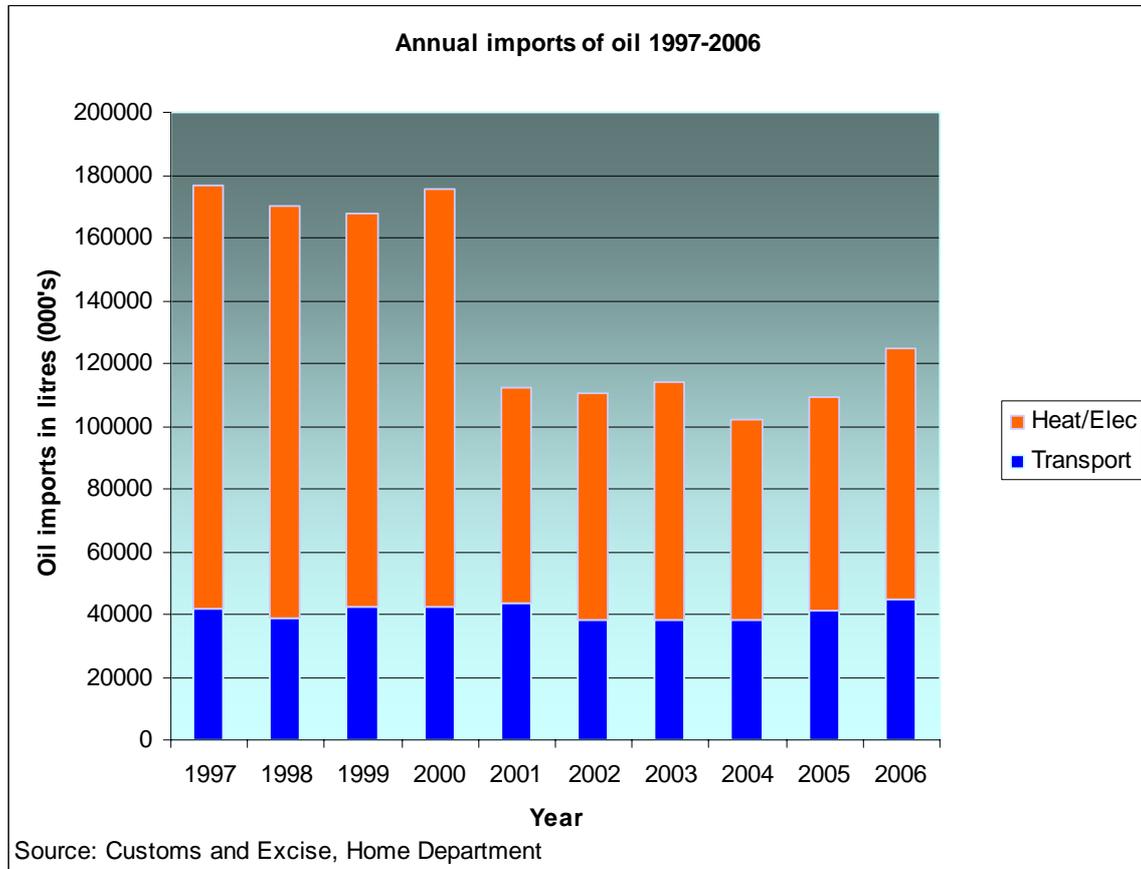
**Gas and Oil Consumption**

**Figure 16**



**Figure 17**



**Figure 18**

## **Appendix F**

### **Organisations and persons who responded to consultation “green paper” circulated in December 2007**

Guernsey Electricity Limited  
Guernsey Gas Limited  
Babcock and Brown Infrastructure Limited  
Office of Utility Regulation  
Guernsey Climate Action Network  
Treasury and Resources Department

#### **“Common Sense Prevails”**

Mr P Fletcher  
Deputy J A B Gollop  
Mr G A St Pier  
Mr A Fuller  
Mr K Wilen  
Mr R Lord  
Ms C N Grover  
Mr D de Lisle  
Mrs R Dorey  
Dr D P Haughey  
Mr A Casebow  
Mr R A Gill  
S Le Couteur  
M G Williams  
Mr N MacPhail

## **Appendix G**

### **PROPOSED GUERNSEY RENEWABLE ENERGY COMMISSION**

#### **Objective**

This short note sets out the function and membership of the proposed Guernsey Renewable Energy Commission (“GREC” – “the Commission”) and the work programme that will be required in order to create a renewable energy industry in Guernsey.

#### **Functions**

The GREC should be charged to undertake the primary function of licensing, of any person, to operate, deploy, use or manage any renewable energy system, subject to such conditions and other matters as the Commission, the States or committee, as the case may be, may think fit.

#### **Establishment of Commission**

The Commission should be established as a separate agency through legislation. The Renewable Energy (Alderney) Law, 2007 could be relatively easily adapted and tailored to meet Guernsey’s requirements. Until such time as the necessary legislation is in place a shadow Commission should be in place to take forward the work programme outlined below.

The Commerce and Employment Department's mandate makes it the most appropriate Department to be involved in nominating the Commissioners and in helping to set it up and service the Commission.

#### **Membership**

The Commission should comprise three members. The Chair of the Commission should be nominated by the States with the two other members nominated by Commerce and Employment and approved by the States.

#### **Staffing and Funding**

The Commission should be supported by staff from the Commerce and Employment Department. The Alderney Commission for Renewable Energy (“ACRE”) has demonstrated that it is possible for a commission to operate effectively at minimal cost. In the short term the Commission should be funded out of the Commerce and Employment Department’s budget. However, in the longer term the Commission should be funded on a cost recovery principle, by licences issued to renewable electricity generators.

## Work Programme

- **Sea Bed Legislation**

The Commission should work with the Policy Council and the Commerce & Employment Department to put in place the necessary legislation regarding the sea bed for Guernsey's foreshore and territorial seas. The Policy Council should take the lead in developing this issue.

The majority of Guernsey's foreshore belongs to the Crown as owner of the relevant contiguous fiefs. The Crown's assets in Guernsey are administered by HM Receiver-General.<sup>1</sup> It should be clearly understood that HM Receiver-General, in exercising his powers and functions in administering those assets, does so for the benefit of Guernsey, but subject to and consistent with his Crown responsibilities; and the revenues derived from his administration accrue to the general revenues of the States.

Issues concerning the sea bed below Guernsey's territorial seas are more complicated. Article 2 of UNCLOS (United Convention on the Law of the Sea) provides that the *sovereignty* of a state extends to the bed and sub-soil beneath its territorial seas. This is consistent with correspondence entered into between the UK government and the States of Jersey at the time when the latter's territorial seas were extended to 12 miles, which seems to be based on the assumption that Jersey would have the right to extract petroleum from the sea bed within the extended zone. A similar assumption in respect of Guernsey is evident in certain documents circulating within St James's Chambers at around the same time.

