



**Comhairle Chontae na Gaillimhe**  
**Galway County Council**

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

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

## Contents

1	Non Technical Summary.....	3
1.1	Background.....	3
1.2	Outline of the CAP.....	3
1.3	Steps in the SEA Process.....	4
1.4	Consultation on scoping stage .....	4
1.4.1	Decarbonising zone .....	4
1.5	Relationship to other plans and programmes .....	5
2	Describing the current environment .....	11
2.1.1	Green and blue network, ecosystem services.....	11
2.1.2	Biodiversity, Flora and Fauna .....	12
2.1.3	Population and human health.....	12
2.1.4	Geology and Soil .....	13
2.1.5	Water resources including flooding.....	13
2.1.6	Air Quality and Climatic Factors.....	13
2.1.7	Climate Factors .....	13
2.1.8	Material Assets.....	15
2.1.9	Cultural heritage including archaeology and built heritage .....	15
2.1.10	Landscape and seascape .....	16
2.1.11	Evolution of the plan area in the absence of the Climate Action Plan .....	16
2.1.12	Inter-relationships .....	16
3	Consideration of Alternatives .....	18
4	Assessment of significant environmental effects .....	19
5	Mitigation measures.....	24
6	Monitoring .....	25

# 1 Non Technical Summary

An Environmental Report has been prepared as part of the Strategic Environmental Assessment of the County Galway 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, Galway 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 Galway. **Figure 1.1** shows the location of County Galway, 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
- Transport
- Natural Environment
- Community's resilience and
- Sustainability and resource management.

Galway 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 Galway. In order to ensure that the CAP is centred around a strong understanding of the role and remit of Galway County Council on climate action, the Plan is being developed through the following framework.

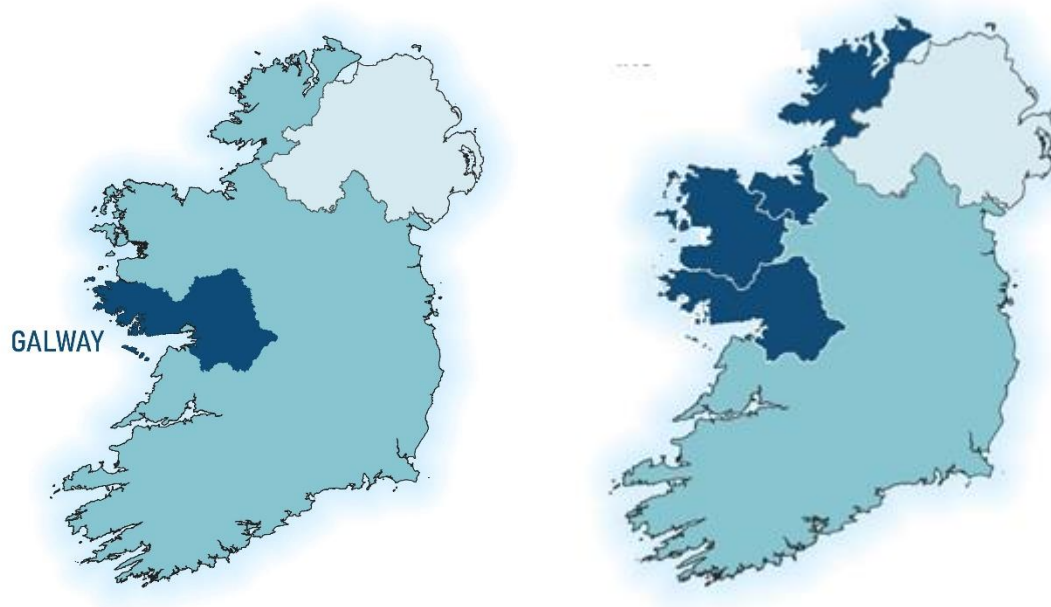
- Full accountable: Targeted actions for areas where Galway County Council has full accountability for climate action within their own operations.
- Influence: Actions for where Galway County Council can influence businesses, communities, and individuals in the delivery of local climate action through the functions and services they provide.
- Coordination: Actions for where Galway 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 Galway 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 Galway 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 Galway County Development Plan 2022 -2028, and SEA Environmental Report and Natura Impact Report that accompanies same.

**Figure 1-1 County Galway 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.

#### 1.4.1 Decarbonising zone

A Decarbonisation Zone (DZ) is a spatial area identified by the local authority in which a range of climate mitigation, adaptation and biodiversity measures and action owners are identified to address local low carbon energy, greenhouse gas emissions, and climate needs to contribute to national climate action targets.'

In accordance with Action 165 of the National Climate Action Plan 2019, each local authority was required to 'identify and develop plans for one Decarbonising Zone' within their respective administrative area. An Action Plan for the DZs must be included in the Local Authority Climate Action Plans (LA CAP) as identified in the LACAP guidelines. As a component of the LACAP, the DZ is subject to the same statutory processes, timeframes, and other procedural requirements of making the LA Climate Action Plan. The DZs are a demonstration and test bed to focus on a range of climate

mitigation, adaptation and biodiversity measures including the identification of projects and outcomes to assist in the delivery of the National Climate Objective. The three Aran Islands – Inis Mór, Inis Meáin, and Inis Oírr have been selected for the County Galway Decarbonising Zone

### 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 Galway County Development Plan 2022-2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
<b>Climate Change</b>	<ul style="list-style-type: none"> <li>• <i>Support the delivery of all national climate policy as appropriate to the county with the prioritisation and acceleration of evidence-based measures.</i></li> <li>• To minimise emissions of greenhouse gasses</li> <li>• Integrate sustainable design solutions into the County's infrastructure (e.g. energy efficient buildings: green infrastructure) Contribute towards the reduction of greenhouse gas emissions in line with national targets</li> <li>• Promote development resilient to the effects of climate change</li> <li>• Promote the use of renewable energy, energy efficient development and increased use of public transport</li> </ul>	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	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
<b>Population and Human Health (PHH)</b>	<ul style="list-style-type: none"> <li>• <i>Safeguard the Galway's citizens from environment-related pressures and risks to health and well-being including air, water and noise pollution, climate change and flooding.</i></li> <li>• Promote economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management</li> <li>• Ensure that existing population and planned growth is matched with the required public infrastructure and the required services</li> </ul>	SOE3 Health and Wellbeing SOE4 Climate SOE5 Air Quality SOE 11 Water Services SOE 12 Circular Economy SOE13 Landuse	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.

