SEA Environmental Report

Appendix II – Non-Technical Summary

FOR THE

Tuam Local Area Plan 2023-2029

for: **Galway County Council**

Áras an Chontae

Prospect Hill

Galway

Comhairle Chontae na Gaillimhe
Galway County Council

by: **CAAS Ltd.**

1st Floor

24-26 Ormond Quay Upper

Dublin 7

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Section 1 Introduction and Terms of Reference

This is the Non-Technical Summary of the Environmental Report for the Tuam Local Area Plan 2023-2029 (hereafter referred to as 'the Plan'). The purpose of the Environmental Report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption and implementation of the Plan. The Environmental Report has been prepared as part of a Strategic Environmental Assessment (SEA) process for the Plan.

What is SEA?

SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a proposed plan, or other strategic action, in order to ensure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic, social and other considerations.

Why is SEA needed? The Benefits

SEA is the planning authority's and the public's guide to what are generally the best areas for development in the town.

SEA enables the planning authority to direct development towards robust, well-serviced and connected areas in the town – thereby facilitating the general avoidance of incompatible development in the most sensitive, least well-serviced and least well-connected areas, in the town and beyond.

SEA provides greater certainty to the public and to developers. Plans are more likely to be adopted without delays or challenges and planning applications are more likely to be granted permission. Environmental mitigation is more likely to cost less.

The Plan directs incompatible development away from the most sensitive areas in the town and focuses on directing compact, sustainable development within the existing envelope of the Plan area. Development of these generally more robust, well-serviced and well-connected areas of the town will contribute towards environmental protection and sustainable development, including climate mitigation and adaptation.

Compact development can be accompanied by placemaking initiatives to enable the town to become a more desirable place to live – so that it maintains populations and services.

Compatible sustainable development in the town's sensitive areas is also provided for, subject to various requirements relating to environmental protection and management being met.

How does the SEA work?

All of the main environmental issues in the area were assembled and considered by the team who prepared the Plan. This helped them to devise a Plan that contributes towards the protection and management of environmental sensitivities. It also helped to identify wherever potential conflicts between the Plan and the environment exist and enabled these conflicts to be mitigated.

The SEA was scoped in consultation with designated environmental authorities.

What is included in the Environmental Report that accompanies the Plan?

- A description of the environment and the key environmental issues;
- A description and assessment of alternatives for the Plan;
- An assessment of the provisions of the Plan; and,
- Mitigation measures, which will avoid/reduce the environmental effects of implementing the Plan and will contribute towards compliance with important environmental protection legislation.

Difficulties Encountered during the SEA process

No significant difficulties have been encountered during the undertaking of the assessment.

What happens at the end of the process?

An SEA Statement is prepared which summarises, inter alia, how environmental considerations have been integrated into the Plan.

Section 2 The Plan

2.1 Introduction

Galway County Council has adopted a Local Area Plan (LAP) for Tuam under the Planning and Development Act 2000 (as amended). The Plan sets out an overall strategy for the proper planning and sustainable development over the years 2023-2029.

LAPs are required to be consistent with the Policies and Objectives of the County Development Plan and its Core Strategy, as well as the National Planning Framework and Regional Spatial Economic Strategies.

The LAP should be read in conjunction with the Galway County Development Plan 2022-2028, which sets out the overarching development strategy for the County. Where conflicting objectives arise between the County Development Plan and the LAP, the objectives of the County Development Plan shall take precedence.

2.2 Content of the Plan

The LAP sets out an overall strategy for the proper planning and sustainable development of Tuam in the context of Project Ireland 2040, the National Planning Framework, the Regional Spatial and Economic Strategy for the Western and Northern Region and the Galway County Development Plan. It is informed by Ministerial Guidelines issued pursuant to Section 28 of the Act together with EU requirements regarding SEA and AA.

The LAP is set out across three sections as follow:

- Section 1: This section contains the Written Statement for the LAP, which includes a zoning matrix table, the development strategy for the life of the Plan and a suite of Policy Objectives.

- Section 2: This section contains the land use zoning and Strategic Flood Risk Assessment maps.

Section 3: Local Transport Plan.

2.3 Strategic Vision and Aims

The LAP is underpinned by both a vision and strategic aims.

The Vision is: "To promote Tuam as a thriving, vibrant market town, providing a focus for future residential, economic & social development sustainably, encouraging new development and capitalising on the town's unique historical identity and character, as well as its accessibility, thereby realising Tuam's potential as well as supporting the surrounding rural hinterland."

