7

Energy & Communications

Chapter 7 Energy & Communications

Aim: *To encourage and support energy and communications efficiency and to achieve a reasonable balance between responding to EU and National Policies on climate change, renewable energy and communications and enabling resources to be harnessed in a manner consistent with the proper planning and sustainable development of the county.*

7.1 Background

Kildare has a long history of energy production related predominantly to the commercial exploitation of peatlands. Kildare County Council recognises the potential economic benefit of a transition from fossil fuel-based energy production through to investment in renewable energy.

Irelands 'Climate Action Plan 2021 – Securing Our Future' sets out the Government's roadmap for taking actions that aim to halve emissions by 2030 and reach net zero no later than 2050.

Kildare County Council adopted a Climate Change Adaptation Strategy for the county in 2019, which takes on the role as the primary instrument at local level to: ensure a proper comprehension of the key risks and vulnerabilities of climate change; bring forward the implementation of climate resilient actions in a planned and proactive manner; and ensure that climate adaptation considerations are mainstreamed into all plans and policies and integrated into all operations and functions of Kildare County Council.

7.2 Planning Policy Context

In the preparation of this chapter of the Plan, regard has been had to the following;

- EU Renewable Energy Directive 2009/28/EU
- 2030 EU Climate and Energy Framework 2014
- EU Effort Sharing Regulations 2018
- EU Directive 2001/77/EC Renewable Energy
- EU Directive on the Energy Performance of Buildings (2002/91/EC)
- The Paris Agreement 2015
- The United Nations Framework Convention on Climate Change (UNFCCC), Conference of Parties, Glasgow 2021.
- EU Commission European Green Deal 2019.
- Project Ireland 2040 National Planning Framework
- National Development Plan 2018-2027
- Regional Spatial and Economic Strategy 2019
- Energy White Paper Ireland's Transition to a Low Carbon Energy Future 2015 - 2030
- The National Climate Change Adaptation Framework Plan 2018
- The Climate Action and Low Carbon Development Act 2015
- The Climate Action and Low Carbon Development (Amendment) Act, 2021
- Climate Action Plan 2021
- National Peatlands Strategy 2015
- Kildare Climate Change Adaptation Strategy

- Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and Climate Change 2017
- The National Renewable Energy Action Plan 2010 (Irish Government submission to the European Commission)
- The Government's Strategy for Renewable Energy 2012 – 2020 (DCENR)
- The Government's White Paper on Energy Policy - Ireland's Transition to a Low Carbon Energy Future 2015-2030 (DCENR)

7.3 Climate Adaptation and Mitigation

Climate change adaptation is the process of adjusting to current or expected effects of climate change while climate change mitigation is action to limit climate change by reducing emissions of greenhouse gases or removing those gases from the atmosphere.

Policy

It is the policy of the Council to:

EC P1	Reduce our carbon footprint in line with national targets for climate policy mitigation and adaptation objectives, as well as targets for greenhouse gas emission reductions.

Objective

It is an objective of the Council to:

EC O1	Ensure that energy intensive sectors incorporate significant renewable energy sources to reduce their carbon footprint.

Action

It is an action of the Council to:

EC A1	Prepare, within 1 year of the adoption of the County Development Plan a Sustainable Energy Climate Action Plan (SECAP) for County Kildare to identify the target which County Kildare can contribute in delivering its share of overall Government targets on renewable energy and climate change mitigation over the plan period, and in particular wind energy production and the potential wind energy resource (in megawatts), and commence a variation to the County Development Plan, as appropriate.

7.4 Renewable Energy

Under EU Directive 2001/77/EC Renewable Energy, renewable energy sources are defined as renewable non-fossil energy sources such as, but not limited to wind, solar, geothermal, wave, tidal, hydropower, bioenergy, landfill gas, sewage treatment plant gas, biogases and bio-char (i.e. the thermal treatment of natural organic materials in an oxygen-limited environment).

Due to increased energy requirements and Governments' target of 80% share of electricity from renewable sources by 2030, our electricity supply must move away from fossil fuel sources to renewable and sustainable forms of generation. The Council recognises the range of new and developing technologies and supporting infrastructure that can contribute to minimising greenhouse gas emissions and to securing a greater proportion of our energy needs from renewable resources.

It is an objective of this Plan to support the establishment of a Mid-East Energy Bureau in collaboration with Wicklow County Council, Meath County Council and the Sustainable Energy Authority of Ireland. This agency would lead the delivery of sustainable energy solutions in Kildare and beyond, by advocating, educating and innovating on climate action and would encourage and guide communities, businesses and citizens to participate in the energy transition and achieve carbon neutrality.

Policies

It is the policy of the Council to:

EC P2	Promote renewable energy use generation and associated electricity grid infrastructure at appropriate locations within the built environment and open countryside to meet national objectives towards achieving a net zero carbon economy by 2050.
EC P3	Support the roll-out of the Smart Grids and Smart Cities Action Plan enabling new connections, grid balancing, energy management and micro grid development

Objectives

It is an objective of the Council to:

EC O2	Adopt an informed and positive approach to renewable energy proposals, having regard to the proper planning and sustainable development of the area, including community, environmental and landscape impacts and impacts on protected or designated heritage areas / structures.
EC O3	Support initiatives for limiting emissions of greenhouse gases through energy efficiency and the development of renewable energy sources which make use of the natural resources in an environmentally and socially acceptable manner.
EC O4	Support infrastructural renewal and development of electricity and gas networks in the county, subject to safety and amenity requirements, subject to AA screening and where applicable, Stage 2 AA so as to ensure and protect the favourable status of European sites and their hydrological connections. Such developments will have regard for protected species and provide mitigation and monitoring where applicable.
EC O5	Support and encourage the sustainable development of renewable energy auto production units (the production of energy primarily for on-site usage) for existing and proposed developments in line with relevant design criteria, amenity and heritage considerations and the proper planning and sustainable development of the area, subject to AA screening and where applicable, Stage 2 AA so as to ensure and protect the favourable status

	of European sites and their hydrological connections. Such developments will have regard for protected species and provide mitigation and monitoring where applicable.
EC O6	Require developers of proposed large scale renewable energy projects to carry out community consultation (including, but not limited to Sustainable Energy Communities, where established) in accordance with best practice and to commence the consultation at the commencement of project planning. Details of all such consultation shall accompany planning applications for proposed renewable energy developments.
EC O7	Support, encourage and co-operate with Sustainable Energy Communities (SECs) in the preparation of energy masterplans for their communities and in the delivery of infrastructure and services and to assist in the development of SECs in communities (both urban and rural) throughout the County.
EC O8	Support the roll out of the Renewable Electricity Support Scheme (RESS), which enables communities to become involved in energy generation projects and, where possible, provide the use of public land for the development of community owned Renewable Energy projects.
EC O9	Ensure that whenever possible and appropriate, community benefits are derived from all renewable energy developments in the county.
EC O10	Support energy efficient lighting at appropriate locations in both urban and rural areas.

Actions

It is an action of the Council to:

EC A2	Establish a Mid-East Energy Bureau in collaboration with Wicklow County Council, Meath County Council and the Sustainable Energy Authority of Ireland.
EC A3	Prepare and implement an overall Renewable Energy Strategy for the County in accordance with the current Climate Change Adaptation Strategy for County Kildare.

