



## PUBLIC CONSULTATION DISCUSSION PAPER

Issued by Planning and Environment w/c 24<sup>th</sup> September 2007

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**PURPOSE OF CONSULTATION :** To seek opinion on the proposed policy options put forward in respect of Jersey's energy future.

**DEADLINE FOR RESPONSES** 7<sup>th</sup> December 2007

**SUMMARY OF REPORT / QUESTIONS TO CONSIDER** This summary report provides an introduction to the detailed energy policy consultation document 'Fuel for Thought'. The full document sets out the background, context, technical arguments and evidence base for the policy options that are summarised here in respect of Jersey's proposed energy policy. This report contains 9 questions, with subsets of questions, on which you are invited to give your views to help in the further development of this policy. You are also invited to provide any additional feedback or information you would like.

**FURTHER INFORMATION AND FEEDBACK** A comprehensive consultation paper 'Fuel for Thought' is available along with its supporting commissioned reports, from [www.gov.je](http://www.gov.je), or from the Environment Department at the address below. Comments received by 7<sup>th</sup> December will be analysed and used to help design the final proposals that will be brought to the States for debate early in 2008.

Please send your comments to:

<p>Energy Policy Consultation          Environment Department          Howard Davis Farm          La Route de la Trinite          Trinity          Jersey JE3 5JP</p>	<p>Tel. 01534 441600          Fax 01534 441610          Email <a href="mailto:environmentenquiries@gov.je">environmentenquiries@gov.je</a></p>
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All States Members, The Public Consultation Register, Parish Halls, States Greffe bookshop, Cyril le Marquand House Customer Services Centre, Public Library

### SUPPORTING DOCUMENTS

'Fuel for Thought' Energy Green Paper Summary Document







States   
of Jersey

## ENERGY POLICY

# Fuel for thought?

**Green Paper  
Consultation Summary Document  
September 2007**





This summary document provides an introduction to the detailed energy policy consultation document 'Fuel for Thought'. The full document sets out the background, context, technical arguments and evidence base for the policy options that are summarised here. The full document and the supporting commissioned reports are available on [www.gov.je](http://www.gov.je) or can be provided on CD or in hard copy by contacting The Environment Department, Howard Davis Farm, Trinity Hill, Trinity, JE3 5JP or by phoning 441600.

This consultation report is a discussion document intended to stimulate debate and launch a process of consultation on the subject of energy. It contains a range of ideas and is designed to encourage interested individuals or organisations to contribute views and information that will help form a final set of official proposals that will be proposed to the States of Jersey for adoption as policy.

States of Jersey 2007

Published by the Environment Department,  
Department of Planning and Environment,  
Environment Division,  
Howard Davis Farm,  
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## Foreword by the Minister

**T**he goal of this energy policy is to achieve **secure, affordable and sustainable** energy.

Energy costs are significant to our economy and are set to rise. Virtually all of our primary energy is imported which increases vulnerability to price shocks and physical failures in supply. The importation of energy requires infrastructure and if energy use exceeds planned demand levels there are significant costs to the Island. And, of course, unless energy costs can be contained the most vulnerable in society are exposed to disproportionate costs in relation to their disposable income. This consultation paper therefore has a cross-departmental scope.

There is no longer any real debate over the fact that climate change is happening and that man-made emissions are the main cause. If Jersey is to prove itself a responsible global player and a good place in which to live, work and do business it must set itself the highest standards in respect of our energy procurement and use. Jersey has outperformed the UK in reducing greenhouse gases and this advantage will be maintained by the challenging but achievable targets that are proposed for the next 30 years. Emissions of carbon dioxide are already down 36% on 1990 levels and by the year 2030 it is proposed to reduce this to 52%.

This green paper establishes the context and rationale for action and goes on to describe the key policy elements. It sets out a simple hierarchy for action backed up by a range of proposed policy options. The main policy objective is to reduce energy use by becoming more efficient and reducing wastage. A new body "Sustainable Energy Jersey" is proposed to lead this activity and it will provide both advice and grant support as necessary, funded through environmental taxes. Financial support will be targeted

initially at improving the energy performance of buildings.

Large scale wind and tidal schemes are not considered viable in the immediate term but smaller scale microgeneration technologies such as solar water heating and ground source heat pumps are already available and offer the prospect of making a contribution to the amount of low carbon energy produced locally. Energy from waste schemes are also viable for both municipal waste and animal manures.

Security of supply and resilience are important factors for an Island dependent on imported energy. There is a marginal economic case for bringing oil products to the island through a pipeline and this will be examined alongside possible changes that are required to on-island facilities following the report into the Buncefield fuel farm disaster.

Competition in the supply of energy needs to be stronger within, as well as, between sectors. This may need to take the form of regulation rather than new market entrants. Global energy markets will inevitably continue to drive up prices and it is important to mitigate these rises as much as possible through achieving efficiencies in the supply chain.

Energy is a critically important issue for Jersey and I look forward to hearing your views on all aspects of this consultation.

Senator Freddie Cohen,  
Minister for Planning  
and Environment  
September, 2007









## Why do we need an energy policy?

The standards of living enjoyed today are underpinned and maintained by the use of enormous amounts of energy. Consider for instance heating, lighting, travel and transport, food production, manufacture of goods and materials, and electrical devices from carpet cleaners to computers. Without access to large quantities of cheap energy society across the developed world would grind to a halt.

