

# 9 Energy and Communications

**Aim:** To promote energy conservation in Athy through appropriate land use and building standards with an aim to reduce the demand for energy and fossil fuels in particular and to promote and facilitate the development of telecommunications infrastructure.

## 9.1 Background

It is acknowledged that energy efficiency is paramount if Ireland is to assist in mitigating its vulnerability to climate change. The dependence of fossil fuels is likely to be costly and unsustainable environmentally and economically as the world faces the potential depletion of these non renewable energy resources. The combustion of non renewable sources also results in emissions to the atmosphere. It is therefore important that the use and dependence on fossil fuels is reduced.

The development of renewable energy sources is a priority at national and European level for both environmental and energy policy reasons. The Government's primary policy on energy is set out in the Energy White Paper "*Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework (2007-2020)*". It sets out a broad energy policy framework for the long-term development of the energy sector, including power generation, energy efficiency in transport and the built environment. It seeks to make a substantial contribution to reducing greenhouse gas emissions through energy efficiency improvements, changes in fuel mix and the increased use of renewable energy.

The "*National Climate Change Strategy 2007-2012*" also focuses on encouraging renewable energy sources. A more recent document entitled "*The National Energy Efficiency Action Plan (2009-2020)*" also seeks to improve energy efficiency across a number of sectors to ensure a sustainable energy future. The importance of a high quality telecommunications infrastructure

in the context of national, regional and local development is also recognised.

### 9.1.1 Wind Energy Development Guidelines for Planning Authorities 2006 (DoEHLG)

These guidelines offer advice to Planning Authorities on planning for wind energy through the development plan process and in determining applications for planning permission. The guidelines require that a development plan must achieve a reasonable balance between responding to overall Government Policy on renewable energy and enabling the wind energy resources of the Planning Authority's area to be harnessed in a manner that is consistent with proper planning and sustainable development.

### 9.1.2 Telecommunications Antennae and Support Structures Guidelines 1996 (DoEHLG)

The aim of these guidelines is to provide relevant technical information in relation to telecommunication installations and to offer general guidance on planning issues so that their environmental impact is minimised and a consistent approach is adopted by Planning Authorities in the preparation of their development plans and in the operation of development control.

## 9.2 Strategy

The strategy seeks to address the issue of climate change, energy efficiency and to promote a quality telecommunications infrastructure in Athy through measures such as

- Conformity with national policy and continuing to take a positive approach to the development of renewable energy facilities, where appropriate;
- Energy use avoidance or reduction, through better planning and maximum efficiency in land use;
- Recognising that brownfield and underutilised sites represent significant opportunities for redevelopment, particularly where located close to existing or future transport corridors and may offer the opportunities to utilise energy saving technologies;
- Encouragement of the transfer of journeys to more sustainable forms of transport;
- Ensuring that the location of renewable energy structures should minimise and/or mitigate any adverse visual and environmental impacts on the built or natural environment;
- Improvement of energy efficiency of existing building stock, and promotion of energy conservation in the design and development of all new buildings;
- Encouragement of a high quality telecommunications service and achieving a balance between facilitating the provision of telecommunications services in the interests of social and economic development while sustaining residential amenities and environmental quality.

### 9.3 Energy Use

The most recent comprehensive data available for energy use in Ireland is from “Delivering a Sustainable Energy Future for Ireland, The Energy Policy Framework 2007-2020” published by the Department of

Marine, Communications and Natural Resources. This Government White Paper indicates that energy use is split relatively evenly between the three principal energy users – transport (33%), electricity generation (33%) and heating (34%). Growth in energy demand is forecast to be 2-3% annually to 2020. In 2007, 96% of Ireland’s total energy demand was met by imported fossil fuels, with oil accounting for around 56% of the country’s total primary energy supply.

#### 9.3.1 Policies – Energy Use

It is the policy of the Council:

EN1: To support the regional, national and international initiatives and strategies and to facilitate measures that seek to reduce emissions of greenhouse gases. In this regard, the Council will generally support initiatives taken to provide for more sustainable forms of energy use in an environmentally acceptable manner, subject to the principles of proper planning and sustainable development.

#### 9.4 Renewable Energy Resources

Renewable energy can be defined as energy generated from resources that are unlimited, rapidly replenished or naturally renewable and not from the combustion of fossil fuels. Athy is somewhat limited in its capacity to generate renewable energy e.g. from wind. Therefore the main sources of renewable energy may include, solar energy, biomass, ground source heating systems, hydro power and through the built environment.

