CHAPTER 6

Infrastructure Strategy

6.1 Introduction

The sustainable future socio- economic growth of the County is dependent on the provision of the required water and wastewater infrastructure and ensuring high quality reliable service provision. A plan led approach in accordance with the County's Core, Settlement and Housing Strategies is critical to securing economic investment, creating sustainable and attractive communities and in supporting the future development of the County.

One of the key challenges is the ability to address and keep pace with the infrastructural demands of a growing County while safeguarding public health and managing the protection of key environmental resources in the context of a changing climate. In this regard the Council, in conjunction with other agencies and authorities needs to ensure that development of infrastructural services occurs in tandem with and facilitates physical development to ensure the continued economic growth of the County and the delivery of residential accommodation for the growing population.

Chapter 11 Development Management Standards and Land Use Zoning Objectives sets out detailed requirements for the content of planning applications for infrastructure projects.

6.2 Vision

"To develop, protect, improve and extend water, wastewater, surface water and flood alleviation services throughout the County and to prioritise the provision of water services infrastructure to sustain and complement the overall strategy for socio-economic and population growth and to achieve improved environmental protection. These service improvements must be considered in the context of addressing the causes of climate change through reducing reliance on fossil fuels and reducing greenhouse gas emissions. Achievement of these environmental imperatives can only be guaranteed by means of effective and ambitious action across all sectors which will require demonstrable behavioural change in our society."

6.3 Irish Water

Since the adoption of the 2013 Meath County Development Plan there have been significant changes in responsibility for Water Services in Ireland. Irish Water was formed (in July 2013) as a semi-state company under the Water Services Act 2013. As of January 2014 Irish Water replaced Local Authorities as the single provider of water and wastewater services. Irish Water is responsible for the operation of public water and waste water services nationally including, strategic planning, policy development, service provision, customer service and capital investment planning and delivery.

The Environmental Protection Agency (EPA) is the environmental regulator of Irish Water and the Commission for Regulation of Utilities (CRU) is the economic and customer service regulator. The Council will work closely with Irish Water to inform and influence the timely provision of infrastructure within the County in line with the Core and Settlement Strategies of this Plan.

The Council is contracted to manage and maintain all aspects of water and wastewater provision, operation and maintenance and capital project management in the County, on behalf of Irish Water[1].

The Council remains the designated Water Authority for the assessment and approval of individual domestic on-site wastewater treatment systems in the County and is

[1] Service Level Agreement in place until 2025.

responsible for the rural water programme (including group schemes, private regulated water supplies and well grants) , surface water drainage, flooding and monitoring of surface water quality.

6.4 Water Services

Irish Water prepared a Water Services Strategic Plan (WSSP) in 2015 that set out the strategic objectives for the delivery of water services in Ireland up to the year 2040. The WSSP identified current and future challenges regarding the provision of water services nationally and identified specific priorities to be addressed in the short to medium term. The WSSP is to be reviewed every five years to ensure that the plan is relevant and up to date. The WSSP provides the context for shorter term (circa 5 years) capital investment programmes that will address key water service areas such as water resources management, wastewater compliance and sludge management.

It is acknowledged within the WSSP that the *"Future development of water services must be in line with agreed National and Regional development plans. We will therefore work with regional and local planning authorities and other agencies in the forward planning of water services infrastructure to meet social and economic growth"* (Chapter 1, Pg 1).

The current Irish Water Capital Investment Programme (CIP) 2017-2021 outlines the indicative priorities and investments in water services infrastructure over the five year period. This CIP aims to deliver improvements in drinking water quality, leakage detection and remediation, wastewater compliance, business efficiencies and customer service.

6.5 Statutory Context

Water Services Acts 2007-2014

These Acts provide the legislative basis in relation to the planning, operation, delivery and maintenance of water treatment and supply and wastewater collection and treatment services.

EU Floods Directive 2007

The EU Directive on the assessment and management of flood risks [2007/60/EC], often referred to as the 'Floods' Directive, came into force late in 2007[2]. The Floods Directive was transposed into Irish Law in 2010 (Statutory Instrument No. 122 of 2010 European Communities (Assessment and Management of Flood Risks) Regulations 2010. The Regulations set out the responsibilities of the OPW and other public bodies in the implementation of the Directive and detail the process for implementation of the measures set out in the Flood Risk Management Plans.

6.6 Policy Context

Greater Dublin Area Strategic Drainage Study-Dublin Region Local Authorities-2005

The Greater Dublin Strategic Drainage Study (GDSDS) was commissioned in 2001 to carry out a strategic analysis of the existing foul and surface water systems in Dublin City, Fingal, South Dublin, Dun Laoighaire-Rathdown, Meath, Kildare and Wicklow County Councils. It delivered an overview of the performance of the drainage infrastructure in the region's catchments and proposed infrastructural improvement works to facilitate the anticipated future growth in the catchment to the year 2031 and beyond. Since the establishment of Irish

[2] /www.cfram.ie/home/eu-directive/

Water (IW) the main elements of this policy have been incorporated into IW's policy.

The GDSDS concluded that in addition to optimising the capacity of the existing wastewater treatment plants in the GDA that a new regional wastewater treatment facility, including a new orbital sewer to intercept flows from the Ringsend catchment was required in north Dublin with an outfall to the Irish Sea. The site selection process was completed in 2013. An Bord Pleanala are currently assessing a Strategic Infrastructure Development application for a new treatment plant and outfall, a decision is due in 2019. This plant is expected to be operational by 2024 will serve the Meath towns of Dunboyne, Ashbourne and Ratoath and the villages of Clonee and Kilbride.

Sustainable Urban Drainage Systems (SuDS) 2005

Following on from the GDSDS the local authorities in the GDA introduced new policies in relation to surface water drainage. These provisions included a commitment to the use of Sustainable Urban Drainage Systems (SuDS) in all new public and private developments, effective implementation of this policy will ensure that any future development does not increase flooding or pollution of water bodies. SuDS aim to mimic the natural drainage of a site to minimise the effect of a development on flooding and pollution of waterways. The Council and Irish Water strongly endorse and advocate the comprehensive application of SuDS in the County in the interests of environmental sustainability.

Code of Practice: Wastewater Treatment Systems for Single Houses-Environmental Protection Agency-2010, updated 2012 & 2013

The EPA Code of Practice: Wastewater Treatments Systems for Single Houses establishes an overall framework of best practice in relation to the development of wastewater treatment and disposal systems in un-sewered rural areas, in order to promote the protection of the environment and specifically water quality. All planning applications for rural dwellings on unserviced sites are required to demonstrate compliance with the Code of Practice[3].

Draft Guidelines for Planning Authorities on Water Services-Department of Housing, Planning & Local Government-2018

These Guidelines are intended to provide best practice guidance in relation to the interface between the statutory planning and development functions of the Planning Authorities and the delivery of water services by Irish Water. The key aims of the guidelines are to:

- Provide advice to planning authorities on the operational framework within which Irish water must operate to deliver water services;
- Establish mechanisms for effective engagement between Planning Authorities and Irish water across all relevant functions of Planning Authorities, and
- Ensure that the planning process, in setting out a spatial framework for national growth and development, will relate to and inform the planning and delivery of water services by Irish Water at national, regional and local levels.

6.7 Drinking Water

As the National Water Service Authority, Irish Water is now responsible for managing the

[3] See also Chapter 9, Rural Development

provision and supply of drinking water.

Approximately 45 million litres of potable water was treated and supplied through 64 separate public water supply schemes and a watermain distribution network of over 1,800km in County Meath in 2018.

The 2016 census indicates that almost 50,000 private households (out of a total of 64,234 private households) in the County and 6,000 businesses throughout the County are served by public watermains. The remaining households and business premises are served by either Group Water Schemes or private wells, which do not fall within the remit of Irish Water.

Practical water conservation measures including active leakage detection, demand management and pressure management played and will continue to play a major role in reducing the demand for potable water, thus facilitating additional development and improving the level of service to existing consumers in the County through the existing watermain networks.

Notwithstanding adoption of water conservation measures, existing water supply sources do not have the capacity or resilience to meet likely future demand in Dublin and the Midlands. A preferred scheme has been published which proposes the supply of water from the Parteen Basin on the Lower River Shannon, with water treatment nearby at Birdhill, County Tipperary. Treated water would then be piped 170km to connect to the Greater Dublin network and provide treated water supplies to communities in North Tipperary, Offaly, Laois, Westmeath, Kildare, Meath and Wicklow. Irish Water intend to seek planning permission for this project in 2019-2020.

6.8 Private Wells

Private bored wells used as a source of water supply to single dwellings are the responsibility of the householder. Such wells are not regulated under the European Communities (Drinking Water) Regulations 2014 and Irish Water has no regulatory function in this regard. The Council is responsible for providing guidance and advice in relation to the protection of water quality and in this regard the Council administers and manages well grants on behalf of the Department of Housing, Planning and Local Government (DHP&LG).

It is the policy of the Council:

INF POL 1

To liaise and work in conjunction with Irish Water in the development and upgrade of water supply systems to ensure that the County has an adequate, sustainable and economic supply of suitable quality piped water for all users.

INF POL 2

To utilise the existing water supply in an efficient and equitable manner and in the best interests of the proper planning and sustainable development of the County.

INF POL 3

To seek to secure water resources for the County in conjunction with Irish Water from any project supplying water to the Greater Dublin Area from the River Shannon or any other water source.

INF POL 4

To liaise and work in conjunction with Irish Water during the lifetime of the Plan to seek to secure investment in the provision, extension and upgrading of the piped water distribution network across the County to serve existing and future populations and facilitate the sustainable economic growth of the County, in accordance with the requirements of the Core and Settlement Strategies.

INF POL 5

To require that in the case of all developments where public watermains are available or likely to be available and have sufficient capacity, that such development shall connect to them.

INF POL 6

To advise and assist in the upgrade/ provision of group-water schemes in the County.

INF POL 7

To continue to support Irish Water's Water Conservation Programme.

INF POL 8

To continue to work with Irish Water to ensure the protection of public health through the ongoing provision of high quality drinking water in compliance with drinking water standards.

INF POL 9

To consider the potential for the provision of temporary water treatment facilities for new developments but only where a permanent solution has already been identified and committed to by Irish Water but has not yet been implemented. The provision of such temporary facilities shall only be considered where the solution is environmentally sustainable and would not affect the quality status of water sources. Adequate provision shall be made by the developer for the operation and maintenance of the proposed temporary facility for the duration of its required existence and thereafter for its decommissioning and removal from site.

INF POL 10

To liaise and work in conjunction with relevant stakeholders, to ensure a co-ordinated approach to the protection and improvement of the County's water resources.

It is an objective of the Council:

INF OBJ 1

To liaise and work in conjunction with Irish Water to promote the sustainable development of water supply and drainage infrastructure in the county and the region, in accordance with the objectives and recommendations set out in the Greater Dublin Drainage Study and Irish Water's Water Services Strategic Plan.

INF OBJ 2

To liaise and work in conjunction with Irish Water to ensure that an adequate supply of drinking water for domestic, commercial, industrial and other uses is available for the sustainable development of the County.

INF OBJ 3

To liaise and work in conjunction with Irish Water during the lifetime of the Plan to develop and identify an additional sustainable water source serving the Eastern and Midlands Region while also facilitating the sustainable development of the County, in accordance with the requirements of the Core and Settlement Strategies.