As well as providing benefits, the use of energy has significant downsides too, for instance the environmental damage that occurs in the extraction and transport of fossil fuels, the legacy of radioactive waste from nuclear generation, and the impacts of gaseous emissions on air quality. Oil prices continue to rise and increases are commonly associated with political instability in oil producing countries. This causes concern for the security of supply as more countries rely on imports and supplies become concentrated in fewer areas.

Fossil fuels are a huge but finite resource. They were laid down by biological and geological processes millions of years ago and they are not being replenished. The current world population is set to double in the next 30 years and at the same time industrialisation and development is happening in the emerging economies of China, India and Africa. Pressure on remaining fossil fuel reserves will be intense as it is calculated that the peak for oil (where the rate of use exceeds the rate of discovery) has already been reached. The easiest

sources have already been taken and what remains, will become more costly to extract - so whilst fossil fuels may never literally run out they will become too expensive to use in the way that they are used today. As an importer of energy Jersey is exposed to these anticipated price increases.

Human activity is capable of altering natural systems at a global level. Oceans have been fished out, ozone layers have been depleted and acid rain has destroyed forests. It is now clear that the emissions from burning fossil fuels are capable of changing the earth's climate. Tackling climate change is widely regarded as the most important challenge facing humankind in the 21<sup>st</sup> Century.

Coping with this future will require a significant transformation in thinking. Economic growth and development need to be de-coupled from the use of energy, the demand for energy has to be reduced by using it more efficiently, and new non-depletable energy sources have to be developed and deployed.

Whilst this is happening there is a need to focus on ensuring that current energy systems are secure and resilient (both physically and from the economic influences of the global market) and that energy services are delivered in an efficient and competitive way.





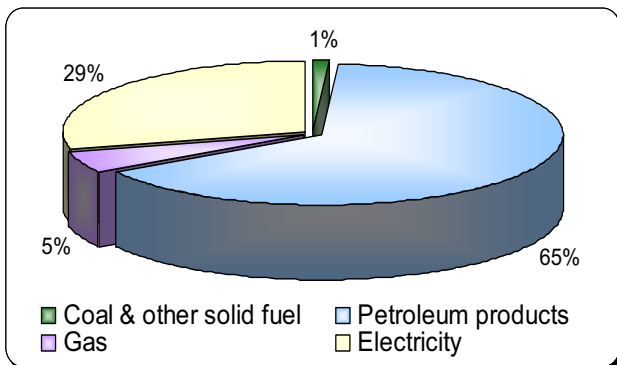
## What position is Jersey in?

Jersey is very vulnerable to trends in global energy because of the characteristics of its energy systems:

**1. High import dependency** - Jersey imports electricity from the European grid via 2 submarine inter-connectors and petroleum products by tanker. There is virtually no energy production from indigenous sources.

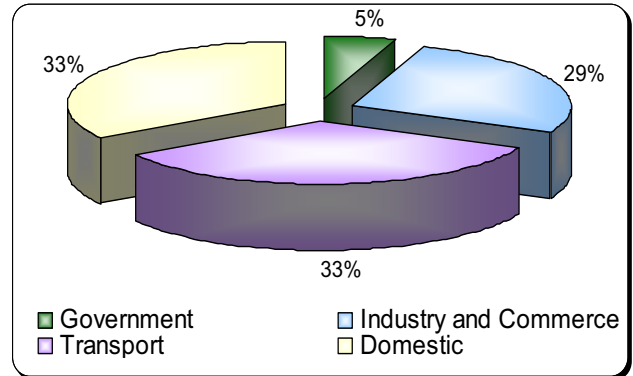
**2. Jersey is especially dependant on imported petroleum products.** This makes us a 'price taker' in a global market of increasing energy costs.

### What energy mix does Jersey use ?



**3. Energy use patterns are dominated by the domestic and transport sector** as a result of the lack of heavy industry locally. Jersey's main exporting industry, international financial services, uses relatively little energy.

### Who uses Jersey's energy?



**4. There are low levels of competition in the energy market.** There is competition in the oil market but both the gas and electricity utilities operate as 'natural monopolies' i.e. where fixed costs are so high that it isn't profitable for a second firm to enter and compete.

**5. Consumer behaviour has been unresponsive to rising energy costs.** This is partially because energy costs have historically formed a relatively small proportion of disposable income.

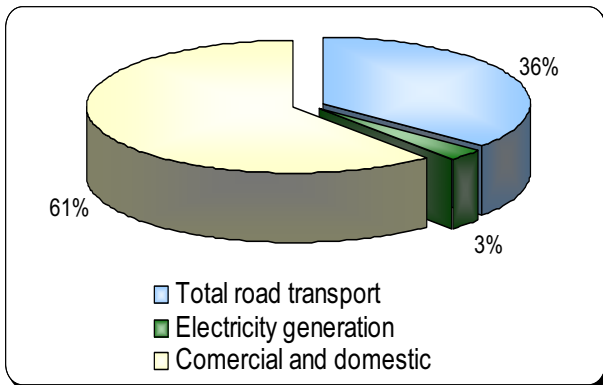




## What about Jersey's carbon emissions?

Jersey's energy related carbon emissions are very small on a global scale and have fallen by around 36% in the period between 1991 and 2005 as a result of the switch from on-Island oil-fired electricity generation to importing low carbon electricity from France.