The Strategic Aims are:

- Promote development of the Town Centre to enhance the vitality and viability of Tuam with a focus on providing for retail, commercial and residential development. Development will be focused within the town centre to act as the economic, social and cultural hub of the town.
- Support investment in regeneration and other town centre improvement works to maintain Tuam as an attractive place to work and visit
- Ensure sustainable settlement patterns, including the provision of necessary planning framework to accommodate educational, community, leisure and recreational facilities to satisfactorily complement the population increase.
- Tuam is strategically located as a centre for growth in North Connaught, it has excellent connections to the motorway route from Limerick to Sligo as well as motorway linkages to Galway and Dublin. It has the opportunity to develop as the focus for future development in

North Connaught providing the infrastructure and services for its surrounding small towns/villages and rural lands.

- Promote future residential development in Tuam with sustainable, liveable and safe neighbourhoods supported by good quality services and infrastructure as appropriate, including social infrastructure with retail, community and amenity areas.
- Encourage the promotion of sustainable mobility, including walking and cycling, in accordance with the aspirations of the Local Transport Plan and support the continued provision of investment in public transport.
- Recognises the town's potential as an attractive place for people and locals to enjoy by promoting local amenities such as St. Joseph's Park, Tuam Stadium, local sporting facilities such as a rugby club, GAA club and football clubs and Leisure Centre.
- Promoting and facilitating the appropriate growth of the Town, while protecting the built, cultural and natural heritage of Tuam in accordance with applicable legislation and policy. This also includes consideration of particular features of Tuam capitalising on the existing historic fabric of the town. Supporting development in Tuam in a sensitive manner which conserves and protects the historic core, recognising the towns cultural and historic built environment as a valuable asset.

2.4 Strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development

Far in advance of the placing of the Draft Plan on public display, Galway County Council undertook various works in order to inform the preparation of the Plan.

The findings of this strategic work have been integrated into the Plan and will contribute towards both environmental protection and management and sustainable development.

The undertaking of this SEA process was part of this strategic work and contributed towards the integration of environmental considerations into individual Plan provisions.

2.5 Relationship with other relevant Plans and Programmes

It is acknowledged that many of the major issues affecting Tuam's development are contingent on national policy and government funding.

The Plan sits within a hierarchy of statutory documents setting out public policy for, among other things, land use planning, infrastructure, sustainable development, tourism, environmental protection and environmental management. The Plan must comply with relevant higher-level strategic actions and may, in turn, guide lower level strategic actions. These documents include plans and programmes such as those referred to throughout this summary. These documents have been subject to their own environmental assessment processes, as relevant.

The National Planning Framework (NPF) sets out Ireland's planning policy direction up to 2040. The NPF is to be implemented through Regional Spatial and Economic Strategies (RSESs) and lower tier Development Plans and Local Area Plans. The RSES for the Western and Northern Region sets out objectives for land use planning, tourism, infrastructure, sustainable development, environmental protection and environmental management that have been subject to environmental assessment and must be implemented through the Galway County Development Plan 2022-2028, which sets out the overarching development strategy for the County, and the Local Area Plan.

In order to be realised, projects included in the Local Area Plan (in a similar way to other projects from any other sector) will have to comply, as relevant, with various legislation, policies, plans and programmes (including requirements for lower-tier Appropriate Assessment, Environmental Impact Assessment and other licencing requirements as appropriate) that form the statutory decision-making and consent-granting framework.

Section 3 The Environmental Baseline

3.1 Introduction

The summary of the environmental baseline of the Plan area is described in this section. This baseline together with the Strategic Environmental Objectives, which are identified in Section 3.11, is used in order to identify, describe and evaluate the likely significant environmental effects of implementing the Plan and in order to determine appropriate monitoring measures.

3.2 Likely Evolution of the Environment in the Absence of the Plan

In the absence of a new Local Area Plan, the framework for development across the Plan area would be provided by the County Development Plan and other related documents. There would be no Local Area Plan to provide additional detail beyond that provided already through the existing planning framework as how to achieve sustainable development and environmental protection and management in the town.

As a result, there would be both:

- A decreased likelihood in the extent, magnitude and frequency of the positive environmental effects identified by this assessment occurring; and;
- An increased likelihood in the extent, magnitude and frequency of the adverse environmental effects identified by this assessment occurring.

