



Comhairle Contae Mhaigh Eo
Mayo County Council



STRATEGIC ENVIRONMENTAL ASSESSMENT NON-
TECHNICAL SUMMARY OF ENVIRONMENTAL REPORT
FOR THE COUNTY MAYO CLIMATE ACTION PLAN 2024 -
2029

PREPARED FOR MAYO COUNTY COUNCIL UNDER SI 435
OF 2004 AS AMENDED

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1 Non Technical Summary

An Environmental Report has been prepared as part of the Strategic Environmental Assessment of the County Mayo Climate Action Plan 2024-2029. This is the Non-Technical Summary of this report.

1.1 Background

Through the Climate Action and Low Carbon Development (Amendment) Act 2021, Ireland is now on a legally binding path to net-Zero emissions no later than 2050, and to a 51% reduction in emissions by the end of this decade. The Act provides the framework for Ireland to meet its international and EU climate commitments and to become a leader in addressing climate change. As required by the 2021 Act, Mayo County Council is preparing their first Local Authority Climate Action Plan (LA-CAP) which must be adopted by the Elected Members before 23rd February 2024. This will continue the work undertaken over the first Climate Change Action Plan 2019-2024 which was non statutory.

1.2 Outline of the CAP

The plan will cover all of the functional area of County Mayo. **Figure 1.1** shows the location of County Mayo, and the Atlantic Seaboard North Climate Action Regional office extent (CARO).

The principal themes are identified and these are supported by actions. These themes include:

- Governance and Leadership
- Built environment and transport
- Natural Environment and Green infrastructure
- Community's resilience and training, and
- Sustainability and resource management.
-

Mayo County Council will use its CAP in planning how it will reduce greenhouse gas emissions from across its own assets and infrastructure, whilst also taking on a broader role to influence, facilitate and co-ordinate the climate actions of communities and other stakeholders and what it will do to advocate for climate action in Mayo. In order to ensure that the CAP is centred around a strong understanding of the role and remit of Mayo County Council on climate action, the Plan is being developed through the following framework.

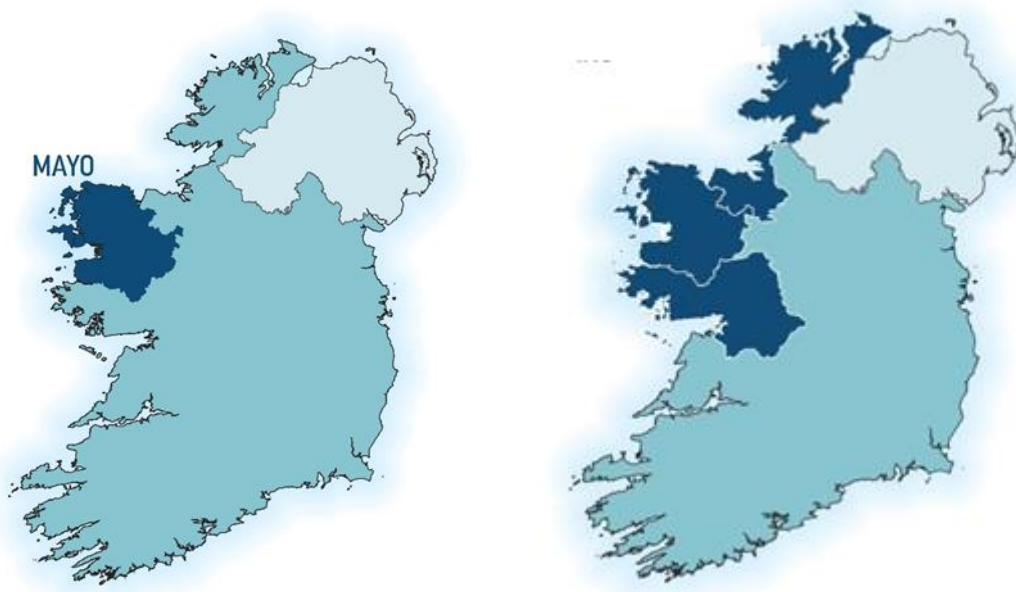
- Full accountable: Targeted actions for areas where Mayo County Council has full accountability for climate action within their own operations.
- Influence: Actions for where Mayo County Council can influence businesses, communities, and individuals in the delivery of local climate action through the functions and services they provide.
- Coordination: Actions for where Mayo County Council can coordinate and facilitate local and community action bringing together stakeholders in partnership to achieve climate action related projects.
- Advocate: Actions aligned to Mayo County Council role as advocate on climate action through raising awareness, communicating, informing, and engaging in open dialogue on the topic.

While the Climate Action Plan will be ambitious to reflect the leadership role of Mayo County Council on climate action, the Plan will not include actions whereby their implementation and achievement fall outside our role, remit, and governance.

The Plan will have to comply, as relevant, with various legislation, policies, plans and programmes (including requirements for lower-tier Appropriate Assessment, Environmental Impact Assessment, Ecological Impact Assessment and requirements as appropriate) that form the statutory decision-making and consent granting. Actions arising from the plan will demonstrate compliance with the

environmental protection measures in the Mayo County Development Plan 2022 -2028, and SEA Environmental Report and Natura Impact Report that accompanies same.

Figure 1-1 County Mayo and the CARO Atlantic Seaboard North



1.3 Steps in the SEA Process

The steps involved in SEA are as follows:

- Screening (determining whether or not SEA is required).
- Scoping (determining the range of environmental issues to be covered by the SEA).
- *The preparation of an Environmental Report (current stage)*
- The carrying out of consultations.
- The integration of environmental considerations into the Plan or Programme.
- The publication of information on the decision (SEA Statement).

1.4 Consultation on scoping stage

Submissions received at scoping stage have all informed the scope of this SEA.

1.5 Relationship to other plans and programmes

It is a requirement of the SEA to review and assess how the draft strategy may interact with other plans and programmes; this review was undertaken as part of the SEA and please see Chapter 3 of the SEA ER. Arising from the review, the following Table 1 highlights key implications from this review and how it relates to the UN sustainable development goals and the EPA State of Ireland's Environment (2020). The Strategic Environmental Objectives in the table below are used in the SEA process to assist in the assessment and identification of significant environmental effects.

TABLE 1-1 STRATEGIC ENVIRONMENTAL OBJECTIVES AND LINKS TO EPA STATE OF IRELAND’S ENVIRONMENT AND SUSTAINABLE DEVELOPMENT GOALS

Strategic Environmental Objectives in the Mayo County Development Plan 202 -2028		EPA Ireland’s Environment 2020	UN Sustainable Development Goals
Climate Change	<p>Reduce Greenhouse Gas emissions in order to help mitigate climate change and meet our relevant International, European and National climate change obligations and targets including achieving the National Climate Objective. Pursue development strategies which increase our ability to adapt to climate change and improve climate resilience. <i>Support the delivery of all national climate policy as appropriate to the county with the prioritisation and acceleration of evidence-based measures.</i></p>	<p>SOE3 Health and Wellbeing SOE5 Air Quality SOE4 Climate SOE6 Nature SOE 8 Marine SOE9 Clean Energy SOE 11 Water Services SOE12 Circular Economy SOE13 Landuse</p>	<p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 12: Ensure sustainable consumption and production patterns. Goal 13: Take urgent action to combat climate change and its impacts</p>
Population and Human Health (PHH)	<p>Protect, enhance and improve people’s quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns. <i>Safeguard the Mayo’s citizens from environment-related pressures and risks to health and well-being including air, water and noise pollution, climate change and flooding.</i></p>	<p>SOE3 Health and Wellbeing SOE4 Climate SOE5 Air Quality SOE 11 Water Services SOE 12 Circular Economy SOE13 Landuse</p>	<p>Goal 3: Ensure healthy lives and promote well-being for all at all ages. Goal 6: Ensure availability and sustainable management of water and sanitation for all. Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all. Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation. Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 12: Ensure sustainable consumption and production patterns. Goal 13: Take urgent action to combat climate change and its impacts. Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development</p>
Biodiversity , Flora and Fauna (BFF)	<p>Conserve and enhance biodiversity at all levels Avoid and minimise effects on nationally and internationally rare and threatened species and habitats through sensitive design and consultation, recognising ecological connectivity</p>	<p>SOE 4 Climate SOE 5 Air Quality SOE 6 Nature SEO 8 Marine</p>	<p>Goal 3: Ensure healthy lives and promote well-being for all at all ages. Goal 6: Ensure availability and sustainable management of water and sanitation for all.</p>

Strategic Environmental Objectives in the Mayo County Development Plan 202 -2028	EPA Ireland's Environment 2020	UN Sustainable Development Goals	
	<p>Avoid and minimise habitat fragmentation and seek opportunities to improve habitat connectivity</p> <p>Ensure careful consideration of non-native invasive and alien species issues particularly as they relate to waterbodies</p> <p>Promote green and blue infrastructure networks, including riparian zones and wildlife corridor</p>	<p>SOE 11 Water Services</p> <p>SEO 12 Circular Economy</p> <p>SOE 13 Land use</p>	<p>Goal 13: Take urgent action to combat climate change and its impacts.</p> <p>Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.</p> <p>Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss</p>
<p>Soil and Geology (SG)</p>	<p>To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites.</p> <p>Conserve, protect and avoid loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites.</p>	<p>SOE4 Climate</p> <p>SOE6 Nature</p> <p>SOE 11 Water Services</p> <p>SOE 12 Water Services</p> <p>SOE13 Landuse</p>	<p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.</p> <p>Goal 12: Ensure sustainable consumption and production patterns.</p> <p>Goal 13: Take urgent action to combat climate change and its impacts.</p> <p>Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.</p>