### The sources of Jersey's carbon emissions?



### Overall, Jersey's energy patterns differ from elsewhere:

- Electricity consumption per head of population is higher than in the UK;
- Consumption of heating oil per head of population is far greater than in the UK;
- Consumption of gas (on-island liquid petroleum gas is used) is far lower than the consumption of natural gas per head population in the UK;
- Consumption of road fuels is higher than might be expected for such a small island;

- There is very limited generation of energy from renewable energy sources;
- The imported electricity supply is already very low carbon since it is sourced from nuclear and hydroelectricity generation. Therefore, measures which displace it will have to be equally low carbon options if the Island's carbon emissions are to remain the same or be reduced.





## What does the Energy Policy set out to do?

**The goal of energy policy is to achieve 'Secure, Affordable, Sustainable Energy'**

with almost zero carbon emissions. In the longer term macro scale renewables such as wind and tidal power are potential replacement technologies.

In the immediate term security is about managing our existing sources of energy in a way that ensures a continuity of supply e.g. having adequate storage, back-up on interconnections and possibly even a hydrocarbon pipeline.

In the longer term it means becoming less dependent on imports and developing indigenous renewable resources such as wind and tidal power together with microgeneration options.

Affordability is tackled in two ways:

- Firstly, costs can be reduced by not wasting energy and so a lot of effort will go into energy efficiency measures such as home insulation and using building regulations to improve standards in new buildings.
- Secondly, competition can be encouraged in the wholesale and retail sectors to ensure that prices charged to customers are as low as possible.

Sustainable energy choices anticipate that fossil fuels will become increasingly scarce and therefore expensive; they also seek to reduce carbon emissions. In the short / medium term the use of nuclear generated electricity remains a good option as it can deliver energy cheaply





## How is it possible to choose between the many options that exist?

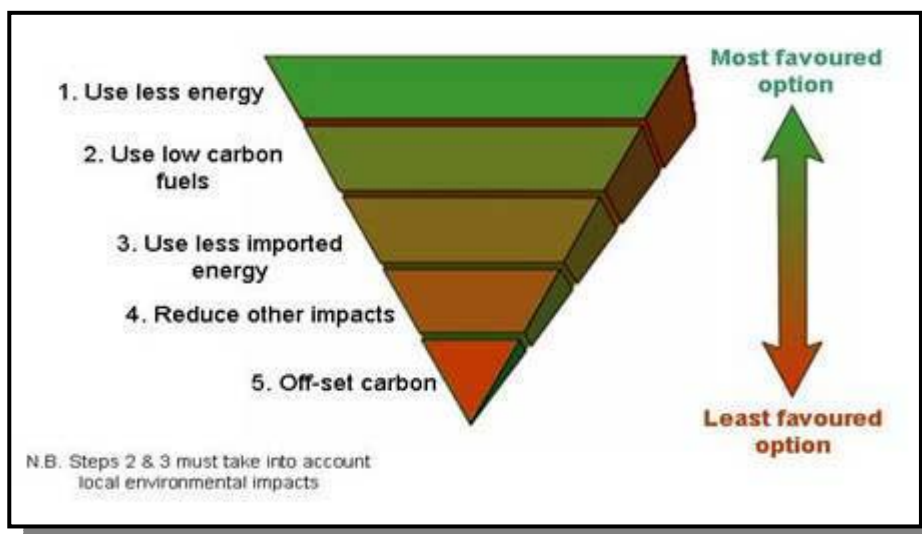
An Energy Framework is proposed which establishes a hierarchy for action.

- 1. Use less** – Reduce the environmental and economic consequence of energy use by simply reducing our energy demand.
- 2. Use less carbon-intensive fuels** – These are finite in the long term and the environmental (and thus economic) costs of their use are great. The options for switching to renewably generated fuels will continue to increase as technologies become viable.
- 3. Use less imported energy** – the exploitation of the Island’s indigenous generating capacity will give greater security and resilience in the longer term.
- 4. Reduce other impacts** – All energy sources have environmental impacts. Where possible these impacts should be reduced by choosing the most benign options capable of servicing the energy needs of the island.

5. Off-set residual carbon emissions – Decarbonising the economy will not happen immediately and even with vigorous progress there are likely to be residual carbon emissions. To demonstrate Jersey’s high levels of international responsibility the Island could mitigate its unavoidable contribution to global pollution by contributing to bona fide carbon reduction projects.

It is recognised that the hierarchy will be limited by other concerns. For example, Jersey could switch away from low-carbon nuclear generated electricity to avoid the impacts caused by radioactive waste but the costs of purchasing alternative renewably generated electricity are likely to be at least double current prices.

Local impacts of say large-scale onshore wind power on the landscape may be unacceptable, and locally grown bio-fuels may not be able to compete commercially for land that is under cultivation for other crops or that is valued for its biodiversity.





## What programmes should be initiated?

### 1. Decrease energy use

This is particularly important in the face of a growing population and trends of increased energy demand. Policies will aim to ensure the highest standards of demand management and energy use are vigorously pursued in order to promote environmental sustainability, avoid the costs of energy infrastructure and reduce exposure to international energy prices.

