Alderney Energy Policies

Introduction

To assist the States of Alderney in creating an Energy Policy for the island, the Policy and Finance mandated Energy Group, commissioned a scoping study on the islands energy system and has consulted with energy providers and recognised experts in energy transition. These enquiries have had the following outcomes:

- key constraints have been identified that will impact on the island's journey to a sustainable energy future
- a range of options with the potential to help the island establish a sustainable energy future has been identified
- realistic timelines have been established, dependent on such factors as the level of constraint and the economic and social costs of delivery, segregating actions into:
    - short term (0 to 10 years)
    - medium term (10 to 20 years)
    - long term (beyond 20 years)

The timelines are quantitative estimates based on the scale of the overall challenge. However, it should be recognised that the emphasis must always be on establishing a sustainable energy system as quickly as is practically achievable.

Short-term encompasses those actions which may be delivered despite existing constraints such as guidance on improving building thermal efficiencies (insulation), guidance on more efficient types of oil-fired boilers; revision of the current tariff system; introduction of renewable energy such as solar arrays and wind turbines.

Medium term actions will require further expansion of renewable energy systems; encouragement of Islanders to move to electric vehicles; reduction in the consumption of heating oil by the use of solar thermal panels; and commencement of the initial phases of the upgrade of the town-grid.

Long-term recognises that the move to a wholly sustainable energy system may require technological or other interventions which either do not exist or lie outside the scope of the community's resources within the medium term. The main challenges being the replacement of heating oil by electricity (grid constrained), or a mix of domestic thermal and solar panels together with air or ground sourced heat pumps; or by the use of hydrogen.

.The Strategic Context

1.1 Alderney forms part of the Bailiwick of Guernsey with a population of about 2,000. Being a small island, it has limited resources available to meet the considerable demands of:

- reducing reliance on fossil fuels and improving energy security.
- developing strategies and approaches towards the generation and consumption of energy and reducing the cost of energy to its residents and businesses and
- meeting its wider environmental responsibilities in relation to climate change and the reduction of carbon and other greenhouse gas emissions.

1.2 Alderney is highly reliant upon imported oil as an energy source for the generation of electricity, for heating and transport. This is not only unsustainable for environmental reasons but will continue to make energy expensive, with limited expectation of being able to reduce the costs to consumers.

1.3 Alderney Electricity Ltd. (AEL) has been operating *The Alderney Electricity Concession* for nearly 70 years. AEL focuses on the supply and distribution of electricity, but is also the

principle provider and distributer of heating oil and transport fuels.

1.4 Alderney has the potential to produce renewable energy from solar, wind, tidal and wave resources with Alderney Electricity Ltd., with the support of the States, now advancing solar and wind generation options.

1.5 An effective Energy Policy is an important enabler for the Island's economic wellbeing and development and therefore requires a strategic and focused approach to meet future challenges and to ensure the environmental and economic attractiveness of the Island.

1.6 A longer term strategic roadmap for the production, distribution, consumption, and conservation of energy in Alderney is needed.

States of Alderney Energy Policy - Context

This document sets out the principles of the States of Alderney Energy Policy and is expressed as underpinning principles, goals and objectives. It is the result of the research, consultation and engagement with individuals and organisations with relevant expertise, and with the community.

Whilst the format may appear simplistic, the purpose is not to provide a detailed analysis of the many issues, rather the Policy provides a set of guidelines handed down from those tasked with representing the community's interest to those tasked with developing the detailed strategy and plans required to meet the Policy objectives over an extended period of time in an uncertain and complex environment.

In considering any future intervention, subject to Policy, it will be necessary to consider the matter from a range of perspectives including, but not limited to, technological, economic, social, environmental, legal, cultural and behavioural perspectives.

