

Public Information leaflet

Energy Strategy

September 2006





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AWE Energy Strategy

Public Information Leaflet

AWE is committed to keeping our stakeholders informed about the impact of our activities and plans for future development.

In September 2005 we published a 'Sites Development Strategy Update' as the latest in a series of public information leaflets to put into context proposals for our sites.

This new public information leaflet explains AWE's Energy Strategy based on our commitment to sustainable energy management. It sets out the approach to be adopted by the Company for the design, construction and operation of existing, refurbished and new buildings and infrastructure. I hope you find the information in this leaflet useful. As ever, we welcome your comments and feedback which can be made via our website: www.awe.co.uk

Don Cook
Managing Director
AWE plc

Introduction

AWE plc operates and manages the Atomic Weapons Establishment (AWE) on behalf of the Ministry of Defence. Our two main operational sites are at Aldermaston and Burghfield in Berkshire. AWE's Energy Strategy sets out the intentions of the Company for sustainable energy management at both the Aldermaston and Burghfield sites.

It has been designed to support our future developments by ensuring that a sustainable approach is adopted for the design, construction and operation of new buildings, and refurbishment of existing buildings, with regard to energy use and management. The strategy also provides an opportunity for ensuring that a sustainable approach to energy management is adopted for AWE's existing buildings and infrastructure.

The Energy Strategy will ensure a consistent approach to energy management across the Company for the foreseeable future. Because the use of water is often closely related to energy requirements, we have also addressed it in our objectives.

Developed with due regard to the requirements of our customer, the MOD, the strategy meets (and in some cases exceeds) the requirements of relevant legislation and planning policy. It supports AWE's Environmental Policy that states that we are committed to "preventing or minimising pollution wherever practicable" and to "reducing the consumption of resources (material, fuel and energy)".

As water usage and energy are often closely linked, we include a section on water among our objectives.

This strategy will be considered a "living" document that will be regularly monitored and reviewed by the AWE Energy Focus Group.

A more detailed version of the Energy Strategy is available on the AWE website at www.awe.co.uk.

AWE Policy

AWE's commitment to sustainable energy management is demonstrated through the Company's Environment Policy that has been signed up to by our Executive Board. Among other things, this commits the Company to:

- Introducing sustainable development into all our processes and activities;
- Preventing or minimising pollution wherever practicable;
- Reducing consumption of resources (material, fuel and energy);
- Minimising waste through a commitment to recovery and recycling where feasible.

What drives our strategy?

AWE's Energy Strategy has been developed taking into consideration the regulatory and policy drivers, customer expectations and energy market influences. To summarise, the key drivers for our strategy are:

Predicted increase in energy costs

Over the last 18 months AWE has seen a 115 per cent increase in the energy expenditure due to the market price to industrial users increasing. Despite no increase in usage, this has resulted in our annual "energy bill" rising from £6.5 million in 2005 to around £14 million in 2006. It is predicted that, without action being taken, this could double by 2015.

Uncertainty of future energy supply

The UK is becoming more dependent on imported fossil fuels to meet the countries heating and electrical generation requirements. The run down of the UK gas and oil reserves, the economic development of China and sustained in-stability in the Middle East have had a marked impact on the UK energy market. It is predicted that the ever increasing world demand and reducing resources will lead to increased pressure to reduce our fossil fuel dependency.

Need to cut emissions

The requirement for AWE to drive down its carbon dioxide emissions to meet the EU Emissions Trading Scheme and UK Climate Change Agreement targets, designed to support the UK's Kyoto commitment.

Tougher building regulations

Current and future building regulations that promote energy efficiency and reduced carbon emissions through improved building design.

Integrated Pollution Prevention and Control (IPPC)

As a requirement of the IPPC Permit for major combustion plant (which applies to all heating and combustion systems on the Aldermaston site) all new and modified combustion systems will need to represent the Best Available Technique (BAT) to prevent and minimise pollution.

Planning policy

That promotes renewable energy technologies and seeks provision of appropriate design principles which facilitate energy efficiency in proposals for new development.

Government targets

Aimed at reducing absolute carbon from fuel and electricity used in buildings, improving energy efficiency of buildings and promoting use of renewable energy.