Strategic Environmental Objectives in the Mayo County Development Plan 202 -2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
Water (W)	<p>Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystem (quality, level, flow).</p> <p>Maintain or improve the quality of surface water and groundwater (including estuarine) to status objectives as set out in the Water Framework Directive (WFD), the National River Basin Management Plan and POMS.</p> <p>Reduce the impact of polluting substances to all waters and prevent pollution and contamination of ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.</p> <p>Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.</p> <p>Protect flood plains and areas of flood risk from development through avoidance, mitigation and adaptation measures.</p>	<p>SOE3 Health and Wellbeing</p> <p>SOE5 Air Quality</p> <p>SOE4 Climate</p> <p>SOE6 Nature</p> <p>SOE 11 Water Services</p> <p>SOE13 Landuse</p>	<p>Goal 6: Ensure availability and sustainable management of water and sanitation for all.</p> <p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.</p> <p>Goal 13: Take urgent action to combat climate change and its impacts.</p> <p>Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.</p> <p>Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.</p>
Air and Noise (AN)	<p>Recognise the ecosystems functions of habitats in and around the plan area and promote nature based solutions to climate change mitigation and adaptation.</p> <p>Minimise all forms of air pollution and maintain/improve ambient air quality.</p> <p>Minimise emissions of greenhouse gases and contribute to a reduction and avoidance of human-induced global climate change</p> <p>Reduce car dependency within the plan area by way of an integrated approach to sustainable urban transport</p>	<p>SOE3 Health and Wellbeing</p> <p>SOE5 Air Quality</p> <p>SOE4 Climate</p> <p>SOE6 Nature</p> <p>SOE 8 Marine</p> <p>SOE9 Clean Energy</p> <p>SOE 11 Water Services</p> <p>SOE12 Circular Economy</p> <p>SOE13 Landuse</p>	<p>Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.</p> <p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.</p> <p>Goal 13: Take urgent action to combat climate change and its impacts.</p>

Strategic Environmental Objectives in the Mayo County Development Plan 202 -2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
Material Assets	<p>Avoid and minimise waste generation</p> <p>Maximise re-use of material resources and use of recycled materials <i>through the circular economy</i></p> <p>Minimise energy consumption and encourage use of renewable energy</p> <p>Promote sustainable transport patterns and modes.</p> <p>To maximise the capacity of wastewater collection networks and treatment plants by excluding surface water run-off from the sewage network through the use of Sustainable Urban Drainage Systems and Blue/Green infrastructure</p>	<p>SEO3 Health and Wellbeing</p> <p>SOE 5 Air Quality</p> <p>SOE9 Clean Energy</p> <p>SOE 13 Land use</p> <p>SOE 11 Water Services</p> <p>SOE 12 Circular Economy</p>	<p>Goal 6: Ensure availability and sustainable management of water and sanitation for all.</p> <p>Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.</p> <p>Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.</p> <p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.</p> <p>Goal 12: Ensure sustainable consumption and production patterns.</p> <p>Goal 13: Take urgent action to combat climate change and its impacts.</p> <p>Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.</p>
Cultural Heritage (CH)	<p><i>To support adaptive re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill).</i></p> <p>Conserve, preserve and record architectural and archaeological heritage</p> <p>Avoid and minimise effects on historic environment features through sensitive design and consultation</p> <p>Support and enhance both tangible and intangible cultural heritage</p>	<p>SOE3 Health and Wellbeing</p> <p>SOE 12 Circular Economy</p> <p>SOE13 Landuse</p>	<p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.</p> <p>Goal 13: Take urgent action to combat climate change and its impacts.</p>

Strategic Environmental Objectives in the Mayo County Development Plan 202 -2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
Landscape	<p>Ensure no significant disruption of historic/cultural landscapes and features through objectives of the County Development Plan.</p> <p>Promote and enhance landscape and <i>seascape</i> character at county and local scale through sensitive siting and design</p>	<p>SOE3 Health and Wellbeing</p> <p>SOE 4 Climate</p> <p>SOE 5 Air Quality</p> <p>SOE 6 Nature</p> <p>SEO 8 Marine</p> <p>SOE 11 Water Services</p> <p>SOE 12 Circular Economy</p> <p>SOE 13 Land use</p>	<p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.</p> <p>Goal 13: Take urgent action to combat climate change and its impacts.</p>

2 Describing the current environment

Baseline data has been gathered to present information on the current environment within the area. The Baseline section describes the following:

- Green and Blue network, ecosystem services.
- Biodiversity, Flora and Fauna
- Population and Human Health
- Soil and Geology
- Water Resources including flooding
- Air Quality and Climate
- Cultural Heritage
- Landscape
- Material Assets, and the
- Interaction between the above topics. These are summarised below:

2.1.1 Green and blue network, ecosystem services

Green Infrastructure is defined as *'an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to human populations'* (Comhar, 2010). Such spaces include woodlands, coastlines, flood plains, hedgerows, fields, gardens, turloughs, lakes, city parks and street trees, and the benefits to humans they provide include water purification, flood control, carbon capture, food production and recreation. Incorporation of green infrastructure in spatial planning and sectoral decision making helps to prevent biodiversity loss and fragmentation of ecosystems, thus restoring, maintaining and enhancing ecosystems and their services. It will improve resilience and adaptation to climate change and enable greater connectivity between ecosystems in protected areas and the wider countryside. There are many inter-relationships between green-infrastructure and other environmental parameters, for instance, its integration with human health through sport and recreation opportunities as well as increasing accessibility to amenity and recreation areas and promoting social inclusion; natural heritage and cultural heritage (e.g. Great Western Greenway). Mayo is rich in biodiversity and developing the connectivity between existing ecological corridors offers great potential in the Plan area for biodiversity and increasing resilience to climate change effects.

Ecosystem services are the benefits that flow from nature to people. They can be provisioning (e.g. the supply of food, clean air and water and materials), regulating (e.g. water and climate regulation, nutrient cycling, pollination, or the formation of fertile soils), or cultural (e.g. recreation opportunities, or the inspiration we draw from nature). Natural ecosystems are multifunctional – they can provide a wide range of services simultaneously. The range and flow of these benefits depends largely on biodiversity and ecosystem condition.

A network of healthy ecosystems often provides cost-effective alternatives to traditional 'grey' infrastructure, offering benefits for EU citizens and biodiversity. This is why the EU promotes the use of nature-based green and blue infrastructure solutions¹. See below for ecosystem services provision.

¹ https://ec.europa.eu/environment/nature/ecosystems/index_en.htm



2.1.2 Biodiversity, Flora and Fauna

The Plan area is rich in biodiversity, containing many important, and protected, habitats and species such as, coastal habitats from cliffs to estuaries, reefs, machairs, mudflats, sandy beaches, and terrestrial habitats such as lakes, turloughs, fens, wetlands, woodlands, bats, wildfowl (duck and geese), waders, salmon, lamprey and otters. However, it also contains many other habitats which are not protected such as scrub, parks, streams, hedgerows, tree lines, roadside verges, housing estate open spaces and gardens. It is these locally important habitats and species within the landscape, including extensive areas of peatlands and heath, broadleaf woodlands, grasslands and turloughs, which provide links between the more rare and protected habitats, and are essential for the migration, dispersal and genetic exchange of wild plants and animals such as garden birds (robins, wrens, finches, etc.) and migrant summer visitors (swallows, cuckoos, warblers, etc), otters, hedgehogs, bats, pigmy shrew and other Irish mammals, Freshwater Pearl Mussel, White-clawed Crayfish, lamprey, salmon and other fish species, and a variety of invertebrates, including Geyer's Whorl Snail, beetles, bees, butterflies, dragonflies and damselflies. They also allow for the spread of seeds, which benefit the wildflower populations of County Mayo. It is recognised that many rare and protected species are reliant on locally important species, and as such the protection of common habitats and species should not be underestimated.

2.1.3 Population and human health

The number of people in the county rose by 7,463 between April 2016 and April 2022. Over the same period, Ireland's population grew by 8% from 4,761,865 to 5,149,139. In 2022, 83% of people in Mayo stated that their health was good or very good compared with 86% in 2016. This is a similar trend to the national figures, which showed a 4% decrease in the good/very good categories from 87% to 83%.