**Table 9.1** Main Sources of Renewable Energy

Source	Type
Sun	Solar Energy
Wind	Wind Energy
Water	Hydropower, wave and tidal energy
Geothermal	Heat Energy from below the surface of the earth
Biomass	Energy from wood, waste and energy crops

**(i) Solar Energy**

Solar Energy can provide a suitable source of energy for buildings and reduces demand for electricity supply from the national grid. Three basic techniques are used today to harness solar energy and gain maximum benefit of solar energy in buildings:

- Passive Solar
- Active Solar Heating
- Solar Photovoltaic (PV) Systems

**(ii) Wind Energy**

The potential for generation of wind energy in the urban area of Athy is likely to be confined to smaller scale domestic and/or local level wind energy production in conjunction with other renewable energy sources as opposed to large scale wind farm development.

In the event of development proposals, the Wind Energy – Guidelines for Planning Authorities, 2006 (DoEHLG) will be taken into consideration.

**(iii) Hydro Power**

Hydro Power can also provide a suitable source of energy for buildings and reduces demand for electricity supply from the national grid.

It is acknowledged that the possibility of utilising the River Barrow for generation of an electricity supply for the town is unlikely in the short term. However development of hydro power may be achieved in the medium to longer term in the town.

**(iv) Ground Source Heating Systems**

The provision of ground source heat pumps, also known as geothermal heat pumps are encouraged. These are used for space heating and cooling, as well as water heating for both residential and commercial developments.

**(v) Small –Scale Renewable Energy**

The classification of small-scale renewable energy sources are in line with the Planning and Development Regulations (Exempted Development), 2008. The provision of each of the following for domestic use (subject to certain conditions for industrial, commercial and public buildings) may be exempt from planning permission, subject to certain conditions;

- Stand-alone wind turbines
- Building mounted wind turbines
- Building mounted solar panels
- Stand alone solar panels
- Ground source heat pumps
- Biomass (includes fuel storage tanks/structures)

#### 9.4.1 Policies – Renewable Energy

It is the policy of the Council:

RE 1: To promote, support and facilitate the development of renewable energy in Athy, where it is considered appropriate.

RE 2: To explore all viable options with regard to utilising renewable energies for all public infrastructure and developments, subject to funding.

- Suitable building materials;
- Efficient provision of domestic hot water;
- Use of low CO<sub>2</sub> emitting fuels;
- Energy efficient lighting systems;
- Incorporation of renewable energy systems e.g solar, heat pumps;
- Provision of group or district heating systems

#### 9.5 Energy Efficiency in Buildings

Research has indicated that CO<sub>2</sub> emissions from buildings across the EU could be reduced by 22% through improved energy efficiency. Revisions of Part L of the Building Regulations in 2008 have raised the standards to which buildings are to be designed and constructed with regard to heat loss and CO<sub>2</sub> emissions. The EU Energy Performance of Building Directive (EPBD) contains a range of provisions aimed at improving energy performance in residential and non-residential buildings both new build and existing.

Good design is considered as being the key in achieving optimum energy performance of buildings. Developers should have regard to the following:

- Site layout and associated bioclimatic/passive solar design measures;
- Enhanced levels of insulation in walls, floors, glazing and doors;
- Heat recovery systems;
- Use of sunlight;
- Water conservation measures;

#### 9.5.1 Policies – Energy Efficiency

It is the policy of the Council:

- EE 1: To promote energy conservation and efficiency measures and to facilitate innovative building design that promotes energy efficiency and use of renewable energy sources in accordance with national policy and guidelines.
- EE 2: To encourage use of passive solar design principles for residential building(s).
- EE 3: To support and encourage the installation of solar collectors and panels for the production of heat or electricity in residential and commercial buildings, in line with relevant design criteria.
- EE 4: To have regard to and implement where feasible, the recommendations of the National Climate Change Strategy 2007-2012.

## 9.6 Non-Renewable Energy

Non-renewable energy refers to energy that can be used only once e.g. burning of fossil fuels. Most non-renewable sources of energy produce greenhouse gases when they are used. Non-renewable energy sources include gas, oil, peat etc. It is the general aim of this Plan through related policies and objectives to reduce the dependency on non-renewable energy.

### 9.6.1 Electricity

Kildare is traversed by the highest voltage lines of the Eirgrid Transmission System and with the benefit of an extensive network comprising 400 kV, 220 kV and 110 kV power lines, the county has the potential to be in a position to meet electricity demands with the minimum of network reinforcement.