### 2. Make sustainable energy choices

Minimising the use of fossil fuels and replacing imported energy with indigenous sources will give the most sustainable outcome in the longer term. Policies will show the world that Jersey sets itself high standards that are equivalent to, or better than, other developed nations.

### 3. Prepare for the effects of climate change

The effects of accelerated climate change are already being felt and irrespective of

future emissions there is a need to prepare for the predicted effects of a changed climate.

### 4. Ensure that our energy supplies are secure and resilient

The economy relies on secure supplies of energy being available at predictable prices. This requires the appropriate infrastructure and back up of supply. The energy market must be diverse, flexible, well-structured and appropriately regulated to fulfil this.





## How does this translate in to targets?

Between 1990 and 2005 Jersey increased its total energy use by **26%** from 170,500 tonnes of oil equivalents to 214,700 tonnes of oil equivalents. A 'tonne of oil equivalents' is the standard measure used to provide comparisons across different fuel types. It refers to the amount of energy released by burning one tonne of crude oil.

In the same period carbon emissions have reduced by **36%** as a result of the switch away from on-island oil based electricity generation to low-carbon nuclear/hydro sourced imported electricity.

**Target - A 52% reduction on 1990 levels of carbon emissions by 2030**

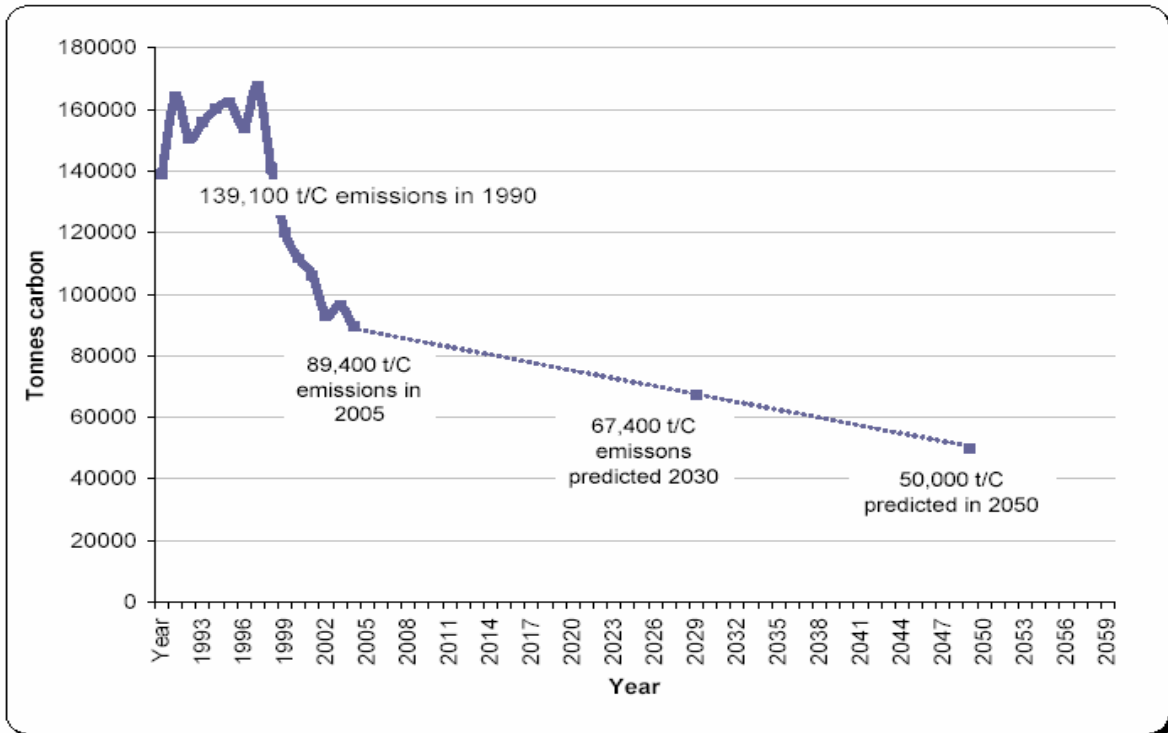
This target equates to a 16% reduction on 2005 levels to add to the 36% already achieved in the period 1990 to 2005.

The target will be achieved by:

- The continued shift towards electricity for heating (6,700 tonnes of carbon);
- Additional reductions as a result of a 15% reduction in road fuels and a 20% increase in the efficiency of energy use in the home and by businesses (15,000 tonnes of carbon).

Projections on these trends lead to carbon emissions of about 50,000 tonnes of carbon by 2050.

