CHAPTER 14

ENERGY & TELECOMMUNICATIONS

14.1 Introduction

The word *energy* is used as a synonym of energy resources, and most often refers to substances like fuels, petroleum products and electricity in general. These are sources of *usable energy*, in that they can be easily transformed to other kinds of energy sources that can serve a particular useful purpose.

Today, we burn fossil fuel, such as coal, oil, and natural gas to make energy. Fossil fuels are non-renewable, that is, they are not replaced as soon as we use them. We therefore face the potential depletion of these resources in the future and the associated risk to security of fuel supply. Furthermore, the combustion of such fuels results in emissions to the atmosphere. It is imperative that our use of and dependence on fossil fuels be reduced. Therefore the development of renewable energy shall be to the forefront in the Councils policy formulation.

The Council recognises the importance of a high quality telecommunication infrastructure in the context of national, regional and local development. The development of this service is an essential element in industrial, commercial, tourist and social development. The next generation of telecommunication networks is likely to be coming on stream during the course of this plan, such as higher capacity and speed broadband and facilitation of these systems is key goal of this plan.

Strategy

- To encourage and facilitate the exploitation of renewable sources of energy in the County;
- Through appropriate land use and higher design standards, aim to reduce the demand for energy and fossil fuels in particular;
- To promote and facilitate the development of telecommunications infrastructure.

14.2 Context

14.2.1 Government policy on energy

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 (DCENR). This document sets out the primary objectives of energy policy, in particular:

- security of supply;
- environmental sustainability;
- economic competitiveness.

14.2.2 National Climate Change Strategy 2007-2012 (DoEHLG)

This document outlines the measures that Ireland will take in order to meet its commitment to limit its greenhouse gas emissions over the 2008-2012 period to 13% above 1990 levels, which includes the following policy mechanisms:

- the need to take a long-term view having regard to likely future commitments and the economic imperative for early action;
- the promotion of sustainable development, including integration of climate change considerations into all policy areas;
- the protection of economic development and competitiveness, utilising market-based instruments with the exploitation of new markets and opportunities;

- the maximization of economic efficiency both on a macro-economic basis and within sectors and an equitable approach to all sectors, having regard to the relative costs of mitigation between sectors.

14.2.3 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 are also intended to ensure a consistency of approach throughout the country in the identification of suitable locations for wind energy development and the treatment of planning applications for wind energy developments.

This document clearly sets out that it is important that a development plan includes both a statement of the planning authority's policies and objectives in relation to wind energy development and matters it will take into account in assessing planning applications for specific wind energy development proposals.

The guidelines set out 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;
- the assessment of individual wind energy development proposals needs to be conducted within the context of a "plan-led" approach. This involves identifying areas considered suitable or unsuitable for wind energy development. These areas should then be set out in the development plan in order to provide clarity for developers, the planning authority, and the public.

14.2.4 Government policy on telecommunications

The Government set out its policy on the development of telecommunications infrastructure in the document ''Telecommunications Antennae and Support Structures" (1996). The widespread availability of a high quality telecommunications network throughout the County will be critical to the development of a knowledge based economy, and will help to contribute to the following:

- the sustained macro-economic growth and competitiveness, by ensuring that the County is best placed to avail of the emerging opportunities provided by the information and knowledge society;
- promoting investment in state of the art infrastructure, 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 progression of broadband is of paramount importance to the successful economic drive of the County - the Government anticipates that significant drivers of change will include advances in existing technologies, the development and deployment of new technologies, the changing role of market players and changes in consumer expectations. These changes will increase the availability of broadband and will make it an even more essential and powerful tool than it is today, for both business and residential consumers.

14.2.5 Planning & Development Act 2000 (as amended)

The Planning Act indicates that a development plan shall include objectives for the provision or facilitation of energy and communications infrastructure. The first schedule indicates objectives that may be included in a development plan, and includes:

- promoting design in structures for the purposes of flexible and sustainable use, including conservation of energy and resources;
- reserving land for transport networks, including roads, rail and light rail, air and sea transport, communication networks, energy generation and energy networks, including renewable energy and other networks, and ancillary facilities to service those networks.

14.3 Energy

14.3.1 The energy problem

The most recent comprehensive data available for energy use in Ireland is from 2007. In that year, the total requirement for all uses of energy including energy used to transform one energy form to another (e.g. burning fossil fuels to generate electricity) and energy used by the final consumer, which is measured in terms of its oil equivalent, was 16.1 MTOE (million tonnes oil equivalent). This energy use is split evenly between the three principle energy users – transport (33%), electricity generation (33%) and heating (34%). Growth in energy demand is forecast to be 2-3% annually to 2020.