7.5 Wind Energy

One of Ireland's greatest natural resources is wind. The country has one of the most advantageous wind regimes in Europe suitable for the production of electricity especially during the winter months when energy demand is at its highest. Notwithstanding Kildare's inland location, the County has potential in this regard.

A Wind Energy Strategy forms part of this Development Plan and is presented in Appendix 2. The Strategy has been prepared in accordance with the provisions of the Department of the Environment, Heritage and Local Government's Draft Guidelines for Planning Authorities on Wind Energy Development 2006, and subsequent updated Guidelines and constitutes a plan led approach to wind energy development in County Kildare. The Strategy designates areas across the county where wind energy developments are acceptable in principle, open for consideration and not normally permissible. County Kildare has the potential to generate 53.5 MW from wind energy production during the lifetime of this Development Plan taking account of permitted wind farm developments. However, given that this figure relates to planning applications determined within the last 3-4 years, it is considered reasonable to double

this figure to account for wind energy proposals that have yet to come forward to planning stage and be constructed by the end of the Plan period in 2029. Therefore, it is considered that 107MW is the more realistic wind energy target for Kildare to the end of this Plan period which will contribute towards realising overall national targets on renewable energy and climate change mitigation.

Site suitability is an important factor in determining the suitability of wind farms having regard to possible adverse impacts associated with, for example, residential amenities, landscape, including views or prospects, wildlife, habitats, designated sites, protected structures or bird migration paths and compatibility with adjoining land uses. The Council is therefore required to achieve a reasonable balance between responding to overall positive 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 Council recognises that community ownership of wind energy projects enables local communities to benefit directly from local wind energy resources being developed in their local areas, ensuring long-term income for rural communities.

Policy

It is the policy of the Council to:

EC P4	Have regard to the Department of the Environment, Heritage and Local Government's *'Guidelines for Planning Authorities on Wind Energy Development'* (or any subsequent updates) and the Kildare County Council Wind Energy Strategy when assessing planning applications for wind farms.

Objectives

It is an objective of the Council to:

EC O11	Encourage wind energy developments in suitable locations in an environmentally sustainable manner whilst having regard to Government policy and the County Wind Energy Strategy, while being sensitive to the EU and national target of 30% of land for biodiversity. Subject to AA screening and where applicable, Stage 2 AA so as to ensure and protect the favourable status of European sites and their hydrological connections. Such developments will have regard for protected species and provide mitigation and monitoring where applicable.
EC O12	Support small to medium scale wind energy developments within agricultural, industrial or business areas and support small community-based proposals in urban and rural areas where they do not negatively impact upon the environmental quality (i.e. the habitats, species, hydrological connections and air quality of the area) and visual or residential amenities of the area, subject to AA screening and where applicable, Stage 2 AA so as to ensure and protect the favourable status of European sites and their hydrological connections. Such developments will have regard for protected species and provide mitigation where applicable.

EC O13	Support the repowering (by replacing existing wind turbines) of existing windfarm development and the extension of existing and permitted wind farms on a case-by-case basis subject to further appropriate public consultation and proper planning considerations and environmental considerations such as the movement of qualifying interest species of European Sites. Projects shall provide mitigation and monitoring where applicable.
EC O14	Support the establishment of a local Community Benefit Fund as part of any significant wind energy development application, which supports the development of local recreation amenities, provides additional community project funding or community owned Renewable Energy projects.
EC O15	Require applicants to submit a report addressing the issues contained in Section 6 of the County Wind Energy Strategy '*Considerations for Wind Farm Development Planning Applications'* at application stage. Decommissioning and site rehabilitation plans shall also be submitted at application stage and shall identify sustainable waste management solutions for wind turbine components (battery storage, blades etc.) at end-of-life in accordance with the waste management hierarchy. The disposal of same to landfill will not generally be permitted.
EC O16	Require comprehensive winter and summer bird and wildlife surveys for all proposed wind farms sites in accordance with EIA, EU Habitats and Species Directives and all other relevant environmental legislation, so that impacts on wildlife can be fully assessed and evaluated and so that appropriate mitigation and adaptation measures can be considered. Turbine design and adaptation should use the best available technology to minimise harm to birds and other wildlife.

Target

It is a target of the Council to:

EC T1	Support the target in the Climate Action Plan 2021 for a doubling of existing on-shore wind energy from circa 4GW (today) to 8GW by 2030.

7.6 Solar Energy

There are three basic approaches used today to harness and gain maximum benefit of solar energy in buildings. These are Passive Solar; Active Solar Heating; and Solar Photovoltaic (PV) Systems. There are a range of technologies available to exploit the benefits of the sun, including solar panels, solar farms, and solar energy storage facilities, all of which contribute to a reduction in energy demand.

As solar energy technologies have become more effective, areas in Northern Europe like Ireland have become viable for technologies including solar panels/ tubes on roof spaces and the commercial development of solar farms together with storage facilities. As a result, solar generated energy is increasingly contributing to a reduction in energy demand and energy costs for a range of commercial, industrial and residential

properties. The government agreement on the Sectoral Emissions Ceilings, announced on 28 July 2022, increased the target for solar PV under the Climate Action Plan 2021 from the initial target of up to 2.5GW to a revised target of up to 5.5GW as part of its effort to produce 80% of Irelands electricity from renewable sources by 2030.

On-site microgeneration technologies can make a significant contribution towards a reduction in energy costs and this will continue as technologies develop further. This type of generation is supported in the Climate Action Plan 2021, by Actions 105,107,108 and 138.

Larger commercial solar farms have scope for harnessing a sizable amount of solar energy while also having the greater potential for energy storage and this type of generation is supported in the Climate Action Plan 2021, Actions 102 and 104. However, the scale of these farms has the potential to affect surrounding landscapes. Cumulative impacts may also arise with farms located close to each other. Site selection is vital for potential solar farms as solar resource, topography and proximity to the grid must be considered.

The Council is required to achieve a reasonable balance between responding to the Climate Emergency and adhering to overall positive Government policy on renewable energy, while also enabling the solar energy resources of the Planning Authority's area to be harnessed in a manner that is consistent with proper planning and sustainable development. At present, there are no national planning guidelines to guide the future development of solar farm proposals. In their absence, the Council will assess the appropriateness of individual applications received considering the following:

Site aspect, suitability, and topography
The Council will favour the reuse of previously developed land such as brownfield land, contaminated land or industrial land and non-productive agricultural land in preference to productive land.

Biodiversity
While it is not compulsory for solar farms to require an Environmental Impact Assessment Report (EIAR), an EIAR may be required for projects where the proposed development would be likely to have significant effects on the environment. Schedule 7 of the Planning and Development Regulations 2001 (as amended) sets out the criteria for determining whether a development would or would not be likely to have significant effects on the environment. Furthermore, all development proposals must be screened for Appropriate Assessment and shall be subject to full Appropriate Assessment where they have the potential to have significant adverse impacts on the integrity of a Natura 2000 site, either individually or in combination with other plans or projects, in accordance with Article 6 of the Habitats Directive 92/42/EEC. In any event, impacts to flora and fauna will be a consideration of any application.