INF OBJ 4

To liaise and work in conjunction with Irish Water in the delivery of the Capital Investment Plan 2017-2021 and any subsequent Capital Investment Plans.

INF OBJ 5

To liaise and work in conjunction with Irish Water to realise the Navan and Mid-Meath/ East Meath Water Supply Scheme. Each of these projects will subject to the outcome of the Appropriate Assessment process. Where adverse effects on European site integrity are identified, alternative routes or designs will be developed to ensure that the project will not adversely affect the integrity of any European Site(s), either alone or in combination with any other projects. If despite the implementation of mitigation measures, there remains a risk that the proposals will adversely affect the integrity of any European Site(s), the project will not be progressed unless and alternative solution can be implemented which avoids/reduces the impact to a level that the integrity of the European Site(s) is (are) unaffected.

INF OBJ 6

To liaise and work in conjunction with Irish Water in their implementation of water conservation measures

INF OBJ 7

To promote the sustainable use of water and water conservation in existing and new development within the County and encourage demand management measures among all water users.

INF OBJ 8

To protect both ground and surface water resources and work with Irish Water to develop and implement Water Safety Plans to protect sources of public water supply and their contributing catchment.

INF OBJ 9

To proactively implement the Rural Water Programme.

INF OBJ 10

To provide guidance and advice regarding the protection of water supply to private wells with the overall responsibility remaining with the householder.

6.9 Wastewater

The provision of well maintained quality wastewater treatment infrastructure is essential to facilitate sustainable development in the County, while also protecting the environment and public health. Irish Water is now responsible for the treatment and disposal of wastewater where public wastewater facilities exist within settlements.

There are over 40 wastewater treatment plants and more than 1,000 km's of sewer network in County Meath. Irish Water currently collects and treats the wastewater from the majority of the counties' urban centres. Wastewater from a number of these centres is discharged to and treated in wastewater treatment plants outside the County as follows:

- Wastewater from Ashbourne, Ratoath, Kilbride, Dunboyne and Clonee is discharged into Dublin where it is treated in Ringsend;
- Wastewater from the Kilcock Environs is discharged into the Leixlip Wastewater treatment plant;
- Wastewater from the Southern Environs of Drogheda, Bettystown/Laytown/ Mornington/Donacarney and Julianstown discharge to the Drogheda Wastewater Treatment Plant.

The Greater Dublin Strategic Drainage Study (GDSDS) carried out an in depth assessment of the Greater Dublin drainage system. A key recommendation of the GDSDS Strategy, provides for the expansion of Ringsend Wastewater Treatment Plant to its ultimate capacity and also the development of a new Regional Wastewater Treatment Plant, Orbital Drainage Network and Marine Outfall in the northern part of the GDA. This is known as the Greater Dublin Drainage (GDD) Project.

Irish Water is progressing the GDD Project and it is envisaged that it will be realised by 2024.

The Council will continue to work with Irish Water to advance and realise capital expansions and upgrades of wastewater infrastructure for the continued sustainable growth of the County.

In unserviced areas and outside the main settlements, the main method of sewage disposal is by means of individual septic tanks and proprietary wastewater treatment systems. The requirements for these systems are set out in the EPA *Code of Practice for Wastewater Treatment Systems and Disposal Systems Serving Single Houses (2010).* For larger developments the requirements are set out by the EPA *Wastewater Treatment Manuals – Treatment Systems for Small Communities, Business, Leisure Centres and Hotels (1999)* and EPA *Guidance on the Authorisation of Discharges to Groundwater (EPA 2011).*

Please Refer to Chapter 9, Rural development Strategy.

It is the policy of the Council:

INF POL 11

To liaise and work in conjunction with

To liaise and work in conjunction with Irish Water during the lifetime of the Plan in the provision, upgrading or extension of wastewater collection and treatment systems in the County to serve existing and planned future populations and enterprise in accordance with the requirements of the Core and Settlement Strategies.

INF POL 12

To require that in the case of all developments where the public foul sewer network is available or likely to be available and has sufficient capacity, that development shall be connected to it.

INF POL 13

To consider the potential for the provision of temporary wastewater treatment facilities for new developments but only where a permanent solution has already been identified and committed to by Irish Water but has not yet been implemented. The provision of such temporary facilities shall only be considered where the solution is environmentally sustainable and would not affect the quality status of receiving waters. Adequate provision shall be made by the developer for the operation and maintenance of the proposed temporary facility for the duration of its required existence and thereafter for its decommissioning and removal from site.

It is an objective of the Council:

INF OBJ 11

To ensure that all development shall connect to the public foul sewer network where available within the County subject to sufficient capacity being available in the relevant wastewater treatment plant.

INF OBJ 12

The Planning Authority shall consider the provision of temporary wastewater treatment facilities for new developments only in circumstances where a permanent solution is identified and committed to by Irish Water. The temporary solution shall only be considered where it is deemed to be environmentally sustainable and would not affect the water quality status of receiving waters. Adequate provision shall be made by the developer for the operation and maintenance of the temporary facility for the duration of the operation of the required infrastructure.

INF OBJ 13

To ensure that septic tanks, proprietary effluent treatment systems and percolation areas are located and constructed in accordance with the recommendations and guidelines of the EPA and the Council in order to minimise the impact on surface water of discharges.

6.10 Surface Water and Flood Risk Management

Under Clause 3.5 of the Service Level Agreement between Irish Water and the Local Authorities it is a requirement that both parties act in good faith to develop a Memorandum of Understanding (MoU) in respect of surface water drainage and flood management. A MoU has recently been agreed in principle between Irish Water and the Council and is expected to be formally signed off during the life of this Plan.

6.10.1 Sustainable Urban Drainage Systems

The Greater Dublin Strategic Drainage Study (2001) contains five policy documents as follows:

- Environmental Management;
- Drainage of New Developments;
- Climate Change;
- Inflow/Infiltration and Basements.

The study sets out a design approach and criteria for drainage infrastructure within new development to ensure that future development does not increase flooding and/or the pollution of waterways. Sustainable Drainage Systems (SuDS) can best be summarised as offering a "total" solution to rainwater management and is applicable in both urban and rural situations. New development is required to incorporate 'Sustainable Urban Drainage Systems' (SuDS) measures. SuDS are effective technologies which aim to reduce flood risk, improve water quality and enhance biodiversity and amenity.

It is the policy of the Council:

INF POL 14

To co-operate with the EPA and other authorities in the continued implementation of the EU Water Framework Directive.

INF POL 15

To continue efforts to improve water quality under the Local Government (Water Pollution) Act 1977, as amended and by implementing the measures outlined under the Nitrates Directive (91/676/EEC) and complying with the requirements of the European Communities Environment Objectives (Surface Waters) Regulations 2009 and other relevant regulations.

INF POL 16

To ensure that all planning applications for new development have regard to the surface water management policies provided for in the GDSDS.

INF POL 17

To liaise and work in conjunction with Irish Water in the implementation of the Memorandum of Understanding (MOU) for surface water drainage and flood management, including the separation of foul and surface water drainage networks where feasible and undertake drainage network upgrades to help remove surface water misconnection and infiltration.

It is an objective of the Council:

INF OBJ 14

To require the use of SuDS within Local Authority Developments and other infrastructural projects in accordance with the Greater Dublin Regional Code of Practice for Drainage Works.

INF OBJ 15

To require the use of SuDS in accordance with the Greater Dublin Regional Code of Practice for Drainage Works for new developments (including extensions).

INF OBJ 16

To ensure that all new developments comply with Section 3.12 of the Greater Dublin Regional Code of Practice for Drainage Works V6 which sets out the requirements for new developments to allow for Climate Change.

INF OBJ 17

To ensure that all new commercial developments provide on-site petrol/oil interceptors and silt traps as per Section 20 of the Greater Dublin Regional Code of Practice for Drainage Works V6.

INF OBJ 18

To ensure that new developments provide for the separation of foul and surface water drainage networks within application site boundaries.

INF OBJ 19

To ensure that developments permitted by the Council which involve discharge of wastewater to surface waters or groundwaters comply with the requirements of the EU Environmental Objectives (Surface Waters) Regulations and EU Environmental Objectives (Groundwater) Regulations.

6.10.2 Flood Risk Management

The Office of Public Works (OPW) is the lead State body responsible for the coordination and implementation of Government policy on the management of flood risk in Ireland. The OPW is also the National Authority for the implementation of the EU Directive on the Assessment and Management of Flood Risks [2007/60/EC].

The EU Floods Directive and the National Flood Policy Review Report (2004) set the parameters for flood management in Ireland. The Planning System and Flood Risk Management Guidelines for Planning Authorities, DECLG and OPW (2009) addresses flood risk management within the planning system. A Strategic Flood Risk Assessment (SFRA) of the County is being prepared to support the Strategic Environmental Assessment of the Plan. The SFRA was carried out in accordance with the Flood Risk Management Guidelines (2009) and will form part of the Development Plan.

In response to the Floods Directive, the Council in partnership with Fingal County Council and the Office of Public Works (OPW) completed a catchment based flood risk assessment and

management study of 19 rivers and streams in the Fingal and East Meath area, the *Fingal East Meath Flood Risk Assessment and Management Study (FEM-FRAMS)*. The FEMFRAMS was completed in 2012 and covered the east of the County including inter alia the Broadmeadow, Mosney, Delvin, Mayne and Nanny rivers. The OPW began a national programme of river catchment based Flood Risk Assessment and Management. The Catchment Flood Risk Assessments and Management Studies (CFRAMS) has been completed on river catchments of all key watercourses and coastal areas in the County and has been included within a review of the FEMFRAMS.

Over the past number of years there have been significant instances where flooding has occurred in areas of the County causing damage to homes and businesses. However, relative to other counties the extent of flooding in the County has been low. Meath is a maritime county and given the reality of global warming there are areas which are at risk of coastal, fluvial or pluvial flooding. As a result of climate change, there is a likelihood of increased rainfall and rising sea levels. This reality in combination with the ongoing urbanisation of catchments, means that the flood risk to property is likely to increase in the future.

A major function performed by floodplains, wetlands and coastal areas is to hold excess water until it can be released slowly back into a riverine system or the sea, or seep into the ground as a storm or tidal surge subsides. Vulnerable floodplains, wetlands and coastal areas should, therefore, be identified and preserved to the maximum extent possible, in both urban and rural areas, as "Green Infrastructure". Zoning of land for this purpose enhances opportunities for the creation of habitats which promote and protect flora and fauna and thus increase diversity etc.

6.10.2.1 Pluvial flooding:

Pluvial flooding occurs as a result of high intensity rainfall where the volume of run-off exceeds the capacity of the existing surface water network and the excess water cannot be absorbed. It is usually associated with high intensity extreme rainfall events (typically >30mm/h) resulting in overland flow and ponding in depressions in the topography. In urban situations surface water drainage systems and surface watercourses may be completely overwhelmed.

Effective utilisation of SuDS can alleviate and mitigate against such flooding. An example of such a system is a constructed swale[4].

6.10.2.2 Fluvial flooding

Fluvial flooding occurs when the capacity of a watercourse is exceeded or the channel is blocked or restricted, and excess water spills out from the channel onto adjacent low-lying areas (the floodplain).