However, sovereignty is not necessarily the same as ownership in legal terms. HM Procureur is of the view that the sea bed beneath Guernsey's territorial seas i.e. beyond the lower limit of the foreshore, is the property of the Crown, but over which the States have legislative competence, subject to appropriate consultation with the Crown. Accordingly, HM Receiver-General should be consulted in respect of any installations that are proposed to be attached to the sea bed within Guernsey's territorial seas.

In practical terms, the issue of ownership of the sea bed, as distinct to the exercise of legislative sovereignty over it, is unlikely to be of any great significance since, in Guernsey, the Crown in any event will be able to exercise control and demand payment in respect of the use of the majority of the foreshore.

If an installation has to be located within the territorial waters of any of the other islands, similar questions as to sovereignty over/ownership of the sea bed will arise.

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<sup>1</sup> In Sark, the Seigneur owns the foreshore pursuant to the terms by which the fief of Sark was granted by the Crown in 1565. As to Alderney, the foreshore is owned by the States of Alderney under the terms of the Alderney (Transfer of Property &c.) Order, 1950.

If an installation has to be located on the sea bed beyond the limits of any jurisdiction i.e. under the high seas, it will fall within the control of the International Sea Bed Authority which was set up under the auspices of UNCLOS and is responsible for the organization and control of the use of the sea-bed in these circumstances. As a general rule the freedom of the high seas includes the freedom to lay submarine cables and pipelines (see Article 112 of UNCLOS).

The Commission will need to be aware of the implications of the UK Marine Bill and will take advice from the Policy Council's work in this area.

- **EU Legislation**

Guernsey's relationship with the European Union is governed by Protocol 3 to the UK's Treaty of Accession which makes provision, inter alia, for the free movement of goods. This means that Guernsey is bound by the legislation of the European Union relating to the free movement of goods under Article 28 of the EC Treaty, where "goods" clearly includes electricity - see Directive 99/44/EC. Trade in electricity generated under the auspices of the Commission must not distort the domestic or European market in electricity contrary to these rules. The Policy Council should take the lead in addressing the implications and consequences of compliance with EU legislation.

Issues that exporting renewable energy to the European grid may give rise to include, inter alia:

- If the intention is to export renewable energy to the European grid then legislation introduced by the States to deal with the distribution of energy generated by tidal power might be categorised as trading rules so as to engage Articles 28 and 29. This would prohibit any measures capable of hindering directly or indirectly, actually or potentially, intra-Community trade, as per the test in the Dassonville case. It is possible that the island would have to introduce measures corresponding to some EU directives, e.g. those below, if a discrepancy between the rules under which Guernsey operated and those governing EU member states led to a distortion of the market such as to hinder free trade. Equally, if sufficient energy were generated to enable Guernsey to supply member states, it might not be possible to sell energy within the EU without complying with certain EU requirements;
- Directive 2001/77/EC, which deals with the promotion of electricity produced from renewable sources in the internal energy market;
- Directive 2003/54/EC, which sets out common rules for the internal market in electricity;
- Directive 2003/196/EC, which deals with the taxation of energy products and electricity;

- Commission Decision 2003/796/EC establishing the European Regulators Group for Electricity and Gas;
- Regulation (EC) No 1228/2003 dealing with conditions for access to the network for cross-border exchanges in electricity.

This list is not exhaustive.

- **Legal/Shore based requirements**

At this stage there are no details of the type or extent of plant or equipment that would be required by any renewable generators. This is a matter for technical input and without such information it is not possible to set out an exhaustive list of the steps that would be involved from a legal point of view. However, the following issues are almost certain to arise;

- terms on which the Crown will permit the laying of pipes etc across the foreshore and the placing of plant and equipment on the seabed;
- terms on which private landowners will permit the laying of pipes etc across their property;
- purchase (compulsory or otherwise) of land in private ownership;
- change of use of land;
- Environment Department planning approvals;
- health and safety requirements re working practices and the use/storage of hazardous materials both on shore and at sea — premises is defined in the Health & Safety At Work etc (Guernsey) Law 1979 as including offshore installations;
- impact on conservation areas, especially wetlands.

### **International conventions/consultations**

Guernsey's obligations by way of conventions etc are relevant here principally in relation to the effect upon the environment. Both the 1971 Ramsar Convention on Wetlands and the 1980 Bonn Convention on Migratory Species have been extended to Guernsey. It may be necessary to obtain expert advice in respect of the likely environmental impact on the sea if this project is to be pursued. Although the harnessing of tidal power is widely welcomed as a source of renewable energy, there is not a great deal of information available as to the consequences for the environment in terms of disturbance of the sea bed and the effect on marine life. Even assuming that it were possible to locate the necessary installation away from prime fishing grounds, it might still significantly affect the fishing industry of Guernsey and elsewhere by, for

example, having an effect on shoal movements or breeding patterns. Clearly in such a situation there could be consequences as to legal liability and accusations of breach of Convention obligations. Bodies such as the European Renewable Energies Federation and the Environment Agency may be able to assist the Commission and the Environment Department on this.

The same point applies to the impact on the shore, whether because of possible knock-on effects on shore of disturbance to the sea bed or because of the shore-based installations that would be necessary. There may be some interference with conservation areas, particularly bird habitats in wetland areas around the coast. This could also have some bearing on the habitats of migratory birds.

Certain parts of the 6-12 mile zone of sea adjacent to the Bailiwick (in particular to the north and west and south-west of the islands and the area known as the Schole Bank to the north-east of Guernsey) are designated by international agreement as areas within which French fishing boats are able to fish. These rights, which are recognised in domestic law pursuant to the Fishery Limits Act 1976, would have to be taken into account in formulating proposals to site plant and equipment on the seabed in the relevant areas and to create exclusion or safety zones in the surrounding areas of sea.

Therefore, the Commission should undertake a Strategic Environmental Assessment (SEA) as this will provide greater clarity on requirements and potentially saving wasted effort by developers the Commission would seek to attract to invest within Guernsey. This comprises an initial scoping, data gathering and generic research. This part of the work programme can build upon the 2005 Black and Veatch study. This should also involve consultation with stakeholders such as (not exhaustive):

- Condor Ferries;
- HD Ferries;
- Isle of Sark Shipping Co;
- Trident Herm Ferries;
- Navigation – Harbour Master;
- Fishing Industry;
- Yacht Clubs;
- La Société Guernesaise;
- Other environmental pressure groups; and
- Guernsey Electricity.

The Commission should take the lead role in undertaking the SEA.