The county possesses a strong community identity and a rich and diverse cultural heritage. Mayo's Gaeltacht region, comprising of three distinct areas (Erris; Achill Island; and Toormakeady), is the third largest in Ireland with 10,886 inhabitants, representing 11.5% of the total Gaeltacht population in the

state. Significant progress continues to be made in the improvement of physical, social and community infrastructure in the towns and villages throughout the county, as it is recognised that social infrastructure and community development supports economic growth, provides employment opportunities and improves the well-being and quality of life for the people of Mayo. Disadvantaged people are more likely to live in poor quality built environments and have limited access to transport and local amenities supporting healthy choices. This has further implications in regard to climate change and adaptation and mitigation to climate change including transport options, green infrastructure, energy provision and efficiencies and air quality emissions. Poor air quality is a major health risk, causing lung diseases, cardiovascular diseases, and cancer. Health implications of poor air quality from transport impacts the lungs, liver & spleen²Children, the elderly and citizens suffering from asthma and respiratory conditions are most affected. As well as negative effects on health, air pollution has considerable economic impacts; cutting short lives, increasing medical costs, and reducing productivity through lost working days. Other environmental resources interact with human health and include material assets (wastewater and water services, energy, transport) , and water quality as well as access to green and blue space.

2.1.4 Geology and Soil

North Mayo has had a long and complex geological history. The oldest rocks in Ireland, Precambrian gneiss, can be found in the plains of Erris. On the Belmullet Peninsula the Annagh Gneiss is around 1750 million years old. Other metamorphic rocks are younger, with most of north Mayo composed of Dalradian metamorphic rocks. In contrast, younger Carboniferous limestones make up much of the low-lying lands of the south east of the county. South Mayo has sedimentary rocks, including some spectacular boulder conglomerates of Ordovician age preserved in an enormous fold called the South Mayo Trough. A total of 122 Sites of Geological Interest have been identified in Mayo. The soils overlying the west of Mayo generally consist of various peats: blanket peats which are found in the uplands; with peaty gleys and peaty podzols found on lower lying lands support extensive agriculture in places. The areas of blanket peat are internationally important - supporting a large variety of rare flora and fauna - and large areas are protected by a number of ecological designations. These peat soils are very important in terms of climate change – when functioning properly they are significant carbon sinks as well as providing means to retain water and assist in flood alleviation measures plus their importance for cultural and natural heritage.

2.1.5 Water resources including flooding

The Water Framework Directive (WFD) requires the achievement of good status in all waters and that the status of water bodies does not deteriorate. Water Framework Directive catchments in the county are as follows:

- Moy & Killala Bay,
- Blacksod-Broadhaven,
- Errif-Clew Bay and
- Corrib catchments.

High water body status accounts for just a small portion of the total area of the county, good, moderate and poor statuses account for almost half of surface water area and approximately 56% (moderate and poor additionally) of the total area respectively. One water body of bad status is located in the River Robe catchment, the principal tributary of Lough Mask, and accounts for approximately 2% of the area of the county. In general, the greater majority of moderate and poor water bodies are located in the more populated, developed portions of the county, whereas the good and high water bodies are in the western, sparsely-populated, less developed catchments. Surface and groundwater are inextricably linked therefore making it difficult to protect from contamination. The protection of groundwater from human activity is crucial as the resource is highly susceptible to contamination with long-term consequences for humans and the environment. Overall

² Life Emerald 2023.

the groundwater status within the County is primarily of good status. Groundwater vulnerability within the Plan area is primarily classified as “rock at or near the Surface or Karst” with areas of extreme and moderate vulnerability.

With climate change there are increased extreme weather events that contribute to flooding across a range of sources. Flooding is a largest source of climate related impact and loss around the County, particularly in the towns of Crossmolina, Ballina, Foxford and Westport, which are exposed to fluvial flooding. Some coastal towns such as Belmullet, Westport and Louisburgh, as well the Islands off County Mayo have also been impacted by sea surge and coastal storms.

2.1.6 Air Quality and Climatic Factors

Poor air quality leads to more than 1300 premature deaths each year in Ireland. Ireland’s two main pollutants of concern are: Fine particulate matter (PM2.5), where the dominant source is residential solid fuel burning. Nitrogen dioxide (NO₂), where the dominant source is transport.

2.1.7 Climate Factors

Ireland must invest in structural and behavioural change to enable the transition to a climate neutral, climate-resilient country. These changes include the rapid decarbonisation of energy and transport and the adoption of sustainable food production, management and consumption systems. In December 2022, the government published Climate Action Plan 2023 (CAP23). It is the first updated plan since the introduction of the Climate Action and Low Carbon Development (Amendment) Act 2021. CAP23 aims to keep Ireland’s emissions within its mandatory carbon budget and achieve the legally binding target of reducing emissions by 51% (from a 2018 baseline) by 2030.

Sectoral emissions ceilings refer to the total amount of greenhouse gas emissions that each sector of the economy is allowed to produce during a specific time period. In Ireland the sectoral emissions ceilings set out the maximum emissions that are permitted from each sector to ensure that Ireland remains within its carbon budgets. These sectors are:

- Electricity
- Transport
- Built Environment (Residential, Commercial & Public Sector)
- Industry & Other
- Agriculture
- Land Use, Land Use Change and Forestry (LULUCF)

Table 2.1 provides a summary of Co. Mayo emissions in comparison to National emissions. GHG emissions for County Mayo in 2019 totalled 2,631 ktCO₂e, 4% of the national total. As Mayo is a predominately rural county emissions from agriculture and land use, land use change and forestry (LULUCF) form a higher % of our county emissions than the national average while industrial, commercial and transport are lower than the national average. This is to be expected as Mayo covers 8% of the size of the Republic of Ireland, but just 4% of the population resides in the county. Mayo County Council’s own emissions account for 7 ktCO₂e, less than 1% of the county’s emissions.

TABLE 2-1 COUNTY MAYO EMISSIONS, NATIONAL EMISSIONS AND AS % OF NATIONAL EMISSIONS

Emissions Category	County Mayo Emissions (ktCO ₂ e)	National Emissions ¹ (ktCO ₂ e)	Mayo Emissions as % of National Emissions
Residential	357 (14%)	9,552 (15%)	4%
Commercial services	89 (3%)	4,618 (7%)	2%
Manufacturing	261 (10%)	6,737 (10%)	4%
Industrial processes	24 (1%)	2,267 (3%)	1%
Transport	220 (8%)	12,196 (19%)	2%
Waste	27 (1%)	991 (2%)	3%
Agriculture	1,132 (43%)	22,134 (33%)	5%
LULUCF	521 (20%)	6,657 (10%)	8%
Total	2,631 (100%)	65,152 (100%)	4%

Figure 2.1 presents the extreme climate events in County Mayo, from the CAP 2024.

FIGURE 2-1 EXTREME CLIMATE EVENTS COUNTY MAYO

Highlights of Observed Climate Change for Ireland and Mayo

Heatwaves



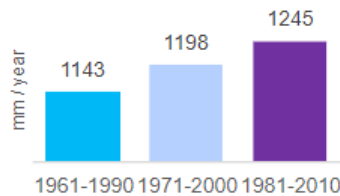
The longest running heatwave in Mayo was recorded in July 2021 at Claremorris station, lasting a total of 10 days

31.2°C

Highest temperature on record for Mayo, recorded on June 26th 2018 at Newport (Furnace)

Rainfall

Average annual rainfall at Belmullet has increased by **8.9% for the most recent period (1981-2010) when compared to the 1961-1990 baseline***



0.7°C

Average temperature increase for the period 1981-2010 when compared to the 1961-1990 baseline.*

Four of the wettest years on record have occurred since 2010. 2020 was the wettest year with annual precipitation of 1967mm



Mayo has 1,168 km of coastline with 652 km is thought to be at risk of coastal erosion**

2.1.8 Material Assets

Access to an efficient transport network contributes to opportunities for all sectors of the population to access services, facilities and social networks that are necessary to meet daily needs. Ease of accessibility enhances quality of life, promotes social inclusion, presents opportunities, and promotes human health through expansion of cycle and walking infrastructure.

Transport: As one of the key sectors for emission reduction, actions are urgently needed to promote other forms of transport including public transport, walking and cycling. Local Transport Plans are being prepared for Ballina, Castlebar and Westport that identify short to longer term actions across scale to make walking, cycling and public transport more viable and attractive.

The rural nature of much of the county makes this transport action challenging outside the main towns with Local Link, the national brand for the Rural Transport Programme that is managed by the

National Transport Authority. The aim of TFI Local Link is to provide quality nationwide community based public transport in rural Ireland that responds to local needs.

Water services: Uisce Eireann has provided information on settlements in the County with wastewater treatment facilities and capacity on same. Newport and Louisborough are identified as having no spare capacity. Killala, Foxford and Ballindine have potential spare capacity. This means the WWTP is currently not compliant with the Waste Water Discharge License emission limit values but is capable of achieving at least Urban Wastewater standards. Potential availability of capacity in this case would be dependent on any additional load not resulting in significant breach of the combined approach as set out in Regulations 43 of the Waste Water Discharge Authorisation Regulations 2007.

There are two main classifications of water supply in Ireland:

Public Water Supply: These supplies are in the charge or ownership of Uisce Eireann or any person acting jointly with it or on its behalf under a service level agreement or contract.

Private Water Supply: These supplies are not operated by Uisce Eireann..