6.10.2.3 Groundwater flooding

Groundwater flooding occurs when the level of water stored in the ground rises as a result of prolonged rainfall to meet the ground surface and flows out over it i.e. when the capacity of this natural underground reservoir is exceeded.

6.10.2.4 Coastal flooding

The Irish Coastal Protection Strategy Study (ICPSS) was commissioned in 2003 by the OPW and has been updated on a number of occasions, most recently in November 2013 for the North-Eastern region (which includes the Meath coastline). This study identifies locations along the north-east coast at risk of coastal flooding and coastal erosion. In addition the ICPSS

[4] A swale is a depressed land form, a gradual depression typically located in open spaces. The use of the swale is to carry or hold flood waters.

provides a strategic assessment of coastal erosion around the Irish coastline using aerial photography records of the coastline from 1973-75, 2000 and 2006 as the primary basis for the erosion assessment. This Study provides strategic current scenario and future scenario (up to the year 2100) coastal flood hazard maps and strategic coastal erosion maps for the national coastline.

Coastal erosion is intrinsically linked with coastal flooding as the loss of natural coastal defences (such as sand dunes) due to erosion can increase the risk of flooding in coastal areas. Flood Risk areas for both fluvial and coastal flooding are shown on the maps included within the Strategic Flood Risk Assessment as part of the preparation of the Plan (See Volume 5 of the Plan).

It is the policy of the Council:

INF POL 18

To implement the "Planning System and Flood Risk Management – Guidelines for Planning Authorities" (DoEHLG/OPW, 2009) through the use of the sequential approach and application of Justification Tests for Development Management and Development Plans, during the period of this Plan.

INF POL 19

To implement the findings and recommendations of the Strategic Flood Risk Assessment prepared in conjunction with the County Development Plan review, ensuring climate change is taken into account.

INF POL 20

To require that a Flood Risk Assessment is carried out for any development proposal, where flood risk may be an issue in accordance with the "Planning System and Flood Risk Management – Guidelines for Planning Authorities" (DoECLG OPW, 2009). This assessment shall be appropriate to the scale and nature of risk to and from the potential development and shall consider the impact of climate change.

INF POL 21

To consult with the Office of Public Works in relation to proposed developments in the vicinity of drainage channels and rivers for which the OPW are responsible.

INF POL 22

To retain a strip of 10 metres on either side of all channels/flood defence embankments where required, to facilitate access thereto.

INF POL 23

To consult, where necessary, with Inland Fisheries Ireland, the National Parks and Wildlife Service and other relevant agencies in the provision of flood alleviation measures in the County.

INF POL 24

To ensure that flood risk management is incorporated into the preparation

of Local Area Plans in accordance with 'The Planning System and Flood Risk Management - Guidelines for Planning Authorities (2009)'.

INF POL 25

To have regard to the recommendations of the Fingal East Meath Flood Risk Assessment and Management Study (FEMFRAMS) and the Eastern Catchment Flood Risk Assessment and Management Study (CFRAMS).

INF POL 26

To undertake a review of the 'Strategic Flood Risk Assessment for County Meath' in light of the completed flood mapping which has been developed as part of the Eastern Catchment Flood Risk Assessment and Management (CFRAM) Study.

INF POL 27

To liaise with the Office of Public Works in relation to proposed developments in the vicinity of drainage channels and rivers for which the OPW are responsible, prior to the making of determinations/ assumptions on surface water management proposals.

INF POL 28

To consult with the Office of Public Works in relation to proposed developments which include the construction, replacement or alteration of a bridge or culvert and to require that the developers obtain consent from the OPW under Section 50 of the EU (Assessment and Management of Flood Risks) Regulations 2010 and Section 50 of the Arterial Drainage Act 1945, where appropriate.

INF POL 29

To facilitate the provision of new, or the reinforcement of existing flood defences and protection measures where necessary and in particular to support the implementation of flood schemes being progressed through the planning process during the lifetime of the Plan. The provision of flood defences will be subject to the outcome of the Appropriate Assessment process. If adverse effects on European Site integrity are identified, alternative locations and/designs will be developed to ensure that flood defence structures will not adversely affect the integrity of European Sites, either alone or in combination with any other plans or projects. If, despite the implementation of mitigation measures, there remains a risk that the proposals will adversely affect the integrity of the European Sites, the project will not be progressed unless an alternative solution can be implemented which avoids/reduces the impact to a level that the integrity of the European Site(s) is(are)_unaffected. It is reasonable to assume that at the detailed design stage any potential for a project to impact on European Sites could, and will, be resolved through the exploration of alternatives locations or designs while still fulfilling their function/role.

It is an objective of the Council:

INF OBJ 20

To implement the *Planning System and Flood Risk Management-Guidelines for Planning Authorities (DoEHLG/OPW 2009)* or any updated guidelines. A site-specific Flood Risk Assessment should be submitted where appropriate.

INF OBJ 21

To restrict new development within floodplains other than development which satisfies the Justification Test, as outlined in the Planning System and Flood Risk Management Guidelines 2009 for Planning Authorities (or any updated guidelines).

INF OBJ 22

To ensure flood relief measures are suitably designed to protect the conservation objectives of Natura 2000 sites, and to avoid direct or indirect impacts upon qualifying interests or Natura 2000 sites that would result in adverse effects on site integrity.

INF OBJ 23

To protect and enhance the County's floodplains, wetlands and coastal areas subject to flooding as "green infrastructure" which provide space for storage and conveyance of floodwater, and ensure that development does not impact on important wetland sites within river/stream catchments.

INF OBJ 24

To identify existing surface water drainage systems vulnerable to flooding and develop proposals to alleviate flooding in the areas served by these systems in conjunction with the Office of Public Works. The delivery of such proposals will be subject to the outcome of the Appropriate Assessment process. If adverse effects on European Site integrity are identified, alternative locations and/designs will be developed to ensure that flood defence structures will not adversely affect the integrity of European Sites, either alone or in combination with any other plans or projects. If, despite the implementation of mitigation measures, there remains a risk that the proposals will adversely affect the integrity of the European Sites, the project will not be progressed unless an alternative solution can be implemented which avoids/reduces the impact to a level that the integrity of the European Site(s) is(are)_unaffected. It is reasonable to assume that at the detailed design stage any potential for a project to impact on European Sites could, and will, be resolved through the exploration of alternatives locations or designs while still fulfilling their function/role.

INF OBJ 25

To require the use of SuDS to minimise and limit the extent of hard surfacing and paving and require the use of sustainable drainage techniques where appropriate, for new development or for extensions to existing developments, in order to reduce the potential impact of existing and predicted flooding risks.

INF OBJ 26

To discourage the use of hard non-porous surfacing and pavements within the boundaries of rural housing sites.

INF OBJ 27

To encourage the use of Green Roof technology particularly on apartment, commercial, leisure and educational buildings.

INF OBJ 28

To ensure that proposals for the development of solar farms are not located within areas identified as being within Flood zones A or B as per the *Planning System and Flood Risk Management Guidelines 2009* for Planning Authorities (or any updated guidelines).

6.11 Water Quality

The County has a rich and extensive aquatic environment consisting of coastline, rivers, streams, lakes and estuarine waters (surface waters) and ground waters (underground water). The Rivers Boyne and Blackwater are the prime watercourses within the County. The Royal and Boyne Navigation Canals, also form part of this aquatic environment. Collectively, they constitute an important economic, recreational, ecological and aesthetic resource for the County.

The Council is responsible for maintaining, improving, enhancing and protecting the ecological quality of all waters in the County by implementing pollution control measures, licensing of effluent discharges, implementing and monitoring compliance with environmental legislation and drawing up pollution contingency measures on a local and regional level. This role is likely to become even more critical as changes in water availability are predicted as an outcome of climate change.

6.11.1 Water Framework Directive

The EU Water Framework Directive (WFD, 2000/60/EC), which was published in 2000 and transposed into Irish law in 2003 (SI No 722 of 2003 *'established a framework for community action in the field of water policy*'. The overall objective of the Directive and associated Regulations is to prevent deterioration in the status of any waters and achieve at least 'good ecological status'[7].

The county lies within a single National River Basin Management Plan (RBMP) for the 26 counties. The RBMP for Ireland 2018-2021 was published in April 2018. The Council is currently implementing the River Basin Management Plan, in fulfilment of its WFD obligations, and the associated programme of measures as detailed within this plan. The main thrust of the Plan is as follows:

- Plan to result in the protection and improvement of water quality in approximately 726 water bodies in Ireland by deploying 43 specialist local authority investigative assessment personnel;
- A €1.7 billion investment in urban wastewater treatment infrastructure by the year 2021 in 255 urban areas;
- A greater focus on protecting drinking

[7] http://www.wfdireland.ie/

water sources in over 700 public and private drinking water supplies and a €73 million per year investment by Irish Water to reduce leakage;

- Extension of the local authority-led domestic wastewater treatment systems grant scheme;
- New agricultural Sustainability Support and Advisory Programme to promote best agricultural practice regarding water quality in 190 targeted areas.

In order to encourage greater implementation of the RBMP the Local Authority Waters and Communities Office (LAWCO) has established a Local Authority Catchments Team employed to undertake scientific assessments initiating the roll out of mitigation measures at a local level and to increase the level of community participation and to raise public awareness of water quality[8].

A regional integrated Catchment Management Programme for the Eastern and Midlands region has been published setting out the precise areas prioritised for action. A schedule of works for the Catchment Assessment Team has been devised setting out how community and stakeholder engagement will take place.

6.11.1.1 Rivers

In total 25 rivers are sampled by the Council for the purposes of physio-chemical monitoring[9] under the WFD at 67 river sampling locations, which complements the EPA's biological monitoring . This operational and surveillance monitoring programme is key to directing the implementation of the River Basin Management Plans and also determines whether the targets and objectives of the Water Framework Directive are being achieved.

Based on the results obtained from the WFD monitoring programme including an assessment of pressures, impacts and water quality investigations, extended deadlines have been included in the RBMP. Such extended timelines will facilitate the achievement of environmental objectives in a significant number of water bodies, primarily on the basis that it will not otherwise be technically feasible to achieve these targets by earlier dates. In such cases targets are to be achieved by 2021, 2027 or beyond 2027.

Water quality monitoring and analysis by the EPA and the Council has demonstrated a long term trend of reducing nutrient concentrations (Nitrogen and Phosphorus) in watercourses in the County since the late 1990's. Recent EPA analysis however indicates nutrient concentrations have been rising in many watercourses since 2004.

EPA data on the biological quality of watercourses, based on monitoring up to 2017, indicates that 19% of monitored river sites in Co. Meath achieved Good Status or better, while 81% of monitored river sites in Co. Meath are at less than Good Status, i.e currently failing WFD objectives.

Significant work is required if the objectives of the WFD are to be achieved within the timeframes adopted in the RBMP. It is equally important that where water quality is of good status that this status is protected. This presents a significant challenge in meeting WFD objectives, particularly in respect of technical resources available to the Council.

