

Chapter 9 Telecommunications and Energy

9.1 Introduction

This chapter contains the policies and objectives of Drogheda Borough and Louth County Councils with regard to ensuring the provision of a competitive, high-quality telecommunication network and encouraging more efficient and sustainable use of energy throughout the Plan area.

Strategic Objective 9 Provide a framework for sustainable development through the provision of quality telecommunications infrastructure and energy end use efficiency and encourage the facilitation of an increase in the use of renewable energy in buildings.

9.2 Telecommunications

The vital role of telecommunications in enabling Drogheda to reach its full economic potential is recognised. The importance of high quality telecommunications infrastructure for efficient free flow of information is critical to the functioning and further development of the modern economy. The core policy of the “*National Communications Strategy 2003*” published by the Department of Finance is;

“To contribute to sustained macro-economic growth and competitiveness and ensure that Ireland is best placed to avail of the emerging opportunities provided by the information and knowledge society, by promoting investment in state of the art infrastructures, by providing a supportive legislative and regulatory environment and by developing a leading edge research and development reputation in the information, communications and digital technologies”

The provision of a quality and price competitive telecommunications service promotes industrial and commercial development, improves personal security and allows for better communication and networking in the business and commercial sectors.

9.2.1 Broadband

Over the course of the previous Plan, there has been a roll-out of quality broadband services in Drogheda, funded largely by the National Development Plan, but also with significant private sector involvement. The Metropolitan Area Network (MAN) programme has delivered a high quality and high capacity broadband infrastructure to Drogheda, Dundalk, and Ardee. The remaining deficiencies in the broadband network will be addressed under the National Broadband Scheme (NBS) during the course of this Plan.

Internet access including Broadband is higher in Drogheda compared to the state as a whole, which is seen as an economic strength for the town. This is a distinct advantage considering that there are some areas within Ireland which are not currently served. The Council recognises the need to continue the provision of a quality broadband network for

both domestic and commercial use and will encourage and facilitate the provision of new and improved facilities in the town.

Enhancing access to Broadband services, especially access to high speed broadband services by business, is an important requirement for economic development.

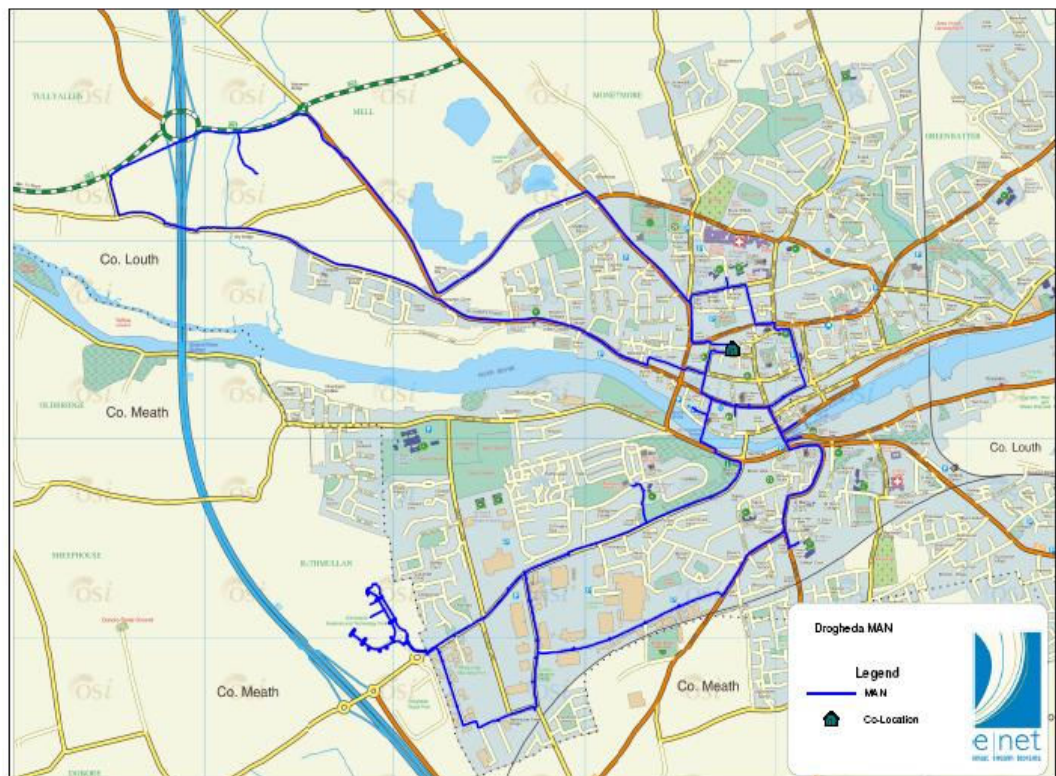
Policy TE 1

Secure the expansion of high quality broadband and telecommunication infrastructure within the town and its environs, in the interests of promoting economic growth and competitiveness.