3.3 Biodiversity and Flora and Fauna

Key ecological sensitivities within and surrounding the Plan area include:

- Lough Corrib Special Area of Conservation (SAC), which includes the River Clare;
- Aquatic and riverine ecology associated with the River Clare and Nanny, including their tributaries and riparian buffer zones;
- Various trees, woodlands, parks, gardens, hedgerows and lands used for agriculture within and surrounding the Plan area, providing habitats for flora and fauna and facilitating linkages and corridors to the surrounding countryside for the wildlife.

Designated sites in the wider area include Special Areas of Conservation[1] (SACs) and Special Protection Areas[2] (SPAs). These are mapped on Figure 3.1. The is one European site partially within the Plan area Lough Corrib SAC (Site Code: 000297)[3].

CORINE[4] land cover mapping is shown on Figure 3.2 and identifies the land cover of the Plan area as urban fabric (within central parts of the Plan area), agricultural (adjacent to the Plan area and surrounding lands), sports and leisure facilities (to the south-east of the Plan area), industrial and commercial units (to the north-west of the Plan area), mineral extractions sites to the south-east and north-west of the Plan area) and peat bogs (partially within and adjacent to the south-western parts of the Plan area – many of these are cutover).

[1] SACs have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) due to their conservation value for habitats and species of importance in the European Union. The Habitats Directive seeks to establish Natura 2000, a network of protected areas throughout the EU. It is the responsibility of each member state to designate SACs to protect habitats and species, which, together with the SPAs designated under the 1979 Birds Directive, form Natura 2000. The European Communities (Birds and Natural Habitats) Regulations 2011 consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010. The Regulations have been prepared to address several judgments of the Court of Justice of the European Union (CJEU) against Ireland, notably cases C-418/04 and C-183/05, in respect of failure to transpose elements of the Birds Directive and the Habitats Directive into Irish law.

[2] SPAs have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) - referred to as the Birds Directive - due to their conservation value for birds of importance in the EU.

[3] Sensitive features include various species (such as Atlantic salmon, otter and freshwater pearl mussel) and habitats (such as limestone pavements and active raised bogs).

[4] The CORINE (Coordinated Information on the Environment) land cover data series was devised as a means of compiling geo-spatial environmental information in a standardised and comparable manner. CORINE has become a key data source for informing environmental and planning policy on a national and European level. The main land cover type in Ireland is agricultural land including forestry, which accounts for two-thirds of the national landmass. Most of this is permanent grassland pastures. Peatlands and wetlands are the second most widespread land cover type, covering almost one-fifth of the country. While forested areas cover about one-tenth of the country. Despite rapid development in the past two decades, Ireland's landscape is predominantly rural and agricultural.

Existing Problems
Ireland's Article 17 report on the Status of EU Protected Habitats and Species in Ireland (DCHG, 2019) identifies various Irish, EU-protected habitats and species to be of unfavourable status and many to be still declining, although it also identifies that a range of positive actions are underway. Categories for pressures and threats on Ireland's habitats and species identified by the report comprise:

- Agriculture;
- Forestry;
- Extraction of resources (minerals, peat, non-renewable energy resources);
- Energy production processes and related infrastructure development;
- Development and operation of transport systems;
- Development, construction and use of residential, commercial, industrial and recreational infrastructure and areas;
- Extraction and cultivation of biological living resources (other than agriculture and forestry);
- Military action, public safety measures, and other human intrusions;
- Alien and problematic species;
- Mixed source pollution;
- Human-induced changes in water regimes;
- Natural processes (excluding catastrophes and processes induced by human activity or climate change);
- Geological events, natural catastrophes;
- Climate change; and
- Unknown pressures, no pressures and pressures from outside the Member State.

The Plan includes measures to contribute towards the protection of biodiversity and flora and fauna and associated ecosystem services.

Previous changes in land uses arising from human development have resulted in a loss of biodiversity and flora and fauna however, legislative objectives governing biodiversity and fauna were not identified as being conflicted with.

3.4 Population and Human Health

Census 2016 recorded a population of 8,767 persons in Tuam, an increase of 525 persons from the 2011 Census figure. Tuam is identified as one of eight 'Key Towns' in the Regional, Spatial and Economic Strategy 2020-2032. The National Planning Framework provides a target growth rate for County Galway between 50%-55% up to 2040, with a targeted growth of at least 30% up to 2026 for designated Key Towns. On that basis, the Key Town of Tuam has a population target of circa 2,630 persons up to 2028.