Strategic Environmental Objectives in the Galway County Development Plan 2022-2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
			Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
<b>Biodiversity , Flora and Fauna (BFF)</b>	<ul style="list-style-type: none"> <li>To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species</li> <li>Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function</li> <li>Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species</li> <li>Enhance biodiversity in line with the National Biodiversity Strategy and its targets <b>including no net contribution to biodiversity losses or deterioration</b>.<sup>1</sup></li> <li>To protect, maintain and conserve the County's natural capita</li> </ul>	SOE 4 Climate SOE 5 Air Quality SOE 6 Nature SEO 8 Marine SOE 11 Water Services SEO 12 Circular Economy SOE 13 Land use	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 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. 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

<sup>1</sup> Inserted following submission at Scoping Stage by Department of Housing, Heritage and Local Government

Strategic Environmental Objectives in the Galway County Development Plan 2022-2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
Soil and Geology (SG)	<ul style="list-style-type: none"> <li>Protect soils against pollution, and prevent degradation of the soil resource</li> <li>Promote the sustainable use of infill and brownfield sites over the use of greenfield within the County</li> <li>Safeguard areas of prime agricultural land and designated geological sites</li> </ul>	SOE4 Climate SOE6 Nature SOE 11 Water Services SOE 12 Water Services SOE13 Landuse	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 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.
Water (W)	<ul style="list-style-type: none"> <li>Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive</li> <li>Ensure water resources are sustainably managed to deliver proposed regional and County growth targets in the context of existing and projected water supply and wastewater capacity constraints ensuring the protection of receiving environments</li> <li>Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion, particularly coastal areas</li> <li>Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposal</li> </ul>	SOE3 Health and Wellbeing SOE5 Air Quality SOE4 Climate SOE6 Nature SOE 11 Water Services SOE13 Landuse	Goal 6: Ensure availability and sustainable management of water and sanitation for all. Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. 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. 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.



Strategic Environmental Objectives in the Galway County Development Plan 2022-2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
<b>Air and Noise (AN)</b>	<ul style="list-style-type: none"> <li>To avoid, prevent or reduce harmful effects on human health and the environment as a whole resulting from emissions to air from all sectors with particular reference to emissions from transport, residential heating, industry and agriculture</li> <li>Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency</li> <li>Promote continuing improvement in air quality</li> <li>Reduction of emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter which are responsible for acidification, eutrophication and ground-level ozone pollution</li> <li>Meet Air Quality Directive standards for the protection of human health</li> <li>Significantly decrease noise pollution by 2020 and move closer to WHO recommended level</li> </ul>	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	Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all. Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 13: Take urgent action to combat climate change and its impacts.
<b>Material Assets</b>	<ul style="list-style-type: none"> <li>Optimise existing infrastructure and provide new infrastructure to match population distribution proposals in the County</li> <li>Ensure access to affordable, reliable, sustainable and modern energy for all which encourages a broad energy generation mix to ensure security of supply – wind, solar, hydro, biomass, energy from waste and traditional fossil fuels</li> <li>Promote the circular economy, reduce waste, and increase energy efficiencies</li> </ul>	SEO3 Health and Wellbeing SOE 5 Air Quality SOE9 Clean Energy SOE 13 Land use SOE 11 Water Services SOE 12 Circular Economy	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 industrialization and foster innovation. Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 12: Ensure sustainable consumption and production patterns.

Strategic Environmental Objectives in the Galway County Development Plan 2022-2028		EPA Ireland's Environment 2020	UN Sustainable Development Goals
	<ul style="list-style-type: none"> <li>• Ensure there is adequate sewerage and drainage infrastructure in place to support new development</li> <li>• Facilitate, as appropriate, Irish Water in developing water and wastewater infrastructure</li> </ul>		<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>
<b>Cultural Heritage (CH)</b>	<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> <ul style="list-style-type: none"> <li>• Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage</li> </ul>	<p>SOE3 Health and Wellbeing  SOE 12 Circular Economy  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>
<b>Landscape</b>	<ul style="list-style-type: none"> <li>• To implement the Plan's framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention</li> </ul>	<p>SOE3 Health and Wellbeing  SOE 4 Climate  SOE 5 Air Quality  SOE 6 Nature  SEO 8 Marine  SOE 11 Water Services  SOE 12 Circular Economy  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. Galway 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 solutions<sup>2</sup>. See below for ecosystem services provision.

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<sup>2</sup> [https://ec.europa.eu/environment/nature/ecosystems/index\\_en.htm](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, 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 invertebrate. They also allow for the spread of seeds, which benefit the wildflower populations of County Galway. 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

As of the 2022 Census, Galway County has a population of 192,995 people which represented a 13,605 increase since the previous census in 2016. The county has experienced relatively steady population growth over recent years and has an almost equal gender breakdown. The Galway Gaeltacht and Islands covers extensive parts of the county and the county accounts for approximately 49.7% of the national Gaeltacht population (2016). Galway county comprises of 5 municipal districts and the most populous town in the 2016 census was Tuam at 8,767 (the town was designated as a county Hub under the Regional Spatial and Economic Strategy (RSES). Other large towns include Ballinasloe, Loughrea, Oranmore, Athenry, Gort, Clifden, Bearna, Portu mna, Oughterard and Moycullen. Under the RSES strategy, Oranmore-Athenry has been identified as a strategic industrial corridor.

