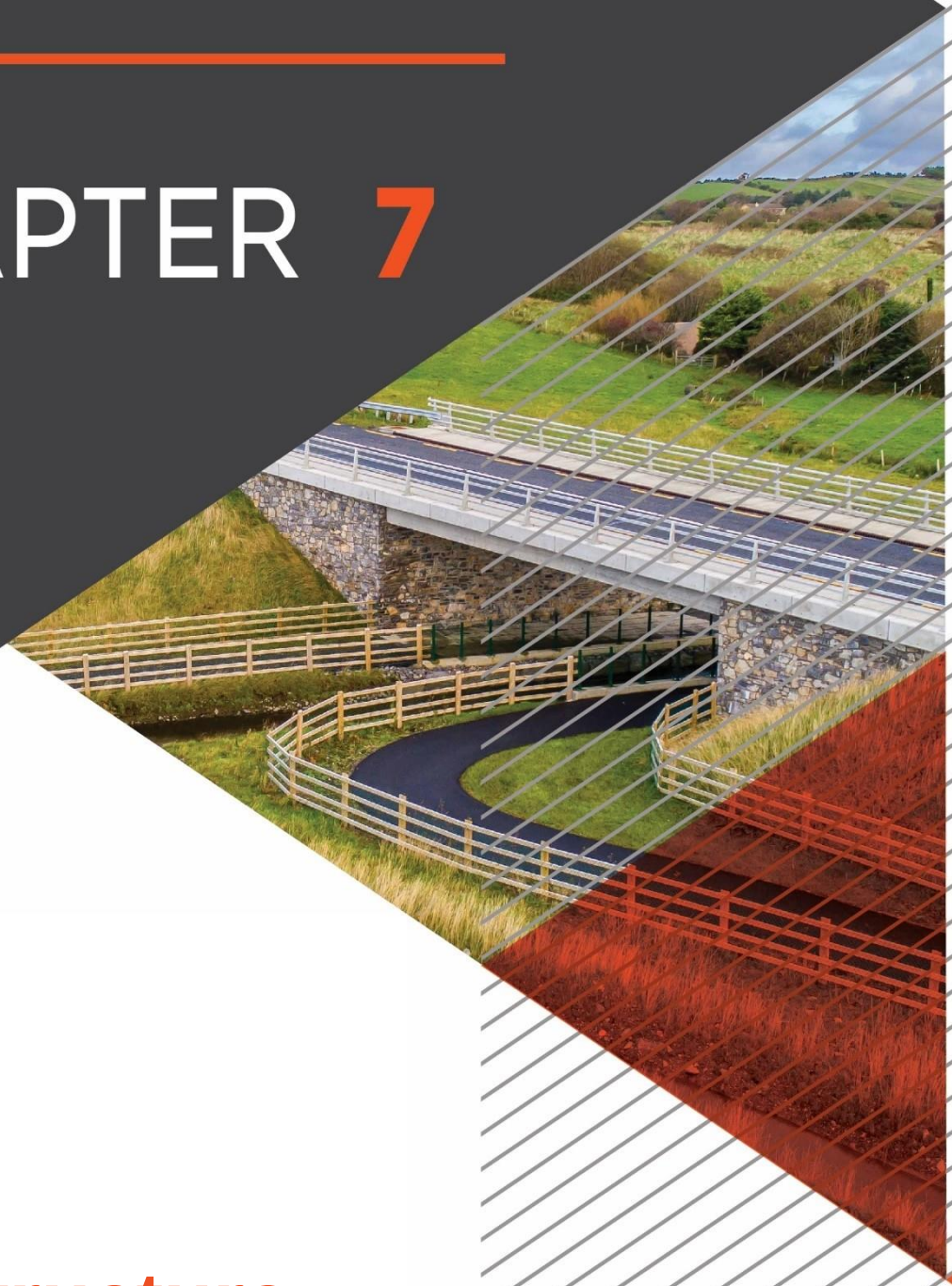
CHAPTER 7



Infrastructure

Comhairle Contae Mhaigh Eo
Mayo County Council

CHAPTER 7 INFRASTRUCTURE

7.1 Strategic Aim

The strategic aim of this chapter is to protect, improve and provide water, wastewater, surface water and flood alleviation services throughout the county, and to facilitate the provision of high-quality information communication technology, broadband, telecommunication information and electricity network required to support and enhance the key aims of best place to live, work, visit and invest and facilitate the transition to a low carbon and climate resilient society.

Related UN Sustainable Development Goals

Related NPF National Strategic Outcomes

Related RSES Regional Growth Ambitions

7.2 Introduction

This chapter has been guided by the above strategic aim, sustainable development goals and national strategic objectives to develop and further enhance all forms of infrastructure within County Mayo. It is also informed by Mayo County Council's Corporate Plan, 2019-2024, and the relevant infrastructural aims contained therein. The chapter has also considered the key legislative and policy documents set out in Appendix III, including the NPF and RSES for the northern and western region.