9.2.2 Metropolitan Area Networks (MAN)

MANs are telecommunication networks that have been funded by the Government to enable business/ employers in larger towns in Ireland to gain Access to high – speed broadband. Refer to map 9.1 Metropolitan Area Network (MAN) in Drogheda.

MAP 9.1 Metropolitan Area Network (MAN) in Drogheda



Policy TE 2

Enhance access to the Metropolitan Area Network in Drogheda.

9.2.3 Project Kelvin

Project Kelvin is a cross border Ireland/Northern Ireland project aimed at bringing a direct link to the transatlantic submarine communications network into the northwest of the Island.

Objectives include reducing the time it takes to exchange data with North America (latency), making the cost of international communications the same as it is in major UK cities and Dublin and increasing competition in the telecommunications market. The project will also greatly improve connectivity with Europe. It is a joint venture between Department of Enterprise Trade and Industry and the Department of Communications, Energy and Natural Resources, and is partly funded by the EU INTERREG IV 2007 - 2013 programme.

The project will involve the laying of a new submarine communications cable which will be brought ashore in the North West of Ireland. The cable will travel through various towns in Northern Ireland and southward to Dublin through Drogheda and Dundalk. Access to the transatlantic submarine communication cable will greatly improve Drogheda's competitiveness in the international market.

Policy TE 3

Facilitate access to the transatlantic submarine communication cable

9.2.4 WiFi

Wi-Fi enabled device such as a personal computer, video game console, mobile phone, MP3 player or personal digital assistant can connect to the Internet when within range of a wireless network connected to the Internet. The coverage of one or more interconnected access points — called a hotspot — can comprise an area as small as a few rooms or as large as many square miles covered by a group of access points with overlapping coverage. In Drogheda there are five Wifi hotspots in Drogheda, The Westcourt Hotel, Kylemore Scotch Hall, Maxol Service Station Donore Road, Eastern Seaboard Bar and Grill, Costa at the M1 Retail Park and Scholars Hotel.

9.2.5 Open Access Ducting

The Councils will require that open access is made available to all ducting networks provided within the Plan area in order to support a competitive telecommunications service and to safeguard existing roads and footpaths from unnecessary excavation. These networks will remain in the ownership of the developer until taken in charge by the Council. The Councils will require, by way of condition attached to any grant of planning

permission, that the service provider enter into an agreement with the Local Authority to ensure that open access at an economic cost is provided.

Policy TE 4

Require that access to cable ducting within new developments is made available to all service providers on a non-exclusive lease basis at an economic cost.

9.2.6 Land Based Telephony

The importance of the traditional land based telephony has decreased over recent years due to the rapid upsurge in demand and developments in mobile telephony. Nevertheless, land based telephony remains as an essential part of the telecommunications networks. The service is well developed and of a high standard throughout the County and is continually being upgraded by the service providers. The two major telephone exchanges located within the County are located in Dundalk and Drogheda.

9.2.7 Mobile Telephony

There have been considerable advances made in extending the mobile telephony network and service in the County in recent years. A high quality reliable phone service is a necessity for both business users and the general public. It is important that the Plan contains guidance for the appropriate provision of the required infrastructure. When suitably located and designed, this infrastructure can go largely unnoticed to the general public.

Policy TE 5

Promote the provision of a competitive and comprehensive mobile telephony network throughout the Plan area.

Operate a presumption against the location of antennae support structures where such structures would have a serious negative impact on the visual amenity of sensitive sites and locations and require operators to share antennae support structures and sites where feasible.

9.2.8 Obsolete Telecommunications Structures

Technology in the field of telecommunications is constantly advancing. This results in infrastructures rapidly becoming outmoded. In order to prevent a proliferation of such infrastructures which would be detrimental to the visual amenities of the town and its environs, planning permission will normally be granted for a period of 5 years only, where after obsolete mobile telecommunication infrastructures must be removed by the operator and the site re-instated. A bond or cash deposit will be sought to ensure compliance with any such condition imposed. Any permission granted for a further period on the site will be conditional on the replacement of the obsolete technology with more modern and environmentally friendly designs where these have become available.