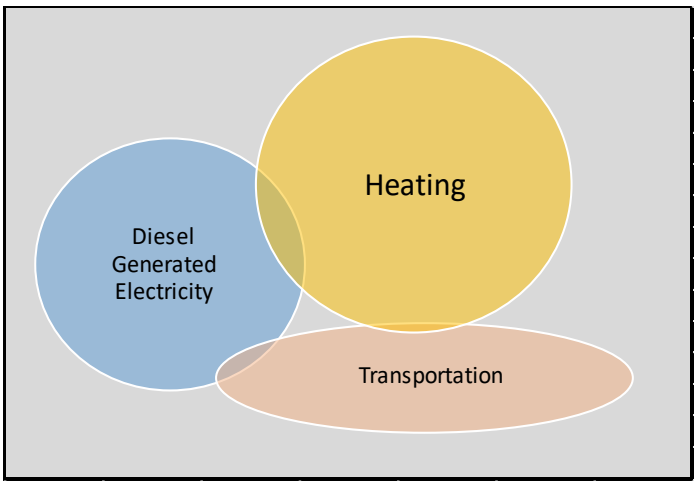
Island Energy System.

Current Situation

Apart from a small amount of solar, and a small amount of wood and other solid fuels for heating, accounting for less than 1% of total energy supply, Alderney's Energy System is wholly reliant on fossil fuels.

The adjacent diagram shows the major uses of energy as follows:

1. Domestic and commercial heating, including cooking, using fuel oils and bottled gas;
2. Electrical lighting and electrical equipment from diesel generation;
3. Air, marine, road, and rail transport using a mix of petrol, diesel, avgas and kerosene.

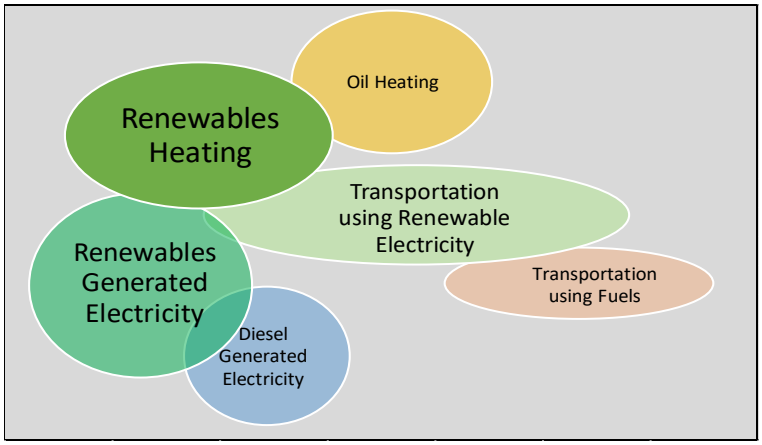


At the margins a small amount of electricity is currently used for space heating; water heating and cooking; and to power electric vehicles.

Future Requirements

This Policy needs to consider the island's energy system in its entirety as many parts of the system are complimentary and/or interconnected.

It also needs to consider the endgame of the policy and what the eventual shape of the energy system will be. The policy should help transition the energy system to something that more resembles the mix illustrated in the adjacent diagram.



At the current time it is difficult to anticipate the Island moving to a zero carbon fuel usage system in the short to medium term and until further economic, technological options become available the achievement in the long term is also challenging.

The Island Plan and the underlying Principles of the Policy

The following is the States of Alderney's Island Plan – Energy Goals which were published in March 2022. The Plan establishes two high level energy goals, and the priorities and the initiatives to achieve these Goals.

Island Plan - Underlying Principles

- **Increase the amount of clean energy used (reduce the carbon footprint)**
- **Reduce energy costs for individuals and organisations**

Whilst these goals provide little direction over the journey to achievement, they do provide the **underpinning principles** for the Energy Policy and a useful benchmark for the evaluation of proposals coming forward.

Energy Strategy

The Energy Strategy sets out a pathway to 2050, it identifies a number of actions and interventions which if successfully implemented will contribute to Alderney achieving a reduction in its carbon emissions in line with other jurisdictions. It will also provide the basis on which to monitor and consult on further interventions that may be needed (carbon footprint).

As a number of policies are developed, new employment opportunities may be created; ranging from installation of insultation through distributed heat systems, domestic microgeneration, and offshore or marine energy services.

Policy 1: Energy Security (External Threats)

Developing and maintaining an appropriate long term strategy to ensure a sustainable and secure provision of energy for the island which maximises the use of renewable energy, thereby, minimising the island's carbon footprint; and provides an equitable distribution of costs (tariffs) across the Community.

