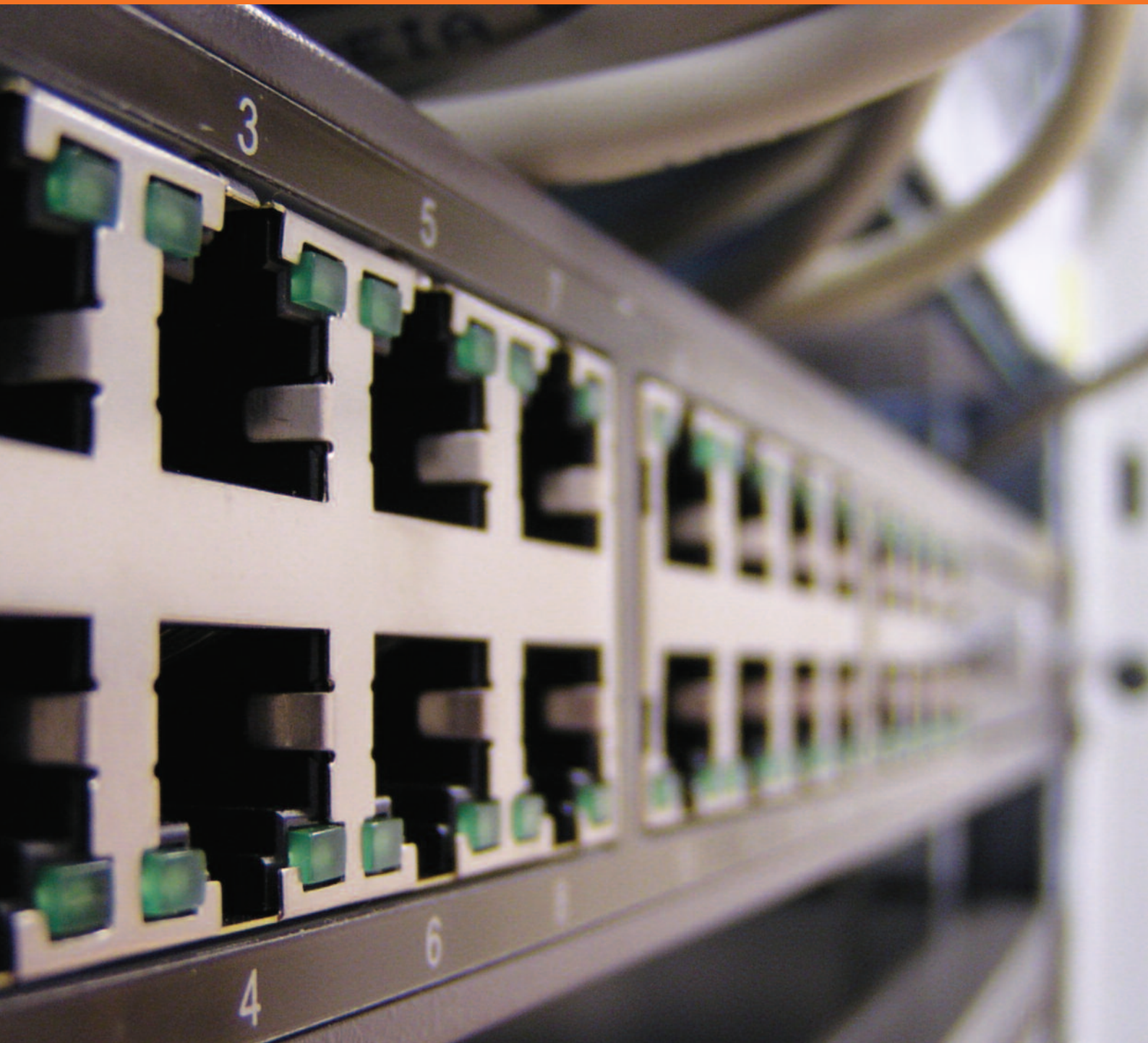


## CHAPTER 9

### Energy and Communications



# Energy and Communications

**Aim: To promote energy conservation in Naas; 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 on dwindling 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 importance of a high quality telecommunications infrastructure in the context of national, regional and local development is also recognised.

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.

### 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 Naas 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;
- To ensure that the location of renewable energy structures should minimise and/or mitigate any adverse visual and environmental impacts on the built or natural environment;
- To encourage the improvement of energy efficiency of existing building stock, and to promote energy conservation in the design and development of all new buildings;
- To encourage a high quality telecommunications service and to achieve a balance between facilitating the provision of telecommunications services and in sustaining residential amenities and environmental quality.

## 9.3 ENERGY USE

The most recent comprehensive data available for energy use in Ireland is from 2007 and 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.