The removal of extensive stretches of hedgerow and mature trees, wetland areas and areas of biodiversity interest (including within the development site) will not be permitted. Retention and appropriate management of existing habitats will be favoured over the planting of introduced pollinator friendly species in order to maintain and

restore the existing seedbank and local biodiversity. Where the removal of minor sections of hedgerows or trees is proposed, the applicant shall demonstrate, to the satisfaction of the Planning Authority, that such removal is necessary for the development of the particular solar farm(s). Where the removal of minor sections of hedgerow is proposed, compensatory planting will be required elsewhere within the development.

Measures to treat invasive species and/or avoid their translocation must also be provided. Where it is not possible to retain the area beneath the solar panels for biodiversity purposes, a minimum of 10% of each overall solar farm site shall be reserved for biodiversity purposes, including planting of native and pollinator-friendly species or the construction of new wetland habitat.

All existing habitats on solar farm sites should be retained and appropriately managed. The planting of 'pollinator friendly' seed mixes should be avoided.

Appropriately detailed habitat management and restoration plans (including cutover bog restoration, where appropriate) for all solar farm applications must be submitted.

Landscape character

Where appropriate all applications should be accompanied by a Landscape Impact Assessment (LIA) that considers the subject site in its wider context, to include the subject site, other permitted/in the pipeline renewable energy proposals, and the impact of same on the landscape sensitivity classification, scenic routes and protected views.

Residential amenity

Noise and traffic impacts during the construction, operational and decommissioning phases will be examined to determine whether residential amenity of adjoining/nearby properties would be adversely impacted.

Flooding

Solar farms located within areas identified as being within Flood zones A or B will be subject to a Site-Specific Flood Risk Assessment, as per the Planning System and Flood Risk Management Guidelines 2009 for Planning Authorities (or any updated guidelines). An assessment of stormwater run-off rates must be completed for each development, and attenuation measures proposed as appropriate.

Architectural/Archaeological Heritage

Potential impacts to Protected Structures and their settings as identified in Appendix 6 and Monuments and Places as identified in Appendix 5 of the Development Plan shall also be considered.

Impact on Traffic

A Glint and Glare assessment will accompany any application to consider any impacts to low flying aircraft or passing vehicles.

Road

Access to the site during operational and decommissioning phases will be examined to determine if the access and corresponding road network is adequate.

Access to the grid
Indicative details of the potential connection to the grid shall be provided with all planning applications.

Operations
Details of management, fencing, lighting and upkeep of the site should be submitted.

Lifespan
Details with respect to the estimated length of construction phase activities, their impacts, the proposed lifespan of the development and decommissioning and reinstatement of the subject site should all be submitted.

Policy

It is the policy of the Council to:

EC P5	Promote the development of solar energy infrastructure in the County.

Objectives

It is an objective of the Council to:

EC O17	Support the building of integrated and commercial-scale solar projects at appropriate locations subject to a viability assessment and environmental safeguards including the protection of natural or built heritage features, biodiversity and views and prospects.
EC O18	Encourage and support the use of appropriately scaled solar energy in residential, commercial and industrial developments. The incorporation of solar technologies into the built fabric of existing buildings will also be encouraged where it does not materially affect the character of the structure or adjoining structures.
EC O19	Promote the development of solar energy infrastructure for on-site energy use, including solar PV and solar thermal technologies. On-site battery storage projects shall be considered subject to fire safety, environmental safeguards and the protection of natural or built heritage features, biodiversity views and prospects.
EC O20	Support and favour the ongoing delivery of solar technology on Council owned buildings and sites and projects in accordance with the Kildare County Council Climate Change Adaptation Strategy (and any successor to same).
EC O21	Support the provision of solar farms in appropriate locations in accordance with the criteria as set out in Section 7.6 of this Plan and environmental considerations such as the movement of qualifying interest species of European Sites. Projects shall provide mitigation and monitoring where applicable.
EC O22	Support the installation of solar panels on residential roof spaces.
EC O23	Support the installation of solar collectors and panels for the production of heat or electricity in commercial and industrial buildings in line with relevant design criteria, building regulations and technical guidance documents.

EC O24	Require the submission of a Glint and Glare Assessment as part of any solar energy development proposal where there is likely to be any impact on neighbouring uses, transportation and aviation safety.
EC O25	Require decommissioning and site rehabilitation plans (including phasing where appropriate) as part of any solar farm development application, including identification of sustainable waste management solutions for components (PV solar arrays, steel support frames, battery storage, etc.) at end-of-life in accordance with the waste management hierarchy. The disposal of same to landfill will not generally be permitted. Notwithstanding the provisions of Section 42 of the Planning & Development Act 2000 (as amended), the Planning Authority may grant permission for more than 5 years, in appropriate circumstances.
EC O26	Only permit the removal of hedgerow where the removal of same has been clearly demonstrated, to the satisfaction of the Planning Authority, to be necessary for the development of a solar farm(s).

7.7 Hydro Energy

There are three ESB hydroelectric power stations located in the county - Golden Falls, Leixlip and Poulaphouca.

Policy

It is the policy of the Council to:

EC P6	Facilitate the development of new river-based hydro energy plants subject to all necessary environmental considerations. River based hydro energy developments shall not be permitted within Natura 2000 sites or within designated and proposed Natural Heritage Areas or, ex situ of these ecologically sensitive areas where proposals will adversely affect the integrity of Natura 2000 sites; impact on the ecological integrity of NHA/pNHAs, or the habitats of protected species (without appropriate licence) as designated under National and European legislation.

Objectives

It is an objective of the Council to:

EC O27	Support proposals for hydro energy installations, including small-scale hydroelectric projects on the rivers, watercourses, freshwater dams and weirs across the County, where projects do not negatively impact on freshwater species, biodiversity and natural or built heritage features. Many of the rivers and tributaries in the county are protected under the Birds and Habitats Directives or other heritage designations, which will require consideration during the investigation of any possible suitable site.
EC O28	Require that, in sensitive landscapes, powerlines connecting the hydro unit to the national grid shall be laid underground.
EC O29	Require, appropriate buffer zones around dams, reservoirs and embankments constructed for the purpose of electricity generation.

EC O30	Support the development of small-scale hydro-electricity projects in the county, in particular for on-site consumption to meet the electricity requirements of proposed new buildings, or refurbishment of existing buildings appropriate to their riverside location and setting. Such developments shall be subject to an AA Screening Report, and where applicable, Stage 2 AA. They shall have a regard for any hydrological connection shared with a European Site and shall account for any potential likely significant effects and provide mitigation and monitoring where appropriate.
EC O31	Proposals for hydro-electric energy schemes, including micro-hydro schemes shall incorporate landscaping of dam walls and ancillary developments and also include measures to minimise noise emissions and to reduce the overall impact of schemes.

7.8 Geo-Thermal Energy

The Roadmap for a Policy and Regulatory Framework for Geothermal Energy was launched at the Geoscience Conference in November 2020.

Geothermal energy means energy stored in the form of heat beneath the surface of solid earth. It is generally classified as deep or shallow, depending on the depths involved. Deep geothermal energy can be used for both thermal and electricity generation but as of yet, due to the depths involved and the resultant costs, it has not been developed to any scale in Ireland. The Sustainable Energy Authority of Ireland (SEAI) has developed a geothermal mapping system which identifies the temperature at various depths for the whole country. This type of renewable energy generation may become viable as technologies advance.