The problem is with the source of this energy. In 2007, Ireland was 96% dependent on fossil fuels, 90% of which were imported. This gives rise to two serious problems

- ensuring the continued security of energy supply;
- continued release of CO_2 and pollutants into the atmosphere, with their associated impacts of environmental health and climate change.

These issues in themselves give Ireland the impetus to move away from fossil fuel dependency and to exploit and develop renewable sources of energy. Ireland's commitment to a move to renewables however also stems from its international commitments such as the Kyoto Protocol, European Directive 2001/77/EC[1] and the new directive on the Promotion of Renewable Energy Sources, which is due to come into effect in 2009, which will establish a target of 20% of overall EU energy consumption coming from renewable sources by 2020. The Government have recently revised the target for energy consumption from renewable sources (RES-e) and has increased the target to 40 % by 2020.

Therefore it is imperative that we now start to consider both the issues of supply and demand for energy.

14.3.2 Electricity

Electricity is generated in Ireland from a number of sources such as gas, coal, oil and renewable sources. Renewable sources only accounted for approximately 5% of electricity generation in 2007. This has impacts both for Ireland's energy security (as finite fossil fuels become scarcer) and for our environment and therefore it will be imperative that alternative and renewable sources of electricity are developed. As renewables energy sources can only be developed where they occur, it will also be necessary to put in place an electricity transmission and distribution network that can accommodate this change.

The Government has set a target of 13.2 % for Renewable Energy Sourced Electricity (RES-e) by 2010. This will be made up principally by wind generated electricity and biomass sources.

Electricity generation

(1) Wind Energy

The generation of electricity from wind is the principle renewable alternative being developed in Ireland at present, primarily due to the good wind resource available. The entire Country is richly

[1] EU target of 21 % of electricity from RES by 2010, Irish target of 13.2% by 2010.

endowed with wind resources. Although Ireland only accounts for 2% of the total EU land mass, we have some 6% of EU wind resources. Per capita, we are one of the richest countries in the world in terms of wind energy. Of all new energy inputted into the national grid in 2007, wind energy made up 21%.

In order to meet the 13.2% RES-e target, it is estimated that 1,261MW of installed wind capacity will be required by the end of 2009, which requires an additional 346MW to be added to the network between October 2008 and December 2009[2]. While this may appear to be very ambitious (given that up to October 2008 only 915MW was connected), it is estimated that there are enough projects due for connection in 2008 and 2009 to deliver 476MW. It is therefore clear that wind has the potential to expand rapidly and deliver electricity to the grid in a relatively short time frame.

Access to the electricity transmission grid is an issue for the supply of wind-generated electricity, which is controlled by EirGrid and in some instances the ESB. While a land-use plan cannot impact directly on the manner in which the grid is regulated or developed, through the development of a Wind Energy Strategy, other planning 'bottlenecks' can be somewhat addressed through

- the identification of locations where wind energy projects will be favoured and supported
- the setting out of a clear set of parameters to be considered in the locating of wind farms
- providing clear guidance about the design and layout of wind farm projects

The Wicklow County Wind Strategy is set out in Volume 2 of this plan.

Wind Energy Objectives

WE1 To encourage the development of wind energy in accordance with the County Wicklow Wind Strategy and in particular to allow wind energy exploitation in most locations in the County subject to:
consideration of any designated nature conservation areas (SACs, NHAs, SPAs etc) and any associated buffers
impacts on visual, residential and recreational amenity
impacts on 'material assets' such as towns, infrastructure and heritage sites
consideration of land cover and land uses on or adjacent to the site
consideration of grid connection issues
best practice in the design and siting of wind turbines, and all ancilliary works including access roads and overhead cables.

WE2 To facilitate the development of wind measurement masts through the granting of temporary planning permissions for this purpose, which will be limited to 2 years duration.

WE3 All wind farms shall be granted for a duration of 10 years (maximum) unless a shorter period is requested.

WE4 To facilitate the development of off-shore wind energy projects insofar as onshore facilities may be required.