### **Grid Access**

Grid access and capacity constraints have been significant barriers to the development of marine renewable energy in the Scottish Highlands and Islands. These are not anticipated to be the same issues for Guernsey, but clearly access to Guernsey Electricity's distribution network and interconnection to the French grid will be important issues that will need to be resolved. Guernsey Electricity already prepares a

Statement of Opportunity for developers in the Island which provides detailed information on the company's distribution network. The Commission will need to work with Guernsey Electricity on identifying the optimum locations for renewable generators to connect with the company's network.

### **Use of Feed in Tariffs & Appropriate Levels**

In order to ensure guaranteed revenue streams, which are particularly important to renewable energy developers, it is important that the Commission puts in place feed-in tariffs for the developers at least for the short term. This will require working with the Commerce and Employment Department in preparing a Policy Letter to the States for a direction to the Office of Utility Regulation ("OUR") to allow Guernsey Electricity to deviate from its Merit Order to allow Guernsey Electricity to buy more expensive renewable energy instead of using its own on-island capacity or imports from EdF. The OUR should advise the Commission on the appropriate levels for the feed-in tariffs and how these would be implemented.

### **Licensing Regime**

The Commission should consult and prepare the licences and conditions that would apply to renewable energy generators.

## Appendix H

### References:

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**COMMERCE AND EMPLOYMENT DEPARTMENT**

The Chairman  
Energy Policy Steering Group  
Sir Charles Frossard House  
La Charroterie  
St Peter Port

16 April 2008

Dear Deputy Flouquet

**ENERGY POLICY REPORT**

Thank you for your letter, dated 3<sup>rd</sup> April, requesting comments on the above report which was considered by the Commerce and Employment Board at its meeting on 15<sup>th</sup> April.

There are some minor wording issues that will be discussed at staff level and the Board is restricting its comments to those dealing with significant issues.

The most significant development since the green paper is the new strategy for exploiting Guernsey's natural resources to generate renewable energy. The Board welcomes the proposal for the creation of a Guernsey Renewable Energy Commission and believes that this approach is the most appropriate model for developing renewable energy within the Bailiwick.

The Board also believes that the Commerce and Employment Department is best placed to lead the formation of the Commission and assist with the initial work streams. It does not believe however that it can give an open ended commitment to undertake this role. Consequently the Board is prepared to support this proposal on the basis of it allocating a maximum of £150,000 each year for 2008 and 2009 from within its existing budgets. Any additional expenditure required during that period, and any general revenue funding required after that period must be provided by an additional budget allocation either via Commerce and Employment or direct to the Commission.

There are relatively few work streams on which Commerce and Employment has been allocated the lead and, if the report is approved, the Department will integrate those work streams into its other priorities.

However the Board remains of the view stated in its letter of 16<sup>th</sup> October 2007 that the report discusses a number of policies and targets that, in principle, may be desirable but with little consideration given as to how practical it is to pursue those policies in a small Island jurisdiction.

In terms of implementing the Report's recommendations the Board notes that there are 38 separate initiatives and related projects and believes that these work streams may be onerous on the Departments tasked with leading them in terms of the commitment of time and other resources. In particular the Department is still concerned that the Environment Department has been allocated the lead on a large number of resource intensive work streams. There is already an unacceptable delay in discharging the forward planning and development control responsibilities of the Environment Department and the concern is that these additional work streams will deflect that Department from rectifying the existing inadequacies.

At the same time Recommendation 5 of the report asks the States to note that the allocation of adequate resources is necessary to the successful operation of the Energy Policy and asks Treasury and Resources to be mindful of this. Given the current resource constraints, it is difficult to see how adequate additional resources could be made available.

As before the Commerce and Employment Board recognises that a large proportion of the report is "aspirational" and that further consideration will have to be given to the resource and timing implications of firstly researching those aspirations and, secondly, achieving them. The Board believes that the workstreams should be prioritised so that quick wins and gains can be achieved early on which will enhance the credibility of the overall policy and contribute towards enhancing Guernsey's environment and combating climate change.

Yours sincerely

Stuart Falla  
Minister

**ENVIRONMENT DEPARTMENT**

Deputy B M Flouquet  
Chairman  
Energy Policy Steering Group  
Sir Charles Frossard House  
La Charroterie  
St Peter Port

28<sup>th</sup> April 2008

Dear Deputy Flouquet

**ENERGY POLICY REPORT**

Thank you for affording the Board of the Environment Department the opportunity to consider the Energy Policy Group's report as approved by the Policy Council on 21<sup>st</sup> April.

This report was considered by the Board at its meeting on 22<sup>nd</sup> April and I am pleased to confirm that the Board was fully supportive of the report. The Board, of course, noted the resource issues associated with delivering the actions set out in the Energy Policy report and also noted the call to the Treasury and Resources Department to make the necessary resources available to the respective Departments and particularly the Environment Department.

My Board would wish to stress that without the necessary resources being made available to the Environment Department, it would be virtually impossible to deliver the actions set out in the report. The Board would also wish to stress that the resources are not simply financial in terms of revenue and capital budgets, but that there will also be significant human resources including the need to address any skills gaps that are identified. The Board is under no illusion that implementing the recommendations of the Energy Policy Group will have significant human resources issues for the Chief Officer, his Director's and other key staff within the Department.

Yours sincerely

**Deputy David De Lisle, PhD**  
Minister, Environment Department

**(NB The Treasury and Resources Department's comments are set out below.)**

The Chief Minister  
 Policy Council  
 Sir Charles Frossard House  
 St Peter Port

29<sup>th</sup> April 2008

Dear Deputy Torode

**Energy Policy Report**

The Treasury and Resources Department considered the Energy Policy Group's Energy Policy Report to the Policy Council at its meeting on the 15 April 2008. As would be expected from such a far reaching report there are significant possible, and sometimes unintended, resource consequences. The implications considered by my Board fall into four broad categories which are discussed below:

**1) Impact on States income**

- The report suggests tasking T&R with investigating the possibility of exemptions from document duty for new zero carbon homes in line with the moves made in the UK. This could have a significant impact on the receipts to the States but the extent would obviously depend on the criteria set and on the number of new homes built and sold.
- The other major impact on States income suggested in the report is the introduction of a carbon or energy tax. The purpose of this tax is to discourage the use of energy sources which are high carbon emitters and it is stated in the report that, somewhat paradoxically, "this is a levy which would have achieved its purpose completely if it raised no money at all". This sort of tax would need to be researched very carefully as it would be likely to have consequences on the levels of duty collected by the States. By definition, it would be likely that tax take from this kind of source would decrease over time and therefore impact on the future viability of tax takes. It would also eat into any "headroom" which exists for increases in duty.

Further, the report recommends that any income generated from carbon tax should be ring-fenced for specific energy saving measures. In addition, and in order to counter the regressive nature of the tax, it suggests looking at means-tested benefits and grants in order to dampen the impact on the lowest paid. This approach is understandable and commendable and yet is likely to be costly to the States in administrative terms.