**This equates to a reduction of 64% on 1990 levels of carbon emissions.**





## What policy options are being proposed in this consultation?

### 1. Reduce demand for energy

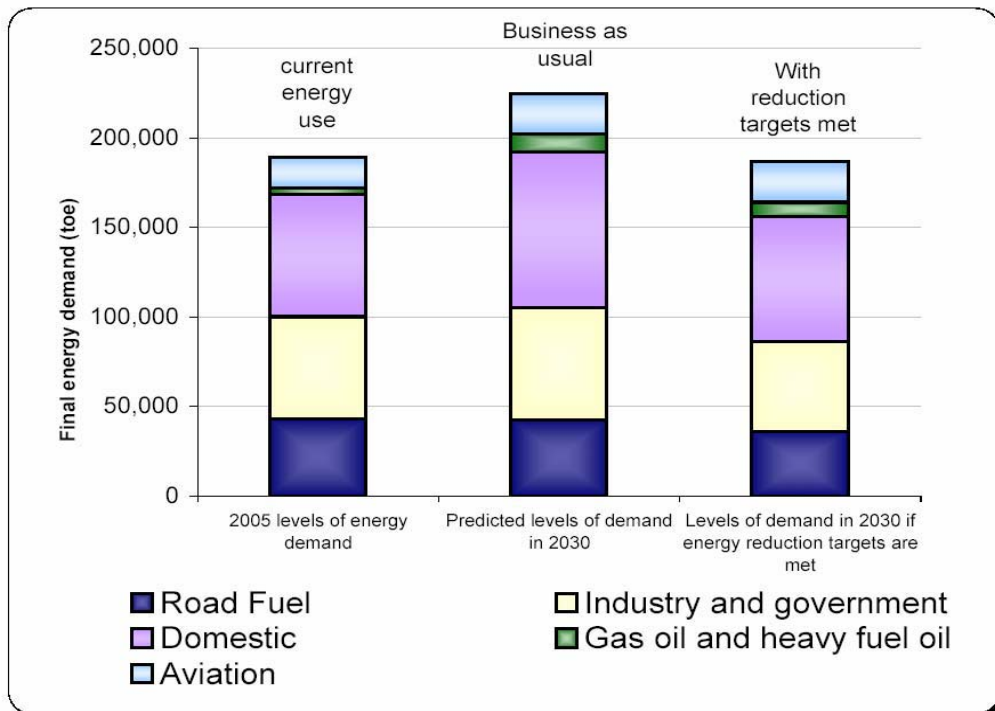
The graph below shows current energy use patterns alongside the predicted levels of demand in 2030 if we do nothing and the current growth rate continues. Under the 'business as usual' scenario, energy demand will grow by nearly 20%.

**Proposed policy options centre on stabilising energy use at 2005 levels by encouraging energy efficiency via a suite of legislative and fiscal measures.**

However, if the reduction targets are met, energy demand can be stabilised at 2005 levels.

Stabilising energy will include contributing to the development of new legislation that adequately reflects the highest energy conservation standards in the UK and other jurisdictions to ensure that all homes reach minimum standards and occupants are not put in a position of fuel poverty

Awareness and education programmes are also proposed to assist informed decisions in energy use patterns. These would include the creation of a not-for-profit organisation ('Sustainable Energy Jersey'), drawing on the model of the UK's Energy Savings Trust, whose role would be to deliver energy efficiency programmes and mechanisms for saving energy and lowering carbon emissions. The ECO-ACTIVE programme would assist this initiative. The body would be funded by revenue from environmental taxation.







## 2. Sustainable Transport Options

Jersey has very high car ownership and dependency with road fuels accounting for over one third of final energy consumption. Overall trends are of stabilising energy consumption in this sector due to saturation of vehicles on the road and new vehicles becoming more fuel-efficient. Nevertheless, congestion with associated local pollution and road accidents are acknowledged areas for improvement.

Proposed policy options centre on supporting the 'Integrated Travel and Transport Plan' which identifies a package of measures to reduce dependency on the private car and reduce peak time congestion by 15%.

**This will reduce carbon emissions from road transport by 11% compared to predicted 2030 carbon emission levels if no action is taken.**

There is scope to use cleaner and carbon neutral fuels, for instance the production of bio-diesel, locally, on appropriate land could displace 5% of diesel imports with a consequent saving of 500 tonnes of carbon.

Similarly, the importation of petrol that is 5% blended with bio-ethanol that could be sold from the forecourts would save 1,000 tonnes of carbon. However, it is important to ensure that any imported bio-fuel comes from a sustainable source, is carbon neutral and its production is not

contributing to environmental degradation in the country of origin

Electric vehicles also have great potential in Jersey due to the relatively short distances travelled and the average speed of traffic, which match the performance characteristics of these vehicles.

There are no proposals within this document to tackle energy use by the aviation and shipping industries in isolation. National Governments have accepted that these measures should be examined within the international community or at least at the European scale. However, Jersey should continue to monitor global progress and apply measures locally as appropriate.





### 3. Energy Options for Jersey at the utility scale

Jersey has a very good on and off shore wind resource. There are likely to be insurmountable planning barriers to exploiting on-Island wind resources, but there is some potential for exploiting offshore wind. However, this is currently very expensive – a 90MW offshore wind farm consisting of thirty 60 metre high turbines would cost in the region of £135-160 million.

Jersey’s large tidal range makes it attractive as a test-ground for proving technologies such as tidal barrages and emerging technologies such as tidal lagoons and to some degree tidal stream. The environmental impact of tidal barrages is likely to prove unacceptable for Jersey. However, Government can offer attractive conditions for research and development and this may encourage trials of tidal lagoon technology in local waters.



### 4. Energy from waste

By constantly evaluating best practice, Jersey can seek to exploit existing and emerging technology to generate energy from waste as well as contributing to waste management solutions.

The forthcoming replacement of the Energy from Waste Plant has the potential to exploit the latest technology by considering the thermal efficiency of the processes and the recovery of energy for further end uses, for instance to provide district heating

There are also opportunities for the anaerobic digestion of livestock and agricultural wastes. A centralised Anaerobic Digestion plant would have additional benefits of recovering heat and power, capturing methane (a potent greenhouse gas) and reducing pollution.