7.3 National and Regional Position

The NPF and RSES acknowledge the importance of sustainably managing our water, waste and other environmental infrastructural resources to secure the environmental and economic well-being of our future. The NPF and RSES also recognise the critical need for investment in infrastructure in order to accommodate the future projected population and economic growth envisaged to 2040. The NPF seeks to promote balanced, regional development throughout Ireland, with enhanced regional accessibility being a co-priority of the framework. This national priority is further underpinned within the RSES, which acknowledges that the provision of prudently managed, critically enabling infrastructure is key to delivering a connected, vibrant, inclusive, resilient and smart region. Growth Ambition 3 (*Connected Region)* of the RSES also supports the delivery of digital infrastructure such as a high-quality ICT network and delivery of the National Broadband Plan assisting in the creation of balanced regional development.

7.4 Mayo Context

The sustainable socio-economic growth of the county is dependent on the provision of essential infrastructure to ensure the delivery of a high-quality, reliable service provision. A key principle of this Strategy is to provide planned growth which will direct infrastructural investment where it is most needed. Infrastructural provision retains and attracts economic investment and employment, creates sustainable communities and supports the future development of the county. The Council, in conjunction with other agencies and authorities seek to ensure that development of infrastructural services occurs in tandem with and facilitates physical development, in order to safeguard the continued economic growth of the county and the delivery of residential accommodation for the growing population. 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, all in the context of a changing climate.

7.4.1 Drinking Water and Wastewater

Irish Water replaced Local Authorities as the single provider of water and wastewater services in 2014. Irish Water is responsible for the operation of public water and wastewater services nationally, including strategic planning, policy development, service provision, customer service and capital investment planning and delivery. Mayo County Council retains its role in facilitating the provision of adequate water services, in conjunction with Irish Water, at a local level, through Service Level Agreements (SLAs). Mayo County Council will continue to work closely with Irish Water to facilitate the timely provision of water services infrastructure within the county in line with Council's Core Strategy and Settlement Strategy.

Irish Water is responsible for the public water schemes in the county, while Mayo County Council is

responsible for the implementation of the Rural Water Programme. This involves regulating, monitoring and administering subsidies for Group Water Schemes and grants to householders for potable private wells.

Irish Water is responsible for the collection, treatment and disposal of wastewater, where public wastewater facilities exist in towns and villages. Wastewater treatment (Irish Water assets) is provided through thirty-two wastewater treatment plants within the county. There are two additional treatment plants due for completion over the plan period in Killala (2020) and Newport (2024). There are also two villages in Mayo where Irish Water wastewater treatment plants have been constructed but not commissioned (The Neale & Cross). In unserviced areas and outside the main towns and villages, the main method of sewage disposal is by means of individual septic tanks and proprietary wastewater treatment systems. Mayo County Council is the competent authority for the assessment and approval of individual domestic on-site wastewater treatment systems in the county.

Drinking Water Policies

INP 1	To liaise and work in conjunction with Irish Water in the delivery of an adequate level of water services infrastructure through the Capital Investment Plan 2017-2021 and Rural Water Programme 2019-2021 and any subsequent plans or programmes, to ensure that a sufficient water supply is available for the settlements set out in the County Settlement Hierarchy.
INP 2	To liaise and work in conjunction with Irish Water to promote the sustainable development of water supplies and drainage infrastructure in the county and the region, in accordance with the objectives and recommendations set out in the Irish Water's Water Services Strategic Plan.
INP 3	To liaise with Irish Water to develop and implement Water Safety Plans to protect sources of public water supply and their contributing catchment.

Drinking Water Objectives

INO 1	To implement the Rural Water Programme 2019-2021 and any subsequent plans.
INO 2	To provide guidance and advice regarding the protection of water supply to private wells with the overall responsibility for protection remaining with the householder.
INO 3	To ensure that any new development connects to a public water supply or Group Water Scheme, where available. Connections to wells for individual housing units in unserviced rural areas will only be considered where there is no public water main or Group Water Scheme serving the site and where it can be demonstrated that connection to the proposed well will not have significant adverse effects on water quality or water quantity

	in the area and can provide a potable water supply in accordance with EU Drinking Water standards.
INO 4	To advance key Capital Projects as outlined in the 5-year Capital Programme.
INO 5	To support and facilitate key upgrades to the Achill water supply and the provision of drinking water in the Murrisk area.
INO 6	To support and facilitate upgrades to the water schemes listed in Table 7.1 below.

Wastewater Policies

INP 4	To liaise and work in conjunction with Irish Water in the delivery of an adequate level of wastewater services infrastructure to ensure that sufficient wastewater infrastructure/capacity is available for the settlements set out in the County Settlement Hierarchy, including supporting and facilitating the identified wastewater projects listed in Table 7.1 below.
INP 5	To collaborate with Irish Water in contributing towards compliance with the relevant provisions of the Urban Wastewater Treatment Regulations 2001 and 2004 and the Wastewater Discharge (Authorisation) Regulations 2007 as amended.
INP 6	To encourage and support a changeover from septic tanks/private wastewater treatment plants to public collection networks wherever feasible, subject to connection agreements with Irish Water and to ensure that any future development connects to the public wastewater infrastructure where it is available.