6.11.1.2 Lakes

There are 4 lakes in the County which are designated WFD operational monitoring lakes,

[8] http://watersandcommunities.ie/about/
[9] http://www.epa.ie/water/wm/rivers/

namely Lough Sheelin, Lough Bracken, Lough Bane and Annagh or White Lake. The EPA Water Quality in Ireland Report 2010-2015, published in 2017, reports that the water quality in White/ Annagh lake was classified as being of good status and Lough Bane was classified as being of high status, Lough Sheelin and Lough Bracken were both classified as being of moderate status.

6.11.1.3 Coastal and Transitional (Estuarine) Waters

The Meath coastline extends for a distance of approximately 10 km and stretches from the mouth of the River Boyne at Mornington, bordering County Louth to Gormanston at the mouth of the River Delvin, bordering County Dublin.

EPA monitoring of coastal and transitional waters under the WFD classifies the coastal waters off the Co. Meath coast as being of Good Status and the Boyne Estuary is classified as being of moderate status.

Laytown/Bettystown is the only bathing area in Co. Meath designated in accordance with the Bathing Water Quality Regulations, 2008 (S.I. No. 79 of 2008). The Council is responsible for the implementation of the Bathing Water Quality Regulations. This includes monitoring (on a weekly basis during the bathing season) and reporting bathing water quality results to the EPA, making up-to-date information and advice available to the public and responding in the event of incidents which could impact on bathing water quality. Laytown/Bettystown is classified at good quality by the EPA in 2018, based on rolling monitoring results attained during the 4 year period 2015-2018.

The County's coastline is also part of a designated Shellfish Area namely 'the Balbriggan/Skerries Shellfish Area'. In 2011, The Council adopted Pollution Reduction Plans for the purposes of protecting the quality of its shellfish waters, particularly with a view to establishing the potential risk of microbial contamination to the quality of such waters from both on site wastewater treatment systems and agricultural sources.

Mornington Beach attained a 'Green Coast Award' in 2017[10]. The Green Coast Award is a symbol of environmental excellence and has been established to acknowledge, promote and protect the environment of beaches in the Republic of Ireland, Northern Ireland and Wales. The award is for beaches which meet EC bathing water quality standards, but which are also prized for their natural, unspoilt environment.

A Beach Management Plan for Bettystown and Laytown beaches was approved by the Laytown-Bettystown Municipal District in February 2019. It addresses, inter alia, environment and wildlife, management of the beach, beach cleaning, access and parking, bye-laws and communications/signage. The implementation of some of the recommendations contained therein will require some revisions to the County Meath Foreshore Bye Laws 2010, a process that will involve further public consultation and approval by the Elected Members.

6.12 National Maritime Spatial Plan

Ireland's Integrated Marine Plan *"Harnessing Our Ocean Wealth"* (HOOW-2012) includes a National Policy Objective for the preparation of a National Maritime Spatial Plan (MSP). This plan will establish a strategic framework for the

[10] An Taisce with support from Department of Climate Change, Community and Environment, Fáilte Ireland and Coca Cola

realisation of the benefits of our coastal waters in a sustainable way.

EU Directive 2014/89/EU post dates HOOW and establishes an EU wide framework for Maritime Spatial Planning. Ireland transposed the Directive through the EU (Framework for Maritime Spatial Planning) Regulations 2016. These Regulations include a requirement for Ireland to develop a Maritime Spatial Plan (or plans) on a ten years cycle.

It is anticipated that the Draft National Maritime Spatial Plan will be published in Q4 of 2019 or early 2020 and the plan is expected to be finalised in 2020. Consideration of the objectives of the plan will form part of the decision making process for marine developments and activities.

It is the policy of the Council:

INF POL 30

To implement the policies and objectives as set out within the National Maritime Spatial Plan to realise the full benefits of our ocean wealth in a managed and sustainable way ensuring climate change is taken into account.

6.13 Groundwater

The EPA report annually on 46 groundwater bodies in County Meath. Overall groundwater quality within the County is very good with only two groundwater bodies classified at poor status in the EPA Water Quality in Ireland report 2010-2015 published in 2017. The Council engages in ongoing consultation with the EPA in this regard. Groundwater is a major natural resource in the County providing between 20%-25% of drinking water supplies. In rural areas that are not served by public or group water schemes, ground water is usually the only source of supply. For this reason, it is essential that this natural resource is protected.

In conjunction with the Geological Survey of Ireland (GSI) a Groundwater Protection Scheme has been prepared for the County. This provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater. The Scheme aims to maintain the quantity and quality of groundwater and in some cases improve it, by applying a risk assessment based approach to groundwater protection and sustainable development.

Groundwater protection responses for the different areas have been developed for potential hazards such as landfills, on-site wastewater treatment systems and septic tanks for single houses, and land spreading of organic wastes[11].

In accordance with the EU Water Policy, Abstractions Registration Regulations 2018, all abstractions from groundwater or surface water above 25m3/day are required to be registered with the Environmental Protection Agency.

It is the policy of the Council:

INF POL 31

To protect and develop, in a sustainable manner, the existing groundwater sources and aquifers in the County and to manage development in a manner consistent with the protection of these resources.

[11] The Groundwater Protection Scheme is available at www.gsi.ie.

INF POL 32

To ensure, through the implementation of the River Basin Management Plan(s) and the associated Programmes of Measures and any other associated legislation or revised plans with all relevant stakeholders, the protection and improvement of all drinking water, surface water and ground waters throughout the County.

INF POL 33

To protect recognised salmonid water courses (in conjunction with Inland Fisheries Ireland) such as the Boyne and Blackwater catchments, which are recognised to be exceptional in supporting salmonid fish species.

It is an objective of the Council:

INF OBJ 29

To strive to achieve 'good status' in all water bodies in compliance with the *Water Framework Directive* and to cooperate with the implementation of the *National River Basin Management Plan 2018-202.*

INF OBJ 30

To ensure the County's natural coastal defences, such as beaches, sand dunes, salt marshes and estuary lands, are protected and are not compromised by inappropriate works or forms of development.

INF OBJ 31

To employ soft engineering techniques as an alternative to hard coastal defence works, as appropriate.

INF OBJ 32

To identify, prioritise and implement necessary coastal protection works subject to the availability of resources, whilst ensuring a high level of protection for natural habitats and features, and to ensure due regard is paid to visual and other environmental considerations in the design of any such coastal protection works. This will include the identification of coastal areas sensitive to climate change and consequent coastal erosion.

INF OBJ 33

To protect the special character of the coast by preventing inappropriate development, particularly on the seaward side of coastal roads. New development, wherever possible, shall be accommodated within existing developed areas.

INF OBJ 34

To strictly control the nature and pattern of development within coastal areas and ensure that it is designed and landscaped to the highest standards, and sited appropriately so as not to detract from the visual amenity of the area. Development shall be prohibited where the development poses a significant or

potential threat to coastal habitats or features, and/or where the development is likely to result in altered patterns of erosion or deposition elsewhere along the coast.

INF OBJ 35

To prohibit development along the coast outside existing urban areas where such development is not adequately safeguarded over the lifetime of the development without the need to construct additional coastal defences.

INF OBJ 36

To protect and develop, in a sustainable manner, the existing groundwater sources and aquifers in the County and manage development in a manner consistent with the sustainable management of these resources in conformity with the *EU Environmental Objectives (Groundwater) Regulations 2010 and the second cycle National River Basin Management Plan 2018-2021*, and any subsequent plan and the Groundwater Protection Scheme.

INF OBJ 37

To implement the recommendations of the Meath Groundwater Protection Scheme(s).

INF OBJ 38

To establish riparian corridors free from new development along all significant watercourses and streams in the County as follows:

- A 10 metre wide riparian buffer strip measured from the top of the bank either side of all watercourses in urban areas;
- A 30m wide riparian buffer strip from top of bank to either side of all watercourses is required as a minimum outside of urban areas.

6.14 Climate Change

Mitigation of the causes and impacts of climate change is one of the cross cutting themes of this Development Plan. In December 2015 the Climate Action and Low Carbon Development Act 2015 was enacted. The Act establishes the national objective of transitioning to a low carbon, climate resilient and environmentally sustainable economy in the period up to and including the year 2050.

While Ireland is taking positive steps to mitigate the causes of climate change, the Country will, however, inevitably experience the changed conditions being forecast for increasing global temperatures and possible significant changes in rainfall patterns over the next 100 years. The future forecast for Ireland is for drier summers, wetter winters, stronger storms and warmer average temperatures throughout the year. CO2 emissions are largely emanating from the agricultural, transport, energy and residential sectors. It is necessary to address the causes of climate change by reducing our reliance on fossil fuels and our greenhouse gas emissions.

Adaptation/climate proofing measures to counteract these harmful impacts will form

part of an overall comprehensive response. A comprehensive response is required in order to meet our National commitments including that 16% of energy consumption by 2020 will be from renewable sources, with a sub-target of 10% in the transport sector. A non-legally binding target requires that at least 40% of electricity is to come from renewable energy by 2020. These challenges will require significant investment, the implementation of adaptation and mitigation measures across all sectors and the achievement of significant behavioural changes.

6.14.1 Statutory Context

Framework Convention on Climate Change- United Nations- (UNFCCC) 1992

A range of international climate change agreements and frameworks have been approved that provide information on climate change impacts, vulnerability and adaptations. The work of the UNFCCC provides individual participant states with detailed technical information, including current and future climate change projections, which enables determination of practical adaptation measures to improve long term resilience.

Adaptation Strategy- European Union- 2013

The European Union published its Adaptation Strategy in April 2013 with the overall aim of increasing climate resilience across Europe. Through increased coordination and a more consolidated approach, the Adaptation Strategy will enhance the preparedness and effectiveness of various governance levels to respond to the impacts of climate change.

The Strategy is focused on three key objectives:

- Promoting action by Member States
- 'Climate-proofing' action at EU level
- Better informed decision making

The primary adaptation initiatives promoted by the Strategy are achieved through the provision of mitigation and adaptation requirements within EU sector policies and funding mechanisms. The initiatives run across a range of areas including:

- infrastructure and buildings
- marine and inland water issues
- forestry
- agriculture; and
- social cohesion

Climate Action and Low Carbon Development Act-Dept of Communications, Climate Action and Environment-2015

The Climate Action and Low Carbon Development Act 2015 is the key policy instrument which addresses climate change. This Act sets out a roadmap for Ireland's transition towards a low carbon economy and details mechanisms for the implementation of the National Mitigation Plan (NMP), published in July 2017. The aim of these mechanisms is to lower Ireland's level of greenhouse emissions. In addition, the Act requires a National (Climate Change) Adaptation Framework (NAF) to provide responses to changes caused by climate change.

Planning and Development Act 2000, as amended

The Act sets out provisions for climate change within Section 10 (2) (n). These include requirements to:

- Reduce energy demand in response to the likelihood of increases in energy and other costs due to long-term decline in non-renewable resources,
- Reduce anthropogenic greenhouse gas

emissions, and

- Address the necessity of adaptation to climate change; in particular, having regard to location, layout and design of new development.

National Climate Change Adaptation Framework (NCCAF) -Department of Environment, Heritage and Local Government-2013

The NCCAF provides guidance on the role of Local Authorities in local climate change adaptation and guidance on the preparation of Local Adaptation Plans.