Energy: Mayo County Council are involved in a number of actions and projects that will increase efficiency and reduce greenhouse gas emissions such as the Public Lighting Project (Climate Action Fund) energy audits, participating in SEAI Better Energy Community programmes, Smarter Travel programmes, the development of greenways, switching to renewable energy supplies and increasing energy efficiency via ISO50001 certification process for energy management.

Waste: The waste sector was responsible for 1.5% of Ireland's Greenhouse Gas emissions in 2018. The waste sector includes emission estimates from solid waste disposal, composting, waste incineration, open burning of waste and wastewater treatment and discharge. The largest of these sources is solid waste disposal on land (landfills) where CH₄ is the gas concerned. The Climate Action Plan includes specific targets combatting waste including reductions in household waste, landfill reliance, plastics and food waste. It also sets out ambitious recycling targets for municipal, plastic and packaging waste. The Circular economy relates to a transition from carbon heavy, linear resource use. Circular economy systems:

- keep the added value in products for as long as possible and aim to eliminate waste.
- keep resources within the economy when a product has reached the end of its life, so that they can be productively used again and again and hence create further value.

2.1.9 Cultural heritage including archaeology and built heritage

County Mayo has a rich archaeological heritage. Nearly 6,000 areas of archaeological importance (representing almost 8,000 elements) are included in the RMP for Co. Mayo spanning over 7,000 years. There are 51 National Monuments in the ownership or guardianship of the State in Co. Mayo and a further 11 National Monuments that are subject to Preservation Orders.

The architectural heritage of Mayo spans many centuries. This heritage reflects past lives and is an important record of the economic and social history of the county. Architectural heritage includes churches, courthouses, commercial and institutional buildings including banks and post offices, country houses, and also includes vernacular architecture.

Historic designed landscapes relate to gardens, parkland, woodland, estates and public parks. By using both natural and built features such as trees, shrubs, lawns, ponds, watercourses, views/vistas, walled gardens, follies, farm outbuildings, gates and gate lodges, our ancestors created these compositions which are part of our architectural and horticultural heritage.

Industrial Heritage relates to sites, structures, mechanisms and artefacts associated with the industrial past, mainly of the 18th and 19th centuries and can extend further back to include archaeological sites. Examples of the industrial and maritime heritage of Mayo include structures associated with transportation such as railway stations and associated structures, historic bridges, lighthouses, coastguard stations, harbours, piers and quays. Architectural heritage related to transportation is also an important asset. Mill buildings and associated structures such as mill races, sluices and weirs also form part of this built heritage.

Vernacular built heritage forms a significant part of the built heritage of County Mayo, while many of these structures may not be listed on the Record of Protected Structures, their distinctive character contributes positively to the towns, villages and rural landscape of the county.

2.1.10 Landscape and seascape

A predominantly coastal county, Mayo is bounded by the Atlantic from Killala Bay in the North to Killary Harbour in the South West. The landscape of the County varies greatly. Dominating the landscape are the peaks of the mountains Nephin (806m, 2,644ft), Croagh Patrick (765m, 2,510ft) and Mweelrea (819m, 2,687ft), which is the highest mountain in Connaught. In contrast to this, vast areas of bogland stretch east and north from Carrowmore Lough covering an area of over 518 square kilometres. Because of the unique topography of the landscape of North West Mayo a National Park was established, comprising of 10,000 hectares of State owned land in the Owenduff /Nephin Beg area. Other distinct features of Mayo include the abundance of inland lakes, including the world famous Loughs of Conn, Cullin & Mask. In addition, there are many offshore islands both large and small. Achill Island is the largest island in the country and is connected by bridge to the mainland. Other inhabited islands include Clare Island, Inishturk and Inishbiggle.

2.1.11 Decarbonising zone

On May 10th 2021, following a competitive process, the coastal village of Mulranny was formally announced by Mayo County Council as Mayo's Initial Decarbonising Zone, aiming to reduce greenhouse gases by at least 51% by 2030 as required under Action 165 of the National Climate Action Plan. The community of Mulranny identified their Decarbonising Zone and developed a Vision for 2030. Together with Mayo County Council the community have come together with other relevant stakeholders to form Mulranny Towards 2030 (MT2030) to develop actions to work towards their Decarbonising Zone vision:

"In 2030, Mulranny will be an empowered community, with a low carbon economy, living in a thriving biosphere."

The Mulranny DZ is 41.9 km² in size and comprises the townlands of Dooghbeg, Cushlecka, Cuillaloughaun, Doughill, Mulranny, Murrevagh, Bunahowna, Rosturk, Rosgaliv, and Glenamado. The DZ has a population of approximately 695 persons – the 3 CSO small areas that broadly correspond with the Mulranny DZ zone had a combined population of 695 in Census 2022. It is surrounded by habitats and species associated with the Clew Bay SAC, and Owenduff Nephin SAC and Owenduff Nephin SPA

2.1.12 Evolution of the plan area in the absence of the Climate Action Plan

The SEA legislation requires that consideration is given to the likely evolution of the current baseline where implementation of the CAP 2024-2029 does not take place. In the absence of the CAP the environment would evolve under the requirements of the Mayo County Development Plan 2022 to 2028.

Overall, this Climate Action Plan will be monitored and updated on an annual basis, with a review and revision every five years. Whilst the CDP-2022 will remain the primary landuse framework for the county, in the absence of the CAP, the detailed actions accompanied by targets and indicators will not allow for the annual measuring of progress in this area. This presents a lost opportunity to implement changes at local authority, and community level across the county.

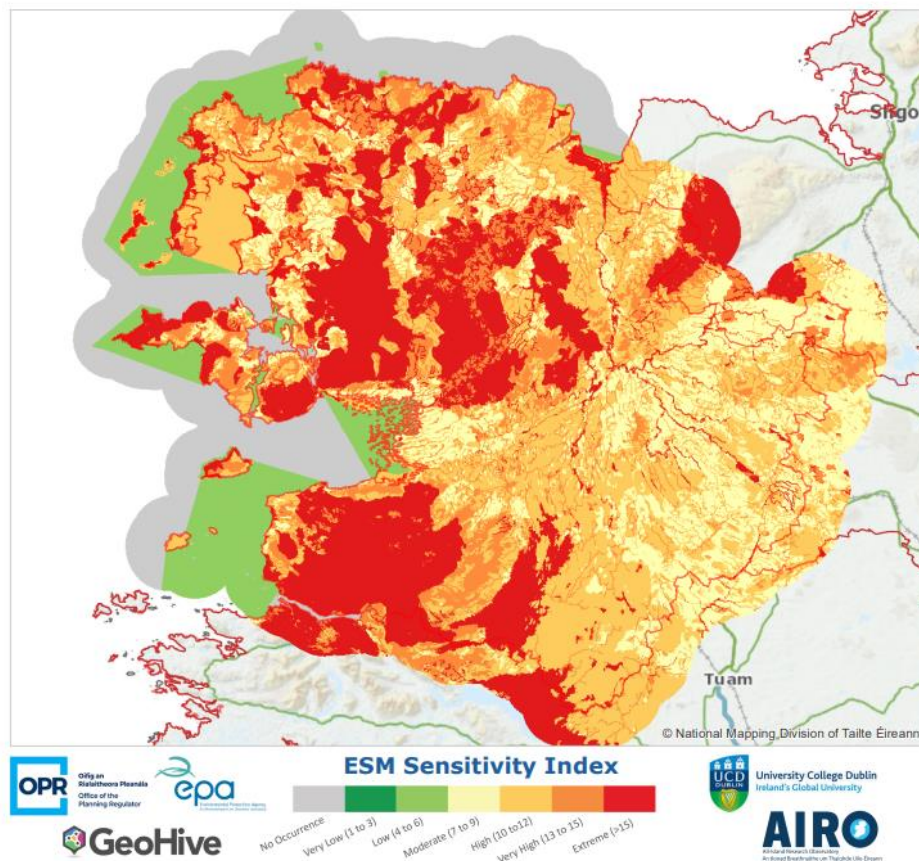
Key actions relating to nature based solutions which offer a suite of positive environmental effects would not be implemented with subsequent opportunities lost to green up infrastructure, promote food security and enhance tree planting. Other actions such as peatland projects would be omitted. At county level, the local authority would be less likely to contribute to the reduction in carbon emissions associated with their fleet, lighting and buildings. Promoting regional or inter

county actions relating to public transport, walking and cycling may be less effective in the absence of this action plan.

2.1.13 Inter-relationships

Environmental sensitivity mapping was prepared to inform the overall assessment of the CAP and to aggregate different environmental themes to help identify areas of greater and lesser environmental sensitivity. The key datasets used to inform this sensitivity mapping are shown in the ESM map in **Figure 2.2**

FIGURE 2-2 COUNTY ENVIRONMENTAL SENSITIVITY MAP



Date: 10/25/2023 Time: 4:29:10 PM Author: MEC Ltd.

*This map is an aggregate result based on the variables and user defined weights listed below.
Warning: Please note that weights are only to be used to emphasize the relative significance of an environmental aspect - applying weights to more than two themes would magnify, and possibly overstate, the overall sensitivity.