The population provided for in the Plan will interact with various environmental components. Potential interactions include:

- Recreational and development pressure on habitats and landscapes;
- Contribution towards increase in demand for waste water treatment at the municipal level;
- Contribution towards increase in demand for water supply and associated potential impact of water abstraction;
- Potential interactions in flood-sensitive areas; and
- Potential effects on water quality.

Human health has the potential to be impacted upon by environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings). Hazards or nuisances to human health can arise as a result of exposure to these vectors arising from incompatible adjacent land uses for example. These factors have been considered with regard to the description of: the baseline of each environmental component; and the identification and evaluation of the likely significant environmental effects of implementing the Plan.

Existing Problems

The number of homes within the Plan area with radon levels above the reference level is within the normal range experienced in other locations across the country.

Parts of the Plan area are vulnerable to adverse effects from changes in the occurrence of severe rainfall events and associated flooding from surface water. Flooding in certain circumstances could pose a risk to human health. There is historic and predictive evidence of flooding within the Plan area.

3.5 Soil

Main soil types surrounding the built up areas of Tuam are peat soils (often indicative of areas that are the most sensitive to development due to ecological sensitivities and impeded drainage issues) partially within and to the south-west of the Plan area and brown earths (generally fertile soils, widely used for agriculture and associated with significant accumulation of clay) to the north, west and south of the Plan area.

The GSI have identified[5] the Plan area as having mainly low levels of landslide susceptibility and there is one landslide event recorded c. 3 km to the south of the Plan area, associated with peatland areas.

[5] https://www.gsi.ie/en-ie/programmes-and-projects/geohazards/projects/Pages/Landslide-Susceptibility-Mapping.aspx