6.14.2 Policy Context

National Adaptation Framework - Planning for a Climate Resilient Ireland - Department of Communications, Climate Change and the Environment -2018

The National Adaptation Framework (NAF) sets out Ireland's first statutory strategy for the application of adaptation measures in different Government sectors, including the Local Authorities. This 'NAF – Planning for a Climate Resilient Ireland' was published on 19 January 2018. The Framework aims to reduce the vulnerability of the State to the negative effects of climate change but also seeks to promote any positive effects that may occur.

This NAF will build on the substantial work already carried out under the existing NCCAF and ensure that climate adaptation in Ireland is brought forward in line with EU and international best practice.

National Mitigation Plan- Department of Communications, Climate Change and the Environment -2017

In July 2017 the first National Mitigation Plan was published which represented an initial step to set Ireland on a pathway to decarbonising its economy.

It is a whole-of-Government Plan addressing the following core sectors:

- Electricity Generation
- Built Environment
- Transport
- Agriculture

The measures set out in the plan lay the foundations for transitioning Ireland to a low carbon, climate resilient and environmentally sustainable economy by 2050. In support of this, the Plan also includes over 100 individual actions for various Ministers and public bodies to progress and implement.

National Planning Framework (NPF)

The NPF states that: *"While the overall quality of our environment is good, this masks some of the threats we now face. Some of the key national environmental challenges include the need to accelerate action on climate change*".

National Policy Objective NPO 8 seeks to drive a transition towards a low carbon and climate resilient society. This policy objective will seek to drive investment choices to mirror goals set down within the National Mitigation Plan and National Adaptation Framework incorporating a more renewable energy focused approach prioritising energy sources such as solar, wind and wave.

Regional Spatial and Economic Strategy - 2019-2031

The Regional Spatial and Economic Strategy (RSES) published in June 2019 sets out an integrated policy to enable the creation of sustainable regions with the capability to be

resilient to future climate change. The Regional Policy Objectives (RPOs) contained in the RSES are designed to promote efficiencies in water and energy use and the move towards a low carbon economy. They aim to encourage a modal shift towards green transport and energy options in addition to bolstering the robustness of local regional ecosystems through a regional green infrastructure strategy.

In the specific context of climate change RPO 7.29 refers to the preparation of a greenhouse gas inventory for the region to inform the preparation of a strategic mitigation action plan. RPO 7.31 requires Local Authorities to develop Climate Action Strategies (CAS) as well as local climate adaptation and mitigation strategies. The Meath Climate Action Strategy is at an advanced stage of preparation and is due to be published in Q3 2019.

6.15 Energy

Ireland's island location on the edge of Europe accentuates the need for secure and continuous energy supplies. Despite a reduction in energy consumption in recent times, Ireland's expenditure on energy imports remains significant. International, EU and National policies all promote a much more energy-efficient society relying on sustainable renewable energy sources. This will ensure that we secure our international competitiveness by increased use of and demand for indigenous resources and increased security of supply. Consequently policies and objectives promoting energy efficiencies and the development of indigenous resources will be pursued during the lifetime of this Plan.

This Development Plan has an overarching role in progressing a sustainable energy future for the County by recognising the central role of land use planning in promoting a low carbon society and mitigating the impacts of climate change.

6.15.1 Statutory Context

EU Energy Performance of Buildings Directive 2010 (2010/31/EU) (EPBD)

This Directive seeks to promote high energy performance within buildings and aims to strengthen the provisions of Directive 2002/91/EC which it supersedes. The EPBD also contains a target that by 31st December 2018, all new public buildings owned and occupied by public bodies are nearly zero energy consumption buildings (NZEB's).

EU Energy Efficiency Directive 2012 (2012/27/EU).

This Directive was transposed into Irish Law as S.I. 426 of 2014, European Union (Energy Efficiency) Regulations 2014, sets out the policy roadmap up to 2020 and identifies measures that are required to be introduced by Member States in order for the EU to meet its binding energy efficiency and emissions targets.

National Energy Policy White Paper-Ireland's Transition to a Low Carbon Energy Economy-Department of Communications Climate Action and the Environment-2015-2030.

This national energy policy framework was developed in the context of the significant role played by European institutions in determining energy policy, markets, and regulation. It takes account of European and International climate change objectives and agreements, as well as Irish social, economic and employment priorities.

Building Regulations-Part L-S I No 259-Department of Housing Planning and Local Government-2011

The Part L Amendment Regulations 2011 applies to dwellings, both new and existing. These regulations relate to the application of Part L contained in Technical Guidance Document L - Conservation of Fuel and Energy.

6.15.2 Policy Context

Climate Change and Energy Package-European Union- 2010

At European Level the '20/20/20' commitments agreed under the EU 'Climate Change and Energy Package' set three targets for 2020 as follows:

- A minimum 20% reduction in greenhouse gas emissions based on 1990 levels.
- 20% reduction in primary energy use compared with projected levels, to be achieved by improving energy efficiency.
- 20% of final energy consumption to be produced by renewable energy resources.

Europe 2020 Strategy

This strategy was adopted in 2010 and aims to enable Europe to emerge from the economic crisis in a stronger position, setting out five headline targets one of which includes climate change.

Ireland's National Targets to 2020 are as follows:

- Reduce emissions in the non–traded sector by 20% compared to 2005 levels.
- Increase the share of renewables in final energy consumption to 16% and to move towards a 20% increase in energy efficiency.

Ireland's 4th National Energy Efficiency Action Plan- Departent of Communications, Climate Action and the Environment 2017-2020.

Ireland's 4th National Energy Efficiency Action Plan (NEEAP) published in 2017 reaffirms the country's commitment to delivering a 20% reduction in energy demand across the economy by 2020 in tandem with a more challenging target of 33% reduction in public sector energy use. The NEEAP outlines energy efficient measures that will be implemented to reach the national energy saving targets.

Delivering Homes Sustaining Communities-Statement on Housing Policy-Department of Environment, Heritage and Local Government 2007.

This document supported the adoption of new technology and innovative approaches to design and construction of dwellings leading to enhanced quality and energy performance over their lifetime[12].

Delivering a Sustainable Energy Future for Ireland-The Energy Policy Framework-Department of Communications, Marine and Natural Resources 2007-2020, 2007;

This White Paper contained a number of proposals regarding the energy market generally including the adoption of new technology and innovative approaches to design and construction of dwellings

Towards Nearly Zero Energy Buildings in Ireland-Planning for 2020 and Beyond-Department of Environment, Community and Local Government-2012

This document was published in 2012 by the Department of Environment, Community and Local Government. The public sector aim to improve its energy efficiency by 33% by 2020

[12] Quality Housing for Sustainable Communities' which promotes high standards in design and environmental performance

as set out in the National Energy Efficiency Action Plan (NEEAP) and, in accordance with the requirements of Directive 2010/31/EU on the energy performance of buildings (recast), *"would be seen to lead by example in order to demonstrate clearly to all sectors what is possible through a programme of strong and committed actions"*.

Wind Energy Development Guidelines- Department of Environment, Community and Local Government-2006

These Guidelines set out the parameters for the appropriate siting and design of wind farm developments. They emphasise the importance of wind energy as a renewable energy resource.

Draft Review of Wind Energy Guidelines, Department of Housing, Planning and Local Government 2017

The emerging preferred draft review of the 2006 Wind Energy Guidelines was published in June 2017[13]. This review is in the context of ensuring that Ireland can deliver on its EU renewable energy targets, while simultaneously addressing the concerns of local communities in the areas where wind farm developments are proposed.

Draft Bioenergy Plan for Ireland, Department of Communications, Marine and Natural Resources- 2014.

Ireland has significant potential to develop its bioenergy resources to generate electricity for use as transport fuels, heating and cooling buildings and for conversion into bio-chemicals as industrial raw materials.

6.15.3 Renewable Energy

Section 9.2 of the NPF states the following in relation to energy *"Ireland's national energy policy is focused on three pillars: (1) sustainability, (2) security of supply and (3) competitiveness. The Government recognises that Ireland must reduce greenhouse gas emissions at 1990 levels from the energy sector by at least 80% by 2050, while at the same time ensuring security of supply of competitive energy sources to our citizens and businesses".*

The potential feasible renewable energy options for the County include, but are not limited to, a balanced mix of:

- Bioenergy - crops, forestry;
- Biomass - anaerobic digestion, combined heat and power (CHP);
- Geothermal - hot dry rock reservoirs, groundwater aquifers;
- Hydro energy - small and micro hydro systems;
- Solar - passive solar heating, active solar heating;
- Waste - landfill methane gas collection;
- Wave - wave action, and;
- Wind - onshore wind, offshore wind (single turbines and groups).

RPO 7.34 of the RSES sets out that EMRA is proposing, in conjunction within its constituent Local Authorities within the region, to identify Strategic Energy Zones (SEZ). These zones will designate areas suitable for larger energy generating projects; the role of community micro energy production in urban and rural settings will be explored and the potential for renewable energy production within areas specifically identified for industrial development will also be considered. The SEZ's for the region will ensure that all environmental considerations are taken on board at an early stage within the initial analysis prior to their identification. A regional landscape strategy is to be developed to support the delivery of projects within SEZ's.

[13] The review has been conducted by the Minister for Communications, Climate Change and the Environment in conjunction with the Minister for Housing, Planning, Community and Local Government and relevant stakeholders.

6.15.3.1 Solar Energy

There are a range of technologies available to exploit the benefits of harnessing energy of the sun, including solar panels, solar farms, solar energy storage facilities all of which contribute to a reduction in energy demand. Solar technologies can be designed into buildings or retrofitted. Large scale solar farms have been positively considered on suitable sites within the County in the recent past. As of May 2019, twenty solar photovoltaic farms have been granted planning permission across the County but none have commenced development. A number of other solar farm proposals are at the pre-planning stage.

Proposals for the development of solar farms will not be permitted within areas identified as being within Flood zones A or B as set out in the Planning System and Flood Risk Management Guidelines 2009 for Planning Authorities (or any updated guidelines).

6.15.3.2 Wind Energy

Wind energy has been the most significant source of renewable electricity. In 2017, installed wind capacity has increased to 2,851 MW across the island of Ireland. However, if Ireland is to reach our 2020 renewable electricity target, the build rate of onshore wind farms must accelerate from an historic average of 180 MW per year to at least 250 MW per year[14].

The growth of renewable energy and in particular wind energy requires the modernisation and expansion of electricity infrastructure. Ireland continues to face challenges inherent to successfully further deploying renewable energy in electricity, heat and transport, including predictable and transparent frameworks, regulatory certainty, cost efficiency and effectiveness and social acceptance.

The Council will continue to support and encourage the principle of development of wind energy, in accordance with Government policy and having regard to the provisions of the Landscape Characterisation Assessment of the County and the Wind Energy Development Guidelines (2006) or any revisions thereof.

6.15.3.3 Geothermal

The Sustainable Energy Authority of Ireland commissioned a study in 2004 on geothermal energy in Ireland. This study identified potential national resources of geothermal energy. This report found that the most abundant warm springs are found in the Mallow area in north County Cork and the Dublin/Meath/Kildare area. The highest recorded geothermal gradient at 1000 metres in the Republic is 28.4 degrees Celsius/km and is located in the vicinity of the north of County Meath. The Geological Survey of Ireland (GSI) is currently undertaking a further study on shallow geothermal energy resources in Ireland. This project aims to produce best practice guidance for the geothermal systems in Ireland, suitability maps for the utilisation of shallow geothermal energy resources and a database of existing systems.