Introducing new taxes in the current climate would need to be treated very carefully to avoid possible links to Zero-10 being made.

- The report also suggests tasking the Environment Department with investigating the feasibility of introducing a first-registration fee for all vehicles with a subsidy for very low emission vehicles. This would need to be considered along with T&R because of the obvious similarities between this kind of fee and a purchase tax.
- There are other suggestions which would impact on States income such as investigating the possibility of exempting income derived from micro-generation from income tax. Whilst this seems like a positive step, the costs involved in administering such a scheme for what is likely to be few beneficiaries may be prohibitive

## 2) **Implications for States' revenue expenditure**

- The report urges the States to lead by example and introduce energy code and best practice into new builds and refits. This would be likely to result in higher costs on capital projects at least in the short term.
- T&R is urged to emphasise the need for all States Departments to realise the benefits of a “spend to save” mentality. This is commendable and recommended for all sorts of reasons. However, it could result in high demand on resources during the “spend” phase which would need to be carefully planned and managed.
- The Commerce & Employment Department has been tasked with reviewing the economic justification for differential prices based on volume consumption and if appropriate encouraging the abolition of the practice of lower unit prices for large energy users. We are pleased that this demonstrates cognisance of the fact that the States are one of the largest consumers of energy on the island and any increase in energy prices would result in a significant impact.
- The proposed work-streams arising from the report fall mainly to three Departments – Environment, Treasury & Resources and Commerce & Employment – all of whom would incur additional budgetary pressures during research and implementation phases. It is inevitable that much of the work required to research the proposals may need to be undertaken by suitably qualified and experienced consultants as specialist knowledge may not always be available in house.

## 3) **Additional services resulting in increased costs**

In addition to the additional possible costs outlined above, the report also suggests the introduction of new services and facilities which would also lead to higher costs. It is recommended that some of these services are paid for through

the proposed carbon tax but some would be additional pressure on existing revenue budgets and would need to be carefully evaluated against other priorities.

4) **Shareholder Issues**

The report has significant consequences for Guernsey Electricity (GEL) as the main supplier of energy across the States. In the long term, the EPG suggests moving towards renewable energy with investment in projects such as tidal power. The report suggest possible sources of funding investment in infrastructure for GEL including T&R foregoing dividends for a period of time, GEL increasing tariffs or the States providing the necessary resources

However, in the short to medium term, the emphasis is on the lowest carbon option available which is favouring importing from France over self generation. To this end, the report suggests investigating further costly cables to link the Channel Islands to each other and the European Grid via France. GELs mandate currently requires it to generate electricity in the most cost effective way and this would need to be changed in order to fulfil the requirements in the report.

My Board is supportive of the Energy Policy Report and its aims but also acknowledges the far ranging implications of delivery for the States in terms of resources and therefore urges careful evaluation of the cost and benefits of projects before implementation.

Yours sincerely

L S Trott  
Minister

The States are asked to decide:-

IV.- Whether, after consideration of the Report dated 19<sup>th</sup> May, 2008, of the Policy Council, they are of the opinion:-

1. To endorse the States' Energy Policy, including the Energy Hierarchy as set out in paragraphs 2.19 to 2.24 of the appended Energy Policy Report.
2. To agree the three Headline Policies set out in paragraph 1.2, and the work streams which underpin them, as set out in paragraphs 5.2, 8.2 and 13.2 of the appended Energy Policy Report.

3. To agree in principle (subject to further research as set out) the targets for reductions in carbon dioxide emissions, and the generation of electricity from local renewable sources, as set out in paragraph 2.18 of the appended Energy Policy Report.
4. To direct the Policy Council and the Lead Departments (as identified in the appended Energy Policy Report) to progress the various work streams and to agree appropriate timeframes.
5. To note that the allocation of adequate resources is essential to the successful implementation and operation of the Energy Policy and to direct the Treasury and Resources Department to be mindful of this when considering resource requests from Departments, particularly the Environment Department, involved in the implementation of the Energy Policy; .
6. To agree that progress in the various work streams will form part of the monitoring of the annual Government Business Plan (Priority 10 - Meet Energy needs more efficiently and sustainably).
7. To focus their interests in renewable energy on:-
  - (a) preparing the necessary legislation which will enable Guernsey to take advantage of tidal power opportunities as and when they arise;
  - (b) closely monitoring tidal power technologies and opportunities;
  - (c) encouraging, promoting and facilitating tidal power opportunities; and
  - (d) directing the Commerce and Employment Department to establish a Guernsey Renewable Energy Commission responsible for promoting and licensing macro-renewable energy projects within Guernsey.
8. To direct the Commerce and Employment Department to monitor the issue of “Peak Oil” and report to the States as necessary.

**TREASURY AND RESOURCES DEPARTMENT****TAX ON REAL PROPERTY – APPEALS PANEL**

The Chief Minister  
Policy Council  
Sir Charles Frossard House  
La Charroterie  
St Peter Port

29<sup>th</sup> April 2008

Dear Sir

**1. Executive Summary**

The Tax on Real Property (TRP) system came into effect on the 1<sup>st</sup> January 2008, with most property owners being notified of their assessments, including property category, tariff and value, at the end of January 2008.

The Taxation of Real Property (Guernsey and Alderney) Ordinance, 2007 (“the Ordinance”) approved by the States at its meeting in October 2007, provides for a comprehensive appeals process in support of the new system of property measurement. Part II of the Ordinance explains the requirements for establishing a Tax on Real Property Appeals Panel.

Following an exercise to obtain expressions of interest from suitably qualified individuals wishing to join the Appeals Panel, this Report provides:

- The principal aspects of the TRP appeals process
- Details of the selection process
- The Treasury and Resources Department’s recommendations on who should be considered for appointment to the panel

**2. Background**

The TRP system replaced the previous Tax on Rateable Values (TRV) system on the 1<sup>st</sup> January 2008. The principal aims of TRP were to introduce a system of property measurement that is transparent, equitable and easy to administer. The new system removed the subjectivity inherent in the previous TRV system of measurement.

The TRV system dated back to 1947 in Guernsey and 1949 in the case of Alderney.

The system allowed for the assessment of the Annual Rental Value (ARV) of a property. The new TRP system of measurement utilises, wherever possible, the States Digital Map to provide accurate measurements of the plan view area of a property. The internal measurement of property is now by exception and not the rule, as was the case with TRV.