(2) Solar Energy

The principal application of solar energy is use in heating. Therefore this aspect of solar power is addressed in Section 14.3.5 to follow. However, solar power can also be used to generate electricity through the use of photovoltaic (PV) cells. Photovoltaic systems use semiconductor materials to convert light into electricity. This technology is widely used in consumer products such as solar calculators, watches or garden lights, and is increasingly used as a cost-effective solution in Ireland for stand-alone applications where a grid connection is too expensive (e.g. parking meters, caravans or remote holiday homes). Solar PV can also be used to provide free solar electricity to houses as well as for commercial and industrial applications. Recent developments in regulation mean that it will

[2] Source: Sustainable Energy Ireland, 2008, Renewable Energy in Ireland

shortly be possible to connect solar PV systems to the grid, opening up a new era for solar PV in Ireland.

Solar Energy Objectives

SE1 To facilitate the development of solar generated electricity.

SE2 To positively consider all applications for the installation of PV cells at all locations, having due regard to architectural amenity and heritage.

(3) Hydro Energy

Hydro generated power contributes approximately 1% to the electricity grid, generated from hydropower stations on dammed river or reservoir and lake systems. In Wicklow, hydroelectric generating stations are located at Poulaphouca, Blessington and Turlough Hill, Wicklow Gap. While there are no current plans either nationally or in County Wicklow to install new river dammed hydro plants, subject to ecological considerations, this still remains a viable form of renewable electricity generation. Hydroelectricity also plays an important role in electricity management in the grid as additional electricity can be brought in swiftly from hydro plants during demand spikes.

Wave and tidal power are also considered hydropower sources. Though often confused, wave power is distinct from the tidal power and the steady gyre of ocean currents. Wave power is the transport of energy by ocean surface waves and it is the energy encapsulated in the motion of the waves themselves that can be converted to electrical power. Tidal systems for the most part make use of the kinetic energy of moving water to power turbines, in a similar way to windmills that use moving air.

Another way of generating power is through the installation of tidal barrages which make use of the potential energy in the difference in height (or *head*) between high and low tides. Barrages are essentially dams across the full width of a tidal estuary, and suffer from very high civil infrastructure costs, a worldwide shortage of viable sites, and environmental issues.

Hydro Energy Objectives

HE1 To facilitate the development of expanded or new river / lake based hydroelectricity plants, subject to due consideration of ecological impacts, in particular, the free flow of fish and maintenance of biodiversity corridors.

HE2 To facilitate the development of off shore hydroelectricity projects insofar as onshore facilities may be required.

(4) Bio-Energy

Bio energy is energy derived from biomass. Biomass is all organic material and can be either the direct product of photosynthesis i.e. plant matter such as leaves or stems etc or the indirect product of photosynthesis e.g. animal mass resulting from the consumption of plant materials. Types of biomass that are used to provide bio energy include residues from forestry and related industries, recycled wood, agricultural residues, agri-food effluents, manure the organic fraction of municipal solid waste, separated household waste, sewage sludge and purpose grown energy crops.
Biomass can be burned to produce heat that is used to create steam to turn turbines and produce electricity. Therefore energy from biomass can produce electricity and or/heat. Liquid bio-fuels can also be derived from biomass crops such as oilseed rape.
There is large scale potential for biomass in Ireland. The industry is currently modest in scale, however, with Ireland's growth rate, technological advances and the deregulation of the electricity industry, and in conjunction with stricter controls on waste management, an increase in the development of biomass installations is likely.

Bio-Energy Objectives

BE1 To facilitate the development of projects that convert biomass to electricity.

BE2 Other than biomass installations that are location specific to the rural area, biomass conversion installations / facilities shall be located on suitable zoned industrial land in settlements.

(5) Small-scale renewable electricity generation

With the development of new technologies, the generation of electricity on a small scale from renewable or low carbon sources is becoming more viable. Small-scale installations are available in the form of PV cells (solar panels), single stand-alone or wall mounted wind turbines and biomass converters. The Planning & Development Regulations (2008) brought in new exemptions for certain small scale renewable installations.

Small-scale renewable objectives

SR1 To facilitate the development of small-scale electricity generation installations

Electricity Transmission & Distribution

Electricity generation installations require grid connection (obviously other than small scale projects). Depending on the amount of electricity generated, grid connection can be either through direct connection to the transmission network (110KV/220kV), controlled by Eirgrid or to a local distribution system (normally 38kV), controlled by ESB networks. The Commission for Energy Regulation (CER) regulates grid connections. Physical proximity to the grid is a consideration in the siting of new installations, but will not on its own normally determine the viability of any project, as new transmission lines can be constructed to virtually any location.