6.15.3.4 Bioenergy

Bioenergy is solar energy that has been bound up in biomass during the process of photosynthesis. The photosynthesis process uses solar energy to combine carbon dioxide from the atmosphere with water and various nutrients from the soil to produce plant matter – biomass. The Council will encourage the production of bio-crops for biomass in the generation of renewable energy.

[14] Source: Department of Communications, Climate Action and the Environment 2017

6.15.3.5 Hydro Energy

The Council encourages the use of rivers, where suitable, within the County for the development of Hydro Energy, and in particular, will be supportive of developments along the banks of rivers which propose hydro energy to provide an element of their energy requirements. The Council will not encourage the use of the canal system which is designated for tourist and amenity use for this purpose. In all proposals, the Council will consult with the National Parks & Wildlife Section (NPWS) of the Department of Culture, Heritage and the Gaeltacht and Inland Fisheries Ireland with regard to the impact of such proposals for the free passage of fish, salmonid qualities of the river and ecological impact of any sites of E.U. or national designation.

6.15.3.6 Energy Efficiency

The Council support the concept of generating renewable energy at a 'local' level and is cognisant of the benefits that accrue to local communities, for example using solar energy as a means to empower communities to take control of the production and consumption of energy. Local community engagement will form a key part of the Council's future energy strategy, and this engagement could be developed through the Public Participation Network (PPN) which could be used to inform people of the economic, environmental and social benefits of moving away from solid/fossil fuels towards a low carbon economy.

The Council will endeavour:

- To promote the rational uses of energy;
- To promote renewable energy;
- To promote and disseminate energy information;
- To protect the environment;
- To reduce energy waste in all sectors of society, and;
- To encourage the replacement of imported fossil fuels with regionally generated renewable energy in an effort to ensure security of energy supply, where it is feasible.

Ireland is committed to achieving its renewable energy and efficiency targets by 2020 as set down by the European Commission under the renewable energy directive[15].

It is the policy of the Council:

INF POL 34

To promote sustainable energy sources, locally based renewable energy alternatives, where such development does not have a negative impact on the surrounding environment (including water quality), landscape, biodiversity, natural and built heritage, or local amenities.

INF POL 35

To seek a reduction in greenhouse gases through energy efficiency and the development of renewable energy sources utilising the natural resources of the County in an environmentally acceptable manner consistent with best practice and planning principles.

INF POL 36

To support the implementation of the National Climate Change Strategy and to facilitate measures which seek to reduce

[15] https://ec.europa.eu/energy/en/topics/renewable-energy

emissions of greenhouse gases.

INF POL 37

To seek to improve the energy efficiency of the County's existing building stock in line with good architectural conservation practice and to promote energy efficiency and conservation in the design and development of all new buildings in the County, in accordance with the Building Regulations Part L (Conservation of Fuel and Energy).

INF POL 38

To encourage that new development proposals maximise energy efficiency through siting, layout, design and incorporate best practice in energy technologies, conservation and smart technology.

INF POL 39

To encourage the attainment of high standards of energy efficiency and environmental sustainability in development, including the following:

1 - Bio-climatic site design[16]
2 - Water Conservation;
3 - Ventilation;
4 - Energy Efficient Strategies;
5 - Daylight Analysis;
6 - High Insulation Standards,
7 - Smart technologies, and;
8 - Renewable Energy.

INF POL 40

To support and encourage pilot schemes which promote innovative ways to incorporate energy efficiency.

INF POL 41

To encourage the development of wind energy, in accordance with Government policy and having regard to the Landscape Character Assessment of the County and the Wind Energy Development Guidelines (2006) or any revisions thereof.

INF POL 42

To support the identification, in conjunction with EMRA, of Strategic Energy Zones, areas suitable to accommodate large energy generating projects within the Eastern and Midlands Regional area.

INF POL 43

To require that development proposals in respect of solar panel photovoltaic (PV) arrays in the vicinity of Dublin Airport shall be accompanied by a full glint and glare study to assess the potential impact upon aviation safety (Refer to Chapter 5 Movement, Section 7.11, Aviation Sector).

INF POL 44

To support Sustainable Energy Communities and local community group initiatives to develop clean energy

[16] Refers to the design of buildings that are in harmony with their natural surrounds and local climate. Incorporating bio-climatic design saves energy, cost, protects the environment and improves indoor living conditions for the residents

opportunities within the county.

INF POL 45

To support the development and implementation of a local Climate Action Strategy which should identify vulnerability climate risks, quantify emissions produced, identify costs and prioritise adaptation actions in accordance with the National Adaptation Framework.

It is the objective of the Council:

INF OBJ 39

To support Ireland's renewable energy commitments outlined in national policy by facilitating the development and exploitation of renewable energy sources such as solar, wind, geothermal, hydro and bio-energy at suitable locations within the County where such development does not have a negative impact on the surrounding environment (including water quality), landscape, biodiversity or local amenities so as to provide for further residential and enterprise development within the county.

INF OBJ 40

To seek to reduce reliance on fossil fuels in the County by reducing the energy demand of existing buildings, in particular residential dwellings.

INF OBJ 41

To promote the generation and supply of low carbon and renewable energy alternatives, having regard to the opportunities offered by the settlement hierarchy of the County and the built environment.

INF OBJ 42

To support the recording and monitoring of renewable energy potential in the County in partnership with other stakeholders including the Sustainable Energy Authority of Ireland (SEAI).

INF OBJ 43

To require, where feasible and practicable, the provision of Photovoltaic solar panels in new residential developments, commercial developments, and public buildings for electricity generation/storage and/or water heating purposes so as to minimise carbon emissions and reduce dependence on imported fossil fuels and reduce energy costs.

INF OBJ 44

To require, where feasible and practicable, the provision of green roof technology for all new public buildings (Council buildings, school buildings, hospitals, community centres, sports facilities, libraries, Garda stations etc) to assist in flood alleviation, insulation and improved biodiversity, and to actively promote these measures where appropriate in new commercial and

industrial buildings.

INF OBJ 45

To ensure that all plans and projects associated with the generation or supply of energy or telecommunication networks are subject to an Appropriate Assessment Screening and those plans and projects which could, either individually or in combination with other plans and projects, have a significant effect on a Natura 20000 site (or sites) undergo a full Appropriate Assessment.

INF OBJ 46

To support the implementation of the actions of the Meath Climate Action Strategy and review and update the Energy Management Action Plan 2011-2012, "Think Globally Act Locally".

INF OBJ 47

To investigate the preparation of a Renewable Energy Strategy promoting technologies which are most viable in the County.

INF OBJ 48

To support Ireland's renewable energy commitments by promoting the use of district heating systems in urban residential and enterprise developments, where such developments will not negatively impact upon the surrounding landscape, environment, biodiversity or local amenities.

INF OBJ 49

To support the use of heat pumps as an alternative to gas boilers, where appropriate, for domestic and commercial development.

6.15.4 Energy Networks Infrastructure

6.15.4.1 Electricity and Gas Networks

The two main energy sources currently serving the County are electricity and gas. The County's location within the Greater Dublin Area together with the potential for significant economic and supporting residential development within the Plan period demonstrates the importance of ensuring that the existing networks can be upgraded and can provide enhanced capacity. This capacity is essential to facilitate the future development of the County in line with the Core and Settlement Strategies.

The RSES highlights the importance of reducing energy consumption from fossil fuel sources and promotes the use of more sustainable sources such as wind, wave solar and biomass. The use of smart technology systems and the recognition that buildings can act as both generators and consumers of energy and the promotion of electric vehicles will all place greater pressure on the national electricity grid. Thus, the strengthening of the national grid is important for a number of reasons

including improving security of supply for the domestic, residential and enterprise market as well as attracting high-end enterprise which often require significant energy capacity and reliability.

6.15.4.2 North-South Interconnector

The north-south interconnector is an above ground electricity connection proposal linking the existing converter station at Woodland, Batterstown, Co. Meath and traversing through Meath, Cavan and Monaghan linking to a converter station at Turleenan in County Tyrone. Planning permission was granted by An Bord Pleanala for the sections in Counties Meath, Cavan and Monaghan in December 2016. Following a successful legal challenge, planning permission for the northern section of the interconnector has been delayed.

Section 10.3 of the RSES outlines the following in relation to future north-south electricity interconnections "Increased connectivity with other grids is also needed and projects such as the *north–south interconnector are of great importance for the region*".

It is the policy of the Council:

INF POL 46

To support and facilitate the development of enhanced electricity and gas supplies, and associated networks, to serve the existing and future needs of the County and to facilitate new transmission infrastructure projects that may be brought forward during the lifetime of the plan including the delivery and integration, including linkages of renewable energy proposals to the electricity transmission grid in a sustainable and timely manner.

INF POL 47

To co-operate and liaise with statutory and other energy providers in relation to power generation in order to ensure adequate power capacity for the existing and future business and enterprise needs of the County.

INF POL 48

To ensure that energy transmission infrastructure follows best practice with regard to siting, design and least environmental impact in the interest of landscape protection.

INF POL 49

To require that, in all new developments, multiple services are accommodated in shared strips underground and that access covers are shared, whenever possible.

INF POL 50

To require that the location of local energy services such as electricity, be undergrounded, where appropriate.

INF POL 51

To seek to avoid the sterilisation of lands proximate to key public transport

corridors such as rail, when future energy transmission routes/pipelines are being designed and provided.

INF POL 52

To seek to generally avoid the location of overhead lines in Natura 2000 sites unless it can be proven that they will not affect the integrity of the site in view of its conservation objectives i.e. by carrying out an appropriate assessment in accordance with Article 6(3) of the E.U. Habitats Directive.

INF POL 53

To ensure that development proposals, including quarrying and mining operations involving explosives, do not negatively impact on the gas network. The Council shall refer applications for developments in proximity to the natural gas network to Gas Networks Ireland and will have regard to their comments in the assessment of the application.

It is the objective of the Council:

INF OBJ 50

To ensure that all plans and projects associated with the generation or supply of energy or telecommunication networks will be subject to an Appropriate Assessment Screening and that those plans or projects which could, either individually or in-combination with other plans and projects, have a significant effect on a Natura 2000 site (or sites) undergo a full Appropriate Assessment.

INF OBJ 51

To seek the delivery of the necessary integration of transmission network requirements to facilitate linkages of renewable energy proposals to the electricity transmission grid in a sustainable and timely manner.

6.16 Information and Communication Technologies

The provision of a high quality competitive telecommunications service is considered essential in order to promote industrial and commercial development, to improve personal and household security and to enhance social inclusion and mobility. The increased usage of new technologies has placed an increased reliance on the provision of such services in all areas for industrial, commercial, tourism and social development. The expansion of these services is key to meeting the needs of the County's population and a modern digital economy.

6.16.1 Statutory Context

EU Directive 2014/61/EU (SI. 391 of 2016)

This Directive pertains to the reduction of cost of deploying high-speed communications networks to limit operators ability to develop their own network and to use existing ducting in place.

6.16.2 Policy Context

Telecommunications Antennae and Support Structures – Guidelines for Planning Authorities -Department of the Environment-July 1996

The Guidelines provide guidance on locational and other requirements for antennae support structures. The Guidelines also address the issue of access roads to base stations.