### 3. TRP Appeals

- **Process of Appeal**

The Department is required to serve on all real property owners a notice, in writing, detailing its relevant decision in regards to the amount of property tax due in respect of any real property. The notice also includes the property category, the number of assessable units and details of ownership. A broad outline of the appeals process is as follows:

Stage	Action	Period
1	Department issues property notice.	
2	Property owner either accepts the notice or asks the Department to review the decision.	Owners have 28 days beginning on the date of the notice to register their query.
3	The Department is required to review the original decision and either confirm, vary or rescind the decision.	The Department has 3 months in which to review the decision. Should it fail to do so within the 3 month period, then the Department shall be deemed to have reviewed and confirmed its decision.
4	Property owners who are aggrieved by the confirmed decision (termed the relevant decision) may, subject to the conditions of the Ordinance, formally appeal against the decision.	Notice of appeal must be served on the Clerk before the end of a period of 28 days beginning on the date of the notice confirming the Department's relevant decision.

- **Right of Appeal**

Section 31 of the Ordinance states that an appeal against a relevant decision of the Department shall be allowed only if the appellant can establish that:

*“(a) the coordinates of any point of the building measured by reference to the Map have been incorrectly measured by an amount of more than 10 centimetres,*

(b) *that error has resulted in an increase in the plan area attributed to the building by the decision, and*

(c) *that error has affected the number of assessable units attributed to the building by the decision by more than*

(i) *5 assessable units, or*

(ii) *5% of the total number of assessable units attributed to the building by the decision*

*whichever is the greater.”*

Where the Department is asked to review a decision relating to the plan area of any real property, the Department may, before making any re-measurement of the property, require the person concerned to pay them their reasonable costs of re-measurement. If the person concerned does not pay the costs of re-measurement, the Department is not obliged to re-measure the property or to review the decision. The cost of re-measurement shall be reimbursed by the Department only if the re-measurement of the property established that an appeal by the person concerned against the decision would have succeeded on the grounds set out in the Ordinance.

- **Selection of the Panel**

Section 22 of the Ordinance states:

“(1) *The States shall, on the recommendation of the Department, draw up and maintain a panel to be called the Tax on Real Property Appeals Panel (“the Panel”).*

(2) *The Panel shall consist of such number of persons as in the opinion of the States is necessary for the purpose of hearing and determining appeals against decisions of the Department described in section 28 (“relevant decisions”).*

(3) *The States shall designate one member of the Panel as Chairman of the Panel and another as deputy Chairman thereof.*

(4) *The following persons may not be appointed to the Panel -*

(a) *any member of the States of Deliberation or the States of Election within the meaning of the Reform (Guernsey) Law, 1948<sup>1</sup>,*

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1. Ordres en Conseil Vol. XIII, p. 288; No. V of 1993; No. X of 1998

- (b) *any member of the States of Alderney,*
- (c) *any Constable or Douzenier,*
- (d) *any procureur or overseer of the poor or member of a parochial outdoor assistance board, and*
- (e) *any member of the judiciary of the Islands.”*

- **Appointment of Clerk**

The Department has appointed a member of staff to act as the Clerk to the Panel.

#### **4. Recommendation of suitably qualified individuals**

The Department received a total of 29 enquiries and, after careful consideration, the following (brief details appended) were considered to be suitably qualified to be put forward to the States to form the TRP Appeals Panel:

Advocate Mark Dunster  
 Mrs Sheila Evans MRICS  
 Mr Martin Johnson  
 Mrs Caroline Latham MRICS  
 Mr Eric Legg  
 Mr Stuart Le Maitre  
 Mr John Weir FRICS  
 Mr Michael Vaudin

It is further recommended that Mr Stuart Le Maitre be appointed as Chairman of the Panel and Mrs Caroline Latham MRICS be appointed as Deputy Chairman of the Panel.

#### **5. Summary and Conclusions**

The introduction of a new system of property measurement has been a significant task. The new TRP system is now operating well. The introduction of a TRP Appeals Panel is seen as a significant and important step forward in ensuring that the assessment and taxation of real property in the Bailiwick is managed effectively, efficiently and fairly.

#### **6. Recommendations**

The Treasury and Resources Department therefore recommends the States:

- a) To appoint -

Advocate Mark Dunster  
 Mrs Sheila Evans MRICS

Mr Martin Johnson  
Mrs Caroline Latham MRICS  
Mr Eric Legg  
Mr Stuart Le Maitre  
Mr John Weir FRICS  
Mr Michael Vaudin

as Members of the Tax on Real Property Appeals Panel;

- b) To appoint Mr Stuart Le Maitre as Chairman of that Panel;
- c) To appoint Mrs Caroline Latham as Deputy Chairman of that Panel.

Yours faithfully

L S Trott  
Minister

**TAX ON REAL PROPERTY**  
**APPEALS PANEL**

**CANDIDATE PROFILES**

**Advocate Mark Dunster**

Advocate of the Royal Court of Guernsey. BA and MA in Advanced Civil & Commercial Litigation. Qualified as a Barrister in 1994. Employment history includes Essex Court Chambers and Carey Olsen. Formerly a member of the Health and Social Services Department. Secretary to the Guernsey Association of Compliance Officers. Currently a Partner of Carey Olsen. Hobbies and interests include sailing and bee keeping.

**Mrs Sheila Evans**

Retired Chartered Surveyor. Member of the Royal Institute of Chartered Surveyors. Experienced in acting as an expert witness in regards to planning and property development. Volunteer and committee member of the British Red Cross (Bailiwick of Guernsey Branch), with specific responsibility for property matters.

**Mr Martin Johnson**

Former Finance Director of Guernsey Post Ltd. Qualified Accountant with experience of handling employment related appeals as a member of Guernsey Post's Senior Management Team. Familiar with the workings of the States and knowledgeable of committee discussion and decision making processes.

**Mrs Caroline Latham**

Qualified Surveyor and Member of Royal Institute of Chartered Surveyors. Over 30 years experience of working in both the public and private sectors. Currently Joint Managing Director of Bailiwick Estates Limited, which is a property management and real estate consultancy based in Guernsey. Skilled in property valuation, property management and real estate consultancy. Member of the States of Guernsey Employment and Discrimination Panel and plays an active role in the professional qualifications of Chartered Surveyors internationally and has chaired assessment panels for candidates taking their Assessment of Professional competence. Former Chair of the RICS Assessment of Professional Competence Committee.

**Mr Eric Legg**

Age 57 years, married with 2 daughters. Born in Guernsey, educated at Elizabeth College. Retired bank manager with over 30 years banking experience in both Guernsey and the UK. Member of the Juvenile Court Panel in the Royal Court, Chairman of the Guernsey Construction Industry Forum, Treasurer and Executive Officer of the International Island Games Association and a Member of the Young Enterprise Board. Interests and hobbies include most sports, but particularly golf, badminton and snooker.