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 & spleen<sup>3</sup>Children, 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

Galway has some of the most complex geology in the whole of Ireland. Ancient metamorphic rocks such as schist and gneiss occur through Connemara from Galway City to Inishbofin. The whole of Connemara is a very big structure with massive folds. It is part of the Dalradian sequence that also occurs in North Mayo, Donegal and through into western Scotland. Peat soils in the county 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

Galway contains a significant number (468) and range of waterbodies including: surface water bodies such as rivers (e.g. Finn, Leannan, Gweebarra, Swilly, Eske), lakes (e.g. Loughs Eske, Fern, Derg, Gartan, Glen and Nacung), transitional (e.g. Foyle, Swilly, Estuary, Gweedore, Gweebarra, Owenea, Inner Galway Bay), coastal (e.g. Lough Swilly, Lough Foyle, Sheephaven, Trawenagh Bay, Gweebarra Bay, Loughros, McSwines and Inver Bay) and ground water bodies.

Such Water bodies are subject to a range of environmental pressures including pollution from agriculture (e.g. farmyard wastes and land spreading of fertilisers), hydromorphology (i.e. physical modification to rivers banks, and shorelines), deficient municipal wastewater, forestry, domestic wastewater treatment systems, treatment plants, urban runoff, peat industries and quarries.

With climate change there are increased extreme weather events that contribute to flooding across a range of sources. .

#### 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 (NO<sub>2</sub>), 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

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<sup>3</sup> Life Emerald 2023.

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)

Figure 2.1 provides a summary of Co. Galway emissions in comparison to National emissions.

FIGURE 2-1 COUNTY Galway EMISSIONS, NATIONAL EMISSIONS AND AS % OF NATIONAL EMISSIONS

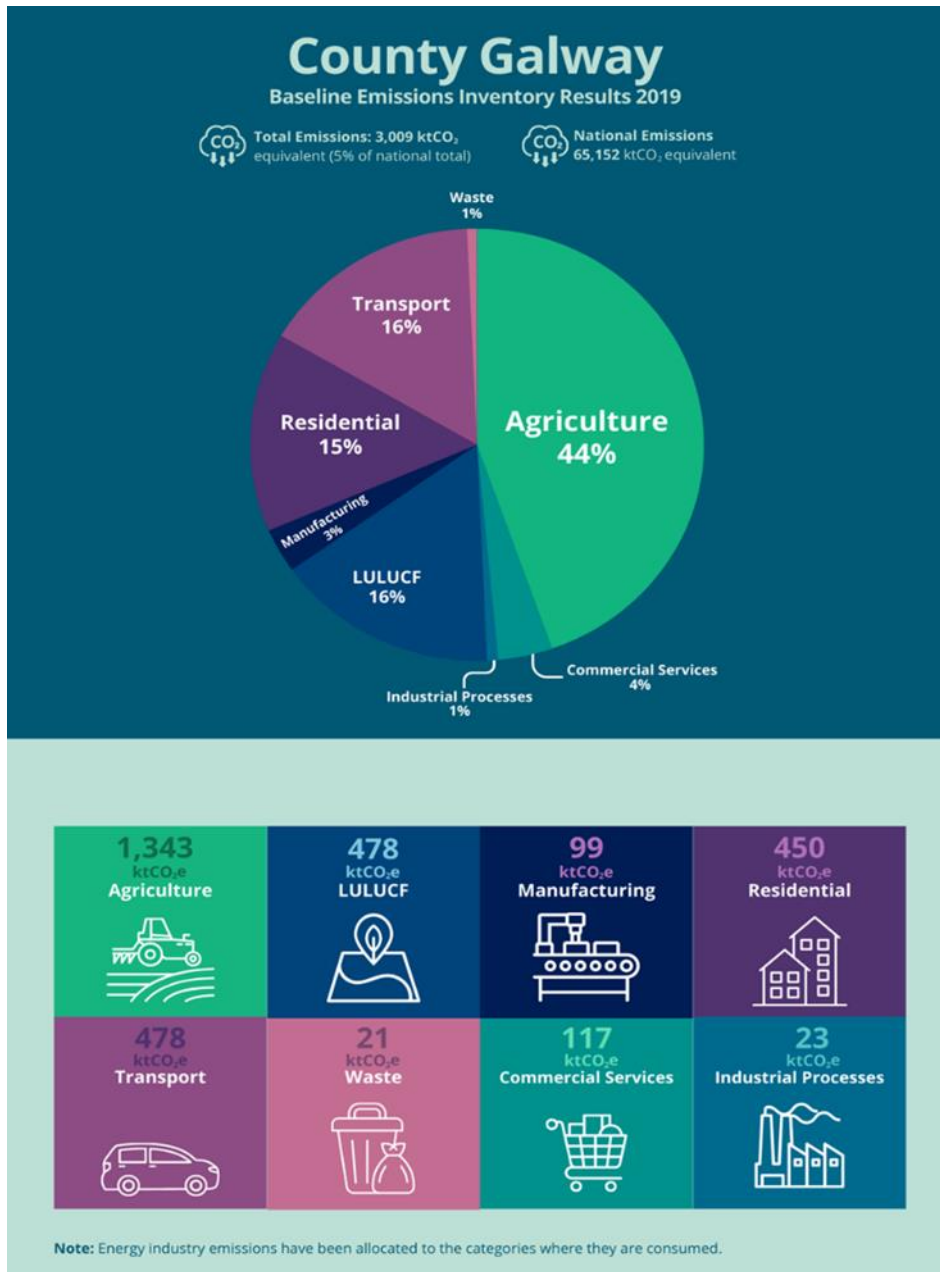


Figure 2.2 presents the extreme climate events in County Galway, from the CAP 2024.