Code of Practice on Sharing of Radio Sites-Commission for Communications Regulation, 2007

This Code of Practice explores the potential of facilitating of sharing of radio sites between 3G Operators.

Circular Letter PL07/12-Departmet of Environment, Community and Local Government-October 2012

This Circular provides direction for all forms of telecommunications infrastructure in terms of the recommended duration of permissions, separation distances from residences/schools, bonds and a register of structures.

Draft Digital Strategy for County Meath-2019

The Strategy will address aspects such as Digital Infrastructure, Digital Education, Digital Enterprise & Economy and a Digital Council. A draft is scheduled to go out for public consultation in Q3 of2019, and the Strategy is expected to be adopted in Q4 of 2019.

6.16.3 Broadband

Broadband is one of the key drivers in maintaining competitiveness and supporting socio-economic development. It provides a connectivity that has transformed the way people and businesses operate.

The National Broadband Plan is the Government's plan to deliver high speed broadband services to all businesses, farms, and households in Ireland. It will ensure that people living and working in rural areas have the same digital opportunities as those in urban areas. The contract for the National Broadband Plan State intervention area was awarded in November 2019. The Council will seek to promote enhancement of broadband delivery in County Meath in the period of the Development Plan in accordance with National policy in order to:

- Promote the attractiveness of regional locations outside of the main urban centres for economic development both indigenous and FDI;
- Facilitate more flexible working arrangements such as working from home;
- Reduce social isolation.

6.16.4 Telecommunications Antennae

The Council recognises the essential need for high quality communications and information technology networks in assuring the competitiveness of the County's economy and its role in supporting regional and national development generally.

It shall be the preferred approach that all new support structures fully meet the co-location or clustering policy of the current guidelines or any such guidelines that replace these, and that shared use of existing structures will be insisted upon where the numbers of masts located in any single area are considered to be excessive. The placement of appropriately designed antennae on street furniture and lamp posts will be supported in suitable locations. Specific care and attention will be required in designated

ACA's.

Due to the physical size of mast structures and the materials used to construct them, such structures can severely impact on both rural and urban landscapes. When assessing planning applications, great care needs to be taken to minimise damage through discreet siting, appropriate and good design. In the assessment of individual proposals, the Council will also consider rights of way and walking routes. The design of mast structures should be simple and well finished. They should employ the latest technology in order to minimise their scale and visual impact. Mast structures are most visible and exposed within upland/hilly or mountainous areas. In these locations, softening of the visual impact can be achieved through planting of shrubs, trees etc. as a screen or backdrop, if appropriate. Disguised masts e.g. as trees, will be encouraged in appropriate locations.

In accordance with circular PL07/12[17], the Plan will seek to support applications for telecommunications infrastructure in appropriate locations in compliance with all environmental requirements.

It is the policy of the Council:

INF POL 54

To facilitate the delivery of a high capacity Information and Communications Technology (ICT) infrastructure and broadband network and digital broadcasting throughout the County.

INF POL 55

To seek to have appropriate modern ICT, including open access fibre connections in all new developments and a multiplicity of carrier neutral ducting installed during significant public infrastructure works such as roads, rail, water and sewerage, where feasible.

INF POL 56

To promote orderly development of telecommunications infrastructure throughout the County in accordance with the requirements of the *"Telecommunications Antennae and Support Structures – Guidelines for Planning Authorities"* July 1996, except where they conflict with Circular Letter PL 07/12 which shall take precedence, and any subsequent revisions or expanded guidelines in this area.

INF POL 57

To promote best practice in siting and design in relation to the erection of communication antennae, having regard to 'Guidance on the potential location of overground telecommunications infrastructure on public roads', (Dept of Communications, Energy & Natural Resources, 2015).

INF POL 58

To encourage and facilitate pre-planning discussions with service providers and operators prior to the submission of planning applications.

[17] Circular Letter PL 07/12 Telecommunications Antennae and Support Structures Guidelines, Department of Environment, Community and Local Government, October 2012.

INF POL 59

To encourage co-location of antennae on existing support structures and to require documentary evidence as to the non-availability of this option is proposals for new structures. The shared use of existing structures will be required where the numbers of masts located in any single area is considered to have an excessive concentration.

INF POL 60

To assess proposals for the location of telecommunication structures in sensitive landscapes in accordance with the policies set down within the Landscape Character Assessment.

It is the objective of the Council:

INF OBJ 52

To support the delivery and implementation of the National Broadband Plan.

INF OBJ 53

To require that open access communications cables and associated infrastructure are undergrounded in urban areas with particular reference to Architectural Conservation Areas in order to protect the visual amenities of streetscapes.

INF OBJ 54

To secure high quality of design of masts, towers and antennae and other such infrastructure in the interests of visual amenity and the protection of sensitive landscapes, subject to radio and engineering parameters.

6.17 Waste Management

The Eastern Midlands Regional Waste Management Plan 2015-2021 defines waste as *"any substance or object which the holder discards, intends to discard or is required to discard, by the Waste Framework Directive (2008/98/EC)"*. Maintaining economic progress in the County is contingent on a good environment and the availability of necessary waste management facilities. Waste management policy is predicated on the EU Waste Hierarchy of prevention, preparing for reuse, recycling, energy recovery and sustainable disposal. Waste management involves measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste.

6.17.1 Statutory Context

Waste Framework Directive-European Commission- 2008/98/EC

This Directive incorporates the Polluter Pays Principle along with the waste hierarchy. Article 4 of the Directive outlines the following "Member states shall take the necessary measures to ensure that waste is recovered or disposed of without endangering human health and without processes or methods which

could harm the environment, and in particular avoiding the following negative impacts:

- risk to water, soil, plants or animals;
- causing nuisance through noise or odours; and
- adversely affecting the countryside or places of special interest"

The Directive (2008/98/EC) sets out measures to progressively divert and reduce the amount of biodegradable municipal waste sent to landfill by 2016. The Directive specifies the priorities for waste management as follows:

- Prevention
- Preparing for Re-Use
- Recycling
- Other Recovery (e.g. Energy Recovery)
- Disposal

Waste Management Acts-Environmental Protection Agency- 1996-2013

These Acts contain a number of key legal obligations, including requirements for waste management planning, waste collection and movement, the authorisation of waste facilities, measures to reduce the production of waste and/or promote its recovery.

EC (Waste Directive) Regulations 2011 (SI NO 126 of 2011), EC Directive 2008/98/EC

These Regulations set a 70% target for the re-use, recycling and recovery of man-made construction and demolition waste and was transposed into Irish Law in 2011. The EPA Report-"Progress towards EU waste targets" published in August 2017 states that Ireland is on track to achieve this target by December 2020.

European Union (Household food waste and bio-waste) Regulations 2015.

These Regulations increase the amount of food waste to be recovered through the production of energy, compost and digestate, thereby creating opportunities for added jobs and value. The Regulations will also facilitate the achievement of the targets set out in the Landfill Directive (Directive 99/31/EC) for the diversion of biodegradable municipal waste from landfill sites, by directing source-segregated household food waste to composting and to other forms of treatment.

6.17.2 Policy Context

A Resource Opportunity Waste Management Policy in Ireland, Department of the Environment, Community and Local Government 2012

This document sets out the measures through which Ireland will make further progress to become a recycling society, placing a focus on resource efficiency and seeking the elimination of land filling of municipal waste. It is based on five key principles, prevention, preparing for reuse, recycling, recovery and disposal.

The Eastern Midlands Region Waste Management Plan-Eastern Midlands Regional Waste Management Office- 2015 -2021

The overall vision of the Regional Waste Management Plan is that waste should be seen as a valuable material resource. The Plan supports a move towards achieving a circular economy which is essential if the region is to make better use of resources and become more resource efficient. The move to a circular economy replacing the outdated industrial model of 'take-make-consume–dispose', is essential to deliver the resource efficiency ambition of the Europe 2020 Strategy. The Plan

contains three targets:

- Reduction of 1% per annum in the quantity of household waste generated over the period of the Eastern Midlands Regional Waste Plan;
- Prepare for a reuse and recycling rate of 50% of Municipal waste by 2020;
- Reduce to 0% the direct disposal of residual municipal waste to landfill from 2016 onwards in favour of higher value pre-treatment processes and indigenous recovery practices.

By virtue of the Waste Management Acts, 1996-2013, the objectives of the Waste Management Plan are deemed to be included in the Development Plan. Where the objectives of the Development Plan and the Waste Management Plan are in conflict, the objectives in the Waste Management Plan shall prevail. The adoption of the Waste Management Plan is an executive function.

Draft Waste Facility Siting Guidelines-Southern Region Waste Management Office-2016

The 2015-2021 Regional Waste Management Plan included the policy action G.3.1 which required the preparation of Waste Facility Siting Guidelines to advise on the siting of waste management infrastructure thus protecting the environment, human health and advising what represents a sustainable use of selected lands.

6.17.3 Waste Infrastructure

In terms of waste infrastructure, the County is well served with a wide range of waste facilities from waste transfer stations, a Waste to Energy facility, landfill, a construction and demolition waste facility and a network of recycling facilities supported by the Council. Recycling is a key component of sustainable waste management. Navan, Trim, Kells and Dunboyne are served by recycling centres. The remainder of the County is served by a network of bring banks which accept a broad diversity of materials. The Waste Management Plan notes that finding suitable locations for bring banks is a challenging task for all Local Authorities. The Council will continue to promote awareness of and promote an increase in the amount of waste that is re-used and recycled to reflect the objectives of the waste hierarchy.

6.17.3.1 Circular Economy

Waste is defined as any item that is discarded. The circular economy is one where materials remain in use at their highest value for the longest period of time and are then up cycled/ recycled or re-used, thereby minimising the volume of residual waste.

6.17.3.2 Prevention and Minimisation

In line with the principles of sustainable development, the Council will continue to promote a waste prevention and minimisation programme to target all aspects of waste in the County, focusing on both commercial and domestic waste producers. It is considered that raising the awareness of citizens and businesses owners with regard to their responsibilities as producers of waste is essential.

6.17.3.3 Reuse

The Council will promote an increase in the amount of waste reused and recycled consistent with the current *Eastern Midlands Region Waste Management Plan*. Re-use, can contribute to the

community and local economy.

6.17.3.4 Recycling

Ireland has made considerable progress in recent times in its recycling performance which ultimately is a reflection of growing awareness among the public.

6.17.3.5 Recovery

The Indaver Waste to Energy facility (WtE) in Duleek is a privately owned recovery facility with capacity beyond the lifetime of this Plan.

6.17.3.6 Disposal

The Knockharley regional landfill, near Kentstown, accessed off the N2 National Primary Route is a privately operated landfill facility which has capacity beyond the lifetime of this Plan. It is recognised that a contingency capacity for landfill is required to facilitate emergency situations for example, the management of waste from a foot and mouth disease outbreak.