AWE's Environmental Policy commitment

On "preventing or minimising pollution wherever practicable" and to "reducing the consumption of resources (material, fuel, energy)". In addition, AWE's commitment to the principles of sustainable development.

Corporate Social Responsibility

Notwithstanding the cost and the environmental impact, AWE believes that it is irresponsible to consume more of the earth's resources than is absolutely necessary to carry out our mission. Where these resources are not renewable the use presents a risk that future generations may not be able to meet their energy needs.

Our Strategy

Our Energy Strategy has three underlying principles:

- Use less energy
- Use energy efficiently
- Use renewable energy

By following these principles, AWE will minimise both direct and indirect carbon dioxide emissions from the Aldermaston and Burghfield sites, and in addition, provide cost savings due to improved energy efficiency.

We have set out six 'objectives' to provide the framework for delivering our strategy:

1. Energy management and awareness will be improved

- An energy awareness programme targeted at our staff and contractors will be developed to gain 'buy in' at all levels of the Company.
- We will develop and implement a scheme that will reward energy efficiency improvements and innovation, recognising the contribution this makes to both the company and local community.
- The effective metering network for the major energy users on our sites will be extended and backed by targets set to drive and demonstrate improvements in energy use.
- We will look into establishing financial accountability for major energy users along with energy efficiency targets.
- We will produce energy design principles to provide clear instruction for architects working on buildings for our sites.
- We will establish a forum to ensure that our major sub-contractors build energy management into their operations on our sites, and to draw on their experience elsewhere.

2. Energy improvements will be made to existing buildings and site infrastructure

- Approximately 90% of the total energy used by both our Aldermaston and Burghfield sites is directly attributable to the building services - maintaining temperature, ventilation and humidity - and is not directly related to staff operations.
- We will undertake an energy audit in our top energy consuming facilities and then develop an energy reduction action programme.
- At Burghfield a project has been launched which will see the inefficient centralised oil-fired boiler house and steam distribution system replaced with zonal gas-fired systems. This will reduce energy costs and carbon dioxide emissions.
- At Aldermaston, new buildings will use local gas-fired heating systems while improvements will be made to the steam systems serving other parts of site.

3. All new and refurbished buildings will be energy efficient

- The energy performance of all new and refurbished buildings on our sites will meet or exceed the national standard set by building regulations.
- An energy assessment process will be developed for our planned buildings as part of the project approval system. This assessment will identify the planned energy consumption and ensure that adequate review is undertaken.
- A study will be undertaken into the options for the recovery and re-use of waste heat generated by facilities which need large chilled water plants to maintain the internal environmental conditions. The recommendation emerging will be fed into any new projects on our sites.

4. All new plant and equipment selected will be energy efficient

- The most economical time to include improvements to a building's energy efficiency is either from new or as part of a refurbishment programme.

- A reference document and procurement policy will be produced to identify energy efficiency equipment or criteria to be used in all our projects.
- Where local gas boilers are shown to be the best available technique for heating and hot water supply, condensing boilers with a minimum efficiency of 90 per cent will be used.

5. By 2010, AWE will aim for at least 10% of our site energy to be provided from low or zero carbon sources

- We will investigate the feasibility of renewable energy opportunities to supply Aldermaston and Burghfield. Of particular interest are biomass heating systems, wind generation and other technologies such as heat pump or solar panels.
- Consideration will be given to purchasing a proportion of AWE's electricity demand from 'green' - low or zero carbon - sources.

6. Efficient use of water within all buildings

- Where possible, all new equipment will be chosen from, or meet the criteria of, the Water Technology List. This equipment meets a nationally defined level of performance for resource efficiency.
- We will ensure that every water fitting - such as toilets, showers, taps etc. - meets the requirements of the Water Supply Regulations.
- A review will be undertaken of the opportunities to use recycled water or rainwater for activities that do not need to be of drinking water standard.

Implementing the Strategy

AWE's Director of Infrastructure will have overall responsibility for delivering the Energy Strategy, reporting achievements on a regular basis to the Executive Board. The Company's Energy Manager will prepare and deliver the programme of implementation and will act as secretary for an Energy Focus Group.

The Energy Focus Group will take an active role in monitoring and reviewing the delivery of the objectives and commitments set out in the Energy Strategy.



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