## 5. Microgeneration energy options for Jersey

**M**icrogeneration involves generating small amounts of heat and power to meet individual and community needs; most commonly the source of the energy is renewable and thus it has numerous benefits that include:

- Lowering carbon emissions;
- Decreasing the environmental footprint of the displaced power;
- Increasing security of supply;
- Diversifying the supply of electricity.

There are numerous proven technologies available such as solar thermal systems for space and water heating, photovoltaic systems that turn solar energy into electricity and ground or air-source heat pumps for space heating.

High quality, well installed systems can deliver substantial cost savings to premises. This saving means that the capital cost of the technology investment will be paid back over the lifetime of the installation although some technologies have far shorter payback periods than others. As energy prices rise, the installation of microgeneration technology to a property is likely to increase the resale value.

To encourage the take up of microgeneration technologies the following policies are proposed :

- Requiring by 2010 that at least 10% of the energy in all new building is provided by renewable sources.

- Providing impartial advice to the public through 'Sustainable Energy Jersey' on choosing and installing the appropriate technology.
- Providing assistance to the local microgeneration industry through 'Sustainable Energy Jersey' in the form of training opportunities and the possibility of an accredited standards scheme.
- Simplifying the development control process to encourage the uptake of microgeneration technologies
- Requiring the JEC to continue to pay the 'avoided cost' to customers for excess electricity generation sold back to the grid, as well as assisting with the provision of the appropriate metering equipment necessary for this. Avoided cost is the price of electricity that the JEC pays when purchasing it wholesale from the European grid.
- Bringing forward an Energy Crops Action Plan by the end of 2008 to address the possibility of growing energy crops locally with the additional aims of diversifying the rural economy and assisting in waste management solutions.





## 6. Importing a higher proportion of renewable energy

Considerable capital investment is required in the exploitation of utility scale renewables such as wind and tidal power. In the short term it is more economic to simply make more sustainable fuel choices from among the existing energy mix. Current energy choices must take account of the carbon content of the fuels used in order to minimise our emissions and reduce our dependence on imported fossil fuels.

There has been a continuing trend towards increased electricity use for heating. Because of the low-carbon content of imported electricity this has the added benefit of reducing the Island's carbon footprint. Policy options centre on requiring the JEC to continue to take account of the low carbon content of its electricity as a material consideration when considering purchasing options.

## 7. Preparing for the effects of climate change

Jersey has an enviable long-term climatic data set that has and can continue to contribute to climatic modelling. The continued collection and contribution of these datasets to leading organisations in climatic modelling will allow future, locally specific, patterns of climate change to be better assessed.

Construction, agriculture, fisheries and to some degree tourism, are industries at the 'coal-face' of climate change. The States must assist these industries to

identify and plan for the effects of climate change and help to adjust their business models to account for the opportunities and challenges climate change presents.

Opportunities arise out of climate change including the potential to participate in global carbon markets or Kyoto mechanisms. It is proposed that the States should investigate and provide, where appropriate, the support and advice mechanisms necessary to enable and empower the financial sector to participate.

The 'compliance market' provides support to achieve compliance with regulations. This is a growing sector, particularly in the construction industry, where increased standards must be adhered to. The States can investigate and provide, where appropriate, the support and advice mechanisms necessary to enable and grow the compliance market.

Increasing awareness of Corporate Social Responsibility in the consumer market means that there is an growing market advantage for companies to improve their environmental credentials. Government can assist through, for example, a business accreditation scheme run under the umbrella of the ECO-ACTIVE campaign.

[www.ECO-ACTIVE.JE](http://www.ECO-ACTIVE.JE)





## 8. Security and resilience of supply

The availability of reliable and resilient supplies of energy at predictable prices is essential to maximise economic efficiency. The physical security of supplies is potentially threatened in the short term by force majeure, technical problems or terrorist action that, in turn, can have financial implications.

In the longer term price security is harder to guarantee as fossil fuels become scarcer. As an importer of fuel Jersey is particularly vulnerable.

Risk management is the key to managing our import dependency. There are vulnerabilities in the supply routes (e.g. the reliability and safety of maritime supply routes of petroleum products) or storage facilities (e.g. limited capacity and facility dependence at the fuel farm, La Collette). Strategies will be formulated to mitigate unacceptable or predictable risks. Proposed policy options centre on :

- Ensuring supply and demand can be met in normal circumstances and, in an emergency situation, via adequate and robust contingency planning. Shipping costs are high and expose Jersey to price shocks in this area and there are long term doubts as to the availability of suitably sized double-hulled ships for local waters/harbour. It is also anticipated that the Buncefield Investigation Report will recommend stricter controls on land use around fuel farms. These may prove sufficiently restrictive in the master planning of the
- East of Albert area to make alternatives such as moving the fuel farm more viable.
- Alternatives such as the economic viability of the importation of petroleum products via pipelines will be further investigated. Benefits to such a scheme, in addition to combating the challenges outlined above, are increased flexibility of the fuel mix, an improved security of supply, and a reduction of facility dependence.
- Ensuring the Island is protected from and, if necessary, compensated for the threat of environmental pollution or damage to human health from either nuclear or maritime incidents.
- Requiring the JEC to operate the local electricity network to N-1 planning standards (i.e. being able to withstand the loss of the single biggest element in the supply). After the closure of the La Collette Plant this will require the installation of the third interconnector which is planned for 2008.
- The States will enter into discussions with stakeholders in the petroleum products industry to ensure adequate security of supply for the future. This will involve further consideration of the importation of liquid hydrocarbons via pipelines to achieve the following benefits: increased flexibility of the fuel mix; increased security of supply and a reduction of facility dependence.