Figure 3.1 European Sites within and within 15 km buffer of Tuam Plan area

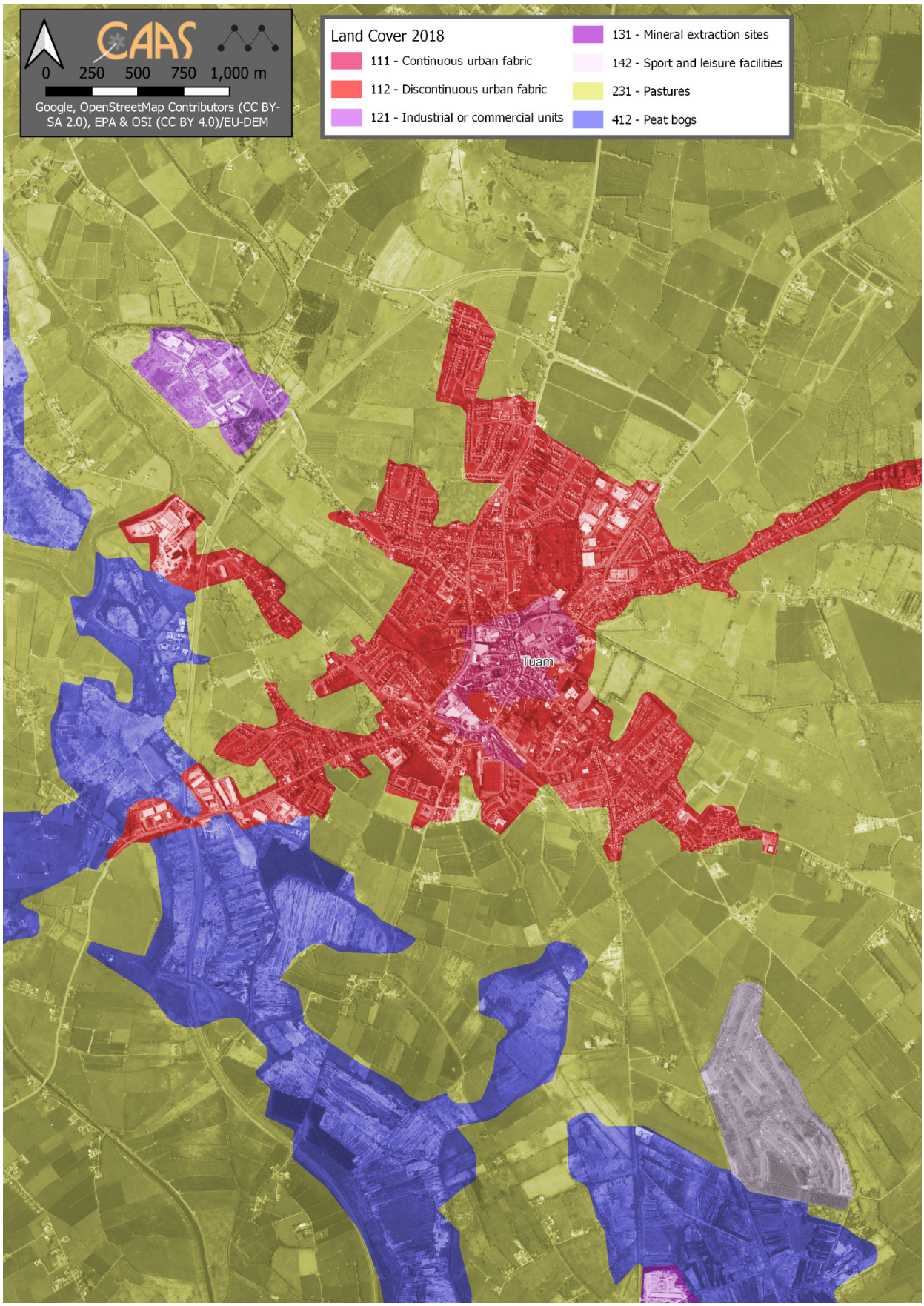


Figure 3.2 CORINE Land Cover Mapping 2018

3.6 Water

Surface and Ground Water Status

The River Clare flows south westwards from the Ballygaddy Bridge to the Corrib. The River Nanny and the Grange River are both tributaries of the River Clare. The River Nanny flows through the town and joins the Clare River in the north-west of the Plan area.

The current WFD (2016-2021) status of the River Nanny (Tuam)[6] within and adjacent to the eastern parts of Plan area is *poor*. The status of the various of the River Clare surrounding the Plan area is *good* (Clare - Galway_040) to the west and north-west of the Plan area and *poor* (Clare - Galway_060) adjacent to the southern parts of the Plan area. The Water Framework Directive surface water status (2016-2021) of rivers and lakes within and surrounding the Plan area is shown on Figure 3.3.

The WFD status (2016-2021) of all groundwater underlying the Plan area is currently identified as being of *good status*, meeting the objectives of the Water Framework Directive.

Aquifer Vulnerability and Productivity
Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter into groundwater. The aquifers underlying the Plan area are as a mix of vulnerabilities:

- *High and Extreme vulnerability* and *Extreme* (*Rock at or near surface or karst),* areas within and surrounding the River Nanny and within the central parts of the Plan area; and
- *Moderate and low vulnerability,* adjacent to and surrounding the central, north-western and southern parts of the Plan area.

Flooding
A Strategic Flood Risk Assessment (SFRA) document accompanies this SEA Environmental Report and the Plan. Requirements in relation to SFRA are provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (Department of Environment and Office of Public Works, 2009) and associated Department of the Environment, Community and Local Government Circular PL2/2014.

Flood risk management and drainage provisions are already in force through the County Development Plan and related provisions have been integrated into the LAP. In addition, land use zoning contained within the Plan has been informed by the SFRA process and associated delineation of flood risk zones.

Historical flooding is documented by the Office of Public Works. The most significant source of flood risk within the Plan area is from fluvial (from rivers/streams, including from the River Nanny and its tributaries) however there are other sources of flooding present including those from groundwater, pluvial (from rainwater) and surface drainage systems.

Predictive flood risk mapping is also available from the Office of Public Works and is included in the SFRA document that accompanies the Plan.

[6] As per EPA classification system (gis.epa.ie/EPAMaps)

Figure 3.3 Surface Water Status (2016-2021)

3.7 Air and Climatic Factors

Climate mitigation describes the action to reduce the likelihood of climate change occurring or reduce the impact if it does occur. This can include reducing the causes of climate change (e.g. emissions of greenhouse gases) as well as reducing future risks associated with climate change.

The National Climate Action Plan 2023 provides a detailed plan for taking decisive action to achieve a 51% reduction in overall greenhouse gas emissions by 2030 and setting Ireland on a path to reach net-zero emissions by no later than 2050, as set out in the Climate Act 2021. The Plan lists the actions needed to deliver on climate targets and sets indicative ranges of emissions reductions for each sector of the economy. It will be updated periodically, to ensure alignment with legally binding economy-wide carbon budgets and sectoral ceilings.