FIGURE 2-2 EXTREME CLIMATE EVENTS COUNTY GALWAY

## Highlights of Observed Climate Change for Ireland and County Galway

### Droughts



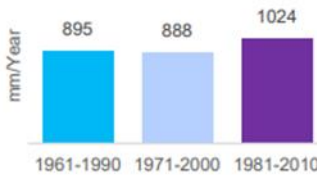
During the 2018 Drought, summer precipitation levels were 43% below average across all weather stations when compared to the 1961-1990 baseline\*\*



Highest temperature on record recorded on July 18<sup>th</sup> 2022 at Athenry

### Rainfall

Average annual rainfall increased by 14% for the most recent period (1981-2010) compared to their 1961-1990 baseline.\*\*



# 0.52°C

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

2020 was the wettest year on record across the county with average precipitation levels 105% above the 1961-1990 baseline



Groundwater flooding during Dec 2015/Jan 2016 in Gort inundated 24 km<sup>2</sup> of land, with agricultural land submerged for 6 months

#### 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.

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 Galway has a rich archaeological heritage. There are many sites of significant archaeological interest in County Galway, including two sites within or partially within the County included on the Tentative UNESCO World Heritage Sites List the Burren; and the Western Stone Forts. A Tentative List is an inventory of properties which a country intends to consider for nomination to the World Heritage List. Clusters of archaeological heritage are identified: along the coastline; along river and lake banks; surrounding settlements (such as Galway City, Headford, Tuam, Oranmore, Athenry, Loughrea and Gort); in lowland rural areas; and on the County's Islands, including Oileán Árann and Inishbofin. There are lower concentrations in the central upland areas.

There are over 1,500 of entries to the Record of Protected Structures within the County. The purpose of the National Inventory of Architectural Heritage (NIAH) is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister of Culture, Heritage and the Gaeltacht to the local authorities for the inclusion of particular structures in their Record of Protected Structures. The NIAH includes historic gardens and designed landscapes.

There is also, in the plan area, a rich heritage of stone buildings and examples of a rich vernacular building tradition which evolved, over many millennia, to suit life in County Galway. While many of

these are not included in the Recorded of Protected Structures, they nevertheless contribute to the character of an area by their history, use of local, sustainable materials, classical proportions and inoffensive scale.

#### 2.1.10 Landscape and seascape

Landscape consists of a series of layers including landform (geology and geomorphology), land cover (vegetation, water, human settlements) and human values (historical, cultural, religious) and other understandings and interactions with landform and land cover. The landscape plays an important role in people's lives, providing individuals and communities with a sense of identity and belonging, as well as bestowing a sense of place. Landscape is the context within which change takes place. The components of Landscape Character Assessment are Landscape Character Types, Landscape Character Areas and Seascape Character Areas. Galway County Council Landscape Character Assessment have identified three Landscape Regions, which include ten distinctive Landscape Character Types

#### 2.1.11 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 current Galway County Development Plan 2018 to 2024, and CDP 2024 -2030 once adopted.

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-2024 -2030 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 rehabilitation, targeted energy efficiencies and risk assessment would be omitted.

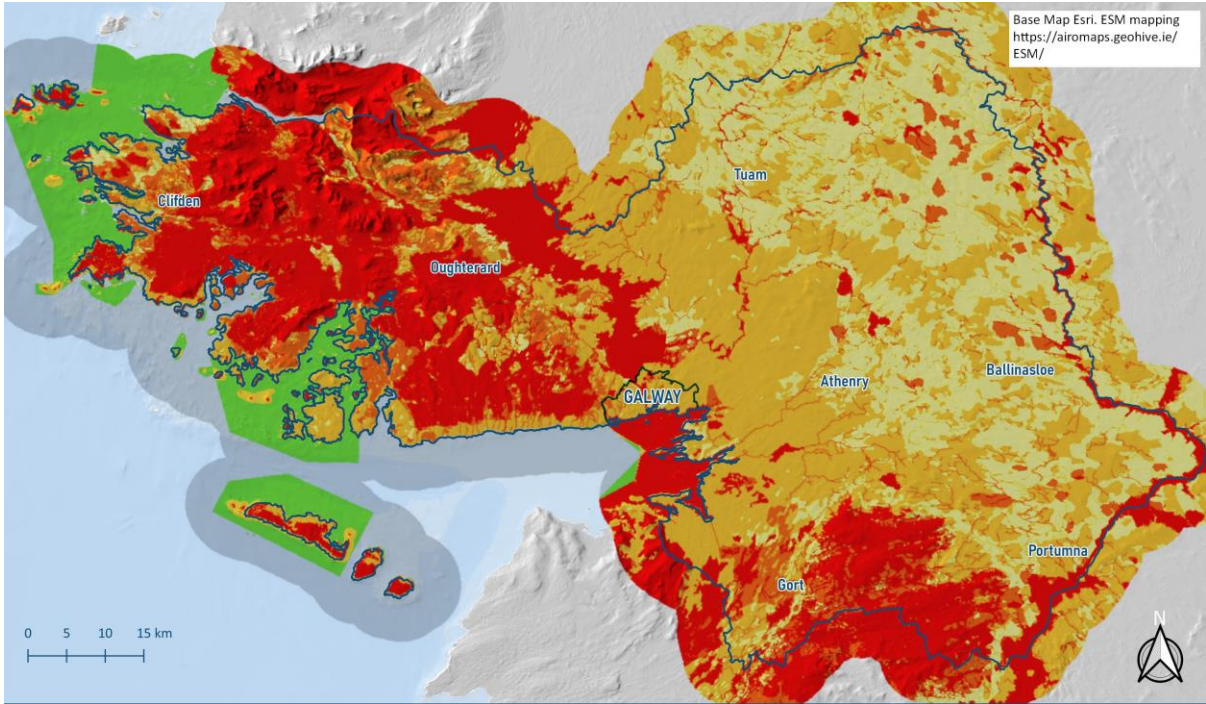
At county level, the local authority would be less likely to contribute to continue to the reduction in carbon emissions associated with their fleet, lighting and buildings. Promoting regional or inter county actions relating to public transport, walking and cycling may be less effective in the absence of this action plan.