Air & Climactic Weight: 2 Variables: Flood Extents Current Scenarios (Coastal 10 Year and Fluvial 10 Year) (High)

Biodiversity, flora and fauna Weight: 2 Variables: Margaritifera Sensitive Areas, Natural Heritage Areas, Special Areas of Conservation, Special Protection Areas

Cultural Heritage Weight: Variables:

Population and Human Health Weight: 1 Variables: WFD RPA Groundwater Drinking Water, WFD RPA Surface Water Drinking Water (Lakes), WFD RPA Surface Water Drinking Water (Rivers)

Soils and Geology Weight: 1 Variables: Peat Bogs

Water Weight: 2 Variables: Aquifer Vulnerability, Wetlands, WFD Groundwater Status, WFD Lake Status, WFD River Status

3 Consideration of Alternatives

The SEA Directive requires that reasonable alternatives be assessed to demonstrate how the preferred strategy performs against other forms of action. Alternatives must be developed, described and assessed within the SEA process, with the results presented in the Environmental Report.

- Alternative 1 - Prioritise reducing GHG emissions from largest GHG emitting sectors in the County to mitigate against climate change impacts.
- Alternative 2 - Adopt a multi-pronged approach and focus on a range of priority areas to mitigate against and adapt to climate change impacts.
- Alternative 3 -: Adopt a multipronged approach - that has a strong community engagement emphasis - and focus on a range of priority areas to mitigate against and adapt to climate change impacts.

A 'Do Nothing' or 'Do Minimum' alternative is not a reasonable alternative in this instance as the preparation of an effective LACAP is a statutory requirement under Section 16 of the Climate Act. Following the evaluation and assessment of the alternatives above against the SEOs, the preferred strategic alternative for the approach to the CAP 2024 -2029 Alternative 3. This is based on the following:

In terms of all SEOs, Alternative 3 is identified as creating most positive interactions as it provides greater environmental performance overall and also allows for a greater environmental gains, than may be achieved through Alternatives 2 and 1. In addition, the multi- faceted approach contributes to greater co-benefits by providing for a wider range of environmental effects particularly around nature based solutions and resource management. The inclusion of measures for citizen engagement and awareness raising through the CAP option is also positive for a number of SEOs.

4 Assessment of significant environmental effects

A summary of the significant environmental effects are shown below in Table 4.1 The SEA ER also considered in combination effects across other plans and programmes and within plan elements.

TABLE 4-1 SUMMARY OF SIGNIFICANT ENVIRONMENTAL EFFECTS

<p>Population and human health</p>	<p>Many of the actions identified in the CAP give rise to medium to term positive effects on population and human health both by responding and adapting to the impacts of climate change, and also reducing greenhouse gas emissions through a series of measures.</p> <p>Reflecting the opportunity for co-benefits of the CAP, measures around energy efficiency and retrofitting plus renewable energy opportunities can help address fuel poverty in relation to vulnerable individuals as well as the chance to reuse energy from within the local area, for example Energy: <i>Action 15 Retrofitting homes</i> and <i>Action 11 Develop and expand energy renewable resources</i>.</p> <p>Reflecting key objectives in the Mayo CDP 2022 to 2028 and the Local Transport Plans for the key towns (Ballina, Castlebar and Westport) the CAP will support and encourage a modal shift in transport by expanding the walking and cycling network, making walking and cycling safer and encouraging and promoting greater engagement and awareness raising in relation to walking and cycling and promoting behavioural change; for example see <i>Action 7: Improve and provide infrastructure to enable and facilitate modal shift to active travel and public transport</i>. Addressing GHG emissions from the Transport and Residential sectors as the above actions do have accompanying positive impacts in terms of local air quality and therefore on human health. In addition, the impact of particulate matter and other airborne particles extend beyond human health to the entire terrestrial and aquatic environment (Tositti et al., 2018³).</p> <p>In the absence of mitigation, whilst the Mayo CDP 2022 -2028 policies will apply there could be adverse environmental effects around capacity building, training, embedding nature based solutions that can provide co benefits across many environmental resources, subject to robust assessment and design.</p> <p>These could result in localised and synergistic impacts on parameters including cultural heritage, landscape that may affect population and human health. Equally grey infrastructure measures particularly at sensitive locations such as coastal habitats can impact sense of place.</p> <p>Encouraging and accessing local knowledge and capacity is provided for within the CAP but additional recommendations are made in this regard, based on recent EPA research on coastal resilience (see <i>Action 19 Provide information of potential relevant funding sources to assist in 'future proofing'</i>).</p>
<p>Biodiversity, Flora and Fauna</p>	<p>The promotion of a nature based measures and resource management in particular along with blue and green infrastructure actions all strengthen overall protection of biodiversity resources and the Biodiversity SEOS.</p> <p><i>Action 10 Preparing a Prepare a tree management plan, incorporating a strategy to increase overall tree canopy cover in County Mayo, through climate appropriate management of existing and future stock is positive for BFF SEOS as it should facilitate data collection of existing woodland habitat and scrub (using the EPA Land Cover mapping data would provide additional detail), this action is recommended for mitigation for further strengthen protection of biodiversity by ensuing future planting is guided to appropriate locations.</i></p> <p>Actions in particular those under Action 9 (Nature based solutions and SuDs), 10 and 11 (Biodiversity Plan) are identified as positive for BFF as well as interacting positive across other</p>

³ Particulate pollution and its toxicity to fish: An overview ,Gokul, Ramesh Kumar, Prema, Arun, Paulraj, Faggio. Comparative Biochemistry and Physiology Part C Vol:270. 2023.

SEOs namely soil, water, air, climate change with indirect positive effects and direct positive effects on population and human health and material assets. Mitigation is recommended to further support and strengthen protection of habitats and species for these actions.
Action 29 Devise and implement a coastal management plan in collaboration with other coastal communities should highlight the significance of risks of coastal squeeze and impacts across biodiversity should the plan identify grey infrastructure measures in this regard.

In relation to other actions, such as those relating to landuse such as transport and Decarbonising zone of Mulranny, existing mitigation in the Mayo CDP 2022 -2028 would apply at development management and consenting.

Walking and cycling actions, if they were to take place on or near sensitive habitats or species vulnerable to disturbance would give rise to adverse effects. However, the existing environmental protection provisions in the CDP will apply and provide sufficient mitigation measures In addition mitigation measures are recommended for a number of these actions. .

Water resources

Potential effects on water resources (and frequently biodiversity) in the absence of mitigation include:

- Surface water runoff from impermeable surfaces leading to reduced water quality in groundwater springs or surface waters affecting qualifying habitats and species downstream(impacts can range from short to long term);
- Changes in the flow rate of watercourses arising from an increased footprint of impermeable surfaces within the Plan area - increasing the extent of impermeable surfaces will result in a decrease in infiltration and an increase in runoff;
- Generally, land use practices can result in water quality impacts and whilst surface water impacts may be identified quickly, impacts to groundwater can take much longer to ascertain due to the slow recharge rate of this water resource;
- Water quality impacts can also have human health impacts in the case where bacterial or chemical contamination arises. Pressures and impacts on material assets from climate change such as flooding with damage to wastewater treatment facilities or water supply is particularly relevant in this regard.

The Mayo CDP 2022 -2028, already includes a range of provisions and measures to address and minimise the above effects, including measures around green and blue infrastructure, flood risk management and development control as well as adaptation measures that support nature based solutions. The CAP however further enhances and strengthens these through the flood resilience actions and nature based solutions in particular.

Implementation of the Biodiversity Plan for the County and support for a biosphere designation at Mulranny DZ create positive interactions for Water SEOS as well as cross cutting other SEOS in a positive manner.

A key focus on the actions should be to prioritise Nature Based solutions and learn from other relevant case studies and examples from Ireland and with EU that have demonstrated excellent outputs that provide co benefits.

Measures around SUDs, such as *Action 22 Work in partnership with relevant stakeholders to develop and progress future-proofing projects/initiatives theme are particularly positive,* creating long term direct positive effects on water resources, as well as soil and biodiversity, population and human health. The action is recommended for mitigation to further detail and strengthen overall environmental protection.

Soil and Geology

Soil quality and function may be enhanced through particular measures associated with flood resilience, nature based solutions and resource management in particular. The carbon sequestration function of soil and healthy soil quality are extremely significant, across several environmental parameters but in particular for agriculture which amounts to 45% of the GHG emissions at county level.