Climate adaptation is a change in natural or human systems in response to the impacts of climate change. These changes moderate harm or exploit beneficial opportunities and can be in response to actual or expected impacts.

The National Adaptation Framework Department of Communications, Climate Action and Environment, 2018), sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The National Adaptation Framework outlines a whole of government and society approach to climate adaptation. Under the Framework, a number of Government Departments will be required to prepare sectoral adaptation plans in relation to a priority area that they are responsible for.

The Galway County Council Climate Change Adaptation Strategy 2019-2024 features a range of actions across sectors including: seafood, agriculture, forestry, biodiversity, built and archaeological heritage, transport infrastructure, electricity and gas networks, communication networks, flood risk management, water quality, water services infrastructure and health. The Strategy seeks to:

- Improve education, awareness-raising and capacity on climate change, adaptation (and mitigation), impact reduction and early warning across the Council, businesses, communities and individuals;
- Integrate climate change measures into policies, strategies and planning, as well as the identification of areas as risk to inform planning and decision making; and
- Strengthen resilience and adoptive capacity and develop and implement co-ordinated responses to climate risk where needed.

The EPA's (2022) *Air Quality in Ireland 2021* identifies that:

- Air quality in Ireland is generally good, however, there are localised issues.
- Ireland met all of its EU legal requirements in 2021 but it failed to meet the new WHO-based guideline levels for Health in 2021.
- Air quality monitoring results in 2021 showed that fine particulate matter ($PM_{2.5}$) mainly from burning solid fuel, and nitrogen dioxide (NO_2) mainly from road transport, remain the main threats to good air quality.
- It is estimated that there are approximately 1,300 premature deaths annually in Ireland due to poor air quality from fine particulate matter (PM_5).

With regards to solutions, the report identifies that:

- Ireland and Europe should move towards achieving the health-based WHO air quality guidelines.
- The planned National Clean Air Strategy for Ireland needs to be published and fully implemented.
- Local Authorities must provide more resources to increase air enforcement activities.
- National investment in clean public transport is needed across the country.

3.8 Material Assets

Other material assets, in addition to those referred to below, covered by the SEA include archaeological and architectural heritage (see Section 3.9) natural resources of economic value, such as water and air (see Sections 3.6 and 3.7).

Public Assets and Infrastructure
Public assets and infrastructure that have the potential to be impacted upon by the Plan, if unmitigated, include; the town of Tuam; resources such as public open spaces, parks and recreational areas; public buildings and services; transport and utility infrastructure (electricity, gas, telecommunications, water

supply, waste water infrastructure etc.); and natural resources that are covered under other topics such as water and soil.

Waste Water
The Waste Water Treatment Plant (WWTP) serving Tuam is not currently listed as a priority area (such areas are those where improvements are required to resolve urgent environmental issues). The most recent figures available indicate that the loading capacity of the treatment plant is less than the design capacity, leaving spare treatment capacity. The WWTP is currently not compliant with the Emission Discharge Values (ELVs).[7]

Water Supply
Tuam is within the Lough Corrib (Galway City, Tuam and Loughrea) Water Resource Zone (WRZ)[8], with water being abstracted from Lough Corrib at Luimnagh. The Irish Water 10-Year Water Supply Capacity Register (March 2022) notes that there is capacity available at this WRZ, but level of service (LoS) improvement is required.[9]

Waste Management
Waste management within the Plan area is guided by the Connacht-Ulster Region Waste Management Plan 2015-2021. The Plan provides a framework for the prevention and management of waste in a sustainable manner in 10 local authority areas, including Galway County Council.

Transport
m is located approximately 33km north of Galway City. The Town is strategically located on the M17/M18 Motorway network, which provides a direct connection to Ireland West Airport Knock, Shannon Airport and Limerick, and a connection to the M6 via the M17 links the Town to Dublin. The geographical location of Tuam makes it accessible to most major towns and tourist attractions in Connaught.[10]

A Local Transport Plan (LTP) has been integrated into the Plan to help ensure a shift towards more sustainable modes of transport.

Existing Problems
The provisions of the Plan will contribute towards protection of the environment with regard to impacts arising from material assets.

The provisions of infrastructure and supporting services for development, particularly water and wastewater services, is critical.