Wastewater Objectives

INO 7	To require development in serviced areas to connect to the public foul sewer network, where available.
INO 8	To require development in unsewered areas which includes a septic tank/proprietary effluent treatment unit and percolation area to be rigorously assessed in accordance with the accepted EPA Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses or the EPA Wastewater Treatment Manuals Treatment Systems for Small Communities, Business, Leisure Centres and Hotels, taking into account the cumulative effects of existing and proposed developments in the area.

INO 9	To actively endeavour to upgrade capacity in settlements that have an identified capacity shortfall, such as Hollymount, Louisburgh, Ballindine and Doogort, through Irish Water's Small Towns and Villages Growth Programme or any superseding programmes.

Water Services
• **Foxford and Charlestown Sewerage Scheme**
• **Killala Sewerage Scheme**
• **Newport Sewerage Scheme**
• **Claremorris Wastewater Treatment Plant Upgrade**
• **Ballyhaunis Wastewater Treatment Plant Upgrade**
• **Lough Mask Regional Water Supply Scheme: Srah-Westport**
• **Lough Mask Regional Water Supply Scheme: Kiltimagh.**
• **East Mayo Regional Water Supply Scheme serving Charlestown, Swinford, Ireland West Airport Knock, Foxford & Kilkelly**
• **Ballina Regional Water Supply Scheme (Storage/Mains)**
• **Ireland West Airport Knock Treatment Plant Upgrade and Sewerage Scheme**

Table 7.1 Water Services Projects

7.4.2 Waste Management

Waste management involves measures to protect the environment and human health by preventing or reducing adverse impacts of the generation and management of waste. Waste management is regulated by national and European legislation, with policy and enforcement operated between the Department of the Environment, Climate Action and Communications, the EPA and Local Government.

Mayo is located within the Connacht-Ulster Waste Management Region, governed by the Waste Management Plan 2015 – 2021. Mayo County Council is the regional lead authority, acting on behalf of the other authorities with responsibility for the successful implementation of the plan. Mayo County Council provides two civic amenity centres (Recycling Centres) at Derrinumera and Rathroeen. The civic amenity centres provide householders with the opportunity to dispose or recycle bulky items of waste, items of household hazardous waste, green garden waste as well as householder landfill and recyclable waste.

Mayo County Council provide bring banks for householder bottles and jars throughout the county. The household and commercial waste collection service in County Mayo is provided by private sector operators, while Mayo County Council provides litter bins in towns and villages, parks and areas frequented by the public. The Council also provides a team of litter wardens and waste enforcement officers to ensure waste legislation is complied with and prosecutes those in breach of waste law.

7.4.2.1 Circular Economy

The concept of the Circular Economy is to minimise waste going to landfill and maximise waste as a resource. This means that prevention, preparation for reuse, recycling and recovery are prioritised in that order, over the disposal of waste. A recycling rate of 65% by 2030 has been proposed by the European Commission for the Circular Economy Package. The Council will support circular economy principles, prioritising prevention, reuse, recycling and recovery over the disposal of waste. Mayo County Council also provides an educational and awareness role among various groups and supports the Green Schools Programme to promote Environmental Education from a young age.

Figure 7.1 Circular Economy Process (Source: Dept. of Communications, Climate Action & Environment)

Waste Management Policies

INP 7	To support the Implementation of the Connacht Ulster Regional Waste Management Plan 2015-2021(as amended) or replacement plan with particular emphasis on reuse, recycling and disposal of residual waste in the most appropriate manner where it can be demonstrated that the development will not have significant adverse effects on the environment, the integrity of the Natura 2000 network, traffic safety, residential or visual amenity.
INP 8	To promote the sustainable management of waste generation and investment in different types of waste treatment and support a healthy environment, economy and society.

Waste Management Objectives	
INO 10	Promote prioritising prevention, reuse, recycling and recovery, and to sustainably manage residual waste. New developments shall take account of the provisions of the Connacht Ulster Regional Waste Management Plan 2015-2021(as amended) and observe those elements of it that relate to waste prevention and minimisation, waste recycling facilities and the capacity for source segregation.
INO 11	To provide and support the provision of bring banks or other appropriate recycling facilities throughout the county
INO 12	To continue to expand environmental awareness initiatives designed to create increased public awareness of waste prevention, minimisation, reuse and resource efficiency.
INO 13	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.
INO 14	To continue to support with local and Tidy Towns initiatives in the maintenance and conservation of our local urban and rural communities throughout the county.
INO 15	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.