POLICY 1: ENERGY SECURITY (External Threat)

- Develop and implement an effective strategy to ensure that the community's energy needs can be met now and into the future.
- Understand the nature of the security of supply risks and to have clear options to mitigate those risks.
- Reduce the island's reliance on fossil fuels by the introduction of sustainable and economically viable sources of renewable energy.
- Maintain the island fuel supply chain for as long as fossil fuels remain essential to the energy.
- Investigate funding sources to upgrade the Island's infrastructure and for renewable energy supply options.

Policy 2: Energy Resilience

As an outcome of the review into energy options for the Island it has become clear that there are a number of short term initiatives which will contribute to the Island's energy resilience and ensure a diverse, safe and resilient supply of energy to meet Island's needs.

POLICY 2: ENERGY RESILIENCE

- Review, advise, and encourage Islanders and businesses to improve their energy efficiency to reduce the Island's reliance on fossil fuels.
- Continue to invest in upgrading the HV and LV distribution grid to facilitate additional power consumption and to provide flexibility to accommodate current and future technology including storage.

Policy 3: Clean Energy

To align with the strategies of global jurisdictions within the Kyoto protocol, Alderney needs to work towards maximising its use of clean energy by 2050.

Clean energy is vital for our future from both an economic development and an environmental sustainability perspective.

POLICY 3: Clean Energy

- The Island must create an energy system which maximises the use of renewable energy, thereby, minimising the island's carbon footprint.
- Encourage private individuals or other commercial enterprises to supply renewable energy to the system.
- Encourage the domestic renewable generation of energy and investigate the provision of an appropriate feed-in-tariff which benefits all consumers.
- Encourage the use of domestic renewable energy for heating.
- Review restrictive legislation and permitting to encourage the up-take of renewables.

Policy 4: Affordability

Energy needs to be affordable for the Alderney Community and in light of the escalating costs of fuels specific initiatives need to be developed to aid energy affordability.

POLICY 4: AFFORDABILITY OF ENERGY

- Review and revise tariffs to provide an equitable allocation of costs for all consumers.
- Provide guidance and support to improve energy efficiency (such as insulation, use of modern boilers, solar thermal) by the use of appropriate technologies to reduce energy consumption.
- Monitor the cost and availability of all energy solutions and the level of available on island technical support.
- The provision of appropriate tariffs to encourage business development.

Policy 5: Opportunities

New energy technology and energy solutions will continue to develop over the coming years and Alderney is in a unique position, being a small self-contained energy system, to grasp any opportunities that develop from those new technologies by either adopting new technologies or acting as a test bed for their development.

POLICY 5: OPPORTUNITIES

- The States, together with Alderney Electricity, and Island business, should continue to engage in assessing and implementing opportunities as they present themselves.
- Ensure that the island maintains robust contacts with Universities and Technical Institutes to take advantage of potential research which can leverage Alderney's self-contained energy system.
- Maintain an available data bank of energy data to attract interest in research.
- Encourage technology developers to consider Alderney acting as a test bed to pilot or advance developing or new technologies.

Policy 6: Tidal and Wave Energy

The position and geography of Alderney as an Island situated in the English Channel adjacent to the France's Normandy peninsular has meant that there are large tidal and wave energy resources.

- The potential of Alderney's tidal and wave resources will take time to be developed as the technology is not sufficiently advanced to significantly reduce the costs. However, there is continued investment in tidal technology and prices continue to reduce.
- This is a significant future resource for Alderney and advances in the provision of Tidal and Wave Energy should be continually monitored (Raz de Blanchard).
- Developers should be encouraged to utilise the Alderney's Tidal and Wave Resources for pilot work both for their benefit but also to improve the attractiveness for Alderney for future large scale developments.

POLICY 6: Tidal and Wave Energy

- Continue to evaluate the options to develop the tidal and wave resources around the island as technology develops.
- Continue to investigate development opportunities of the islands tidal resource for future revenue streams.
- Continue to provide a framework (ACRE) for major developers to access the tidal and wave energy resources and for the Island to become a recognised source of renewable energy.
- Advance pilot or small scale projects of tidal and wave for the supply of energy to Alderney.
- Monitor developments in the “blue” energy sector for potential energy solutions and revenue streams.
- Maintain a watching brief on nearby energy projects for potential partnerships.