3.9 Cultural Heritage

Archaeological Heritage
The Record of Monuments and Places (RMP) is an inventory, put on a statutory basis by amendment to the National Monuments Act 1994, of sites and areas of archaeological significance, numbered and mapped. It is available from the National Monuments Service and at archaeology.ie.

Tuam is classified as a monastic town and is a recorded monument. The town has developed a special historical archaeological interest especially with regard to its medieval importance and the fact that it was a strategically important ecclesiastical centre.

[7] EPA Site Visit Report (06/09/2022): While the emissions from the WWTP had been compliant for a period including the start of 2022, there had been several breaches of the licence ELVs for ammonia and orthophosphate. Compliance monitoring results indicate the ammonia issue at the WWTP is improving, though still
exceeding the ELV and there is an on-going issue with orthophosphate. Source:
http://epawebapp.epa.ie/licences/lic_eDMS/090151b28084d77b.pdf
[8] A WRZ is an independent water supply system serving a region, city, town or village and is governed by topography or the extent of the water distribution network in an area. A WRZ may include multiple Water Treatment Plants and/ or sources.
[9]Capacity Available to meet targeted population growth to 2031 although an improvement to the Level of service (LoS) will be required. This may take the form of leakage reduction and/or capital investment to maintain/improve levels of service as the demand increases. Proposed solutions will be developed & prioritised through the National Water Resources Plan and investment planning process.Source:https://www.water.ie/connections/developer-services/capacity-registers/water-supply-capacity-register/galway/(Published in March 2022).
[10] Draft Tuam LAP 2023-2029

There is a Zone of Notification identified within Tuam, with various entries to the Sites and Monuments Record (SMR) and Record of Monuments and Places (RMP) designated within the historic town centre of the town.[11]

centre of the Plan area and within the town's hinterland. There are various entries RMP within and around Tuam, including High Cross (National Monument in State Care), providing evidence of an early settlement.

Architectural Heritage
Tuam is significant as an historic town on account of its ancient origins, with a number of archaeological sites within and around the town. The majority of buildings span the late 18th to late 19th centuries and share many characteristics. There are various Protected Structures within and surrounding the Plan area, including: castles; mills; churches; cemeteries; schools and buildings. Tuam retains many buildings of significance, such as: Glinsk Castle; Kilroe Mills; St. Mary's Catholic Cathedral of the Assumption; and Augustinian Abbey.

An Architectural Conservation Area (ACA) is a place, area, group of structures or townscape, which is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or contributes to the appreciation of a Protected Structure. An ACA may or may not include Protected Structures. In an ACA, protection is placed on the external appearance of such areas or structures. There is currently one ACA designated in Tuam, namely Tuam Town Centre ACA.

Existing Problems
The context of archaeological and architectural heritage has changed over time however no existing conflicts with legislative objectives governing archaeological and architectural heritage have been identified.

3.10 Landscape

It is recognised that Tuam is an important market town, having a large agricultural hinterland. The River Nanny flows through centre of the town from west to east. The amenities of the town consist of the built environment including ecclesiastical buildings, cathedrals and historical ruins, the riverside character, the Palace Grounds Town Park, the sports arenas, parklands and the rich agricultural environs.

There are a range of different landscapes found in the Plan area, each with varying visual and amenity values, topography, exposure levels and each containing a variety of habitats. Each landscape type has varying capacity to absorb development related to its overall sensitivity.

The Galway County Development Plan 2022-2028 and associated County Galway Landscape Character Assessment (LCA) 2022 subdivide County Galway into three landscape regions and the coast, which are further broken down into ten separate landscape types. Tuam falls within the Urban Environs Landscape Type, adjacent to the North Galway Complex Landscape Character Type.

A landscape's capacity to absorb new development, without exhibiting a significant alteration of character or change of appearance is referred to as it's 'sensitivity'. The Galway County Development Plan 2022-2028 and associated LCA 2022 outlined four separate sensitivity classes for County Galway (low, high, special and iconic). According to this classification Tuam falls under "Class 1 – low: unlikely to be adversely affected by change",

Existing Environmental Problems
New developments have resulted in changes to the visual appearance of lands within the Plan area however legislative objectives governing landscape and visual appearance were not identified as being conflicted with.

[11] There are over 100 individual recorded archaeological monuments within the LAP boundary with approximately 29 of these located within the Zone of Notification for the historic town core.

3.11 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies that generally govern environmental protection objectives established at international, Community or Member State level e.g. the environmental protection objectives of various European Directives that have been transposed into Irish law and which are required to be implemented.