Shallow geothermal energy, also known as ground source energy, is most frequently used for providing heat and has been harnessed by homes and commercial and recreational buildings in Ireland for heating purposes. Geothermal energy is extracted through heat pumps which work by circulating a heat transfer fluid around a sealed pipe network buried in the ground. The ground maintains a constant temperature in Ireland of between 11 and 13 degrees and the heat pumps take advantage of this by transferring the heat stored in the ground in winter to the building and doing the opposite to cool buildings in the summer. For each unit of electricity used in a heat pump up to four units of heat are generated.

Policy

It is the policy of the Council to:

EC P7	Facilitate large and smaller scale geothermal energy generating developments both standalone and in conjunction with other renewable energy projects, subject to the proper planning and sustainable development of the area and consideration of environmental and ecological sensitivities in particular the sensitivities of protected surface water or groundwater bodies and groundwater dependent terrestrial ecosystems and to have regard to the Draft Policy Statement on Geothermal Energy for a Circular Economy (2021) published by the Department of the Environment, Climate & Communications (or any subsequent updates).

Objectives

It is an objective of the Council to:

EC O32	Promote the use of geothermal heat pumps for space heating and cooling as well as water heating in domestic, commercial and recreational buildings subject to the protection of water quality and any other relevant considerations such as the Geological Survey of Ireland's (GSIs) Geothermal Suitability maps.

7.9 Bio-Energy

Bio energy may be defined as energy derived from biomass. Bio energy technologies are broken into three groups:

- Combustion – using biomass solely and with fossil fuels;
- Biochemical process – leads to the production of biofuels;
- Thermochemical process - leads to the production of biogas.

Biomass is defined as the biodegradable proportion of products, waste and residues from agriculture, forestry and related industries, including fisheries and aquaculture and the biodegradable fraction of industrial and municipal waste. It can produce electricity and/or heat. Biomass can be burned to produce heat that is used to create steam to turn turbines and produce electricity. Projects involving the combustion of biomass can range in size from a domestic boiler to industrial installations. The main feedstocks are wood chip and wood pellets, energy crops and the combustion of municipal waste in waste-to-energy facilities.

Biofuels may be defined as liquid or gaseous fuels for transport produced from biomass. Biogas can be injected into the natural gas grid to complement or substitute natural gas and can also be compressed and used as a transport fuel.

Policy

It is the policy of the Council to:

EC P8	Facilitate and support the development of projects that convert biomass to gas or electricity subject to national and regional policy. Such projects shall be subject to AA screening and where applicable, Stage 2 AA.

Objectives

It is an objective of the Council to:

EC O33	Support the location of biomass installations, particularly where the operator can demonstrate that the wood chip/wood pellets utilised are derived from environmentally sustainable sources, in areas that do not affect residential or visual amenity which are subject to normal siting, design, environmental and planning considerations and which are served by public roads with sufficient capacity to accommodate increased traffic flows.
EC O34	Support and promote domestic biological treatment including compositing of kitchen and garden waste.

7.10 Strategic Energy Zones (SEZs)

Strategic Energy Zones (SEZs) are areas of national priority for renewable energy investment as well as to provide a test bed for new technologies. The development of proposals for Strategic Energy Zones must be considered in the context of existing infrastructural assets as well as future development. SEZs have a role to play in the provision of a secure and reliable electricity supply.

Policy

It is the policy of the Council to:

EC P9	Co-operate with the Eastern and Midland Regional Assembly (EMRA) in identifying Strategic Energy Zones.

Objectives

It is an objective of the Council to:

EC O35	Identify Strategic Energy Zones in conjunction with EMRA as areas suitable for larger energy generating projects, community and micro energy production, whilst ensuring environmental factors (including landscape, biodiversity and archaeology) and a regional landscape strategy are considered.

7.11 Micro Renewable Energy

Certain energy installations that are identified as being micro-generators will qualify for an exemption from requiring planning permission as per the provisions of the Planning and Development Regulations 2001 (as amended). These planning exemptions apply to residential scale and some commercial scale wind turbine, solar arrays, heat pumps and biomass boilers subject to meeting certain conditions. The Council will encourage the small-scale generation of heat and electricity by individuals, small businesses and communities to meet their own needs and as an alternative to or to supplement grid connected power.

Policy

It is the policy of the Council to:

EC P10	Facilitate micro-renewable energy installations and auto-generator installations where it is demonstrated to the satisfaction of the Council that they will not result in a significant adverse impact on residential, visual or environmental amenity. Such projects shall be subject to AA screening and where applicable, Stage 2 AA.

7. 12 Energy Efficiency

7.12.1 Low Carbon District Heating

District heating is one of the most efficient and cost-effective ways to heat apartments, homes and mixed-use developments. The concept of climate justice, which is a key aim of the Plan, entails the protection of populations made vulnerable by climate change impacts. Low Carbon District Heating could reduce energy costs for low-income families and in doing so promote Climate Justice. District heating networks can be based on a variety of technologies and renewable energy sources, such as combined heat and power (CHP), bioenergy, geothermal or energy from waste. Such schemes work particularly well in built-up urban areas where there is a near constant demand. For the system to work, water is heated using a boiler located in a central heating plant. The heat is distributed to the individual houses via an underground network of insulated pipes. The water in the network is continually circulating and always available. Immersion heaters, boilers and hot water storage tanks are not required which frees up space for other purposes. The use of a renewable energy solution to provide heating and hot water to houses and businesses contributes to sustainability as it reduces demand for and consumption of energy while using a renewable form of fuel.

District heating provides an innovative, local-level solution that allows us to decarbonise heat while also integrating more renewable electricity. District heating systems create a local-level heating (and, if required, cooling) grid which delivers low-carbon heat to residential, commercial and public buildings. These systems are widely used across Europe, and supply 90% of all heat in sustainable cities such as Copenhagen and Stockholm.

District heating is also supported at regional level where RPO 7.38 of RSES states that: *'Local authorities shall consider the use of heat mapping to support developments which deliver energy efficiency and the recovery of energy that would otherwise be wasted. A feasibility assessment for district heating in Local Authority areas shall be carried out and statutory planning documents shall identify local waste heat sources.'*

Where data centre developments are approved in the County, the Council will expect district heating systems to be developed for adjoining residential, community and/or commercial developments.

Policy

It is the policy of the Council to:

EC P11	Support Ireland's renewable energy commitments outlined in national policy.

Objectives

It is an objective of the Council to:

EC O36	Promote and encourage the use of district heating systems in new residential and commercial developments where such development does not have a negative impact on the surrounding environment, landscape, biodiversity or local amenities.
EC O37	Facilitate the use of heat mapping or other appropriate analysis to support developments which deliver energy efficiency and the recovery of energy that would otherwise be wasted.

EC O38	Promote district heating proposals in conjunction with neighbouring authorities.

Action
It is an action of the Council to:

EC A4	Carry out a feasibility assessment for district heating in County Kildare and identify local waste heat sources or renewable energy sources to facilitate such proposals.

7.12.2 Air to Water Heat Pumps

Air to Water Heat Pumps are becoming the norm for energy efficient heating and cooling especially in well insulated and sealed homes. This may be considered a simpler and more cost-effective option than Geothermal heating. Air to water heat pumps can also be retrofitted into homes.

Homes heated in this way have an air source heat pump fitted on the ground or on a wall outside the house. The pumps are powered from the electricity supply. Air to Water Heat Pumps are especially clean sources of energy if the electricity used to power them is generated from renewable sources such as solar PV panels or wind turbines.