6.17.3.7 Construction and Demolition Waste

The *Eastern Midlands Region Waste Management Plan 2015-2021* states that Construction and Demolition Waste (C&D) consists of all wastes that arise from C&D activities which include excavated soil from contaminated sites, however the definition is one that is being continuously subjected to change. The *Regional Waste Management Plan* recognises that at many of these sites it is deposition rather than improvement that is the primary activity and this can have complications for habitats. Given the move away from landfill which is a significant outlet for C&D waste, alternative recovery options will be required to facilitate C&D Waste in the future years. The *EC (Waste Directive) Regulations 2011*, set a 70% target for the re-use, recycling and recovery of man-made C&D waste in Ireland by 2020. It is imperative that capacity to mange C & D Waste is made available and this is a requisite to facilitate key economic development in the County. In addition an outlet is required for uncontaminated, non-hazardous soils, which are subject to export at present.

6.17.3.8 Hazardous Waste

Hazardous waste is generated by every sector of society and is for the most part managed by authorised operators. The Environmental Protection Agency has prepared a revised *National Hazardous Waste Management Plan 2014-2020*. It takes into account progress that has been made since the previous plan and the waste policy and legislative changes that have also occurred and includes an objective regarding self sufficiency in managing hazardous waste.

6.18 Litter Management

Litter is an environmental problem that significantly detracts from the visual appearance of both urban and rural areas. The Council recognises the importance of protecting the County from indiscriminate dumping and bill posting and of keeping the environment free from litter. Each Local Authority is obliged to prepare a Litter Management Plan for its area. The Draft Litter Management Plan 2019-2021 was published in Q3 of 2019. It sets out the Council's objectives to prevent and control litter as well as measures to raise public awareness of the issue. Local Authorities are responsible for the prevention and control of litter and they

have the power to take enforcement action against individuals who break these laws.

Gardai also have the power to issue on-the-spot fines for litter offences.The Tidy Towns is a well established environmental competition in Ireland and is organised by the Department of Communications, Climate Change and the Environment. The nature of the competition has evolved over time from being largely an anti-litter competition to being a much more broad ranging environmental competition with categories including inter alia Community involvement and planning, built environment and streetscape, landscaping and open spaces, bio-diversity, litter control, waste management, streets and residential areas, approach roads and back areas.

There are a significant number of other local voluntary community groups established throughout the County who are also very actively involved in maintaining a high standard of maintenance within our local communities outside of the formal Tidy Towns process. These groups receive significant support from the Council in terms of the supply of equipment.

6.19 Air Pollution

Air pollution has been acknowledged as the main environmental cause of premature death in Europe. Poor air quality also adversely impacts on the economy with increased healthcare costs and lost working days.

The Council's role in relation to air quality is to promote a reduction in air pollution, through the implementation of relevant legislation and through the provision of advice and guidance on best practice. Air pollution challenges include:

- Transport emissions, primarily from road transport (cars, buses and HGV's) rail, air and shipping;
- Industrial and agricultural emissions;
- Emissions from domestic burning of fossil fuels;
- Emissions from fire-house fires, gorse fires, bog land fires etc. Which may result in localised poor air quality;

Ireland's first National Clean Air Strategy[18] is being developed and submissions were invited on the draft Strategy during 2018. *"This Strategy will provide the framework for a set of cross-Government policies and actions to reduce harmful emissions and improve air quality and public health to meet current and future EU and international obligations".*

Primary responsibility for monitoring air quality, as well as the nature and extent of emissions is assigned to the EPA. Under the Air Pollution Act 1987, primary responsibility for addressing local instances of air pollution is assigned to local authorities.

Results of air quality monitoring can be viewed on the EPA website[19]. The EPA has introduced the National Ambient Air Quality programme (AAMP) which will see a greater number of monitoring locations established, one location is to be introduced in Navan, later in 2019.

Good air quality and progress in the climate change area go hand in hand. The Paris Climate Change agreement informs and promotes positive improvements in this area.

6.20 Noise Pollution

Noise is defined as being *"so loud, so continuous, so repeated, of such pitch or duration or occurring*

[18] www.dccae.gov.ie/documents/CleanAirStrategy
[19] www.epa.ie/air/quality/monitor

at such times that it gives a person reasonable cause for annoyance"[20].

Environmental noise means unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport, road rail and air traffic and from sites of industrial activity. It is among the most frequent sources of complaint regarding environmental issues in Ireland and throughout Europe, especially in densely populated urban areas and residential areas.

The EU Environmental Noise Directive requires that Local authorities prepare Strategic Noise Maps and action plans, which set out mitigation proposals to reduce the negative impacts caused by noise. These plans will identify quiet areas which are deemed to have positive health effects upon our population.

The Council prepared a Noise Action Plan (2018) in accordance with the requirements of the Environmental Noise Regulations (SI 140 2006). The Noise Action Plan (is largely transport based) proposes strategic long term management of environmental noise from transport systems i.e. traffic noise.

Parts of the County are located within the outer and inner noise zones and the outer public safety zone for Dublin airport and planning restrictions are in place for both the outer and inner noise zones. Any planning applications for development in these zones will be referred to the Dublin Airport Authority for comment in order to minimise any potential adverse impacts.[21]

6.21 Light Pollution

Artificial light is necessary for the operation of industry, recreational amenities and for illumination within our homes, however inappropriate or excessive light can be especially harmful to wildlife and human health, due to sleep patterns being disrupted. With increased development comes increased light pollution and therefore measures to minimise the harmful impacts of light pollution must be introduced to ensure that new developments are appropriately lit and that environmentally sensitive areas are protected.

It is the policy of the Council:

INF POL 61

To facilitate the implementation of National Waste legislation and National and Regional Waste Management Policy.

INF POL 62

To encourage and support the provision of a separate collection of waste throughout the County in accordance with the requirements of the Waste Management (Household Food Waste) Regulations 2009, the Waste Framework Directive Regulations, 2011, the Waste Management (Commercial Food Waste) Regulations 2015 and other relevant legislation to meet the requirements of the Regional Waste Management Plan.

INF POL 63

To encourage the development of waste infrastructure and associated developments in appropriate locations, as deemed necessary in accordance with the requirements of the current Eastern Midlands Region Waste Management

[21] See Section 5.11 Aviation Sector and map 11.1 in Vol 4 of the Plan

Plan and the Draft Waste Facility Siting Guidelines 2016 (when finalised) or any subsequent replacement guidelines.

INF POL 64

To encourage and support the expansion and improvement of a three bin system (mixed dry recyclables, organic waste and residual waste) in order to increase the quantity and quality of materials collected for recycling in conjunction with relevant stakeholders.

INF POL 65

To adopt the provisions of the waste management hierarchy and implement policy in relation to the County's requirements under the current or any subsequent Waste Management Plan. All prospective developments in the County shall take account of the provisions of the regional waste management plan and adhere to the requirements of the Plan. Account shall also be taken of the proximity principle and the inter-regional movement of waste.

INF POL 66

To ensure that hazardous waste is addressed through an integrated approach of prevention, collection, and recycling and encourage the development of industry-led producer responsibility schemes for key waste streams.

INF POL 67

To continue to promote and encourage education and awareness on all issues associated with waste management, at school, household, enterprise and community level.

INF POL 68

To promote and facilitate communities to become involved in environmental awareness activities and community-based recycling initiatives or environmental management initiatives that will lead to local sustainable waste management practices.

INF POL 69

To require the provision of bring banks, bottle banks or other appropriate recycling facilities as part of the overall development in the case of new or extended commercial, employment, educational, recreational facilities and managed residential developments[22].

INF POL 70

To encourage the recycling of construction and demolition waste and the reuse of aggregate and other materials in future construction projects.

It is the objective of the Council:

[22] See Section 11.8 Development Management Standards re Commercial Development

INF OBJ 55

To facilitate the transition from a waste management economy to a green circular economy to enhance employment opportunities and increase the value recovery and recirculation of resources.

INF OBJ 56

To facilitate the provision of appropriate waste recovery and disposal facilities in accordance with the principles set out in the appropriate Waste Management Plan applicable from time to time made in accordance with the Waste Management Act 1996 (as amended).

INF OBJ 57

To support developments necessary to manage food waste in accordance with the requirements of the current Waste Management (Food Waste) Regulations and the regional Waste Management Plan.

INF OBJ 58

To continue to expand environmental awareness initiatives designed to create increased public awareness of waste prevention, minimisation, reuse and resource efficiency.

INF OBJ 59

To co-operate with the Department of Communications, Climate Action and the Environment, the Environmental Protection Agency and other relevant stakeholders in implementing proposals which discourage or illegal or improper disposal of waste and promote the diversion of recyclable items from the waste streams including "bottle return and refund" schemes.

INF OBJ 60

To seek to ensure, in cooperation with relevant authorities, that waste management facilities are appropriately managed and monitored according to best practice to maximise efficiencies to protect human health and the natural environment.

INF OBJ 61

To promote and facilitate high quality sustainable waste recovery and disposal infrastructure/technology including composting (anaerobic digester) plants for managing organic solid waste, at appropriate locations, with the County subject to the protection of the amenities of the surrounding environment including European Sites, and in keeping with the EU waste hierarchy.

INF OBJ 62

To identify suitable sites for additional recycling centres and bring bank facilities subject to the availability of appropriate funding and infrastructure, through the public or private sector, as appropriate.

INF OBJ 63

To seek the effective engagement of local communities in the County to promote their role in recycling waste and tackling the problem of illegal dumping within the County through liaison with the Environmental Awareness Officer.

INF OBJ 64

To encourage community/voluntary groups to establish additional waste services or facilities (e.g. small scale facilities for recycling, reuse/repair) in their area and assist them to develop a strategy to provide such facilities for and with members of their community.

INF OBJ 65

To ensure that during the assessment of planning applications through the Development Management process that provision for household waste recycling is adequately addressed in all new residential developments.

INF OBJ 66

To liaise, work with and support Irish Water in the preparation of a National Sludge Management Plan and seek to implement the recommendations of that plan.

INF OBJ 67

To support the development of infrastructure necessary to meet the objectives of the Meath's Sludge Management Plan having regard to the Waste Facility Siting Guidelines (when adopted).

INF OBJ 68

To require developers to prepare construction and demolition waste management plans for new construction projects over certain thresholds which shall meet the relevant recycling/recovery targets for such waste in accordance with the national legislation and national and regional waste management policy.

INF OBJ 69

To support the development of facilities to cater for commercial waste not provided for within the kerbside collection system such as the WEEE, C & D type waste and hazardous materials in accordance with the requirements of the Eastern Midlands Regional Waste Management Plan.

INF OBJ 70

To continue to reduce incidents of littering through the continued implementation and updating of the Councils Litter Management Plan.

INF OBJ 71

To continue to support and work with local and Tidy Towns initiatives in the maintenance and conservation of our

local urban and rural communities throughout the County.

INF OBJ 72

To continue to monitor air and noise quality results submitted from selected locations throughout the County in co-operation with the Health Service Executive and the Environmental Protection Agency.

INF OBJ 73

To support the collation or air quality and greenhouse gas monitoring data in support of a regional air quality and greenhouse gas emission inventory.

INF OBJ 74

To support and facilitate the preparation of strategic noise maps and action plans, in conjunction with EMRA, that support proactive measures to avoid, mitigate and minimise noise, in all instances where it is likely to have adverse impacts.

INF OBJ 75

To require that outdoor lighting proposals minimise the harmful effects of light pollution and to ensure that new street lighting is appropriate to a particular location and that environmentally sensitive areas are protected from inappropriate forms of illumination.