#### 2.1.12 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 2.3**

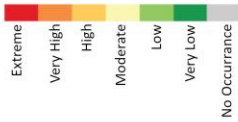
**FIGURE 2-3 COUNTY ENVIRONMENTAL SENSITIVITY MAP**





Base Map Esri. ESM mapping  
<https://airomaps.geohive.ie/ESM/>

**ENVIRONMENTAL SENSITIVITY MAP**



- Air & Climactic - Weight 2 - Flood Extents Current Scenarios (Coastal & Fluvial High)
- Biodiversity - Weight 2 - Margaritifera Sensitive Areas, NHA, SAC, SPA
- Population & Human Health - Weight 1 - WFD RPA
- Groundwater, Lakes & River Drinking Water
- Soils & Geology - Weight 1 - Peat Bogs

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**COUNTY GALWAY**  
 Climate Change Action Plan  
 2024 - 2029

### 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**

Topic	Discussion
<b>Population and human health</b>	<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:</p> <p><i>Action GL 2.7 Continue to make energy efficiency retrofits to social housing under the DHLGH-supported Energy Retrofit Programme having due regard to biodiversity and the need to appropriately conserve protected structures.</i></p> <p><i>Objective GL 3 Integrate climate action into the local authority's policies, plans, strategies and functions, by applying a climate lens to all decision-making processes, ensuring coherence and consistency across different sectors and levels of governance, and mainstreaming climate action into the core business of the local authority. Ensure prioritisation of the decarbonisation zone.</i></p> <p>Reflecting key objectives in the Galway CDP 2022-2028 such as <i>GCTPS 3 Sustainable Transport will support a variety of measures which will reduce car dependency for residents, and will specifically seek to improve access to sustainable transport choices (including responsive and "flexible" modes) for those residents in rural areas of the County. 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 Action TR 1. 4 Work with communities to identify potential active travel, greenway and public transport projects and support modal shift, and Action TR 1. 5 Support and promote community mobility schemes including bike share schemes, mobility hubs, bike libraries, community EV carsharing and EV charging, carpooling, and community taxis.</i></p> <p>Interactions between active travel support in the CAP, the CDP will support modal shifts, in terms of making walking and cycling safer and more attractive on daily basis.</p> <p>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., 2018<sup>4</sup>).</p> <p>In the absence of mitigation, whilst the current Galway 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</p>

<sup>4</sup> 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.

Topic	Discussion
	<p>infrastructure measures particularly at sensitive locations such as coastal habitats can impact sense of place, landscape character, as well as cross cutting adverse effects such as coastal squeeze.</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 supporting nature based solutions and referencing recent EPA research on coastal resilience and communities (see GL 3.1 and new action recommended to strengthen alignment with the County Development Plan and supporting environmental assessments.)</p>
<p><b>Biodiversity, Flora and Fauna</b></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 LN 2.2 Audit local authority land, carry out ecological/habitat surveys and highlight areas at risk and those suitable for restoration and enhanced carbon storage, also identifying potential wildlife corridors for protection through statutory plans</i></p> <p><i>Action 31: Develop a register of Council owned properties that may be used for Nature based solutions, and implement actions, including the establishment of an annual native tree planting programme, over lifetime of LACAP-</i></p> <p>Action 31 above and Action LN 2.1 are recommended for additional mitigation to provide greater clarity and support for tree planting in appropriate locations and of appropriate mixes, to avoid indirect or direct loss of habitat that is important for a range of species including birds as well as supporting co benefits and nature based solutions approach.</p> <p>Reference should be made to good practice guidelines and references around NBS for example, the Grow Green Compendium of Nature Based Solutions (2020).  <a href="https://growgreenproject.eu">Compendium of nature-based and 'grey' solutions - GrowGreen (growgreenproject.eu)</a></p> <p>Actions in particular those under LN2.6 (Updated Biodiversity Action plan) and LN 3.1 are identified as positive for BFF as well as interacting positive across other 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.</p> <p>In relation to other actions, such as those relating to landuse such as transport and Decarbonising zone of Aran Islands existing mitigation in the Galway CDP would apply at development management and consenting, for example:</p> <p><i>MCH 1: Cultural and Marine Heritage : To prevent where possible marine development from compromising the quality and significance of marine culture and heritage in accordance with proper planning and sustainable development.</i></p> <p><i>MCH 2 :Marine Based Environment: It is a policy objective of the Local Authority to protect and enhance where appropriate marine biodiversity in accordance with proper planning and sustainable development</i></p> <p><i>NHB 1 Natural Heritage and Biodiversity of Designated Sites, Habitats and Species</i></p> <p>Mitigation is recommended for a number of actions to emphasise focus on nature based solutions and co benefits as well as a number of new additional actions to align the actions closely with environmental and ecological assessments generally and the CDP in particular.</p> <p>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</p>

Topic	Discussion
	sufficient mitigation measures In addition mitigation measures are recommended for a number of these actions.
<b>Water resources</b>	<p>Potential effects on water resources (and frequently biodiversity) in the absence of mitigation include:</p> <ul style="list-style-type: none"> <li>• 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);</li> <li>• 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;</li> <li>• 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;</li> <li>• 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.</li> </ul> <p>The Galway CDP 2022-2028, already include a range of provisions and measures to address and minimise the above effects, including measures around green and blue infrastructure such as <i>BGI 1 Green/blue Infrastructure Network.</i>, 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 support for nature based solutions, sustainable food production and wastewater including inspection of wastewater in particular.</p> <p>Implementation of the Biodiversity Plan for the County create positive interactions for Water SEOS as well as cross cutting other SEOS in a positive manner.</p> <p>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. See for example the Compendium of Nature Based Solutions (2020) – Green Cities for Climate and Water Resilience, Sustainable Economic Growth, Healthy Citizens and Environments - <a href="https://growgreenproject.eu">Compendium of nature-based and 'grey' solutions - GrowGreen (growgreenproject.eu)</a></p> <p>Measures around nature based solutions, 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.</p>
<b>Soil and Geology</b>	<p>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 44% of the GHG emissions at county level.</p> <p>Adaptive reuse and retrofitting of existing buildings locks in existing carbon and addresses climate change adaption through energy efficiency as well as reducing need for new land and resources for construction.</p> <p><i>Action CE 1.1 Support circular initiatives such as prevention, reuse, repair and recycling of resources. Support the development of cooperative, community-owned and other collaborative ventures to foster more effective use and sharing of resources.</i></p>