	<p>In this regard, actions that support collaboration and support for agricultural projects, tree policy and nature based solutions are all positive. For example,</p> <p><i>Action 6: Identify and collaborate with Government organisations to assist in developing risk assessments and climate adaptation measures for key natural, cultural and infrastructural assets incorporating nature based solutions, biodiversity and water quality enhancement and Action 24</i></p> <p><i>Establish a farming forum within the decarbonising zone partnership to support farmers adopt climate friendly practices and projects.</i></p> <p>Support for the circular economy in particular around food waste, local food production is also positive, particular if composting can be applied to enhance soil function.</p> <p>The support for reuse of existing buildings, and promotion of brownfield over greenfield sites is supported through national, regional and county policy and actions relating to these are supportive of such policy measures and positive for soil and geology SEOs with indirect positive measures for water, habitats and species, and human health.</p> <p>A number of the measures relating to soil are identified for mitigation to further strengthen the environmental performance of these actions.</p>
<p>Air Quality and Climate</p>	<p>Overall, the CAP will contribute positively to climate change adaptation, and mitigation through the actions as well as the KPIs included in the plan that will allow robust monitoring of actions. In summary, actions relating to blue and green infrastructure give rise to increased surface water storage and potential carbon sequestration with accompanying co benefits across most SEOS in particular landscape, population and human health, air quality, water and soil and biodiversity. These are dependent on such green and blue infrastructure resources (existing) being understood and surveys, with interventions underpinned by scientific and robust evidence base.</p> <p>The focus on energy efficiency and innovation as seen through the actions identified in the CAP, examples include <i>Action 1 Achieve Mayo County Council's Public Sector targets of 51% reduction in energy-related greenhouse gas (GHG) emissions (baseline 2018), 51% reduction in thermal (heating and transport) related greenhouse gas emissions, and a 50% improvement in energy efficiency by 2030 (baseline 2006- 2008).</i></p> <p>Other energy related measures including <i>Action 11: Develop and expand energy renewable resources</i></p> <p>Key measures relating to behavioural change around transport and the increase in walking/cycling and public transport measures are essential in addressing transport emissions over the lifetime of the CAP and beyond. The support and actions in the Mulranney DZ will facilitate peer to peer learning amongst communities and demonstrate successful actions at community and local scale.</p> <p>Recognising the ecosystems functions of soil, water and biodiversity is a key element in the Nature Based solutions theme and is an important acknowledgement that also provides for positive effects across a number of SEOs.</p>
<p>Material Assets</p>	<p>Many of the measures provide for mitigation and adaptation with a view to minimising adverse effects of climate change on material assets, and also responding and facilitating behavioural and modal change in energy use and transport. Examples of these include the following:</p> <ul style="list-style-type: none"> • <i>18: Manage and resource an adequate Climate Emergency Response procedure, providing community training and information, ensuring clear communication of climate related incidents.</i> • Promotion of nature based solutions and SuDs • Climate proofing local authority actions • Actions relating to energy efficiency, renewable energy and circular economy are also identified as generating positive, long terms effects, being consistent with Material Asset SEOS, as well as soil and geology and accompanying positive medium term effects on population and human health and water, biodiversity.

<p>Cultural Heritage</p>	<p>Archaeology and Built heritage features are present throughout the plan area, and in particular those archaeological or built heritage features associated with the coastline may be particularly vulnerable to climate change effects. The concentration of built heritage features and historic settlements on the coastline increases their vulnerability to the effects of climate change. Cultural heritage is not often considered or captured adequately in coastal zone management planning and this can give rise to adverse effects on cultural heritage, for example:</p> <p>Overlooking cultural resources can result in</p> <ul style="list-style-type: none"> • loss of cultural identity associated with certain habitats; • loss of tourism, recreational and educational opportunities; • decline in local ecological knowledge, skills and technology pertaining to habitat management; • and loss of opportunities for social and cultural capital⁴ <p>Action 5 in the Mulranny DZ is positive <i>Explore the development of UNESCO Man and Biosphere Reserve as an overarching climate action</i></p> <p>Research and risk assessment is important to ensure cultural heritage assets (tangible and intangible) are identified and managed with sensitive interventions to the fabric of the tangible cultural heritage feature.</p> <p>Potential actions with Creative Ireland relating to climate change should be explored in the CAP.</p>
<p>Landscape</p>	<p>Long term positive effects are identified for the CAP and landscape primarily through the nature based solutions, green and blue infrastructure, increased tree planting etc. Many of the measures in the CAP require a landscape level response such as recognition of green and blue infrastructure and corridors and this an important approach to take when responding to climate change.</p> <p>Overall, positive effects identified for Landscape SEOs, as landscape change can be considerable with climate change effects in terms of changing water levels, habitat change, transport measures and adaptation measures such as flood risk management.</p> <p>An increase in blue and green infrastructure, public realm and permeability would all create long term positive effects for the Landscape SEOs.</p> <p>Mitigation measure are recommended for a number of actions to strengthen consideration of landscape.</p>

⁴ Coastal cultural heritage: A resource to be included in integrated coastal zone management [SornaKhakzad^aMarnixPieters^bKoenraadVan Balen^c](#)
[Ocean & Coastal Management](#)
[Volume 118, Part B](#)

5 Mitigation measures

Mitigation measures that will prevent, reduce, and offset as much as possible any significant adverse effects on the environment of the plan area resulting from the implementation of the CAP. Mitigation involves ameliorating significant negative effects. Where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts or where this is not possible, to lessening or offsetting those effects. Mitigation measures can be generally divided into those that:

- Avoid effects;
- Reduce the magnitude or extent, probability and/or severity of effect;
- Repair effects after they have occurred, and
- Compensate for effects, by balancing out negative impacts with positive ones.

There are many environmental protection measures in the Mayo County Development Plan 2022-2028 that will apply and provide appropriate environmental protection and mitigation, and the SEA and AA processes identified additional mitigation measures. Examples of the Mayo CDP 2022 -2028 measures are shown below as well as some of the mitigation measures for the CAP itself in Table 5.1 below.

TABLE 5-1 EXAMPLES OF MITIGATION MEASURES IN THE COUNTY DEVELOPMENT PLAN AND IDENTIFIED THROUGH THE SEA AND AA PROCESS

<p>S09 Ecological Impact Assessment, Appropriate Assessment, Strategic Environmental Assessment and Strategic Flood Risk Assessment.</p>	<p>a) To ensure the assessment of all planning applications in the Plan area have regard to the information, data and requirements of the Appropriate Assessment Natura Impact Report, SEA Environmental Report and Strategic Flood Risk Assessment Report contained in Volume 5 of the Mayo CDP 2022-2028.</p> <p>b) To require project planning to be fully informed by ecological and environmental constraints at the earliest stage of project development and any necessary assessment to be undertaken, including Ecological Impact Assessments (EIA) and assessments of disturbance to species protected under the Wildlife Act and/or the Flora Protection Act and of Habitat IV species protected under the Habitats Directive.</p> <p>Ensure that proposals for developments located within identified or potential flood risk areas, or which may exacerbate the risk of flooding elsewhere, are assessed in accordance with the provisions of the Flood Risk Management Guidelines (DoEHLG/OPW 2009) and Circular PL2/2014 (or any updated/superseding document), the relevant policies, objectives and guidelines within this plan and shall also take account of the National CFRAM Programme Flood Hazard Mapping and Flood Risk Management Plans when they become available.</p>
<p>CAP 1</p>	<p>To support and enable the implementation and achievement of European and national objectives for climate adaptation and mitigation as detailed in the following documents, taking into account other provisions of the Plan (including those relating to land use planning, energy, sustainable mobility, flood risk management and drainage); Climate Action Plan (2019 and any subsequent versions);</p> <ul style="list-style-type: none"> • National Climate Change Adaptation Framework (2018 and any subsequent versions). • Relevant provisions of any Sectoral Adaptation Plans prepared to comply with the requirements of the Climate Action and Low Carbon Development Act 2015, including those seeking to contribute towards the National Transition Objective, to pursue, and achieve, the transition to a low carbon, climate resilient and environmentally sustainable economy by the end of the year 2050; and Mayo Council Climate Change Adaptation Strategy (2019-2024 and any subsequent versions)
<p>1.4</p>	<p>Convert all public lighting within County Mayo to low energy LED lighting and develop a lighting policy while having due regard to impact of light used on biodiversity.</p>
<p>4</p>	<p>Provide relevant climate action training to local authority staff and elected members including nature based solutions and co benefits for climate adaptation and biodiversity.</p>

new action	In implementing this County Mayo Climate Action Plan, ensure compliance with Mayo County Development Plan 2022-2028 and local area plan objectives and policies relating to environmental management, the protection of statutory Conservation Areas and ensure compliance with specific environmental management measures relating to this plan. Landuse plans and projects arising from this Climate Action Plan will be underpinned by Strategic Environmental Assessment, Environmental Impact Assessment, Appropriate Assessment, and Ecological Impact Assessments as relevant.
new action	Mayo County Council will take account of any relevant recommendations in the EPA State of Our Environment Report 2024, once published, in implementing the Plan over its lifetime.
new action	Mayo County Council will consider any relevant updated actions, measures or recommendations that may arise in updates to the National Climate Action Plan over the lifetime of the Plan.
No.	Action
	Future proof our Place
9	Ensure consideration and integration of Nature Based Solutions and Sustainable Urban Design measures in all projects and implemented where appropriate to ensure climate resilience, promoting greater biodiversity space for nature , thereby creating vibrant, livable and sustainable locations
10	Prepare a tree management plan, incorporating a strategy to increase overall tree canopy cover in County Mayo, through climate appropriate management of existing and future stock that targets planting in appropriate place with appropriate planting mixes.