In order to facilitate the expansion in electricity generation installation, particularly wind farms, the grid itself will require development and expansion. In Wicklow, the grid has three lines – from Fassaroe in the north to Arklow in the south (roughly along the N11 corridor), from Turlough Hill in the Wicklow Gap down to Hollywood and from Baltinglass to Hollywood. It is important for the future development of electricity in the County that these strategic pieces of infrastructure are protected from inappropriate development in their immediate environs and that their scope for development is maintained. The corridors along these routes can therefore be considered 'strategic infrastructure corridors'.

Transmission & Distribution Objectives

GE1 To support the development and expansion of the electricity transmission and distribution grid, including the development of new lines, pylons and substations as required;

GE2 To suitably manage development within 35m of existing 110KV/220kV transmission lines;

GE3 To support and facilitate the development of landing locations for any cross channel power interconnectors.

Electricity demand

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

Electricity Demand Objectives

ED1 To require all new buildings during the design process to incorporate sustainable technologies capable of achieving a Building Energy Rating in accordance with the provisions S.I. No. 666 of 2006 European Communities (Energy Performance of Buildings) Regulations 2006.

ED2 To facilitate retrofitting of existing buildings with electricity saving devices and installations, where permission is required for such works.

14.3.3 Transport

The energy utilised in transport comes from both the fuel burned in vehicles and the electricity used in electrically powered vehicles, such as electric cars or electrified tram / light rail systems. While electricity can be sourced from renewable and non-polluting sources, the use of petrol and diesel in trains, buses and cars is more difficult to address but a combination of actions will be required, such as:

- reduction in the need to use vehicles, increased opportunities for walking and cycling;
- reduction in journey length and times, reduction in congestion;
- higher intensity of use of public transport;
- development and increased usage of alternative vehicle fuel sources, such as electricity, hydrogen and biofuels. In this regard, the Government has indicated that it wants 250,000 cars and vans, or about 10% of the Irish fleet, to be electric by 2020.

Transport energy objectives

TE1 Through coordinated land-use and transport planning, to reduce the demand for vehicular travel and journey lengths

TE2 Through planning and investment in transport infrastructure, including roads and public transport systems, to reduce journey times, length, congestion and increase the attractiveness of public transport

TE3 To facilitate the development of alternative transport fuels

TE4 To facilitate the development of services and utilities for alternative vehicles types

14.3.4 Heating

The energy used in the generation of building heating accounts for a third of all energy consumed in Ireland. Heat has traditionally been generated from fossil fuel sources such as oil, gas and coal and from electricity, which also has been dependent on fossil fuels for production. The technology is now available to make considerable savings in heat use.

Methods of reducing heat generation and use are currently focused on individual buildings, but it is also possible to construct district heating system that might serve a housing or commercial development.

Heat generation

There are a number of more efficient and renewable methods now available to heat spaces and water in buildings. In particular, solar panels, biomass burners and geothermal heat pumps are widely available, relatively easy to install and available for all types of buildings.

Heat demand

The key to reducing heat demand is to make buildings more efficient. This may mean only heating the minimum amount of water or space required at any time of the day or for a particular use or designing a structure so that it can maximise solar heat gain.

Heating objectives

EH1 To require all new buildings during the design process to incorporate sustainable technologies capable of achieving a Building Energy Rating in accordance with the provisions S.I. No. 666 of 2006 European Communities (Energy Performance of Buildings) Regulations 2006.

EH2 To facilitate retrofitting of existing building with heat saving devices and installations, where permission is required for such works.

14.4 Telecommunications

The availability of high quality, high-speed information, telecommunication and broadcasting network is essential to the economic development of the Country. This principally comprises traditional telephone networks, mobile networks and broadband (all of which can carry voice and digital information, including the internet). Such networks not only provide for better communications between individuals and businesses but also provide opportunities to change the way we live and work, including working from home.

Telecommunications Objectives

ICT1 To facilitate the development and expansion of communication, information and broadcasting networks, including mobile phone networks, broadband and other digital services

ICT2 The development of new masts and antennae shall be in accordance with the development standards set out in Section 14.6 of this chapter

14.5 Design standards for improved energy efficiency

'Energy efficiency' in building design relates to (a) reducing the amount of energy used in the building and (b) increasing the use of renewable sources of energy. There are a number of ways in which both can be achieved:

- High quality insulation, which will minimise heat loss and therefore reduce demand for heat generation;
- The use of energy efficient lighting, which include both the use of energy efficient long life bulbs but also the installation of devices to control use of lights such a light movement sensors;
- The use of energy efficient appliances;
- In use of renewable energy technologies such as
  - solar panels (for either or both water heating and for the generation of electricity)
  - biomass burners, such as wood pellet boilers (again which can generate both heat and electricity)
  - small scale wind turbines.