Policy
It is the policy of the Council to:

EC P12	Facilitate air to water heat developments at appropriate location and scale.

Objectives
It is an objective of the Council to:

EC O39	Support air to water heat developments, including the retrofitting into existing homes, in conjunction with other renewable energy projects, subject to the proper planning and sustainable development of the area and consideration of environmental and ecological sensitivities.
EC O40	Support and promote the use of air to water heat pumps in domestic, commercial and recreational buildings subject to the protection of water quality and any other relevant considerations.

7.12.3 Energy from Waste

The Council recognises that there is much potential for the capturing and utilisation of waste heat generated by particular premises which could be captured and reused on-site. Such waste heat can be generated from processes including thermal generating stations, site power generation, industrial processes, wastewater systems and waste to energy plants. Proposals for waste to energy development, including anaerobic digestion and dry digestion for farm or other wastes and by- products, will be considered subject to appropriate development management standards and necessary environmental assessments. Suitable areas for such development include those with intensive agricultural activities, such as sheep, dairying, pig and poultry farming.

Policy

It is the policy of the Council to:

EC P13	Promote the appropriate development of waste heat technologies and the utilisation and sharing of waste heat in areas where feasibility is demonstrated for its use in the delivery of low carbon district heating technology.

Objectives
It is an objective of the Council to:

EC O41	Promote the circular economy in terms of waste planning and management by promoting the development of local biodigesters subject to the prior grant of an Industrial Emissions License from the EPA.

7.12.4 Energy Efficiency in Buildings

The design, construction and operation of new and existing buildings, have a significant role to play in reducing energy demand and increasing energy efficiency into the future. The energy efficiency and renewable energy requirements for the construction of new residential and non-residential buildings are primarily addressed in the current Building Regulations Part L. The regulations prescribe that a reasonable proportion of the energy consumption to meet the energy performance of a dwelling is provided by renewable energy sources. The Council will promote energy efficient design and recommends consideration of energy design at the earliest stage in the design process through careful site selection and the design of new buildings with regard to orientation so as to maximise solar gain and cooling. Careful consideration should also be given to the adaptability of buildings over time to enable the building stock to be retrofitted to meet higher efficiency standards in the future.

The upgrading and refurbishment of homes and business premises can make a significant contribution in reducing energy demands and costs. The energy performance of existing buildings is one of the foremost considerations in responding to the energy challenges in the county and Kildare County Council is committed to removing fossil fuel burning from its buildings where possible.

Policy
It is the policy of the Council to:

EC P14	Require high levels of energy conservation, energy efficiency and the use of sustainable and renewable energy sources in new and existing buildings.

Objectives
It is an objective of the Council to:

EC O42	Prioritise the reuse and improvement of existing buildings over demolition where possible.
EC O43	Ensure that measures to upgrade the energy efficiency of vernacular buildings acknowledge their inherent vernacular characteristics, techniques and materials and do not have a detrimental physical or visual impact.

EC O44	Require all new development to be designed to take account of the impacts of climate change, and that energy conservation, energy efficiency and energy renewable measures are incorporated in new and existing buildings through the appropriate design and location of new development, in accordance with relevant building regulations and guidelines.

Action
It is an action of the Council to:

EC A5	Report annually on energy usage in all Council public buildings and strive for a significant improvement in energy efficiency in all public buildings in line with the requirements of the National Energy Efficiency Action Plan (NEEAP).

Target
It is a target of the Council to:

EC T2	Achieve a target of 33% improvement in energy efficiency in all buildings in line with the requirements of the National Energy Efficiency Action Plan (NEEAP).
EC T3	Retrofit all existing council housing stock before 2030.

7.12.5 Electric Vehicles

The Council will promote and support the development of the necessary infrastructure required by Government to accommodate electric vehicles and as outlined in the "Electric Vehicle Charging Infrastructure Strategy 2022-2025" published by the Department of Transport.

Electric Vehicles (EV) refer to both Battery Electric Vehicles (BEV) and Plug-in Hybrid Electric Vehicles (PHEV). All new cars sold in Ireland will be zero carbon emission or zero carbon emission capable by 2030. The ultimate aim is to decarbonise the national car fleet by 2050 so that it will be low or near zero emissions.

A Priority for EV charging is to facilitate the maximum use of night-time renewable electricity where possible. In this regard, residential housing developments have a key role to play in the provision of overnight EV infrastructure and to assist in the delivery of low carbon energy.

The Council will promote and support the development of the necessary infrastructure required by Government to accommodate fuel cell vehicles. 'Hydrogen fuel cell vehicles' use fuel cells to combine stored hydrogen with oxygen to generate electricity (as opposed to electricity from the public grid which currently is part-generated from fossil fuels), which then powers the vehicle's electric motors. They offer greater range and faster re-fuelling than current electric vehicles.

Policy
It is the policy of the Council to:

EC P15	Promote the necessary infrastructure to support the continued roll out of electric vehicles.

Objectives
It is an objective of the Council to:

EC O45	Promote the delivery of EV charging facilities across the County where demand is proven, both on sites owned and occupied by Kildare County Council and private sites and ensure that EV charging points are installed in such a way that they do not cause significant obstruction to footpaths, cycle lanes, access to Train stations, or bus lanes/stops. The EV charger should be compatible with the Sustainable Energy Authority of Ireland's Triple E Register.
EC O46	Ensure that all new suitable fleet vehicles purchased or replaced in the Council's fleet meets latest procurement guidelines relating to fleet electric vehicles.

7.12.6 Decarbonising Zones

A Decarbonising Zone (DZ) is an area identified by the local authority, in response to action 165 of the 'All of Government Climate Action Plan, 2019'. Target 10.2 of the subsequent Climate Action Plan 2021 is to implement decarbonising zones in each local authority. The DZ is an area within a county which will see the implementation of numerous mitigation measures in support of the national transition objective, 2030 emission reduction targets and the requirements of the National Adaptation Framework. The range of projects developed are specific to the energy and climate characteristics of the spatial area covered by the DZ. This can include a range of technologies and measures addressing electricity, heat, transport, building energy efficiency, carbon sequestration, energy storage, grid frequency/inertia, etc. Kildare County Council has identified Maynooth as its inaugural decarbonisation zone and this will be reflected in future local authority projects in the Maynooth area, future local area plans and community engagements.

This plan also promotes 'Sustainable Urban Extensions'. These areas should include exemplar energy production (i.e., district heating) and energy efficiency similar to that proposed for the DZs.

Policy
It is the policy of the Council to:

EC P16	Support the identification and development of decarbonisation zones in Kildare over the lifetime of the Development Plan.

Objectives
It is an objective of the Council to:

EC O47	Work with the Council's Climate Action Office and other stakeholders to identify decarbonisation zones in the County.

EC O48	Ensure that all new developments within decarbonising zone fully commit to the identified aims of those zones.
EC O49	Promote the generation and supply of low carbon and renewable energy alternatives within decarbonization zones.

Action
It is an action of the Council to:

EC A6	Work with the Council's Climate Action Office, and other appropriate stakeholders to prepare an Implementation Plan for the county's designated Decarbonisation Zone.
EC A7	Require that the Council explore integrating solar PV for EV charging in Kildare County Council owned car parks throughout the County, potentially utilizing the space on the roof tops of publicly owned buildings.