6 Monitoring

The monitoring programme will consist of an assessment of the relevant indicators and targets against the data relating to each environmental component. Similarly, monitoring will be carried out frequently to ensure that any changes to the environment can be identified.

It is recommended that data arising from planning applications, particularly in terms of environmental constraints mapping and Environmental Impact Statements be integrated into the GIS and monitoring system. This will assist in assessing cumulative impacts also, in particular ecology and water quality.

This Climate Action Plan will be implemented by Mayo County Council. Implementation of the LACAP and in turn monitoring and reporting will be pivotal in demonstrating commitment and leadership in climate action at the local level. A key part of the CAP is the provision of key performance indicators (KPIs) and annual reporting. Therefore the suggested monitoring table below, whilst adapted for the SEA monitoring prepared for the County Development Plan should cross reference and integrate the KPIs identified for the CAP 2024 -2029.

Key implementation and reporting activities that Mayo County Council will undertake are:

1. **Planning for Implementation:** Devising an approach for the implementation of actions on an annual basis.
2. **Tracking and reporting progress through Key Performance Indicators:** Development and inclusion of plan level KPIs to track, measure and report on progress.

Table 6.1 presents the monitoring table.

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
Climate Change			
<p>CC1: Reduce Greenhouse Gas emissions in order to help mitigate climate change and meet our relevant International, European and National climate change obligations and targets including achieving the National Climate Objective.</p> <p>CC2: Pursue development strategies which increase our ability to adapt to climate change and improve climate resilience.</p> <p>CC3: Support the delivery of all national climate policy as appropriate to the county with the prioritisation and acceleration of evidence-based measures.</p>	<p>Key performance indicators in the CAP and</p> <p>Provide for increased use of public transport.</p> <p>Increase number of cycle lanes and pedestrian routes in the plan area.</p> <p>Establish incentives/increase no. of permissions for renewable energy projects.</p>	<p>Use of public transport.</p> <p>Provision of cycle lanes and walking routes.</p> <p>No. of grants given for insulation works; energy efficiency of new buildings – energy rating figures.</p> <p>No. of planning applications for residential houses with low carbon footprint.</p> <p>No. Of wind turbines permitted which may contribute to mitigation of, and adaptation to Climate Change.</p> <p>Location of permitted wind farms and other renewable energy projects as identified in the Co Mayo RES. w</p>	<p>MCC – Annual</p> <p>CSO – Annual as figures/reports based on 2022 census become available.</p> <p>MCC and SEAI – increase in BER rating at Small Area for towns identified.</p> <p>Number of Energy Retrofitting grants in County</p> <p>MCC – No and type of planning applications in relation to low carbon residential housing and wind turbines and/or commencement of construction of such on an annual basis. SEAI</p>
<p>BFF1 Conserve and enhance biodiversity at all levels</p>	<p>No reduction in length or loss of hedgerows.</p> <p>Operators who conduct mechanical hedge cutting should have achieved the Teagasc proficiency standard MT 1302-Mechanical Hedge Trimming.</p> <p>30% broadleaf/native afforestation.</p> <p>Protection and promotion of non-designated salmonid rivers.</p>	<p>Percentage of unique habitats and species lost in non-designated sites over the lifetime of the Plan through trending of annual/bi-annual surveys.</p> <p>Percentage of broadleaf/native afforestation.</p> <p>Number of green infrastructure and blue infrastructure measures implemented during Part 8 applications.</p> <p>Number of pollinator friendly planting schemes as part of public realm works.</p> <p>Number of pollinator friendly schemes identified under Tidy Towns</p>	<p>MCC</p> <p>MCC Part 8 planning applications</p> <p>Coillte- Annual</p> <p>NPWS – Annual or as and when surveys completed by NPWS for National Monitoring programmes on a rolling basis and/or surveillance monitoring undertaken for compliance with Article 17 of the Habitats Directive and reported on every 6 years.</p> <p>MCC - Annual</p>

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
	<p>No. ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity to be lost without remediation as a result of implementation of the CAP 2024-2029</p> <p>Afford the same level of protection to Margaritifera Sensitive Areas as is afforded to Freshwater Pearl Mussel SAC rivers</p>	<p>Number of Part 8 applications requiring Ecological Clerk of Work</p> <p>Percentage loss of connectivity between areas of local biodiversity importance as a result of implementation of the CAP as evidenced from a resurvey of CORINE mapping and the Biodiversity Mapping undertaken by MCC for towns and villages where present.</p> <p>Decrease in population of freshwater pearl mussels in <i>Margaritifera</i> sensitive areas and/or habitat and water quality deterioration.</p>	<p>OPW - Annual</p> <p>National Biodiversity Data Centre – Annual</p> <p>Ireland River Basin Management Plan –second and third RBMP Cycle</p>
<p>BFF2 – Avoid and minimise effects on nationally and internationally rare and threatened species and habitats through sensitive design and consultation, recognising ecological connectivity.</p>	<p>No loss of protected habitats and species during the lifetime of the Plan.</p> <p>No compromise in the favourable conservation condition of European sites. No compromise or impact on the achievement of the favourable conservation condition objectives (whether maintain or restore) of European sites.</p>	<p>Designation of additional areas due to biodiversity and/or geological value.</p> <p>Percentage of unique habitats and species lost in designated sites through trending of annual surveys.</p> <p>No./percentage of developments in/near Natura 2000 network.</p> <p>Percentage of European sites in the plan area that are at ‘Favourable’ conservation status.</p> <p>Percentage of Qualifying Interest Features which have achieved their specific objectives of maintain or restore.</p>	
<p>BFF3 – Avoid and minimise habitat fragmentation and seek opportunities to improve habitat connectivity.</p>	<p>Submission of Ecological Impact Assessments for planning applications</p> <p>Number of green and blue infrastructure measures implemented through Part 8 applications.</p> <p>Ensure provision of riparian zones at project/site level.</p>	<p>Number of Ecological Impact Assessments with planning applications.</p> <p>Number of Part 8 applications with green and blue infrastructure measures</p> <p>No. of planning applications with sufficient inclusion of buffer zones where necessary and applicable.</p>	

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
<p>BFF4 – Ensure careful consideration of non-native invasive and alien species particularly as they relate to watercourses</p>	<p>Prevent the introduction of new invasive or alien species.</p> <p>Control/manage new invasive species.</p> <p>Control/manage/eradicate invasive species throughout the county.</p>	<p>No., type and location of invasive species identified.</p> <p>No. of actions achieved under the Biodiversity Action Plan.</p> <p>Increase/decrease in coverage of invasive species identified.</p> <p>No. of submissions/observations submitted through invasive species Ireland “Alien Watch”. www.invasivespeciesireland.com/alien-watch</p> <p>The National Biodiversity Data Centre will track success in the implementation of the All-Ireland Pollinator Plan by measuring increases in the abundance and diversity of pollinators within the Irish landscape as the 81 actions are implemented.</p>	
<p>B5 - Promote green and blue infrastructure networks, including riparian zones and wildlife corridors.</p>	<p>Ensure new development is set back from rivers.</p> <p>The recommended width for larger river channels (>10m) is 35m to 60m and for smaller channels (<10m) is 20m or greater. The determined width should be tailored to site specific, river reach or lakeshore characteristics and their associated habitats. It is important that the buffer zone is large enough to protect the ecological integrity of the river (including emergent vegetation),</p>	<p>No. planning permissions close to water.</p> <p>Number of Part 8 applications with green and blue infrastructure measures</p>	

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
	the riparian zone (bank side vegetation including trees) and takes into account the human history of the area.		
Population, Human Health			
P1 Protect, enhance and improve people's quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns.	<p>Increase in the number of green and blue space in settlements.</p> <p>Improved trends in perceived quality of life related to these matters.</p> <p>Bonds to ensure the completion of developments until taken charge.</p> <p>No significant deterioration in human health as a result of environmental factors.</p>	<p>No/area of green spaces and amenities available to the public as shown in public realm improvements</p> <p>Improved trends in perceived quality of life related to these matters as gathered through surveys.</p> <p>Employment rates over the lifetime of the Plan.</p> <p>Completion handover of development to MCC</p> <p>Availability of public transport/ smarter travel initiatives.</p> <p>Occurrence of any decline in human health around the plan area.</p>	<p>MCC – URDF funding and other funding sources</p> <p>CSO – every six years in line with census</p> <p>MCC - Annual</p> <p>Iarnrod Eireann - Annual</p> <p>Bus Eireann – Annual</p>
P2 To protect human health from hazards or nuisances arising from incompatible land uses/developments.	<p>No spatial concentrations of health problems arising from environmental factors.</p> <p>Number of complaints received from public relating to Noise, Air and Water Emissions.</p>	<p>Any occurrence of spatially concentrated deterioration in human health.</p> <p>Complaints to MCC Environment Section, Health and Safety Authority and EPA</p>	<p>CSO – every six years and as results arise on a yearly basis from the 2016 census</p> <p>Healthwell Database</p> <p>MCC – Annual</p>
Water			
W1 – Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on	To achieve a Q rating of 4 'good' quality status by 2021.	Biotic quality rating of river waters at EPA monitoring locations.	EPA – Annual as recorded through the WFD Monitoring Programme