Even without these technologies, measures can be taken through siting and design to reduce energy use. The following are the main principles of Passive Solar Design (PSD) which should be integrated into the design process:

- Building location – where there is a choice in location, consideration should be given to the ability of any site to make use of sunlight for passive space heating;
- Orientation - the capture of solar gain can be maximised by orientating the main glazed elevation of a building within 30 degrees of due south;
- Room layout - placing rooms used for living and working in the south facing part of the building, to reduce reliance on artificial lighting and heating methods;
- Avoidance of overshadowing - careful spacing of buildings will minimize overshadowing of southern elevations, particularly during the winter when the sun is low;
- Window sizing and position – sizing and positioning windows to maximise gain from the sun, while minimising windows on other elevations. The precise amount of glazing utilised should be based on considerations of latitude, altitude, climatic conditions and heating / cooling requirements. Care is needed to avoid 'over-glazing' resulting in overheating / glare / fading of furnishing and heat loss when ambient temperatures fall;
- Ventilation and shade – to use natural ventilation and shade in order to avoid the need to install air conditioning;
- Thermal buffering - unheated spaces such as conservatories, green houses and garages attached to the house can act as a barrier to unwanted heat loss or gain in the main living area;
- Excessively large open spaces within the building should be avoided as this may lead to unequal distribution of warm air between upper and lower floors as air rises;
- Exterior finishes – materials and colours can be chosen to reflect or absorb solar thermal energy;
- Landscaping – energy efficient landscaping materials, including the use of trees, plants, hedges or trellis can be used to selectively create summer shading and also create winter wind chill shelter.

14.6 Mast & Telecommunications Development Standards

These standards deal with those telecommunications installations which form part of the requirements for licensed, public mobile telephony and which are considered to be development in accordance with the Planning & Developments Acts. Operators of broadcast VHF and fixed radio link installations, which support the mobile radio requirements of the emergency services, should, where applicable, take cognisance of these standards.

Need for the new installation

All applications for new antennae shall be accompanied by adequate information to show that there is a requirement for the new installation. In particular, the following information shall be provided

- Map of the area concerned (minimum 10km radius) showing all antennae operated by the applicant and the applicant's existing coverage in that area;
- Details of antennae operated by other providers in the area and their associated coverage maps;
- Details of the area to be covered by the proposed antennae and technical explanation of the reasons why coverage cannot be provided by existing antennae.

Location

Where it has been proven that there is a need for new / expanded coverage in a particular area, the applicant shall show that all existing masts and support structures in the area have been firstly examined to determine if the attachment of new antennae to existing support structures can provide the coverage required. This will require the submission of

- A map of all existing support structures in the vicinity of the coverage 'gap';
- A technical evaluation of the capabilities of these masts to take additional antennae and provide the coverage required.

Once it has been determined that new antennae / antennae support structures are required and co-location on an existing support structure is not feasible, permission will be considered for new support structures and associated base stations subject to the following control criteria.

Locations in settlements

The applicant shall be required to follow a 'sequential' approach to site location i.e. in accordance with the order of priority set out to follow, the applicant must show that the preferred locations have been examined in the first instance and rejected for specified reasons (commercial competition in this instance will not be acceptable as a reason) and only then, can locations further down in the hierarchy be considered:-

1. Clustering with existing support structures;
2. In industrial estates or on industrial zoned lands;
3. Rooftop locations in commercial / retail zones;
4. In parks / open space areas ('disguised' masts may be requested in such areas)

New support structures shall not be permitted within or in the immediate surrounds of a residential area or beside schools.
Impacts on protected structures, Architectural Conservation Areas, National Monuments or other building / sites of heritage value shall be considered.

Rural locations

- Masts and base stations should be sited in a manner which respects the landscape and which limits the intrusion on the landscape. Notwithstanding coverage obligation issues
  - Hilltops shall generally be avoided, except in exceptional circumstances, where technical or coverage requirements make it essential
  - Locations in the direct line of listed views or prospects shall be avoided;
  - Along major tourist routes, care shall be taken to avoid terminating views;

- The location of structures, archaeological sites and sites designated for nature conservation reasons (e.g., NHAs, SACs, SPAs) shall be considered against the conservation objectives of these sites [1];
- Forested locations are likely to be preferable, subject to the nature of the forestry and its felling programme. In such cases, the applicant must be in a position to maintain a suitable cordon of trees around the site and bonded undertakings to that affect will be required to be submitted;
- Unless otherwise advised through pre-planning discussions, a visual impact assessment shall be submitted with any application, which shall address, in alia,
  - Landscape and topography, elevation and overall visibility;
  - Any listed views or prospects in the area;
  - Intermediate objects (e.g. buildings or trees) between the site and the principal viewing locations;
  - The scale of the object in the wider landscape;
  - The multiplicity of other objects in the wider panorama;
  - The position of the object with respect to the skyline;
  - Weather and lighting conditions

[1] In accordance with the Habitats Directive, any project not directly connected with or necessary to the management of a Natura 2000 site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.