7.12.7 Peatlands

The inclusion of the midland region on the EU Platform for Coal Regions in Transition will greatly assist in providing for a "Just Transition" for the midland region. The aim of this EU Platform is to provide support for regions heavily involved in fossil fuel industries and provide opportunities for national, regional, and local representatives and EU staff to discuss how these regions can best decarbonise their economies. As part of this Platform, a Regional Transition Team was established to assist the midlands in planning for the phasing out of peat fired electricity generation. Whilst recognising that the cessation of industrial peat harvesting will have positive environmental impacts, the Council supports the Regional Transition Team in pursuing funding opportunities and actions to mitigate the effects of these job losses, positioning the region to develop alternative forms of employment, attract investment and maximise existing employment opportunities and resources. The Council recognises the great potential that the circa 80,000 hectares of industrial peatlands in the midlands offer in relation to after uses ranging from amenity, tourism, biodiversity services, 'wild areas', flood management, climate mitigation, energy development, industry, education, conservation and many more.

It is the policy of the Council to support the long-term strategic planning for industrial peatlands as per Regional Policy Objective 4.84 of the Regional Spatial Economic Strategy. The Council supports the preparation of a comprehensive "after use" framework plan for the industrial peatlands and associated workshops, office buildings, industrial sites and power stations in the midlands, which meet the environmental, economic and social needs of communities in these areas, and will work with all stakeholders involved in the process in this regard. The Council considers that there is significant potential to develop a Green Energy Hub in County Kildare, which focuses on the higher order aspects of the industry such as research, new technologies, headquarter development, assembly, maintenance and financing.

The 'Local Just Transition Plan for West Kildare', commissioned by Kildare County Council, was published in March 2022. On a strategic level, the purpose of the plan is to identify bottom-up, smaller scale, localised measures to complement larger regional and national development measures and investments. In doing so, the Plan identifies projects to support and advance sustainable, social, economic and

environmental development in the transition to a low carbon future in the West Kildare region. Addressing the County's turbary areas, the Plan provides a concise, coherent, thematic, and action-focused plan with an emphasis on the effective and practical implementation of projects to stimulate and enable a range of actions that can be owned and driven by the many diverse communities of West Kildare. In doing so, it draws together opportunities associated with the Just Transition Framework for the wider Midlands Region, the National Territorial Just Transition Plan, and the impetus for the Transition to a Low Carbon Economy.

The guiding priorities for the Plan have been to stimulate skills development and employment, to build community cohesion and to increase the resilience of the communities of West Kildare, across three key themes: Economy, Society and Environment. The Plan identifies 15 no. thematic actions which focus on overcoming challenges and capturing opportunities. The aforementioned themes of the Just Transition are at the heart of all 15 actions. Each action is designed to deliver against all three of these themes in some way. Therefore, rather than group actions by theme actions have been grouped into three areas of opportunity which have been identified as Tourism, Business and Skills and Energy. Some of the key actions identified in the Plan include:

- Progressing the opportunity for a new National Peatlands Park for Ireland
- Providing a stimulus for community owned marinas and facilities as key blueway infrastructure to support the growing tourism sector.
- Encouraging new community development groups to emerge
- Growing the capacity for communities to help themselves through 'one-stop shops' at community hubs which will enhance the ability of communities to access funding opportunities and skills training, as well as supporting remote working.
- Supporting community retrofitting programmes

The Plan also identifies three priority enabling actions which have the capacity, if realised, to support all 15 proposed thematic actions and include the following;

1. A coordinated programme of activity to bid for Just Transition Fund monies.
2. Critical partnership building
3. Incorporation of the Just Transition Plan into the Local Economic Community Plan (LECP)

Policy
It is the policy of the Council to:

EC P17	Support the preparation of a comprehensive "after use" framework plan for the industrial peatlands and associated workshops, office buildings, industrial sites and power stations in Kildare, acknowledging the significant contribution that these expansive lands make towards the special landscape of the Bog of Allen and its potential to further the growth of tourism to and within the County including the creation of a National Peatlands Park, being a focal point for the environmental landscape, conservation and amenity.

Objectives
It is an objective of the Council to:

EC O50	Prioritise the sourcing of E.U. and National funding to support projects which assist the transition of the industrial peatlands and the communities traditionally dependant on them, to sustainable after uses.
EC O51	Support Bord na Mona in the preparation of a long-term strategic plan for the former industrial peatlands.
EC O52	Support Bord Na Mona (and their company Powergen) with their redevelopment proposals for their headquarters at Newbridge, with a view to Kildare County Council promoting the area as a Green Energy Hub, which focuses on the higher order aspects of the renewable energy industry and a climate action training centre.
EC O53	Support the implementation of the recommendations contained in the National Peatlands Strategy 2015 and any subsequent revisions, including the creation of a National Peatlands Park and Peatland Centre of Excellence.
EC O54	Require an Ecological Impact Assessment to be carried out and submitted with any planning application for energy infrastructure projects (e.g., wind and solar developments).
EC O55	Estimate an overall carbon balance when evaluating renewable energy project applications on peatlands, especially those proposed for wind or solar projects taking into account the lifetime of the project versus the potential carbon sequestration over 1000s of years of a site once rehabilitated fully.
EC O56	Support the implementation of the 'Local Just Transition Plan for West Kildare, 2022' which identifies 15 no. thematic actions and 3 no. priority enabling actions to support and advance sustainable, social, economic, environmental development in the transition to a low carbon future in the West Kildare region.
EC O57	Ensure that renewable energy projects located on or near peatlands do not negatively impact on any rehabilitation measures including enhanced rehabilitation measures (i.e. blocking and re-wetting).
EC O58	Undertake a peatland stability assessment, carbon emissions balance assessment and hydrological and ecological impact assessments, as required, when developing project proposals for development on peatlands.[1]

Action
It is an action of the Council to:

EC A8	Support in conjunction with Offaly County Council and Laois County Council any proposal for a new National Peatlands Park on Bord Na Mona cutaway bogs in Kildare, Laois and Offaly.

[1] Refer also to Objectives RE O139 (Chapter 4) & RD O41 (Chapter 9)

7.13 Communications

7.13.1 Data Centres & Energy Supply

It is Government Policy as set out in the National Planning Framework and the Government Statement on "The Role of Data Centres in Ireland" to promote Ireland as a sustainable international destination for Information Communications Technology (ICT) infrastructure such as Data Centres. To date, some of the world's best known companies including Microsoft, Google, IBM and Amazon AWS have chosen Ireland as the location for their European data centres.

Kildare County Council acknowledges that data centres contribute to job creation during construction, maintenance and from associated areas such as research and development, data analytics, customer service, technical support, marketing and sales. Data centres generally need to be located in areas where there exists a significant and sustainable electricity supply, high powered fibre optic cables, good accessibility and on large land banks that are easily developable with future expansion possibilities. In addition, the Council is mindful that Data Centres should avoid sensitive landscapes and environments.

Policy

It is the policy of the Council to:

EC P18	Support the accommodation of Data Centres at appropriate locations in line with the objectives of the National Planning Framework and the principles for Sustainable Data Centre Development of the Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy (July 2022) subject to appropriate Transport, Energy and Environmental Assessments and all relevant planning conditions. The location of data centres shall be situated where they will not have a potential likely significant effect on a European Site. Such developments shall be subject to an AA Screening Report, and where applicable, Stage 2 AA. They shall have regard for any hydrological connection shared with a European Site and shall account for any potential likely significant effects and provide mitigation and monitoring where appropriate.