7.4.3 Surface Water and Flood Risk Management

7.4.3.1 Surface Water Management

Mayo County Council is responsible for surface water drainage. The Service Level Agreement between Irish Water and the local authorities requires both parties to act in good faith to develop a Memorandum of Understanding (MoU) in respect of surface water drainage and flood management. A MoU has been agreed in principle between Irish Water and Mayo County Council and will be ratified over the plan period.

All new development in the county must account for how surface water runoff will be appropriately managed. Mayo County Council advocates surface water management through Sustainable Urban Drainage Systems (SuDS). SuDs is widely recognised as a green infrastructure-based approach to drainage and storm water management. It aims to mimic the natural drainage of a site, to minimise the effect of a development on flooding and pollution of waterways, through various engineering solutions, including using porous surface treatments, ponds, swales, filter drains or other installations.

The use of SuDS design will be important to help increase climate resilience. SuDS can provide areas

where the natural processes of rainwater interception, storage and infiltration can take place within the built environment, offering a more sustainable approach to the management of urban storm water runoff from impermeable surfaces than the conventional underground pipe and storage-based solutions.

7.4.3.2 Flood Risk Management

Flooding is the most evident source of climate related impact and loss around the county. 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, particularly in the towns of Ballina, Béal an Mhuirthead (Belmullet), Crossmolina, Foxford and Louisburgh and Westport. The Islands off County Mayo have also been impacted by sea surges and coastal storms. In relation to the effective management flooding, the Water Framework Directive advocates a shift away from site specific hard engineering solutions to address flooding and a move towards a more sustainable and holistic approach flood management at the catchment scale. The capacity to adapt to greater extremes in hydrological conditions will depend on the ability to apply integrated decision making, together with technology and systems that are appropriate and sustainable.

It is of critical importance to protect floodplains, wetlands and coastal areas. These areas holding 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". Flood risk is generally accepted to be a combination of the likelihood (or probability) of flooding and the potential consequences arising. Flood risk can be expressed in terms of the following relationship:

Flood Risk = Probability of Flooding x Consequences of Flooding

The assessment of flood risk requires an understanding of the sources, the flow path of floodwater and the people and property that can be affected. The source - pathway - receptor model, shown in the figure below which illustrates this and is a widely used environmental model to assess and inform the management of risk.

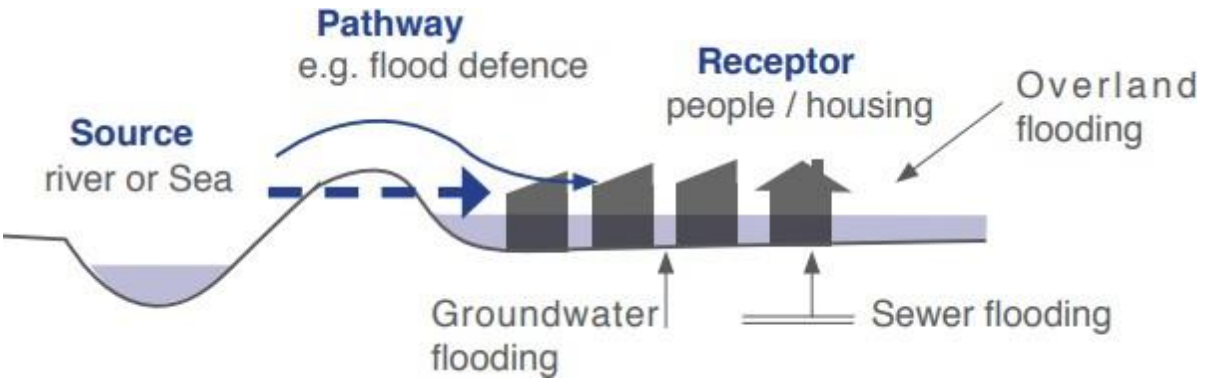


Fig No 7.2 The source-pathway-receptor model (Source: The Planning System and Flood Risk Management Guidelines for Planning Authorities)

Principal sources of flooding are rainfall or higher than normal sea levels while the most common pathways are rivers, drains, sewers, overland flow and their defence assets. Receptors can include people, their property and the environment. All three elements must be present for flood risk to arise. The planning process is primarily concerned with the location of receptors, taking appropriate account of potential sources and pathways that might put those receptors at risk.

Flooding Policy Context

The Planning System and Flood Risk Management Guidelines (DoEHLG/OPW 2009, referred to as the Planning Guidelines) and PL2/2014 describe good flood risk practice in planning and development management. Planning authorities are directed to have regard to the flood guidelines in the preparation of development plans and in the preparation of local area plans and for development management purposes. The guidelines recommend a sequential approach to spatial planning, promoting avoidance rather than justification and subsequent mitigation of risk. A Strategic Flood Risk Assessment (SFRA) has been prepared for the Plan, in accordance with '*The Planning System and Flood Risk Management, Guidelines for Planning Authorities*', to assess flood risk within the Plan area. The SFRA forms part of this Plan as a separate document (Volume 5).