Access roads and power supply

Access roads and new overground power lines shall be permitted only where they are absolutely necessary and great care should be taken that they would not appear as a scar on a hillside;

It will normally be a condition that access roads are grubbed up at the end of the construction period. In exceptional cases, the Planning Authority can consider requiring the use of a helicopter for the construction and installation of base stations.

Mast / antennae design

- Subject to visual and landscape considerations, support structures will normally be required to be so designed as to facilitate the attachment of additional antennae. Where such a design is facilitated, it will be a condition of any permission that the mast be made available for co-location with other operators;
- Support structures shall be so coloured as to minimise visual impact – in forestry areas, dark green will normally be required whereas those structures that would be visible against the skyline will normally be required to be a neutral sky grey;
- Whilst the design of the antennae support structures and the antennae themselves will be dictated by radio and engineering parameters, all applicants will be asked to explore the possibilities of using other available designs where these might be an improvement on traditional design;
- While it is acknowledged that there is a trade off between height (taller height implying better coverage) and the number of masts required for network coverage, in all cases, height shall be restricted to that required to bridge the existing coverage gap identified. Alternatively, consideration may be given to higher masts if this would allow for an overall reduction in mast in any given area.

Site layout / design

- Support structures, associated antennae and base stations shall be designed to minimise visual intrusion. In particular, height and width of the mast shall be kept to a minimum, subject to coverage considerations;
- In built up areas, monopole structures may be preferable, subject to consideration of future co-location demands;
- Site boundaries shall be suitable to the location. In particular, palisade type metal fencing will generally not be considered appropriate in built up areas – render or stone clad solid walls will normally be required;
- Landscaping shall be integrated into the scheme in both urban and rural locations;
- The number of ancillary buildings / containers shall be kept to a minimum, with all such structures proposed being clearly justified. Such structures shall be painted or clad in a material / colour suitable to the location.

Safety criteria

- As part of their planning application, applicants will be required to furnish a statement of compliance with the International Radiation Protection Association (IRPA) Guidelines (Health Physics, Vol. 54, No. 1(Jan) 1988) or the equivalent European Pretender 50166-2 which has been conditioned by the licensing arrangements with the Departments of Transport, Communications, Energy& Natural Resources and to furnish evidence that an installation of the type applied for complies with the above Guidelines;
- Where the applicant proposes to share an existing mast or to enter a clustering arrangement on an existing site, a statement from the owner/landlord of the mast or site that the shared mast or cluster will continue to operate under the guidelines applicable to it should be presented to the Planning Authority;
- The results of monitoring, shall, if required, be made available to the Council and through the Council to the members of the public;

- Safety aspects of the antennae and support structures will, unless perhaps in the case of ground mounted single poles, stayed or otherwise, involve anti climbing devices and proper ducting and insulation measures for cables;
- During construction of the site, special precautions may have to be taken in relation to traffic.

Obsolete structures

- Where the original operator is no longer using the antennae and their support structures and no new user has been identified they should be demolished, removed and the site reinstated at the operators expense (This will be a condition of any permission and a bonding arrangement to this effect will be put in place);
- Where the owner of a site disposes of the site to another suitably licensed operator, the original operator/owner will be required to inform the Planning Authority of such transfer so that the Authority may be in a position to readily enforce any continuing conditions on the new operator.

Duration of permission

- Permissions for antennae support structures and associated base stations shall only be granted for 5 years;
- Further permissions for the facility at the end of the 5 year period shall be conditional on the provision of evidence, as necessary, to justify the continued need for the facility, given changes in technology and development of other sites in the meantime;
- Where a subsequent permission does not include any alterations to the permitted facility, the applicant shall be required to show that no new changes in technology have come about that would allow the design (height, width, no of antennae etc.) or environmental impacts of the installation to be improved;
- The Planning Authority shall apply more stringent conditions on any subsequent permission for the same site, if considered necessary.