## 9. The energy market

**K**ey to this policy is to ensure that the correct market forces coupled with appropriate regulations are in place to ensure the reliable and stable supply of well-priced energy.

There is a competitive market within the petroleum market and in recent years this has served to reduce prices for consumers. Wholesale gas and electricity normally works under a 'natural monopoly' arrangement given the high costs of infrastructure. Locally, there is no competition in either the wholesale or retail of electricity or gas supply.

Currently, regulation of the electricity and gas utilities is limited to Competition (Jersey) Law and the Jersey Competition Regulatory Authority. There is no sector specific regulation.

Proposed policies in this area centre on :

- Promoting opportunities for efficiency savings in the electricity industry by increasing wholesale competition and/or cross-Channel Island working. This could include a more formalised approach to the existing collaboration across the Channel Islands' wholesale electricity market and the rationalisation of generating assets across the Channel Islands;
- Investigation of the necessity for regulation of the gas and electricity markets. Regulation is commonly accepted as a surrogate to competition in a monopoly situation. It drives down costs to the equivalent of a competitive

market. It is unlikely there is scope for retail competition in the electricity or gas markets.

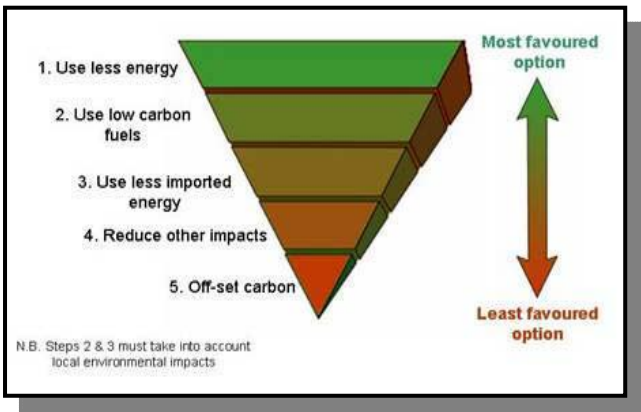




# Energy Policy – An Action Plan

**OVERALL GOAL: Secure, affordable sustainable energy**

## 1. Adopt the Energy Hierarchy



## 2. Stabilise energy demand at 2005 levels by a programme of energy efficiency through:

- ‘Sustainable Energy Jersey’, providing advice and grant support;
- Action in States Departments and States procurement;
- Building regulations setting higher standards;
- Energy performance certificates for home buyers;
- Countryside Renewal Scheme support for agricultural measures;
- ECO-ACTIVE re-enforces the message;

- Action on aviation emissions in the longer term on a pan-European basis.

## 3. By 2030, reduce carbon emissions by 52%, equivalent to 64% by 2050 compared with our 1990 baseline by:

- Maintaining low carbon electricity;
- Reducing energy use;
- Continuing shift to electricity as the preferred energy source;
- Supporting the measures put forward in the Integrated Travel and Transport Plan;
- Developing a 5% Bio-Diesel Action plan;
- Requiring 10% renewable energy requirement for new builds;
- Establishing an easier route through planning for renewable microgeneration technology.

## 4. Become carbon neutral by 2020. This will require about 78,000 tonnes of unavoidable residual carbon emissions to be ‘off-set’ each year on the global market at a cost of about £700,000.

## 5. Use environmental taxes to raise funding - for ‘Sustainable Energy Jersey’. Environmental taxes will also reduce emissions from vehicles by encouraging a shift to lower emission and alternatively fuelled vehicles.





**6. Shift to indigenous renewable resources** in the longer term, these include:

- Microgeneration
- Offshore wind
- Tidal energy

The first step will be to carry out detailed feasibility studies on wind and tidal options including use of Kyoto type mechanisms to assist their funding.

**7. Prepare for a changing climate -** continue our long term climatic measurements to better understand what change is happening and how we should respond and adapt to different weather patterns and their consequences. Assist industries to respond and adapt to climate change and exploit any arising opportunities.

**8. Support the generation of new businesses** for participation in carbon markets, Kyoto mechanisms and compliance.

**9. Build supply security by:**

- Requiring that standards of security of supply for electricity are able to withstand the loss of the single biggest element in the supply ( i.e. N-1 standard);
- Examine the potential for importing hydrocarbons to the Island via pipelines.

**10. Encourage competition** in Channel Islands energy wholesale market and investigate the role regulation might play in ensuring customers receive best value.







## What do you think ?

**W**e would like to hear your views on the ideas put forward in the Energy Policy Green Paper. The following questions are designed with specific points in mind but we would like to hear from you on any points that you think are relevant. For example,

- Do you agree or disagree with the proposals, what are your reasons?
- Are there any significant considerations that you believe are missing; If so what are they ?
- Are there any other measures that you think the States should consider?

Please feel free to contact us by letter or email in addition to returning the following questionnaire.