Policy TE 6

To grant planning permission for telecommunications related structures for a specified period only and to require the removal of all obsolete telecommunication structures and re-instatement of sites to the satisfaction of the Planning Authority. A cash bond and development levies will be imposed.

9.2.9 Development Management Assessment Criteria (Telecommunication Structures)

Planning applications for telecommunications infrastructure will, in addition to the above policies, be assessed having regard to the following:

- Applicants should demonstrate that they are locating telecommunications equipment in accordance with the sequential approach outlined in the telecommunications guidelines *Telecommunications and Support Structures, Guidelines for Planning Authorities (1999)*. Only as a last resort should free standing structures be permitted where there is no perceived threat to the visual or aesthetic amenity of the area.
- Ensure that the proposed siting for free standing antenna support structures is suitably located and designed in order to reduce visual impact. It is accepted that operators require certain sightlines in order to provide coverage, however it must be demonstrated that the location is not unduly obtrusive. Setting installations against an appropriate backdrop may mitigate negative impacts. The site should be made secure using appropriate fencing and natural landscaping. Anti-climbing devices should be employed
- Applicants must undertake to make their antenna support structures available and/or ducting to other service providers at an economic cost.
- All installations attached to structures should employ the latest technology and stealth techniques (wall mounting, painting, cable tray covers, set back distances from roof edge etc.) in order to minimise their size and visual impact. Each piece of equipment should be justified.
- Considering the ongoing changes and advancement in the technology and in order to secure the removal of obsolete technology, planning permission will be granted for a limited period only. On expiry of the period for which the planning permission was granted, the owners/operators of the infrastructure shall remove it and re-instate the site to its original condition unless planning permission for its retention has been granted by the council.

9.3 Energy

The *European Council Energy Action Plan 2007*, the *National Climate Change Strategy 2007-2012* and the *Government's White Paper Delivering a Sustainable Energy Future for Ireland (2007)* establish targets and actions to address issues of greenhouse gas emissions and global warming. Under EU and international agreements, Ireland is committed to generating 33% of the electricity requirement from renewable sources and 10% of transport fuels from bio fuels by 2020.

Sustainable land use and transportation planning is essential to energy conservation and should be a key consideration and component in any strategy aimed at reducing greenhouse gas emissions. By providing for more compact urban forms, land use

planning can promote the economic provision of public transport facilities and other sustainable modes of transport, thereby reducing dependency on the motor car. The recently published suite of guidance documents by the Department of the Environment, Heritage and Local Government covering issues such as residential density and the provision of sustainable communities in both urban and rural areas, seek to encourage a planned and sustainable approach to energy conservation and reduction in greenhouse gases through the planning process.

Policy TE 7

Promote and encourage the provision and use of sustainable energy in line with EU and government policy and guidelines.

9.3.1 Sustainable Energy Ireland (SEI)

SEI was set up by the government in 2002 as Ireland's national energy agency to promote and assist the development of sustainable energy.

SEI has been instrumental in the development and implementation of a number of innovative energy use and conservation projects in Louth. They are presently working in close conjunction with Louth County Council and Drogheda Borough Council to develop Green Initiatives which support the Green Economy in Drogheda.

Drogheda Borough Council will work in partnership with and support existing and proposed initiatives by SEI in Drogheda.

Policy TE 8

Work in partnership with and support proposed initiatives by SEI in Drogheda to promote more efficient and sustainable energy use within the Plan area which will benefit the economy.

9.3.2 Natural Gas Supply Network

Bord Gais Eireann has a substantial distribution network in County Louth, including the Drogheda area and has sufficient network capacity to meet anticipated domestic and industrial demand.

Policy TE 9

Support the expansion of the natural gas supply network in Drogheda.

9.3.3 Renewable Energy

Ireland has significant renewable energy resource potential in terms of wind, wave, solar, tidal, ocean and bio energy and it is important that these resources are developed and fully utilised in order to reduce dependency on costly, imported fossil fuels.

The National Climate Change Strategy (NCCS) 2007 – 2012 details the measures by which Ireland will meet its Kyoto 2008 - 2012 commitment. It states that 'electricity

generation from renewable sources provides the most effective way of reducing the contribution of power generation to Ireland's greenhouse gas emissions'.