The electricity infrastructure of Athy comprises one 110KV Station at Woodstock South with one associated 110KV line. A second 110KV line is proposed to be delivered by the ESB in the first quarter of 2011. There are currently two 38KV stations on the Stradbally Road and Ballylynan Road serving the town. It is proposed that these stations will be decommissioned when the second 110KV line is secured. There is reserve power available in Athy and this is particularly advantageous for industries wishing to locate in the town.

This Plan seeks to continue to encourage and facilitate the under-grounding of overhead electricity cables, particularly in the town centre, during the lifetime of this Plan.

### 9.6.2 Gas

Athy is served by a natural gas supply since 1999. The natural gas is transported to the town via a spur from the Cork to Dublin transmission pipe line. Gas is available

throughout the town with transmission terminating at Ardreich Bridge.

### 9.6.3 Policies – Non Renewable Energy

It is the policy of the Council:

- NR 1: To encourage through coordinated land-use and transport planning, a reduction in the demand for vehicular travel and journey lengths.
- NR 2: To promote the design and construction of buildings so as to limit the amount of energy required for the operation of the buildings and the amount of CO<sub>2</sub> emissions associated with this energy use.
- NR 3: To implement a programme to place all existing overhead cables underground throughout the town centre during the lifetime of the plan, subject to available funding.
- NR 4: To support the infrastructural renewal and development of electricity networks in Athy town and environs as appropriate. The development of secure and reliable electricity transmission infrastructure is recognized as a key factor for supporting economic development and attracting investment to the area.
- NR 5: To encourage the extension of the existing gas infrastructure network in Athy and its environs in consultation with Natural Gas providers.

## 9.7 Telecommunications Infrastructure

The importance of the telecommunications sector to the local economy is acknowledged. Access to advanced information and communications infrastructure is essential to development

and offers a competitive advantage in attracting economic development and inward investment. The vast growth in the use of the Internet requires infrastructure investment to accommodate this growth. The planning authority will have regard to the DoEHLG guidelines “Telecommunications Antennae and Support Structures” (1996), and to such other publications and material as may be relevant in the consideration of planning applications for such structures.

### 9.7.1 Broadband

The availability of broadband infrastructure enables high speed access to information for industry, public and private sector organisations. It facilitates international e-commerce and is essential for all aspects of business including Small and Medium Enterprises (SMEs) and multinationals. The provision of a broadband network by a number of private companies has enhanced the potential of Athy for investment and will lead to increased opportunities for further economic development.

### 9.7.2 Policies - Telecommunications

It is the policy of the Council:

- TE 1: To encourage the development and expansion of communication, information and broadcasting networks, including mobile phone networks, broadband and other digital services.
- TE2: To encourage owners and operators of telecommunication structures to facilitate the co-location of antennae on existing support structures and masts.
- TE 3: To achieve a balance between facilitating the provision of telecommunications infrastructure in

the interests of social and economic progress and sustaining residential amenity and environmental quality.

- TE 4: To ensure that the location of telecommunications structures minimises and/or mitigates any adverse impacts on communities and the built or natural environment.
- TE 5: To preserve significant views from the visual intrusion of large scale telecommunications infrastructure.
- TE 6: To ensure that new telecommunications infrastructure are adequately screened, integrated and/or landscaped so as to minimise any adverse visual impacts on the environment.
- TE 7: To promote and encourage the delivery of a high capacity ICT infrastructure, broad-band network, cable and broadcasting technologies throughout Athy and to facilitate access to these services by all sectors of the community by developing initiatives through the public library service.
- TE 8: To support national policy for the provision of new and innovative telecommunications infrastructure, including a fibre optic broadband network and to recognise that the development of such infrastructure is a key component of future economic prosperity of Athy.

## 9.8 Energy and Communication Objectives

It is an objective of the Council:

- EC1: To support the modernisation and development of telecommunications and broadband infrastructure to



support the economic development of Athy.

EC2: To implement on a phased basis a programme of placing all existing and proposed overhead cables underground throughout the town centre and to seek DoEHLG financial support to undertake such works. Future capacity should be taken into account and appropriate ducting should also be put in place when the cables are placed underground.

EC3: To support the implementation of the National Broadband Scheme insofar as it relates to Athy and to co-operate with the Department of Communications, Energy and Natural Resources in any future additions to the scheme.