Topic	Discussion
	<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>A number of the measures relating to soil are identified for mitigation via NBS, to further strengthen the environmental performance of these actions.</p>
<b>Air Quality and Climate</b>	<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 nature based solutions 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. The SEA and AA has recommended additional text for certain actions to increase the focus on Nature based solutions and ecological and environmental surveys and assessment.</p> <p>The focus on energy efficiency and innovation as seen through the actions identified in the CAP, examples include  <i>Action GL 2.1 Obtain and maintain ISO50001 Energy Management certification by Q4 2024. Establish data management system.</i></p> <p>Other related measures including 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 Aran IslandsDZ will facilitate peer to peer learning amongst communities and demonstrate successful actions at community and local scale. This is also supported by community capacity building and awareness raising actions as well as leadership from Galway County Council.  <i>Action GL 4.1 Establish a network of stakeholders and ensure ongoing communication. Cultivate and actively participate in partnerships with regional local authorities and public bodies, enterprise, community, voluntary sectors, third level institutions and the research community. Maximise on potential funding streams for the county and work in partnership to develop and implement Climate Action projects and initiatives. Continue to support existing projects including LEAP, CONNECTED, Cities4Forests etc.</i></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>
<b>Material Assets</b>	<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> <p><i>Action TR 1. 3 Identify opportunities for reallocation of existing road space to promote active travel and improve public space and implement related projects.</i></p> <p><i>Action GL 3.4 Commit that new public housing and buildings incorporate the principles of climate action in terms of design, services and amenities with careful consideration in the choice of materials, roof types (i.e. green roofs), water conservation, taking advantage of solar gain/passive housing, the provision of low-carbon and renewable energy technologies and public transport infrastructure such as bus stops and shelters as appropriate to the scale of the development.</i></p> <p><i>Action LN 1.3 Carry out inspections of domestic wastewater treatment systems, discharge licences, farms and fuel suppliers as per national requirements and as required. Support remediation and mitigation measures required to maintain or achieve good or high quality water status in the county</i></p>

Topic	Discussion
	<ul style="list-style-type: none"> <li>• Promotion of nature based solutions and SuDs</li> <li>• Climate proofing local authority actions</li> <li>• 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.</li> </ul>
<b>Cultural Heritage</b>	<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"> <li>• loss of cultural identity associated with certain habitats;</li> <li>• loss of tourism, recreational and educational opportunities;</li> <li>• decline in local ecological knowledge, skills and technology pertaining to habitat management;</li> <li>• and loss of opportunities for social and cultural capital<sup>5</sup></li> </ul> <p><i>Action EB 2.1 Assess the feasibility of a policy requiring planning applications to include an assessment of the embodied carbon emissions associated with the proposed development and options for nature-based solutions, using a standardised and consistent methodology.</i></p> <p><i>Action EB 2.2 Communicate details of case studies and guidance on the upgrade of traditional building to promote as exemplar, ensuring appropriate guidance is provided on the protection of architectural and heritage value and protected species associated with such buildings during upgrade works.. This should interact with policies in the CDP as well as support for adaptive reuse/ reuse of existing buildings.</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>
<b>Landscape</b>	<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. 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>

<sup>5</sup> Coastal cultural heritage: A resource to be included in integrated coastal zone management  
[SornaKhakzad<sup>a</sup>MarnixPieters<sup>b</sup>KoenraadVan Balen<sup>c</sup>](#)  
[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 Galway 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 mitigation measures to the CAP actions identified through the SEA and AA assessments are presented below in Table 5.1

TABLE 5-1 EXAMPLES OF MITIGATION MEASURES IDENTIFIED THROUGH THE SEA AND AA PROCESS

TABLE 5-2 MITIGATION MEASURES TO GALWAY CLIMATE ACTION PLAN

Action No.	Action Description
new action	In implementing this County Galway Climate Action Plan, ensure compliance with Galway 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	Galway 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	Galway 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.
	Action GL 2.6 Continue the programme of upgrading of public lighting within County Galway to energy efficient lighting systems while having due regard to the impact of <del>the</del> spectrum of light used on biodiversity
	Action GL 3.1 Encourage and facilitate internal Climate Action initiatives and campaigns including water conservation, energy management <b>habitat creation</b> and waste management.
	Action LN 1.3 Carry out inspections of domestic wastewater treatment systems, discharge licences, farms and fuel suppliers as per national requirements and as required. Support remediation and mitigation measures required to maintain or achieve good or high quality water status in the county <b>including nature based solutions where possible</b>



## 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 Galway 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 Galway 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.

Environmental Component (Code)	Indicators	Targets	Sources	Remedial Actions
<b>Biodiversity, Flora and Fauna (BFF)</b>	<ul style="list-style-type: none"> <li>Conditions of European Sites</li> </ul>	<ul style="list-style-type: none"> <li>Require all local level land use plans to include ecosystem services and green/blue infrastructure provisions in their land use plans and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species</li> <li>Implement and review, as relevant, County Galway Heritage and Biodiversity Plan 2017-2022, and any superseding plans</li> </ul>	<ul style="list-style-type: none"> <li>DHLGH report of the implementation of the measures contained in the Habitats Directive- as required by Article 17 of the Directive (every 6 years).</li> <li>DHLGH National Birds Directive Monitoring Report for the under Article 12 (every 3 years)</li> <li>Consultations with the NPWS</li> </ul>	Where condition of European sites is found to be deteriorating this will be investigated with the Regional Assembly and the DHLGH to establish if the pressures are related to Plan actions / activities. A tailored response will be developed in consultation with these stakeholders in such a circumstance.