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
the aquatic ecosystem (quality, level, flow).			
W2– Maintain or improve the quality of surface water and groundwater (including estuarine) to status objectives as set out in the Water Framework Directive (WFD), the River Basin Management Plan and POMS.	Improvement or at least no deterioration in surface water quality by 2021	Changes in receiving water quality as identified during water quality monitoring for WFD, National RBMP conducted by MCC and EPA.	MCC EPA
W3– Reduce the impact of polluting substances to all waters and prevent pollution and contamination of ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.	Improvement or at least no deterioration in surface and groundwaters by 2027 at the latest	Changes in receiving waters and groundwater quality as identified by water quality monitoring programmes conducted by MCC and EPA.	MCC - Annual EPA – Annual
W4 - Promote sustainable water use, water conservation and sources of water supply in the plan area and to maintain and improve the quality of drinking water supplies.	Pressure on water and waste water treatment plants.	Decrease in no. of water shortage notices issued during drought periods. Decrease in the amount of water consumed per household in the plan area.	MCC/Irish Water
W5–Protect flood plains and areas of flood risk from development through avoidance, mitigation and adaptation measures.	In accordance with OPW/DOEHLG, all planning applications within designated Flood Risk Zones A and B as identified in the Strategic Flood Risk Assessment for the plan are required to undertake Flood Risk Assessment.	Level and location of flooding. Number of measures achieved in Goal 3 of Climate Ready Mayo. Number of NBS that form part of public realm, Part 8 applications.	MCC – Records obtained as and when flood events occur OPW –

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
	Increase in nature based solutions to flood risk and blue infrastructure measures		
Soil and Geology			
SG1 To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites	NPF target of 30% urban development and 20% of rural developing on brownfield lands achieved over lifetime of the plan	Planning applicationsq	MCC annually
SG2 Conserve, protect and avoid loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites.	No loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites. Designation of sites as County Geological Sites.	Percentage of habitats, geological features, species etc. Lost over the lifetime of the Plan through trending of annual/bi-annual surveys. No. of areas designated as County Geological Sites.	GSI MCC
Material Assets			
Air Quality and Climate			
AQ1 Recognise the ecosystems functions of habitats in and around the plan area and promote nature-based solutions to climate change mitigation and adaptation.	Maintain and enhance ecosystems functionality in and around plan area Integrate nature-based solutions through planning applications, public realm plans, greenways and transport projects.	% land mapped for green and blue infrastructure in urban settings and along greenways. Enhancement of ecological networks/linkages through habitat creation/restoration	MCC
AQ2 Minimise all forms of air pollution and maintain/improve ambient air quality.	Maintain ambient air quality through reduction of private vehicle usage.	Air quality indicators.	<CC - Annual EPA - Annual

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
AQ3 Minimise emissions of greenhouse gases and contribute to a reduction and avoidance of human-induced global climate change.	Provide for increased use of public transport.	Use of public transport.	MCC – Annual
	Increase number of cycle lanes and pedestrian routes in the plan area.	Provision of cycle lanes and walking routes.	CSO – Annual as figures/reports based on 2016 census become available.
	Establish incentives/increase no. of permissions for renewable energy projects.	No. of grants given for insulation works; energy efficiency of new buildings – energy rating figures.	MCC and SEAI – increase in BER rating at Small Area for towns identified.
		No. of planning applications for residential houses with low carbon footprint.	Number of Energy Retrofitting grants in County
		No. Of wind turbines permitted which may contribute to mitigation of, and adaptation to Climate Change. Location of permitted wind farms and other renewable energy projects as identified in the Co Mayo RES. w	MCC – No and type of planning applications in relation to low carbon residential housing and wind turbines and/or commencement of construction of such on an annual basis. SEAI
AQ4 Reduce car dependency within the plan area by way of an integrated approach to sustainable urban transport.	An increase in the percentage of the population travelling to work or school by public transport or non-mechanical means.	Percentage population within the plan area travelling to work or school by public transport or non-mechanical means.	CSO – every 6 years through census information.
	A decrease in the average distance travelled to work or school by the population of the plan area.	Average distance travelled to work or school by the population of the plan area.	
Material Assets – Waste			
MA1 Avoid and minimise waste generation	Reduction in the quantities of waste sent to landfill.	Quantity of household waste sent to landfill.	MCC Environment Section
MA2 Maximise reuse of material resources and use of recycled materials	Increase in the quantities of waste sent for recycling.	Quantity of household waste sent to recycling Number of repair/ reuse initiatives over plan lifetime	Connaught Waste Management annual report

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
	<p>Increase in the number of bring banks in the plan area.</p> <p>Compliance with the Region Waste Management Plan</p>		
Material Assets -energy			
MA3 Minimise energy consumption and encourage use of renewable energy	<p>Increase in renewable energy developments.</p> <p>Adaptive reuse of town centre buildings</p>	<p>No. of renewable energy developments granted planning permission.</p> <p>Establishment of R&D projects (one or more).</p> <p>Meet or exceed County contributions to national renewable energy targets.</p> <p>Meet or exceed County contributions to national energy efficiency/conservation targets.</p> <p>Number of houses increasing BER rating to B3</p>	<p>MCC – new solar farms, windfarms or other renewable energy developments granted.</p> <p>– number of new R&D projects within the Plan area e.g., testing of tidal energy devices.</p> <p>Regional Assembly for the Northern and Western Region</p> <p>Marine Institute</p> <p>SEAO</p>
Material Assets -Transport			
MA4 Promote sustainable transport patterns and modes	<p>An increase in provision of cycle lanes and pedestrian routes.</p> <p>An increase in population travelling to work and school by public transport or non-motorised transport.</p> <p>A reduction in the distance travelled to work or school by the population of the plan area.</p>	<p>No. of cycle lanes and pedestrian routes provided in the plan area.</p> <p>Percentage of the population within the plan area travelling to work or school by public transport or non-mechanical means.</p> <p>Average distance travelled to work or school by the population of the plan area.</p> <p>Number of private cars on road as a percentage of Annual Average Daily Traffic (AADT).</p>	<p>MCC</p> <p>CSO – every 6 years through census information.</p> <p>TII</p>

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
Material Assets – Waste Water			
MA5 To maximise the capacity of wastewater collection networks by excluding surface water run-off from the sewage network through the use of SUDs and Blue/green Infrastructure.	The most recent wastewater treatment capacity register, issued to Mayo County Council, in June 2022 indicates the current spare capacity is approximately 9,800pe.	WWTP currently has capacity for the planned population growth for Castlebar.	Uisce Éireann -Achievement of Water Services Strategic Plan objectives. MCC – monitoring . 5
Cultural Heritage			
CH1 Conserve, preserve and record architectural and archaeological heritage	No permitted development which involves loss of cultural heritage, including protected structures, archaeological sites, Architectural Conservations Areas and landscape features.	No. of developments permitted during the lifetime of the plan which will result in the loss or partial loss of protected structures or sites of archaeological status. No. of additions to the list of Protected Structures. No. of additions to the list of Architectural Conservation Areas. Development of cultural heritage areas for amenity resources.	MCC - ongoing
CH2 Avoid and minimise effects on historic environment features through sensitive design and consultation.	Increase in consultation and engagement with statutory bodies. Increase in architectural heritage impact assessments	No. of applications which are referred to the Conservation and Heritage Officers.	MCC - ongoing

⁵ The monitoring for MA5 has been updated based on Uisce Éireann submission at draft plan stage.

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
CH3 Support and enhance both tangible and intangible cultural heritage	Increase in awareness of cultural heritage	No. planning applications for restoration/re-use of vacant and derelict structures.	MCC – ongoing
	Increase in use of Irish Language	No of Irish Language speakers	CSO
	Reverse island population trend	No of Irish Language Impact assessment Population of Islands	
Landscape			
L1 Ensure no significant disruption of historic/cultural landscapes and features through objectives of the County Development Plan	. No significant visual impact from development.	No. of developments permitted and their impacts on cultural/historic landscapes.	CCC – ongoing
	Ensure no significant disruption of high landscape values.	No. of developments located within Scenic Route or no degradation of Coastal Areas	Heritage Council - ongoing Fáilte Ireland - ongoing
		No. of developments located within a designated scenic view in Co Mayo that disrupt views (based on the LCA).	GSI - ongoing NPWS - ongoing
		Development and application of framework in relation to the application of LCA and their contribution to SEA.	EPA SEA Unit in conjunction with CCC
L2 Promote and enhance landscape character at county and local scale through sensitive siting and design	Maintain and enhance landscape quality within the plan area by minimising visual impacts through appropriate design, assessment and siting.	No. of developments located within a high landscape area that disrupt views	MCC - ongoing
	Number of applications referencing Rural Housing Guidelines	No of large-scale developments permitted with Visual Impact Assessment prepared Km of additional hedgerow /treelines planted	

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
	Number of applications reflecting native tree /hedgerows and local stone treatments		