**Mr Stuart Le Maitre**

Age 47. Born in Guernsey, attended Beechwood and Elizabeth Colleges. B Ed Degree from Bristol Polytechnic. Chartered Director and ONC in Business Studies. 17 years experience in the public sector in Guernsey, held senior positions of Deputy Chief Executive, Board of Industry and Director of Industry and Director of Resources at the Commerce and Employment Department. Also held position of Senior Industrial Relations Advisory Officer with the Board of Industry between 1994 and 1996 and was trained by ACAS to the level of experienced collective conciliator.

**Mr John Weir**

Alderney resident, married with three children. Qualified Chartered Surveyor and Fellow of the Royal Institute of Chartered Surveyors. Broad and in depth experience of running a UK property department, as well as managing a property company with world wide interests. Employment history includes Real Estate Executive with BP, Director and Group Property manager for United News and Media Property Investments Ltd, General Manager of Siemens and Managing Director of Plessey properties Ltd. Member of Corenet 2010, evaluating future of Corporate Real Estate.

**Mr Michael Vaudin**

62 years old. Educated in Guernsey at Vauvert Infants, Amherst Primary and Elizabeth College. Former Managing Director of Blue Diamond Limited, retired but now acts as a non executive director of the company. Considerable business experience in Guernsey, Jersey and the UK, with commercial interests in garden centres and sports retailers. Interests and hobbies include family, all sports, world travel and the cinema.

**(NB The Policy Council has no comments on the proposals.)**

The States are asked to decide:-

V.- Whether, after consideration of the Report dated 29<sup>th</sup> April, 2008, of the Treasury and Resources Department, they are of the opinion:-

1. To appoint -

Advocate Mark Dunster  
Mrs Sheila Evans MRICS  
Mr Martin Johnson  
Mrs Caroline Latham MRICS  
Mr Eric Legg  
Mr Stuart Le Maitre  
Mr John Weir FRICS  
Mr Michael Vaudin

as Members of the Tax on Real Property Appeals Panel

2. To appoint Mr Stuart Le Maitre as Chairman of that Panel.

3. To appoint Mrs Caroline Latham as Deputy Chairman of that Panel.

***ORDINANCES LAID BEFORE THE STATES*****THE COMPANIES (GUERNSEY) LAW, 2008  
(COMMENCEMENT) ORDINANCE, 2008**

In pursuance of the provisions of the proviso to Article 66 (3) of the Reform (Guernsey) Law, 1948, as amended, the Companies (Guernsey) Law, 2008 (Commencement) Ordinance, 2008, made by the Legislation Select Committee on the 19<sup>th</sup> May, 2008, is laid before the States.

**THE UNION OF THE COMOROS (FREEZING OF FUNDS)  
(GUERNSEY) ORDINANCE, 2008**

In pursuance of the provisions of the proviso to Article 66 (3) of the Reform (Guernsey) Law, 1948, as amended, the Union of the Comoros (Freezing of Funds) (Guernsey) Ordinance, 2008, made by the Legislation Select Committee on the 19<sup>th</sup> May, 2008, is laid before the States.

**RECORD OF THE 2008 GENERAL ELECTION**

Members of the States:

It has occurred to me that no formal report of previous General Elections (or By-Elections) has been placed in the Island's records. I have decided that from now on the results of all elections of People's Deputies will be recorded in an appendix to a Billet d'État.

A General Election of People's Deputies was held on Wednesday, 23<sup>rd</sup> April 2008.

Returning Officers for the electoral districts were appointed and sworn by the Royal Court, as follows:

St. Peter Port South:	Mr Vernon Henry Etherington
St. Peter Port North:	Douzenier Nigel George Weysom
St. Sampson:	Douzenier Stephen Gregory Park
Vale:	Mr Colin Harold Bond
Castel:	Mr Christopher Graham Workman
West:	Douzenier Peter Bernard Bott
South-East:	Douzenier Barbara Joyce Hervé

and Deputy Returning Officers (for parishes in districts which comprise more than one parish) were appointed and sworn by the Royal Court as follows:

St. Saviour:	Douzenier Paul Martin Burnard
St. Pierre du Bois:	Mr Julian de Garis Parker
Torteval:	Douzenier Vernon John Watson
Forest:	Mr Pierre Louis Francis Paul
St. Martin:	Douzenier John Henry Sarre
St. Andrew:	Mr Stephen John Cuss.

Polling stations were established by the Constables of the Parishes, as follows:

St. Peter Port South:	Constables' Office, Lefebvre Street St. Stephen's Community Centre, St. Stephen's Lane
St. Peter Port North:	Beau Séjour Leisure Centre, Amherst St. John's Church Hall, Les Amballes
St. Sampson:	Chambre de la Douzaine, Le Murier Church Schools, Grandes Maisons Road
Vale:	Douzaine Room, Rue Maritaine Island Scout Headquarters, Rue Mainguy
Castel:	Chambre de la Douzaine, Les Beaucamps Cobo United Air Rifle Club, Le Feugré

West:	Douzaine Room, Grande Rue, St. Saviour Church Hall, Le Neuf Chemin, St. Saviour Salle Paroissiale, Les Buttes, St. Pierre du Bois Chambre de la Douzaine, Rue du Belle, Torteval Chambre de la Douzaine, Rue des Landes, Forest
South-East:	Salle Paroissiale, Grande Rue, St. Martin Douzaine Room, Route de St. André, St. Andrew.

Polling stations were open from 8.00 a.m. to 8.00 p.m. in the districts of St. Peter Port South and St. Peter Port North and from 10.00 a.m. to 8.00 p.m. in all other districts.

The following results were certified to me by the respective Returning Officers.

**St. Peter Port South:**

BREHAUT, Barry Leslie	989
BROOKS, Stephen Gary	224
BURTENSHAW, Peter John	220
COTTERILL, Susan Mary	107
DOMAILLE, Roger	884
KUTTELWASCHER, Jan	770
LANGLOIS, Allister Hurrell	865
M <sup>C</sup> NULTY BAUER, Carla Steve	935
O'DOHERTY, Christopher	18
TASKER, Jennifer Mary	909
WATERMAN, Matthew Michael	310
WEBBER, Anthony David Canivet	241
WHITFORD, Richard Henry	651
WILEN, Keith Laurence	607
Blank Papers	1
Spoilt Papers	2
Number of electors on roll	3,362
Total number of voters	1,697
Turnout	50.5%

**St. Peter Port North:**

BISSON, Roy Henry	816
COLLINS, Michael Wynne	896
GALLIENNE, Leon Roy	976
GOLLOP, John Alfred Bannerman	1,579
HENDERSON, Rosemarie Anne	230
HONEYBILL, Jack	980
LE PREVOST, Stephen Hugh	250
MATTHEWS, Robert Rhoderick	1,204
MORGAN, Wendy Jane	763
QUERIPEL, Lester Carlson	582
STEERE, Carol Ann	1,010
STOREY, Martin John	999