## 9.4 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. Naas is limited in its capacity to generate renewable wind energy. Therefore the main sources of renewable energy may include, solar energy, ground source heating systems 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

### 9.4.1 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

### 9.4.2 Wind Energy

The potential for generation of wind energy in the urban area of Naas 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 windfarm development.

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

### 9.4.3 Ground Source Heating Systems

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

### 9.4.4 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 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) Planning and Development Regulations came into effect in July 2008 which provide exemptions for wind turbines, met masts, combined heat and power (CHP) plants, solar panels and biomass boiler units, subject to certain conditions for industrial, commercial and public buildings.

## 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. Recent 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;
- 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



## 9.6 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. Nonrenewable 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

Electricity generation installations (other than small scale projects) require grid connection. The electricity infrastructure of Naas comprises one 400kV power-line, two 220 kV power-lines, one 110 kV and associated 38 kV lines. There is reserve power available at Naas and this is particularly advantageous for industries wishing to locate in the town.

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

Coupled with the provision of alternative, renewable sources of electricity, it is important to reduce the amount of electricity consumed. This will entail electricity saving measures built into existing and new structures and behavioural changes in the use of power.

### 9.6.2 Gas

Naas is served by a natural gas supply since the mid 1990's. It comes via a spur from the Cork to Dublin trunk line, and is regulated by a pressure reducing installation at Craddockstown. At the present time there is significant reserve capacity available at the pressure reduction station at Craddockstown.

## 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 (SME's) and multinationals. The Metropolitan Area Networks (MAN) comprises a broadband network from the Greater Dublin Area to the towns of Leixlip, Maynooth, Kilcock, Clane, Sallins and Naas. The connection from Sallins along the Naas Branch Canal to the Naas Eircom Exchange was recently completed. The provision of the broadband network has enhanced the potential of Naas for investment and will lead to increased opportunities for further economic development.

## 9.8 ENERGY POLICIES

It is the policy of the Council:

**EM1:** To support the National Climate Change Strategy and to facilitate measures that seeks 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 subject to the principles of proper planning and sustainable development.

**EM2:** To promote energy conservation and efficiency measures and facilitate innovative building design that promotes energy efficiency and use of renewable energy sources in accordance with national policy and guidelines.

**EM3:** To encourage use of passive solar design principles for residential building(s).

**EM4:** 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.

**EM5:** To support and facilitate the provision of improved energy supplies to the town in order to support economic and social development.

**EM6:** To promote, support and facilitate the development of renewable energy in Naas, where it is considered appropriate.

**EM7:** To encourage through coordinated landuse and transport planning, a reduction in the demand for vehicular travel and journey lengths.

**EM8:** 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 insofar as is reasonably practicable.

**EM9:** To implement a programme for the under grounding of existing overhead cables throughout the town centre during the lifetime of the plan, subject to available funding.

**EM10:** To seek the undergrounding of all electricity, telephone and TV cables, in all new developments and wherever possible in the interest of visual amenity.

**EM11:** To encourage the extension of the existing gas infrastructure network in Naas and its environs in consultation with Bord Gáis.

**EM12:** To support the development and expansion of the electricity transmission and distribution grid network.



## 9.9 TELECOMMUNICATIONS POLICIES

It is the policy of the Council:

- TE1:** 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.
- TE3:** 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.
- TE4:** To ensure that the location of telecommunications structures should minimise and/or mitigate any adverse impacts on communities and the built or natural environment.
- TE5:** To preserve significant landscape views from the visual intrusion of large scale telecommunications infrastructure.
- TE6:** To ensure that new telecommunications infrastructure are adequately screened, integrated and/or landscaped so as to minimise any adverse visual impacts on the environment.
- TE7:** To promote and encourage the delivery of a high capacity ICT infrastructure, broadband network, cable and broadcasting technologies and facilitate access to it by all sections of the community by developing initiatives through the public library service.

## 9.10 ENERGY AND COMMUNICATION OBJECTIVES

- ECO1:** To support the modernisation and development of telecommunications and broadband infrastructure to cater for population growth, and to support the existing and future economy of Naas to support economic development and to attract investment.
- ECO2:** To implement on a phased basis a programme of under grounding existing overhead cables throughout the town centre during the lifetime of the Plan and to seek DoEHLG financial support to undertake such works.
- ECO3:** To support the implementation of the National Broadband Scheme insofar as it relates to Naas and to co-operate with the Department of Communications, Energy and Natural Resources in any future additions to the scheme.
- ECO4:** To seek to achieve the objectives of the Building Energy Rating System insofar as it relates to public buildings in the control of the Local Authority and to support and encourage all other public and non-public buildings in achieving their energy rating requirements.