The development of renewable energy will assist in the provision of a secure and stable energy supply for the long term and will also provide employment in indigenous renewable energy projects. The Council will encourage the production and use of energy from renewable sources including wind energy, solar, ground heat source, biomass, tidal, wave and generation from waste material, subject to normal planning considerations, including in particular, the impact on areas of environmental or landscape sensitivity.

The new Drogheda Fire and Emergency Station incorporates a sustainable and eco-friendly design using solar energy. The design also features a rainwater retention tank and heat exchanger unit. The Drogheda Fire and Emergency Station is an example of how new buildings can efficiently harness sustainable and renewable energy technologies. Drogheda Borough Council will support similar innovative alternative energy projects throughout the Plan area, subject to the protection of visual and residential amenities.

Policy TE 10

Support innovative alternative energy projects and seek to ensure that 25% of the energy requirement of new buildings is obtained from renewable energy sources. This should be calculated on the basis of an approved method carried out by a qualified and accredited expert in the field.

9.3.4 Electricity Infrastructure

The development of secure and reliable electricity transmission infrastructure is recognised as a key factor for supporting economic development and attracting investment into the area. The Council supports the infrastructural renewal and development of electricity networks within the Plan area where these are laid underground.

Policy TE 11

Support the inclusion of ducting for electricity infrastructure and require that all networks are laid underground.

9.4 Guidelines for Sustainable Design and Energy Efficiency in Buildings

This section sets out guidelines for the sustainable design, siting and construction of buildings, particularly with regard to energy efficiency and energy conservation, as well as waste management, waste disposal and sustainable urban drainage systems. These standards need to be read and adhered to in conjunction with improved national standards which came into effect from the 1st of July 2008 (Part L of the Building Regulations 2007, as amended).

Measures that promote energy conservation and efficiency in buildings include air tightness, appropriate use of glazing, high insulation standards and more efficient heating. Alternative forms of electricity and heat generation should also be considered. The various elements in relation to energy conservation and ecological building design are further outlined in this section.

1. Passive Solar Design

Passive Solar Design (PSD) techniques relate to the siting, layout, built form and the landscaping of a development. The use of PSD techniques is cost effective, as it requires little or no cost to the developer and can amount to substantial savings on behalf of the owner/occupier. It also reduces the long-term use of fossil fuels and thereby reduces CO₂ production.

The main elements for the application of PSD with regards to design, siting and layout are as follows:

- Orientation - To maximise solar access and its benefits, the principal façade of a building should be orientated to within 30 degrees of south (where feasible). A southerly orientation maximises solar gain in winter.
- Wind – Buildings should be designed and located to reduce the impact of wind chill and suitable shelter belts should be incorporated.
- Openings - Large glazed surfaces should be located on the southern face of the building. These surfaces must be highly insulated through high performance glazing to prevent the loss of heat.
- Internal planning - The internal layout of buildings should be designed by setting occupied spaces to the south and service spaces to the cooler north.
- Avoidance of overshadowing – Where feasible, buildings should be carefully spaced to minimise the loss of solar gain due to overshadowing.

2. Low Energy Performance Buildings

All new buildings should be designed to comply with low energy performance standards. The current minimum energy performance requirements for residential buildings are set out in the Second Schedule to the Building Regulations 1997 (S.I. No. 497 of 1997). Amendments to the statutory regulations came into effect from the 1st of July 2008 (Building Regulations (Amendment) Regulations 2007 (S.I. No. 854 of 2007)). It will be a prerequisite of all development in the Plan area that the provisions of the amended building regulations be complied with.

4. Active Solar Design

Active solar systems can work in unison with passive systems and provide an alternative mechanism for harnessing solar energy. This system does not rely on site orientation or layout but can be incorporated into any building design to maximise energy efficiency. Active solar technology involves the installation of a solar collector device; this device absorbs the sun's heat to provide space or water heating. A correctly sized unit can provide around half of a household's water needs over a year; large buildings can introduce several systems to increase solar absorption. Photovoltaic panels can also be used, enabling solar radiation to be converted directly into electricity.

Such installations may be ground-mounted (and sometimes integrated with farming and grazing) or built into the roof or walls of a building.