Mayo County Council works in close cooperation with the OPW in delivering both the Catchment Flood Risk Assessment and Management (CFRAM) Programme and flood relief schemes, with a flood relief scheme currently being progressed for Crossmolina.

The CFRAM Management Plans published in 2018, set out the long-term strategies and measures required to manage risk in these areas. The mapping and the proposed flood management strategy will be incorporated under the Strategic Flood Risk Assessment that informs the County Development Plan. CFRAMS mapping is available for the settlements of Ballina, Ballyhaunis, Crossmolina, Charlestown, Foxford, Louisburgh, Newport, Swinford and Westport.

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 promotes and protects flora and fauna and thus increase diversity.

Surface Water Policies

INP 9	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.

INP 10	To support, in conjunction with Irish Water, the improvement of storm water infrastructure to increase the use of sustainable drainage and reduce the risk of flooding in urban environments.
INP 11	To support Irish Water in the development and implementation of the National Water Resources Plan for Ireland's public water supplies which seeks to address issues around the availability of water.
INP 12	To promote water conservation and demand management measures among all water users, and to support Irish Water in implementing water conservation measures such as leakage reduction and network improvements, including innovative solutions in specific situations.
INP 13	To support Irish Water in the promotion of effective management of trade discharges to sewers in order to maximise the capacity of existing sewer networks and minimise detrimental impacts on sewage treatment works.

Surface Water Objectives

INO 16	To support, promote and facilitate the use of green infrastructure, for example green roofs, green walls, planting and green spaces for surface water run-off retention purposes, in the interests of flood mitigation and climate change adaptation.
INO 17	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.
INO 18	To ensure new development is adequately serviced with surface water drainage infrastructure, which meets the requirements of the Water Framework Directive, associated River Basin Management Plans and Catchment Flood Risk Assessment Management (CFRAM) Plans.

Flood Risk Management Policies

INP 14	To have regard to the Guidelines for Planning Authorities on the Planning System and Flood Risk Management (DoEHLG/OPW 2009) and Circular PL2/2014 (or as updated), in the preparation of plans and strategies related to development and in the assessment of projects.

INP 15	To support the implementation of the recommendations in the Flood Risk Management Plans (FRMP's), including planned investment measures for managing and reducing flood risk.
INP 16	To support the implementation of recommendations in the CFRAM Programme to ensure that flood risk management policies and infrastructure are progressively implemented.

Flood Risk Management Objectives	
INO 19	To ensure that a flood risk assessment is carried out for any development proposal where a flood risk is identified in accordance with the Planning System and Flood Risk Management (DoEHLG/OPW 2009) and Circular PL2/2014. This assessment shall be appropriate to the scale and nature of risk to the potential development.
INO 20	To consult with the OPW in relation to proposed developments in the vicinity of drainage channels and rivers for which the OPW are responsible and retain a strip on either side of such channels where required, to facilitate maintenance access thereto.
INO 21	To assist the OPW in developing catchment-based Flood Risk Management Plans for rivers in County Mayo and have regard to their provisions/recommendations.
INO 22	To protect the integrity of any formal (OPW or Mayo County Council) flood risk management infrastructure, thereby ensuring that any new development does not negatively impact any existing defence infrastructure or compromise any proposed new infrastructure.
INO 23	To ensure that where flood risk management works take place that natural heritage, cultural heritage, rivers, streams and watercourses are appropriately protected.
INO 24	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.
INO 25	To ensure each flood risk management activity is examined to determine actions required to embed and provide for effective climate change adaptation as set out in the OPW Climate Change Sectoral Adaptation Plan Flood Risk Management applicable at the time.
INO 26	To cooperate with the Office of Public works in the delivery of the Crossmolina Flood Relief scheme and other schemes that may be brought forward in the lifetime of this Plan.

INO 27	To identify and preserve vulnerable floodplains, wetlands and coastal areas to the maximum possible extent in both urban and rural areas.
INO 28	Developments on all Opportunity Sites in all towns and villages in the Settlement Hierarchy will be subject to Flood Risk Assessments if required, in accordance with the Planning System and Flood Risk Management (DoEHLG/OPW 2009) and Circular PL2/2014. This assessment shall be appropriate to the scale and nature of risk to the potential development, and this will determine the scale and nature of the development.

7.4.4 Broadband and Information Communications Technology (ICT)

High quality ICT, telecommunication and broadband is required to support and enhance the attractiveness of living and working in the county. Mayo continues to benefit from the rollout of several Government led broadband schemes, including the National Broadband Plan (NBP) and the Broadband for Schools initiative, ensuring that broadband services are available in communities across the county. Broadband is central to the development of a knowledge-based economy throughout Ireland, facilitating remote working and promoting social inclusion. Areas without broadband cannot take full advantage of internet-centred developments in education, banking, research, business, etc.