WALKINGTON, Anthony Michael	279
WILSON, Peter John Barry	570
Blank Papers	1
Spoilt Papers	6
Number of electors on roll	4,467
Total number of voters	2,196
Turnout	49.2%

**St. Sampson:**

BARHAM, Andrew Bernard	535
BICHARD, Andrew Leonard	928
BROOME, Robert John	612
CRANCH, David Donald	846
DUQUEMIN, John	861
GILLSON, Peter Leonard	1,687
HARRIS, Brian	694
MAINDONALD, Samantha Jane	1,386
OGIER, Scott John	1,375
RIHOY, Ivan Frederick	1,337
SMITH, Glen Anthony	137
STEPHENS, Tania Jane	1,095
TROTT, Lyndon Sean	1,181
Blank Papers	2
Spoilt Papers	6
Number of electors on roll	4,833
Total number of voters	2,755
Turnout	57.0%

**Vale:**

DE JERSEY, Brian Richard	1,232
DU PORT, Peter Michael	902
FALLAIZE, Matthew James	2,322
GUILLE, Graham	1,741
JONES, David Brian	1,731
LEIGH, Peter Beau	348
LE LIÈVRE, Andrew Robert	1,342
LOWE, Mary May	1,757
MAHY, Geoffrey Hubert	2,128
QUERIPEL, Laurie Bryn	825
SPRUCE, Anthony	2,099
VAN KATWYK, Lee	1,047
Blank Papers	0
Spoilt Papers	5
Number of electors on roll	5,648
Total number of voters	3,392
Turnout	60.1%

**Castel:**

ADAM, Alexander Hunter	1,703
DOREY, Mark Hirzel	1,884
FLOUQUET, Bernard Marcel	1,180
GARRETT, Michael Guy Gordon	1,162
KNIGHT, Jean Evelyn Mary	501
LE PELLE, Thomas Mansell	1,528
M <sup>C</sup> MANUS, Sean Josphe	1,478
PAINT, Barry John Edward	1,279
SPINKS, Jo-Anne	874
TIDD, Gillian	782
TOSTEVIN, Keith William	1,056
YOUNG, Gordon Edward	229
Blank Papers	3
Spoilt Papers	8
Number of electors on roll	4,977
Total number of voters	2,723
Turnout	54.5%

**West**

BROUARD, Alvord Henry	2,202
BYROM, Joanna Hazell Moiya	595
DE LISLE, David de Garis	1,682
DOMAILLE, Paul Ernest Fox	932
DUDLEY-OWEN, Gloria Pearl	1,205
GORVEL, David John	1,007
LAINÉ, Marc Svein	1,645
LANGLOIS, Shane Lenfestey	1,300
LE NOURY, Leonard Frank	67
PLUMLEY, Robert	390
SIRETT, Peter Raphael	1,265
WILKIE, Arrun Michael	1,050
Blank Papers	3
Spoilt Papers	2
Number of electors on roll	4,899
Total number of voters	2,945
Turnout	60.1%

**South-East:**

CORBIN, Raymond Anthony	223
CRISPINI-ADAMS, Vanessa Madeleine	1,174
GREGSON, Robert William	1,061
HADLEY, Michael Peter James	1,309
LE SAUVAGE, Janine Michelle	1,349
MARSON, Lorraine Simon	770
O'HARA, Michael George	1,576

PARKINSON, Charles Nigel Kennedy	2,256
QUIN, Francis William	1,625
ROBERTS, Ivan Goman	411
SILLARS, Robert William	1,477
Blank Papers	0
Spoilt Papers	6
Number of electors on roll	5,015
Total number of voters	2,868
Turnout	57%

### **Members elected to serve from 1<sup>st</sup> May 2008 to 30<sup>th</sup> April 2012**

The following candidates were declared elected as People's Deputies for their respective districts. They each took the oath of allegiance and the oath of office before a special sitting of the Royal Court held on the 1<sup>st</sup> May 2008 whereupon they entered into office.

#### **St. Peter Port South**

1. Barry Leslie Brehaut
2. Carla Steve M<sup>c</sup>Nulty Bauer
3. Jennifer Mary Tasker
4. Roger Domaille
5. Allister Hurrell Langlois
6. Jan Kuttelwascher

#### **St. Peter Port North**

1. John Alfred Bannerman Gollop
2. Robert Rhoderick Matthews
3. Carol Ann Steere
4. Martin John Storey
5. Jack Honeybill
6. Leon Roy Gallienne
7. Michael Wynne Collins

#### **St. Sampson**

1. Peter Leonard Gillson
2. Samantha Jane Maindonald
3. Scott John Ogier
4. Ivan Frederick Rihoy
5. Lyndon Sean Trott
6. Tania Jane Stephens

#### **Vale**

1. Matthew James Fallaize
2. Geoffrey Hubert Mahy

3. Anthony Spruce
4. Mary May Lowe
5. Graham Guille
6. David Brian Jones
7. Andrew Robert Le Lièvre

#### **Castel**

1. Mark Hirzel Dorey
2. Alexander Hunter Adam
3. Thomas Mansell Le Peley
4. Sean Joseph M<sup>c</sup>Manus
5. Barry John Edward Paint
6. Bernard Marcel Flouquet
7. Michael Guy Gordon Garrett

#### **West**

1. Alvord Henry Brouard
2. David de Garis De Lisle
3. Marc Svein Lainé
4. Shane Lenfestey Langlois
5. Peter Raphael Sirett
6. Gloria Pearl Dudley-Owen

#### **South-East**

1. Charles Nigel Kennedy Parkinson
2. Francis William Quin
3. Michael George O'Hara
4. Robert William Sillars
5. Janine Michelle Le Sauvage
6. Michael Peter James Hadley

#### **Alderney Representatives**

On the 9<sup>th</sup> January 2008 the States of Alderney, pursuant to the States of Guernsey (Representation of Alderney) Law, 1978, as amended, elected –

1. Mr. Richard Greville Willmott
2. Mr. William Walden

as representatives of the States of Alderney in the States of Deliberation during 2008 and sent a statutory notice to Her Majesty's Greffier to that effect.

G. R. ROWLAND  
Bailiff and Presiding Officer

# IN THE STATES OF THE ISLAND OF GUERNSEY ON THE 25<sup>th</sup> DAY OF JUNE, 2008

The States resolved as follows concerning Billet d'État No VIII  
dated 6<sup>th</sup> June 2008

## PROJET DE LOI

entitled

### THE CHARITIES AND NON PROFIT ORGANISATIONS (INVESTIGATORY POWERS) (BAILIWICK OF GUERNSEY) LAW, 2008

I.- To approve, subject to the following amendment, the Projet de Loi entitled "The Charities and Non Profit Organisations (Investigatory Powers) (Bailiwick of Guernsey) Law, 2008" and to authorise the Bailiff to present a most humble petition to Her Majesty in Council praying for Her Royal Sanction thereto.