	<ul style="list-style-type: none"> <li>Number of spatial plans that have included ecosystem services content, mapping and policy to protect the ecosystem services when their relevant plans are either revised or drafted</li> </ul>	<ul style="list-style-type: none"> <li>Require all local level land use plans to include ecosystem services and green/blue infrastructure provisions in their land use plans and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species</li> <li>Implement and review, as relevant, County Galway Heritage and Biodiversity Plan 2017-2022 and any superseding plans</li> </ul>	Internal review of local land use plans	Review internal systems
	<ul style="list-style-type: none"> <li>SEAs and AAs as relevant for new Council policies, plans, programmes etc.</li> </ul>	<ul style="list-style-type: none"> <li>Screen for and undertake SEA and AA as relevant for new Council policies, plans, programmes etc.</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of preparation of local land use plans</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>
	<ul style="list-style-type: none"> <li>Status of water quality in Ballinasloe's water bodies</li> </ul>	<ul style="list-style-type: none"> <li>Included under Water below</li> </ul>	<ul style="list-style-type: none"> <li>Included under Water below</li> </ul>	<ul style="list-style-type: none"> <li>Included under Water below</li> </ul>
	<ul style="list-style-type: none"> <li>Compliance of planning permissions with Plan measures providing the protection of Biodiversity, flora and fauna</li> </ul>	<ul style="list-style-type: none"> <li>For planning permission to be only granted when applications demonstrate that they comply with all Plan measures providing the protection of Biodiversity, flora and fauna</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>
<b>Population and Human Health (PHH)</b>	<ul style="list-style-type: none"> <li>Implementation of Plan measures relating to the promotion of economic growth as provided for by Chapter 2.3 "Economic</li> </ul>	<ul style="list-style-type: none"> <li>For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to the promotion of economic growth as provided</li> </ul>	<ul style="list-style-type: none"> <li>Internal review of progress on implementing Plan objectives</li> <li>Consultations with DECC</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> <li>Consultations with DECC</li> </ul>

	and Enterprise Development”	for by Chapter 2.3 “Economic and Enterprise Development”		
	<ul style="list-style-type: none"> <li>Number of spatial concentrations of health problems arising from environmental factors resulting from development permitted under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan</li> </ul>	<ul style="list-style-type: none"> <li>Consultations with the Health Service Executive and EPA</li> </ul>	<ul style="list-style-type: none"> <li>Consultations with the Health Service Executive and EPA</li> </ul>
	<ul style="list-style-type: none"> <li>Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>CSO data</li> <li>Monitoring of Galway County Council’s Climate Change Adaptation Strategy 2019-2024</li> </ul>	<ul style="list-style-type: none"> <li>Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.</li> </ul>
	<ul style="list-style-type: none"> <li>Number of spatial plans that include specific green infrastructure mapping</li> </ul>	<ul style="list-style-type: none"> <li>Require all local level land use plans to include specific green infrastructure mapping</li> </ul>	<ul style="list-style-type: none"> <li>Internal review of local land use plans</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>
<b>Soil and Geology (S)</b>	<ul style="list-style-type: none"> <li>Proportion of population growth occurring on infill and brownfield lands compares to greenfield</li> </ul>	<ul style="list-style-type: none"> <li>Maintain built surface cover nationally to below the EU average of 4%</li> <li>In accordance with National Policy Objectives 3c of the</li> </ul>	<ul style="list-style-type: none"> <li>EPA Geoportal</li> <li>Compilation of greenfield and brownfield development for the DHLGH</li> </ul>	<ul style="list-style-type: none"> <li>Where the proportion of growth on infill and brownfield sites is not keeping pace with the targets set in the NPF</li> </ul>

<p>(also relevant to Material Assets)</p>	<ul style="list-style-type: none"> <li>Instances where contaminated material generated from brownfield and infill must be disposed of</li> </ul>	<p>National Planning Framework, a minimum of 30% of the housing growth targeted in any settlement is to be delivered within the existing built-up footprint of the settlement</p> <ul style="list-style-type: none"> <li>To map brownfield and infill land parcels across the Ballinasloe</li> <li>Dispose of contaminated material in compliance with EPA guidance and waste management requirements</li> </ul>	<ul style="list-style-type: none"> <li>AA/Screening for AA for each application</li> <li>Internal review of grants of permission where contaminated material must be disposed of</li> </ul>	<p>and the RSES, the Council will liaise with the Regional Assembly to establish reasons and coordinate actions to address constraints to doing so.</p> <ul style="list-style-type: none"> <li>Consultations with the EPA and Development Management</li> </ul>
	<ul style="list-style-type: none"> <li>Environmental assessments and AAs as relevant for applications for brownfield and infill development prior to planning permission</li> </ul>	<ul style="list-style-type: none"> <li>Screen for and undertake environmental assessments and AA as relevant for applications for brownfield and infill development prior to planning permission</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>
<p><b>Water (W)</b></p>	<ul style="list-style-type: none"> <li>Status of water bodies as reported by the EPA Water Monitoring Programme for the WFD.</li> </ul>	<ul style="list-style-type: none"> <li>Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status'</li> <li>Implementation of the objectives of the River Basin Management Plan</li> </ul>	<ul style="list-style-type: none"> <li>EPA Monitoring Programme for WFD compliance</li> </ul>	<ul style="list-style-type: none"> <li>Where water bodies are failing to meet at least good status this will be investigated with the DHLGH Water Section, the EPA Catchment Unit, the Regional Assembly and, as relevant, Irish Water to establish if the pressures are related to Plan actions / activities. A tailored response will be developed in consultation with these</li> </ul>

				<p>stakeholders in such a circumstance.</p> <ul style="list-style-type: none"> <li>Where planning applications are rejected due to insufficient capacity in the WWTP or failure of the WWTP to meet Emission Limit Values, the Council will consider whether it is necessary to coordinate a response with the Regional Assembly, EPA</li> </ul>
	<ul style="list-style-type: none"> <li>Number of incompatible developments permitted within flood risk areas</li> </ul>	<ul style="list-style-type: none"> <li>Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>Where planning applications are being permitted on flood zones, the Council will ensure that such grants are in compliance with the Flood Risk Management Guidelines and include appropriate flood risk mitigation and management measures.</li> </ul>
<b>Material Assets (MA)</b>	<ul style="list-style-type: none"> <li>Programmed delivery of Irish Water infrastructure for all key growth towns in line with Irish Water Investment Plan and prioritisation programme to ensure sustainable growth can be accommodated</li> </ul>	<ul style="list-style-type: none"> <li>All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan</li> <li>Where septic tanks are proposed, for planning permission to be only granted when applications demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission Consultations with the Irish Water</li> <li>DHLGH in conjunction with Local Authorities</li> </ul>	<ul style="list-style-type: none"> <li>Where planning applications are rejected due to insufficient capacity in the WWTP or failure of the WWTP to meet Emission Limit Values, the Council will consider whether it is necessary to coordinate a response with the Regional Assembly, EPA</li> </ul>