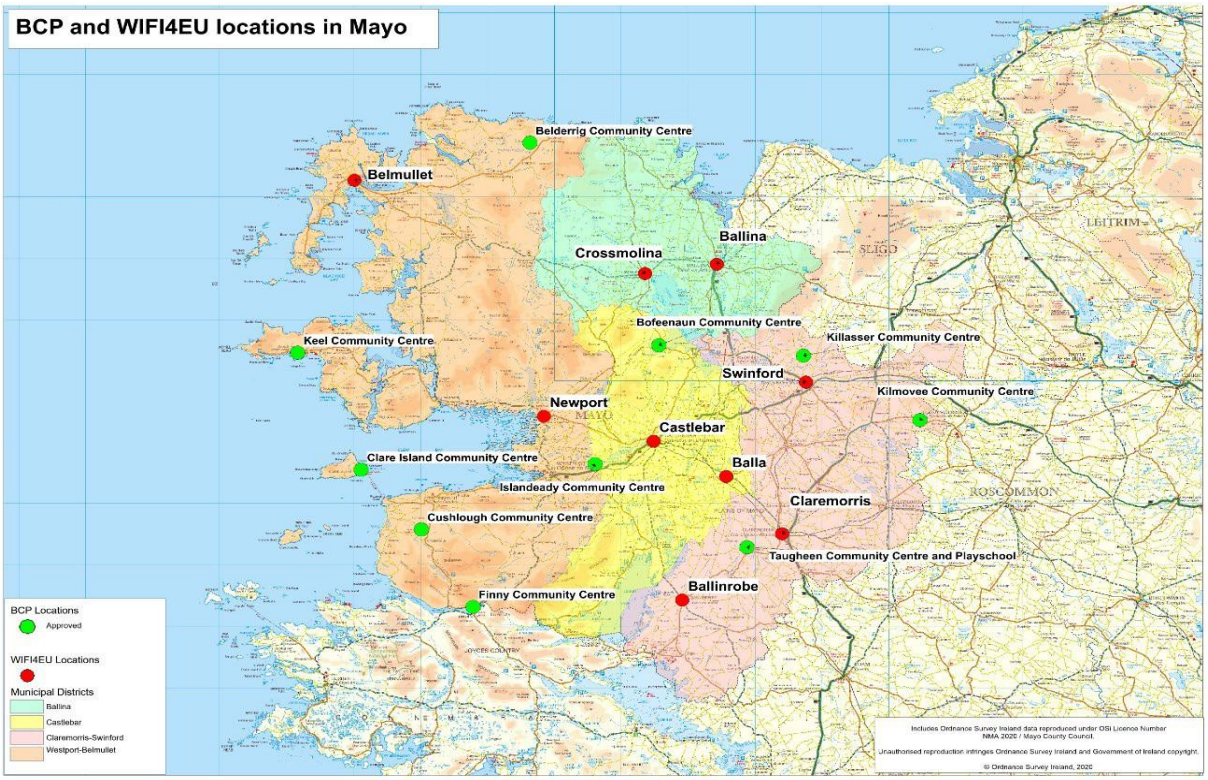
Therefore, deficits in provision of broadband, as well as mobile coverage, in County Mayo need to be resolved. In terms of ICT, two trans-Atlantic sub-sea fibre-optic cables will come ashore in Mayo, connecting Europe with North America, providing high-speed broadband which may enable development of ICT facilities such as Data Centres in the county.

7.4.4.1 National Broadband Plan

The rollout of the National Broadband Plan (NBP) in Mayo will retain and attract people and businesses to relocate and to work remotely from the county. The NBP for Mayo will cover approximately 44% of all premises in the county. The towns serviced by the Metropolitan Area Network (MAN) presents opportunities for the development of e-working centres throughout the county and region, in line with Smarter Travel Policy of reducing the number of journeys to work by car. The development of e-working centres throughout the region will align employment and transport policies and support the uptake of the MANs network. Mayo County Council was successful in an application for funding under the Department of Rural and Community Development's Digital Innovation Programme to develop a methodology for establishing where ducting and other telecommunications infrastructure in County Mayo has been installed and to digitally record their location and information in a Geographical Information System. This register will be made available for the implementation of the National Broadband Plan and other telecommunications providers.

7.4.4.2 Broadband Connection Points

In Year 1 of the NBP, Broadband Connection Points (BCPs) will receive high-speed broadband connectivity. BCPs are public locations around the county where the community can avail of a centralised, shared, broadband service to bridge the gap until the roll out of the NBP. There are currently twelve locations identified as BCPs in County Mayo as shown on Map 7.1 below.



Map 7.1: Mayo's Broadband Connection Points (approved/proposed) & WIFI4EU proposed locations

7.4.4.3 Wifi4EU Scheme

The Wifi4EU scheme is an initiative of the European Commission which provides funding to local authorities for the development of free Wi-Fi hotspots in public places, such as main streets, public parks, museums, libraries and other public areas. It is part of the wider European initiative to support the development of wireless broadband and promote the advantages of enjoying a high-speed internet connection on the go. It is proposed to provide the scheme to 9 settlements, these are shown on Map 7.1 above.