#### AMENDMENT

For clause 11 (printed at pages 19 to 21 of the Brochure) substitute the following clause-

#### **"Powers to make Ordinances.**

11. (1) The States may by Ordinance -
  - (a) amend sections 1, 3, 4, 5, 10, 12 or 13, where it appears to the States to be necessary for any of the purposes described in subsection (5), and
  - (b) make such additional provision as they think fit for the purposes of carrying this Law into effect.
- (2) Any Ordinance, regulation or Order under this Law -
  - (a) may be amended, repealed or revoked by a subsequent Ordinance, regulation or Order, as the case may be, hereunder, and
  - (b) may contain such consequential, incidental, supplementary and transitional provision as may appear to be necessary or expedient.
- (3) Any power conferred by this Law to make any Ordinance,

regulation or Order may be exercised -

- (a) in relation to all cases to which the power extends, or in relation to all those cases subject to specified exceptions, or in relation to any specified cases or classes of cases,
- (b) so as to make, as respects the cases in relation to which it is exercised -
  - (i) the full provision to which the power extends, or any lesser provision (whether by way of exception or otherwise),
  - (ii) the same provision for all cases, or different provision for different cases or classes of cases, or different provision for the same case or class of case for different purposes,
  - (iii) any such provision either unconditionally or subject to any prescribed conditions.

(4) Regulations under this Law shall be laid before a meeting of the States as soon as possible after being made; and, if at that or the next meeting the States resolve that the regulations be annulled, then they shall cease to have effect, but without prejudice to anything done under them or to the making of new regulations.

(5) The purposes are -

- (a) enhancing or protecting the reputation or economic interests of the Bailiwick,
- (b) improving or enhancing the investigation, prevention or detection of crime,
- (c) facilitating the instigation of, or otherwise for the purposes of, any criminal proceedings,
- (d) facilitating the detection, seizure and forfeiture of the proceeds of crime or assets intended for use in crime,
- (e) discharging any international obligation to which the Bailiwick is subject, and

- (f) assisting, in the interests of the public or otherwise
  - (i) any competent authority, or
  - (ii) any authority which appears to the States to exercise in a place outside the Bailiwick functions corresponding to any of the functions of Her Majesty's Procureur or the police under this Law."

## **HOME DEPARTMENT**

### **ELECTION OF NON-VOTING MEMBER**

II.- To elect, as a non-voting member of the Home Department, Mr Andrew Lucas Ozanne, who had been nominated in that behalf by that Department, to serve until May 2012 in accordance with Rule 4 (2) of the Constitution and Operation of States Departments and Committees.

## **HOUSING DEPARTMENT**

### **ELECTION OF NON-VOTING MEMBER**

III.- To elect, as a non-voting member of the Housing Department, Mr Dudley Robert Jehan, who had been nominated in that behalf by that Department, to serve until May 2012 in accordance with Rule 4 (2) of the Constitution and Operation of States Departments and Committees.

## **POLICY COUNCIL**

### **ENERGY POLICY**

IV After consideration of the Report dated 19<sup>th</sup> May, 2008, of the Policy Council:-

1. To note the States' Policy Council Energy Policy Report, including the Energy Hierarchy as set out in paragraphs 2.19 to 2.24 of the appended Energy Policy Report.
2. To agree the three Headline Policies set out in paragraph 1.3, and the work streams which underpin them, as set out in paragraphs 5.2, 8.2 and 13.2 of the appended Energy Policy Report, except that the project/initiative identified as A. ix) in the table at paragraph 13.2 shall be clarified so as to read:

‘Investigate the implications of making Guernsey carbon emissions free

in the long term by moving towards having electricity as virtually the only power source.’

3. To agree in principle (subject to further research as set out) the targets for reductions in carbon dioxide emissions, and the generation of electricity from local renewable sources, as set out in paragraph 2.18 of the appended Energy Policy Report.
4. To direct the Policy Council and the Lead Departments (as identified in the appended Energy Policy Report) to progress the various work streams and to agree appropriate timeframes.
5. To note that the allocation of adequate resources is essential to the successful implementation and operation of the Energy Policy and to direct the Treasury and Resources Department to be mindful of this when considering resource requests from Departments, particularly the Environment Department, involved in the implementation of the Energy Policy; .
6. To agree that progress in the various work streams will form part of the monitoring of the annual Government Business Plan (Priority 10 - Meet Energy needs more efficiently and sustainably).
7. To focus their interests in renewable energy on:-
  - (a) preparing the necessary legislation which will enable Guernsey to take advantage of tidal power opportunities as and when they arise;
  - (b) closely monitoring tidal power technologies and opportunities;
  - (c) encouraging, promoting and facilitating tidal power opportunities; and
  - (d) directing the Commerce and Employment Department to establish a Guernsey Renewable Energy Commission responsible for promoting and licensing macro-renewable energy projects within Guernsey.
8. To direct the Commerce and Employment Department to monitor the issue of “Peak Oil” and report to the States as necessary.

## **TREASURY AND RESOURCES DEPARTMENT**

### **TAX ON REAL PROPERTY – APPEALS PANEL**

V.- After consideration of the Report dated 29<sup>th</sup> April, 2008, of the Treasury and Resources Department:-

1. To appoint -

Advocate Mark Dunster

Mrs Sheila Evans MRICS  
Mr Martin Johnson  
Mrs Caroline Latham MRICS  
Mr Eric Legg  
Mr Stuart Le Maitre  
Mr John Weir FRICS  
Mr Michael Vaudin

as Members of the Tax on Real Property Appeals Panel

2. To appoint Mr Stuart Le Maitre as Chairman of that Panel.
3. To appoint Mrs Caroline Latham as Deputy Chairman of that Panel.

***ORDINANCES LAID BEFORE THE STATES***

**THE COMPANIES (GUERNSEY) LAW, 2008  
(COMMENCEMENT) ORDINANCE, 2008**

In pursuance of the provisions of the proviso to Article 66 (3) of the Reform (Guernsey) Law, 1948, as amended, the Companies (Guernsey) Law, 2008 (Commencement) Ordinance, 2008, made by the Legislation Select Committee on the 19<sup>th</sup> May, 2008, was laid before the States.

**THE UNION OF THE COMOROS (FREEZING OF FUNDS)  
(GUERNSEY) ORDINANCE, 2008**

In pursuance of the provisions of the proviso to Article 66 (3) of the Reform (Guernsey) Law, 1948, as amended, the Union of the Comoros (Freezing of Funds) (Guernsey) Ordinance, 2008, made by the Legislation Select Committee on the 19<sup>th</sup> May, 2008, was laid before the States.

**K H TOUGH  
HER MAJESTY'S GREFFIER**