**Q1. Do you agree with the ranking that we have proposed in the presentation of the Energy Hierarchy and the trade offs that occur as a result of this approach for example :**

1.1 The most important thing we should do is reduce overall energy use. This will have the effect of maintaining the affordability of energy, increase the security of our energy supply and reduce expenditure on energy infrastructure.

Yes  No

1.2 Our highest priority when making energy choices should be the carbon emissions of our fuel choices.

Yes  No

1.3 We should aim to use less imported energy but only if the energy generated on Island does not have significant global environmental impacts, such as high carbon emissions or unacceptable effects on our local environment.

Yes  No

1.4 To demonstrate our international responsibility in relation to environmental issues, Jersey should off-set the carbon it cannot avoid using.

Yes  No





**Q2. If other fuel choices were available, they may cost more to purchase – would you be willing to pay more for these alternatives?**

	Not willing to pay any extra	+5 %	+10 %	+20 %	+50 %
2.1 For avoiding nuclear power	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2 For renewably generated imported electricity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3 For local renewables (development costs and per unit charges)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Q4. Locally generated renewable energy could have impacts on island / in our waters. Would you be prepared to see the following?**

Project	What this might look like	Yes	No
4.1 Onshore, large scale wind turbines	Approx. twenty 60m high wind turbines situated on-Island.	<input type="checkbox"/>	<input type="checkbox"/>
4.2 Offshore large scale wind turbines	Approx. thirty 60m high wind turbines situated offshore.	<input type="checkbox"/>	<input type="checkbox"/>
4.3 A tidal barrage	Situated, for example across St Aubin's Bay.	<input type="checkbox"/>	<input type="checkbox"/>
4.4 Underwater Tidal turbines	In our waters, which might create restrictions on fisheries' activities in the vicinity.	<input type="checkbox"/>	<input type="checkbox"/>
4.5 Bio-fuel crops	On fallow land or displacing less economically valuable crops.	<input type="checkbox"/>	<input type="checkbox"/>

**Q3. Currently excess electricity generated from microgeneration can be sold back into the grid at the wholesale value (the 'avoided cost'). Do you think there should be different buy-back tariffs for this electricity?**

- 3.1 Not at all
- 3.2 Remain set at the avoided cost price
- 3.3 A higher rate that is cross-subsidised by other users

**Q5. We have proposed that Jersey should not attempt to tackle aviation emissions in isolation, joining in instead with international action. What do you think?**

- 5.1 Should Jersey take unilateral action?  
Yes  No





5.2 Would you take up the opportunity to offset your emissions when you are booking a flight if the money raised was used to create a fund for say developing renewable energy generation projects.

Yes  No

5.3 Do you already offset the emissions from your flights ?

Yes  No

If so, which mechanism do you use?

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**Q6. Well installed, good quality microgeneration energy systems can add value to a property. They also can pay back their installation costs over various periods from savings in the energy they generate and for some, the electricity they export to the grid. Would you be interested in any of the following technologies?**

Technologies	Done it	Plan to do it	Not likely to do it
6.1 Solar thermal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2 Photovoltaic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3 Geothermal / Ground or Air source heat pump	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4 Wind turbine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5 Other please describe.....			
.....			

6.6 What payback period would influence your decision ?

- 6 months
- 1 year
- 5 years
- 10 years
- 20 years or more
- Not influenced by payback period

6.7 If you have answered 'No' to any of the questions 6.1 - 6.4 can you tell us why you would not be interested in taking up renewable technologies?

The capital costs of purchase and installation too high.

Energy is not a significant enough cost to worry about.

Too much disruption during installation.

Other.....  
.....

**Q7. We are proposing that grant aid is provided to help install measures that reduce energy use. Do you agree that, initially, grant aid should be targeted at :**

	Yes	No
Information and advice?	<input type="checkbox"/>	<input type="checkbox"/>
Energy reduction measures?	<input type="checkbox"/>	<input type="checkbox"/>
Low income households?	<input type="checkbox"/>	<input type="checkbox"/>
Improving poor housing stock?	<input type="checkbox"/>	<input type="checkbox"/>





**Q8. We are proposing that there are more easily available energy advice services.**

8.1 Would you welcome independent energy advice for your home / business?

Yes  No

8.2 What would you most value advice about ?

	Yes	No
Energy management systems e.g. smart metering	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	<input type="checkbox"/>	<input type="checkbox"/>
Different energy systems	<input type="checkbox"/>	<input type="checkbox"/>
Solar panels	<input type="checkbox"/>	<input type="checkbox"/>
Geothermal	<input type="checkbox"/>	<input type="checkbox"/>
Wind turbine	<input type="checkbox"/>	<input type="checkbox"/>
Ground or Air-source heat pumps	<input type="checkbox"/>	<input type="checkbox"/>
Other (please describe)		

**Q9. We are proposing to combine waste management solutions with energy generation. Would you be happy to see Government invest in :**

9.1 District heating from the new Energy from Waste Plant?

Yes  No

9.2 Anaerobic digestion of livestock slurries and agricultural waste?

Yes  No

## Your Details

In responding to feedback we may wish to quote comments we receive. Please tick here if you do not wish your views to be attributed to you in public

Name:

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Organisation:

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Address:

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Telephone:

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E-mail:

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**Thank you for taking the time to read this document and respond to the consultation. Your views are valued and are very helpful.**