7.4.4.4 Telecommunications

Mayo County Council recognises the essential need for high quality communications and information technology networks in assuring the competitiveness of the county's economy and increasing the quality of life of its people. The Council also recognises the need to balance the requirement to facilitate mobile telecommunications infrastructure in the county to address existing coverage blackspots and the need to protect residential, visual amenity, the natural environment and built environment. In considering proposals for telecommunications infrastructure, the Council will have regard to the Department of the Environment, Heritage and Local Government's "Telecommunications Antennae and Support Structures, Guidelines for Planning Authorities" 1996 and Circular Letter PL07/12 'Telecommunication Antennae and Support Structures' and any amendments thereof.

7.4.4.5 AEConnect 1

AEConnect 1 is a trans-Atlantic sub-sea fibre-optic cable extending from Long Island, New York to Killala, Mayo, which offers the potential for the West of Ireland to become a key telecommunications

and data gateway. The AEConnect cable has the capacity to cover the entire European and American information and data traffic currently in existence and the potential to double its capacity within a few years as required. The delivery of advanced technological infrastructure in the area also provides a potential platform for the development of ICT facilities, such as data centres in the county and other businesses to set up their operations in the locality.

7.4.4.6 Digital Strategy

Digital technology can help to create places and communities that manage spatial development, population growth, mobility, effects of climate change and transition to greater sustainability. Mayo County Council is currently preparing a new digital strategy for the county to replace the 2015 digital strategy. The overall aim of the new strategy is the creation of a Smart County, through Smart Communities. The Smart Communities is a new approach to community development and activation through exposure to digital content and technology and supporting people to discover the value of using digital in their daily lives. Smart Communities has the potential, in combination with the digital strategy, to deliver enhanced demand of high-speed broadband services and to address challenges in urban and rural communities. The key target areas for Smart Communities are to:

- Improve service efficiency and reduce service costs.
- Create opportunities for young people.
- Tackle social exclusion and isolation.
- Develop skills for living and the labour force.
- Improve health and wellbeing in communities.

Mayo's Digital Strategy will drive and support connectivity and participation in communities and promote social cohesion to create a healthy digital society. It will promote opportunity and access to learning and employment, protect citizens, drive efficiencies and knowledge.

Broadband Policies	
INP 17	To support and facilitate the implementation of the National Broadband Plan and the Mayo Digital Strategy as a means of developing further opportunities for enterprise, employment, education, innovation and skills development for those who live and work in rural areas.
INP 18	To support the delivery of high-capacity Information Communications Technology infrastructure, broadband connectivity and digital broadcasting, throughout the county, in order to ensure economic competitiveness for enterprise and the commercial sectors and enabling more flexible work practices e.g. teleworking/homeworking.

Broadband Objectives

INO 29	To require all new developments, including all new housing and commercial developments, and any local authority or community-led town and village centre redevelopment/regeneration projects, to provide specific ducting to enable broadband infrastructure, where appropriate.
INO 30	To support and facilitate the European Commission's "Wifi4EU project" through the provision of free Wifi Hotspots at appropriate publicly accessible locations, throughout the county and expand same to as many locations as possible.
INO 31	To identify suitable locations and support the provision of co-working facilities, digital hubs/eHubs and eWorking centres throughout the county that function as outreach hubs for employers and promote flexible working arrangements.

Telecommunication Policies

INP 19	To support the delivery of telecommunication infrastructure in the county, having regard to the Government Guidelines *'Telecommunications Antennae and Support Structures-Guidelines for Planning Authorities' 1996* (DoEHLG), the '*Guidance on the potential location of overground telecommunications infrastructure on public roads'*, (Dept of Communications, Energy & Natural Resources, 2015) and *Circular Letter PL 07/12* (as updated) and where it can be demonstrated that the development will not have significant adverse impacts on communities, public rights of way and on the built or natural environment, including the integrity of the Natura 2000 network.
INP 20	To promote Mayo as a sustainable international destination for ICT infrastructures such as data centres and associated economic activities, at appropriate locations.

Telecommunication Objectives

INO 32	To maximise and widely promote connectivity of Mayo based on building on existing ICT infrastructure and sub-sea fibre optic cables where possible.
INO 33	To encourage the location of any telecommunications structure, have regard to the Landscape Appraisal of County Mayo, and where possible, advise on a less intrusive location in areas where they are unlikely to intrude on the setting of, or views of/from national monuments or protected structures.

INO 34	To maintain and update the council's register of approved ducting and telecommunication structures in the county, to assist in the assessment of future telecommunication developments. The Council will encourage co-location of antennae on existing support structures and require documentary evidence as to the non-availability of this option in 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.
INO 35	To work with statutory undertakers to make the most efficient use of infrastructure in the delivery of broadband in the county, particularly encouraging the use of existing telecommunications ducting where it is available.
INO 36	To actively engage with telecommunication service providers to help identify, improve and/or eliminate mobile phone signal blackspots within the county, including an examination of the feasibility and suitability of council owned lands/assets.