Objectives

It is an objective of the Council to:

EC O59	Consider applications for data centres having regard to the following criteria: • Accessibility/ease of connection to power • Availability of renewable energy to power any proposed data centre. • Availability of high-powered fibre optic infrastructure Transport/road accessibility • Compatibility of surrounding land uses/zoning • Avoidance of designated sites including specifically avoidance of development of data centres where they would adversely affect the integrity of a European Site • Availability of significant landbanks • Noise • Visual impact

	• Flood risk Such developments shall be subject to an AA Screening Report, and where applicable, Stage 2 AA. They shall have a regard for any hydrological connection shared with a European Site and shall account for any potential likely significant effects and provide mitigation and monitoring where appropriate.
EC O60	Require that any application for a data centre shall take account of the cumulative visual impact of the proposed connections of the data centre with electricity transmission, renewable energy and broadband infrastructure in the area.
EC O61	Require data centres to include strong energy efficiency measures to reduce their carbon footprint in support of national targets towards a net zero carbon economy, through the use of sustainable sources of energy generation in the first instance and then the use of renewable sources of energy to power their operations, where on site demand cannot be met in this way, to provide evidence of engagement with power purchase agreements (PPA) In Ireland. All data centre developments shall provide evidence of sign up to the Climate Neutral Data Centre Pact.
EC O62	All data centre development applications shall have regard to the DECLG guidance document 'Towards nearly Zero Energy Buildings in Ireland – Planning for 2020 and Beyond', which promotes the increase of near Zero Energy Buildings (nZEB).
EC O63	Ensure that all significant development proposals for Data Centres are accompanied by an Energy Analysis that explores the potential for the development of low carbon district heating networks.

7.14 Energy Supply and Infrastructure

The Council acknowledges the need to utilise electricity for domestic and commercial use within the county. Notwithstanding the Council's desire to promote the growth in renewable energy alternatives, the majority of the county's energy is still generated from non-renewable sources such as the burning of coal, oil, peat and natural gas. For the most part this energy is transferred around the county on the national grid transmission infrastructure. While the main source of electricity generation in Ireland is from non- renewable sources, electricity generation from renewable sources is increasing.

EirGrid is responsible for power across the electricity transmission grid, ensuring a safe, secure and reliable supply of electricity to homes, businesses and industry across the country while ESB networks are responsible for carrying out maintenance, repairs and construction on the grid.

The electricity transmission grid infrastructure has a big role to play in meeting the challenges of climate change and energy and in supporting our environment, society, and economy. A comprehensive development strategy for the country's electricity infrastructure is provided in EirGrid's 2017 publication Grid Development Strategy - Your Grid, Your Tomorrow, along with the associated Grid Implementation Plan for the initial period 2017-2022. In addition, The Transmission Development Plan (TDP)

2020-2029 lists the committed projects and projects under development for the enhancement of the Irish transmission network over the coming years. The Shaping our Electricity Future - A Roadmap to achieve our Renewable Ambition (2021) provides an outline of the key developments from a networks, engagement, operations and market perspective needed to support a secure transition to at least 80% renewables on the electricity grid by 2030. The Council supports the sustainable implementation of these plans and strategies and any subsequent plans prepared during the lifetime of this Plan, subject to landscape, residential, amenity and environmental considerations.

It is anticipated that growth in the Greater Dublin Area will give rise to demand for increased energy supply and a pressure to connect the region with other regions via the hinterland area that includes County Kildare. The Council will support and facilitate the requirements of the major service providers, such as Eirgrid and ESB, where it is proposed to enhance or upgrade existing facilities or networks or to provide new infrastructure subject to landscape, residential amenity and environmental considerations. The Maynooth 220kV and Dunstown 400kV substations are both electrical substations of regional significance and the Council will seek to support any reinforcement of the Greater Dublin Area between Dunstown and Woodland 400 kV substations.

Policy
It is the policy of the Council to:

EC P19	Support the development, reinforcement, renewal and expansion of the electricity transmission and distribution grid to provide for the future physical and economic development of Kildare Such projects shall be subject to AA screening and where applicable, Stage 2 AA. The developments will have regard for protected species and provide mitigation and monitoring where applicable..

Objectives
It is an objective of the Council to:

EC O64	Support and safeguard the efficient and reliable supply of electricity to all homes and businesses in County Kildare.
EC O65	Support the reinforcement and strengthening of the electricity transmission and distribution network, including the installation of Battery Energy Storage System plants [2], Synchronous Condenser plants, and associated dispatchable power plants associated with high energy users, to facilitate planned growth and transmission/distribution of a renewable energy focused generation, at appropriate locations and in consultation with relevant stakeholders, where they are adjacent and/or proximate to the grid network.

[2] Proposals for Battery Energy Storage Systems and Synchronous Condenser plants shall be subject to landscape, residential, amenity, human health, and environmental considerations. Such projects shall be subject to AA screening and where applicable, Stage 2 AA. The developments will have regard for protected species and provide mitigation and monitoring where applicable.

EC O66	Facilitate the delivery of necessary integration of transmission network requirements to allow linkages of renewable energy proposals to the electricity transmission grid in a sustainable and timely manner.
EC O67	Require that developments involving the siting of overhead cables shall minimise visual impact by avoiding areas of high landscape sensitivity, sites and areas important for biodiversity and/or archaeological, cultural or heritage interest.
EC O68	Require that all electricity lines of 38kV and over, comply with all internationally recognised standards with regards to proximity to sensitive receptors including dwellings, nursing homes, hospitals, other inhabited structures and schools/crèches.
EC O69	Support the statutory providers of national grid infrastructure by safeguarding strategic corridors (where strategic route corridors have been identified) from encroachment by other development, that might compromise the provision of energy networks.
EC O70	Facilitate the development of grid reinforcements including grid connections and a trans-boundary network into and through the county and between all adjacent counties. Such projects shall be subject to AA screening and where applicable, Stage 2 AA. The developments will have regard for protected species and provide mitigation and monitoring where applicable.
EC O71	Support and facilitate the Kildare-Meath Grid Upgrade (also known as Capital Project 966) to enable further renewable energy generation in line with the Governments' target of 80% renewable energy generation by 2030.
EC O72	Require that in all new developments, local services such as electricity shall be located underground. Multiple services shall be accommodated in shared strips underground and access covers shall be shared, where possible.
EC O73	Consider the removal of trees (singular or in stands) and hedgerows (in part or in whole) only in circumstances where it can be clearly demonstrated that the removal of hedgerow material and or tree(s) is essential for the provision of energy and cannot be designed out. Where proven, the vegetation is to be replaced with equivalent number, species, variety and size as was in situ. Where non-native species are removed, they will be required to be replaced with native species. In all cases, plants of local provenance are to be planted within 1 year of removal and maintained to establishment to negate the habitat and biodiversity loss within 3 years. Existing vegetative or 'stepping-stone' linkages are to be maintained and improved upon to increase wildlife corridors. Opportunities should be sought to translocate existing species rich hedgerows, where possible, and subject to proper biosecurity protocols.
EC O74	Ensure that future upgrades / new overhead cable installations in town centres are located underground to protect the visual amenity of town centres and in particular Heritage Towns and Architectural Conservation Areas.