	<ul style="list-style-type: none"> <li>Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan</li> </ul>	<p>that the outfall from the septic tank will not – in combination with other septic tanks– contribute towards any surface or ground water body not meeting the objective of good status under the Water Framework Directive</p> <ul style="list-style-type: none"> <li>Facilitate, as appropriate, Irish Water in developing water and wastewater infrastructure</li> <li>See also targets relating to greenfield and brownfield development of land under Soil and broadband under Population and Human Health</li> </ul>		<p>and Irish Water to achieve the necessary capacity.</p>
	<ul style="list-style-type: none"> <li>Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>CSO data</li> <li>Monitoring of Galway County Council’s Climate Change Adaptation Strategy 2019-2024</li> </ul>	<ul style="list-style-type: none"> <li>Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.</li> </ul>
<b>Air (A)</b>	<ul style="list-style-type: none"> <li>Proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels of 74%</li> <li>NOx, SOx, PM10 and PM2.5 as part of</li> </ul>	<ul style="list-style-type: none"> <li>Decrease in proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels</li> <li>Improvement in Air Quality trends, particularly in relation to</li> </ul>	<ul style="list-style-type: none"> <li>CSO data</li> <li>Data from the National Travel Survey</li> <li>EPA Air Quality Monitoring</li> <li>Consultations with Department of Transport and Department of</li> </ul>	<ul style="list-style-type: none"> <li>Where proportion of population shows increase in private car use above CSO 2016 figures, Council will coordinate with the Regional Assembly, DHLGH, DECC and NTA to develop a tailored</li> </ul>

	Ambient Air Quality Monitoring	transport related emissions of NOx and particulate matter	Environment, Climate and Communications	response. See also entry under Population and human health above
<b>Climatic Factors (C)</b>	<ul style="list-style-type: none"> <li>Implementation of Plan measures relating to climate reduction targets</li> </ul>	<ul style="list-style-type: none"> <li>For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to climate reduction targets</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>Review internal systems</li> </ul>
	<ul style="list-style-type: none"> <li>A competitive, low-carbon, climate-resilient and environmentally sustainable economy</li> </ul>	<ul style="list-style-type: none"> <li>Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring of Galway County Council's Climate Change Adaptation Strategy 2019-2024</li> </ul>	<ul style="list-style-type: none"> <li>Where targets are not achieved, the Council will liaise with the Regional Assembly and the Eastern and Midlands Climate Action Regional Office to establish reasons and develop solutions.</li> </ul>
	<ul style="list-style-type: none"> <li>Share of renewable energy in transport</li> </ul>	<ul style="list-style-type: none"> <li>Contribute towards the target of the Renewable Energy Directive (2009/28/EC), for all Member States to reach a 10% share of renewable energy in transport by facilitating the development of electricity charging and transmission infrastructure, in compliance with the provisioning of the Plan</li> </ul>	<ul style="list-style-type: none"> <li>EPA Annual National Greenhouse Gas Emissions Inventory reporting</li> <li>Climate Action Regional Office</li> <li>Consultations with DECC (at monitoring evaluation)</li> </ul>	
	<ul style="list-style-type: none"> <li>Carbon dioxide (CO2) emissions across the electricity generation, built environment and transport sectors</li> </ul>	<ul style="list-style-type: none"> <li>Contribute towards the target of aggregate reduction in carbon dioxide (CO2) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors</li> </ul>		
	<ul style="list-style-type: none"> <li>Energy consumption, the uptake of renewable options and</li> </ul>	<ul style="list-style-type: none"> <li>To promote reduced energy consumption and support the uptake of renewable options</li> </ul>		



	solid fuels for residential heating	and a move away from solid fuels for residential heating		
	<ul style="list-style-type: none"> <li>Proportion of journeys made by private fossil fuel-based car compared to 2016 levels</li> </ul>	<ul style="list-style-type: none"> <li>Decrease in the proportion of journeys made by residents of the Ballinasloe using private fossil fuel-based car compared to 2016 levels</li> </ul>	<ul style="list-style-type: none"> <li>CSO data</li> <li>Monitoring of Galway County Council's Climate Change Adaptation Strategy 2019-2024</li> </ul>	<ul style="list-style-type: none"> <li>Where trends toward carbon reduction are not recorded, the Council will liaise with the Regional Assembly and the Eastern and Midlands Climate Action Regional Office to establish reasons and develop solutions.</li> </ul>
	<ul style="list-style-type: none"> <li>Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures</li> </ul>	<ul style="list-style-type: none"> <li>CSO data</li> <li>Monitoring of Galway County Council's Climate Change Adaptation Strategy 2019-2024</li> </ul>	<ul style="list-style-type: none"> <li>Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.</li> </ul>
<b>Cultural Heritage (CH)</b>	<ul style="list-style-type: none"> <li>Percentage of entries to the Record of Monuments and Places, and the context these entries within the surrounding landscape where relevant, protected from adverse effects resulting from development which is granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>Protect entries to the Record of Monuments and Places, and the context of these entries within the surrounding landscape where relevant, from adverse effects resulting from development which is granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>Where monitoring reveals visitor pressure is causing negative effects on key tourist features along these routes, the Council will work with Regional Assembly, Fáilte Ireland and other stakeholders to address the pressures through additional mitigation tailored to the plans.</li> </ul>

	<ul style="list-style-type: none"> <li>Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from significant adverse effects arising from new development granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from significant adverse effects arising from new development granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>Consultation with DHLGH</li> </ul>	
<b>Landscape (L)</b>	<ul style="list-style-type: none"> <li>Number of developments permitted that result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the Plan.</li> </ul>	<ul style="list-style-type: none"> <li>No developments permitted which result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in Land Use Plans, resulting from development which is granted permission under the Plan</li> </ul>	<ul style="list-style-type: none"> <li>Internal monitoring of likely significant environmental effects of grants of permission</li> </ul>	<ul style="list-style-type: none"> <li>Where monitoring reveals developments permitted which result in avoidable adverse visual impacts on the landscape, the Council will reexamine Plan provisions and the effectiveness of their implementation</li> </ul>