7.4.5 Energy Networks Infrastructure

The supply and distribution of electricity and gas throughout County Mayo is an important factor in the provision and location of employment and the creation of sustainable communities. Mayo County Council will continue to work alongside key energy providers in facilitating the future development of networks throughout the county. The Council is also cognisant of national policy, which seeks to promote renewable energy use and generation at appropriate locations within the built and natural environment, to meet national objectives towards achieving a low carbon economy by 2050.

7.4.5.1 Electricity

The provision of a safe, secure, and reliable electricity supply is a critical component necessary to sustain economic growth in Ireland. Ireland in recent years has been phasing out the use of fossil fuels, such as oil, natural gas, coal and peat to generate electricity, in favour of renewable energy sources. Ireland's Transition to a Low Carbon Energy Future 2015-2030, the Government's White Paper on energy, sets out a roadmap for a low carbon energy system to 2030. The White Paper acknowledges in the short to medium-term, that the mix of non-renewables will shift away from more carbon-intensive fuels, like peat and coal, to lower-carbon fuels like natural gas. The Climate Action Plan (2019) targets 70% of electricity must come from renewables by 2030. In 2018, 22% of all energy inputs to electricity generation were from renewable sources, whereas coal and peat accounted for 21% of fuel inputs.

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

EirGrid has replaced the Grid West project with the North Connacht 110kV project, which will begin at the Moy substation near Ballina and end at Tonroe, Ballaghaderreen. The upgrading of the transmission network will facilitate power flows from both renewable and conventional sources to maximise the use of existing power corridors. In connecting renewable energy from the North West to the grid, this new project will reinforce the electricity network, supporting Mayo County Council's

aim to enhance the attractiveness of the county as a place in which to live, work and invest.

Mayo County Council recognises that essential future upgrades are required to the electricity grid in the west, as outlined in Eirgrid's *'Tomorrow's Energy Scenarios 2019 System Needs Assessment'* and will support Eirgrid in future programmes identifying grid solutions, in both infrastructural and technological terms, in order to facilitate the electricity targets, set out in the Government's Climate Action Plan 2019 and the National Energy and Climate Plan 2021-2030.

Electricity Policies	
INP 21	To support the provision of high-quality, electricity infrastructure and development of an enhanced electricity supply, to serve the existing and future needs of the county and to facilitate new transmission infrastructure projects, including the delivery and integration of renewable energy proposals to the electricity transmission grid in a sustainable and timely manner, whilst seeking to minimise any adverse impacts on local communities and protect and maintain biodiversity, wildlife habitats, scenic amenities, including protected views and nature conservation.
INP 22	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.
INP 23	To support the statutory providers of national grid infrastructure by safeguarding such strategic corridors from encroachment by other developments that might compromise the provision of energy networks where strategic route corridors have been identified.

Electricity Objectives	
INO 37	To facilitate the progression of and implement improvements to the existing electricity networks and facilitate the development of new transmission infrastructure projects in accordance with EirGrid's Implementation Plan Strategy 2020-2025 (or any superseding strategy) that might be brought forward during the lifetime of this plan.
INO 38	To ensure the provision, where feasible, of electricity cables located underground.
INO 39	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.

7.4.5.2 Natural Gas

The Corrib Gas terminal is located in Bellanaboy, County Mayo. It transports natural gas from subsea facilities to the Gas Networks Ireland grid and currently serves six settlements within Mayo

(Crossmolina, Ballina, Castlebar, Westport, Ballinrobe and Claremorris). The Corrib Gas Field is Ireland's only indigenous natural gas source on the gas network and has been operating since 2015. It has an expected lifespan of 15 to 20 years.

Maintaining security of supply of gas is a government priority. However, the government is responsible for reducing Ireland's greenhouse gas emissions under the Climate Action Plan. The use of renewable sources of gas will have a key role to play in decarbonising the natural gas grid.

The existing gas terminal facility at Bellanaboy shall be promoted as the primary hub along the west coast to bring ashore natural gas from any future reserves found offshore therefore ensuring the continued use of the existing facility and gas grid connection.

Natural Gas Policies

INP 24	To support and facilitate the improvement and extension of the gas grid network in County Mayo to serve existing and envisaged future residential, commercial and industrial development.
INP 25	To support the development of enhanced gas supplies, which do not negatively impact on environmental quality, landscape, wildlife, habitats or residential amenity and which are critical to the economic development of the County.
INP 26	To support the continued use of the Bellinaboy gas terminal as the primary hub to bring ashore any future gas reserves utilising the existing gas grid connection.

Natural Gas Objectives

INO 40	To seek the extension of the gas network to other towns in the county and to Ireland West Airport Knock.