7.15 Telecommunications Infrastructure

Government policy for the development of telecommunications infrastructure is set out in Telecommunications Antennae and Support Structures – Guidelines for Planning Authorities (1996), and in circular letter PL07/12 which updated certain sections of the guidelines. The planning authority will have regard to the Guidelines and to such other publications and material as may be relevant in the consideration of planning applications for such structures.

Free-standing masts should be avoided in the immediate surrounds of small towns and villages. In the vicinity of larger towns communications providers should endeavour to locate infrastructure in industrial estates on industrial zoned land. Only as last resort when all other alternatives have been exhausted should free standing masts be located in residential areas or close to schools and hospitals.

Policy

It is the policy of the Council to:

EC P20	Support national policy for the provision of new and innovative telecommunications infrastructure and to recognise that the development of such infrastructure is a key component of future economic prosperity and social development of County Kildare.

Objectives

It is an objective of the Council to:

EC O75	Promote and facilitate the provision of appropriate telecommunications infrastructure, including broadband connectivity and other technologies within the county. Such projects shall be subject to AA screening and where applicable, Stage 2 AA. The developments will have regard for protected species and provide mitigation and monitoring where applicable.
EC O76	Co-operate and co-ordinate with relevant bodies regarding the laying of key infrastructural services within towns and villages and, where practicable, to encourage the efficient and shared use of said infrastructural services.
EC O77	Co-operate with telecommunication service providers in the development of the service, having regard to proper planning and sustainable development.
EC O78	Have regard to the provisions of the Telecommunications Antennae and Support Structures Guidelines for Planning Authorities (1996) and circular letter PL07/12 and to such other publications and material as may be relevant during the period of the Plan.
EC O79	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 including to protect the visual amenity of town centres and in particular Heritage Towns and Architectural Conservation Areas.

EC O80	Ensure that the location of telecommunications structures minimises and/or mitigates any adverse impacts on communities, public rights of way, historical sites, or amenities, and the built or natural environment. Innovative design solutions will be encouraged.
EC O81	Promote co-location to minimise the number of masts and their visual impact on the environment, by continuing to facilitate appropriate development in a clustered manner, where feasible, respecting the scale, character and sensitivities of the local landscape, whilst recognising the need for economic activity within the county. It will be a requirement for applicants to satisfy the planning authority, through the development management process, that a reasonable effort has been made to share installations. In situations where it is not possible to share a support structure, masts and antennae shall be clustered.
EC O82	Minimise the provision of overground masts and antennae within the following areas: • Areas of high amenity/sensitive landscape areas. • Areas within or adjoining the curtilage of protected structures. • On or within the setting of archaeological sites.
EC O83	Discourage the development of individual telecommunications support structures and antennae for private use.
EC O84	Place telecommunications services underground where possible, and that any works carried out on footpaths make provision for future services.
EC O85	Co-operate with service providers in securing a greater range and coverage of telecommunications services in order to ensure that people and businesses have equitable access to a wide range of services and the latest technologies as they become available.
EC O86	Avoid free-standing masts in the immediate surrounds of small towns and villages. In the vicinity of larger towns communications providers should endeavour to locate infrastructure in industrial estates or on industrial zoned land. Only as a last resort when all other alternatives have been exhausted should free standing masts be located in residential areas or close to schools and hospitals.
EC O87	Support the erection of additional masts in some areas to ensure the delivery of ‘’smart metering’ to all areas.

7.16 Gas

Natural gas is the cleanest of all fossil fuels and its chemical composition makes it a more environmentally friendly fuel than oil, coal or peat. The existing gas network within the county has the capacity for connections and local distribution network extensions. The Council acknowledges the importance of gas for both economic development and as a provider of domestic energy within the county. As per the Department of the Environment, Climate and Communication’s Policy Statement on Security of Electricity Supply published 30 November 2021, the development of new conventional generation (including gas-fired and gasoil/distillate-fired generation) is a national priority and should be permitted and supported in order to ensure security of electricity supply and support the growth of renewable electricity generation.

The County's natural gas pipeline infrastructure is under the responsibility of Gas Networks Ireland. Natural gas is available in a number of the county's towns. Gas Networks Ireland continues to assess the feasibility of new connections bringing gas to additional towns. The existing gas network will continue to have a role to play as we transition to a low carbon economy, particularly as the production and use of biomethane and green hydrogen grows over the coming years and these indigenous gases are injected into the gas network in increasing volumes. These indigenous energy sources will be used to decarbonise sections of Ireland's economy in their own right and will be complementary to renewable electricity generation at times when demand is high or on days when there is little or no wind or sunlight.

Hydrogen is a carbon free gas that can be produced from renewable electricity. While initially seen primarily as a decarbonisation solution for heavy goods vehicles and industry, because of its versatility, it is now recognised that hydrogen can play a key role in the decarbonisation of large swathes of the economy, power generation, transport, industry and heating. Hydrogen is also well suited to short-term and inter-seasonal storage, making it an attractive option to decarbonise energy systems and a driver of a cleaner energy future for Ireland.

Policy
It is the policy of the Council to:

EC P21	Support the infrastructural renewal and development of the gas networks in the county, subject to proper planning, heritage, environmental and amenity requirements.

Objectives
It is an objective of the Council to:

EC O88	Support the maintenance of the existing gas network and the further upgrading and expansion of the gas grid across County Kildare to serve existing and future residential, commercial and industrial development.
EC O89	Support and facilitate the production of low carbon or renewable gases such as hydrogen produced using renewable electricity, and biomethane, produced largely from agricultural organic matter, and food waste, that can be injected into the national gas network, subject to appropriate environmental assessments.
EC O90	Support the provision of measures such as the use of renewable gas injection points and Bio-CNG re-fuelling stations at appropriate locations in County Kildare.
EC O91	Support the research and development of green hydrogen as a fuel for power generation, manufacturing, energy storage and transport.

7.17 Broadband

Broadband is currently available in many areas throughout the county however it is still recognised that a number of areas of County Kildare do not have adequate coverage. The 2016 Census noted that 57,086 households out of a total of 73,348 had broadband.

Broadband is seen as a key enabling infrastructure for the knowledge-intensive services and activities on which future prosperity will increasingly depend.

Policy

It is the policy of the Council to:

EC P22	Support the roll out of Broadband and Digital infrastructure especially in rural areas of the county.

Objectives

It is an objective of the Council to:

EC O92	Support and facilitate the delivery of the National Broadband Plan and the Government's 'Harnessing Digital' the Digital Ireland Framework (2022) with particular regard to 5G rollout as a means of developing further opportunities for enterprise, employment, education, innovation, and skills development for those who live and work in rural areas.
EC O93	Facilitate the delivery of high-capacity Information and Communications Technology (ICT) infrastructure, broadband network and digital broadcasting throughout the county at appropriate locations in order to achieve balanced social, economic and environmental development, whilst protecting the amenities of urban and rural areas.
EC O94	Continue to provide public Wi-Fi zones in and around all public buildings.
EC O95	Support the provision of open access fibre connections in all new developments.
EC O96	Have regard to EU Directive 2014/61/EU (SI 391 of 2016), the broadband cost reduction directive, aimed at reducing the costs of deploying high-speed communications networks.