5. Alternative Heating Systems

Energy efficient heating systems such as wood pellet stoves and boilers and geothermal heat pumps can greatly help to reduce energy consumption. Geothermal heat pumps (GHP) work by extracting heat energy from a low temperature source and upgrading it to a higher temperature so that it can be used for space and water heating. Heat pumps are very economical. For every unit of electricity used to power the heat pump, 3 to 4 units of heat are generated. They work best in conjunction with low temperature heat distribution systems e.g. under floor heating. Wood burning systems do emit carbon dioxide. However, as the wood fuel is cultivated, it absorbs the exact same amount of carbon dioxide as is released when burnt. As such, it does not add to the carbon dioxide in the atmosphere. An eligible system can be used for heating a single room, hot water or a whole house.

6. Reduction in Water Consumption

Fresh water resources are increasingly becoming an issue of environmental and economic importance. According to the European Environment Agency, the average consumption for all household purposes is about 150 litres per capita (1999). On this basis, the average water consumption per person in Ireland comes to a staggering 55,000 litres per person per year.

The third biggest user of water is the WC, accounting for almost 35% of a person's average daily water consumption. In this regard, the use of dual flush or low water capacity cisterns should be used.

7. Rain Water Harvesting

Rain water recovery systems harvest rain water which can then be used for the flushing of toilets, washing machines and general outside use. A rainwater holding tank is installed below the ground that gathers water from the roof of buildings. This water is pumped into a tank within the building's roof space where it is stored until required. This water would otherwise have to be treated and pumped by the local authorities presenting a substantial saving. The system filters and collects between 20% and 30% of total water consumption used by a family of four. The system is isolated from the mains water system to eliminate any possibilities of contamination. In the event of using all of the rainwater reserve, an automatic change over system switches over to using mains water until the rainwater tank starts to refill. The rainwater system generally has three separate filters which reduce particles down to 130 microns. These systems should have the British Board of Agreement approval to meet the Building Regulations.

8. Wind Energy

The use of wind turbines to provide a self-sufficient power source or to supply power in combination with other energy sources merits investigation for any large scale development. The Planning and Development Regulations 2006 exempts from planning permission certain types of renewable energy structures including small scale wind

turbines. The use of these technologies should be incorporated into the design of buildings from the outset. Proposals for the provision of small and medium size wind turbines which fall outside the exempted development categories will be favourably considered by the Council provided that they do not significantly impact on visual or residential amenities of the area.

9. Construction Methods

Consideration should be given to the use of renewable building materials such as wood from sustainably managed forests and locally sourced building materials for development projects. Other features of construction should also be considered, such as off-site construction and prefabrication, to minimise the impact of building on the site, reductions in levels of on-site waste and also minimising cost. The re-use of construction waste such as excavated material and topsoil should also be considered.

10. Waste Management and Disposal

All future developments should seek to minimise waste through reduction, re-use and recycling. Waste management and disposal should be considered as part of the construction process and in the operation of the development when completed.

11. Construction Waste

Construction-related waste accounts for about one-third of total land filled waste in Ireland. Therefore, developers and builders should minimise construction waste generated in development projects. During the construction process, measures should be implemented to minimise soil removal (as part of the scheme design process), properly manage construction waste and encourage off-site prefabrication where feasible.

12. Domestic Waste

Everyday domestic waste produced by residents and businesses shall be minimised through reduction, reuse and recycling. All new developments should provide for waste separation facilities, recycling banks and compost units.

13. Precipitation and Climate Change

Buildings should, insofar as is practical, be future proofed against increased precipitation and storm frequency likely to result from climate change. The following check list should be applied:

- Check existing water table and natural patterns of drainage
- Calculate rainwater guttering and pipe work on the basis of up to 30% increase in precipitation
- Use soft landscaping to reduce storm water runoff and help the rain to percolate naturally back into the water table
- Use porous paving schemes to allow water to flow down through hard landscaping directly into the water table to minimise drainage requirements and relieve pressure on existing drainage

- Retain robust roofing details including sarking in preference to battens
- Preserve and increase planting of trees to absorb CO₂ to help reduce global climate change

14. Micro climate enhancement

Trees and shrubs can make a significant contribution to energy conservation by providing shelter and modifying climate at the micro level. Designers and developers should plant deciduous trees and use hard landscaping on the south side of buildings to enhance the micro climate and minimise energy use.

The varied nature of renewable energy technologies presents the potential to develop an indigenous renewable energy industry and provides a range of opportunities to support the local economy including:

- direct and indirect employment opportunities during the construction and operational phases;
- revenue to the owners of the land on which they are built;
- employment in the manufacture of components and services
- a beneficial route for the utilisation of residues and wastes that might otherwise be difficult or expensive to dispose of.