The SEOs are set out under a range of topics (see Table 3.1) and are used as standards against which the provisions of the Plan and the alternatives are evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if – in the case of adverse effects – unmitigated.

Table 3.1 Strategic Environmental Objectives

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives
Biodiversity, Flora and Fauna	**BFF**	No net contribution to biodiversity losses or deterioration	• To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species • Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function • Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species • Enhance biodiversity in line with the National Biodiversity Strategy and its targets • To protect, maintain and conserve the County's natural capital
Population and Human Health	**PHH**	Improve quality of life for all ages and abilities based on high-quality, serviced, well connected and sustainable residential, working, educational and recreational environments	• Promote economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management • Ensure that existing population and planned growth is matched with the required public infrastructure and the required services • Safeguard the County's citizens from environment-related pressures and risks to health and well-being
Soil (and Land)	**S**	Ensure the long-term sustainable management of land	• Protect soils against pollution, and prevent degradation of the soil resource • Promote the sustainable use of infill and brownfield sites over the use of greenfield within the County • Safeguard areas of prime agricultural land and designated geological sites
Water	**W**	Protection, improvement and sustainable management of the water resource	• Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the Water Framework Directive • 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 • Avoid inappropriate zoning and development in areas at risk of flooding and areas that are vulnerable to current and future erosion, particularly coastal areas • Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals
Material Assets	**MA**	Sustainable and efficient use of natural resources	• Optimise existing infrastructure and provide new infrastructure to match population distribution proposals in the County - this includes transport infrastructure • 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 • Promote the circular economy, reduce waste, and increase energy efficiencies • Ensure there is adequate sewerage and drainage infrastructure in place to support new development • Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes • Encourage the transition to a zero-carbon economy by facilitating the development of a grid infrastructure to support renewables and international connectivity. Reduce the average energy consumption per capita including promoting energy efficient buildings, retrofitting, smart- buildings, cities and grids

Environmental Component	SEO Code	Guiding Principle	Strategic Environmental Objectives
Air	A	Support clean air policies that reduce the impact of air pollution on the environment and public health	• 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 • Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency • Promote continuing improvement in air quality • 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 • Meet Air Quality Directive standards for the protection of human health — Air Quality Directive • Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels
Climatic Factors	C	Achieving transition to a competitive, low carbon, climate-resilient economy that is cognisant of environmental impacts	• To minimise emissions of greenhouse gasses • 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 • Promote development resilient to the effects of climate change • Promote the use of renewable energy, energy efficient development and increased use of public transport
Cultural Heritage	CH	Safeguard cultural heritage features and their settings through responsible design and positioning of development	Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage
Landscape	L	Protect and enhance the landscape character	To implement the Plan's framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention

Section 4 Alternatives

4.1 Introduction

The SEA Directive requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified, described and evaluated for their likely significant effects on the environment. Summaries of the alternatives for the Plan and their assessment are provided below.

4.2 Limitations in Available Alternatives

The Plan is required to be prepared by the existing, already in force, Galway County Development Plan 2022-2028 and the Planning and Development Act 2000 (as amended), which specifies various types of objectives that must be provided for by the Plan. The alternatives available for the Plan are significantly limited by the provisions of higher-level planning objectives, including those of the National Planning Framework (NPF), the Regional Spatial and Economic Strategy (RSES) for the Western and Northern Region and the County Plan. These documents set out various requirements for the content of the Plan including on topics such as land use zoning and the sustainable development of settlements.

4.3 Type 1: Alternatives Already Considered

The preparation of the County Development Plan and associated SEA process already considered various different types of alternatives, including those relating to population allocations, which were integrated into that Plan and which set requirements for lower tier planning in the County.

4.4 Type 2: Land Use Zoning Alternatives

Alternative Type 2 (i): "More Consolidated, More Compact"

The more compact, serviced/serviceable land and infrastructure assessment approach under this alternative would allow for water supply, waste water, compact growth, public transport and co-ordinated development considerations to be integrated into the Plan to the highest degree.

The infrastructure required to be in place to achieve the growth targets is already in place or planned under this alternative.

The development of the Town Centre would be more compact and sustainable under this scenario and would support the longer-term viability of the settlement. 30% of Residential units would be expected on Town Centre lands.

Opportunity sites identified with clear design and proposed uses identified – making successful applications for the sustainable, compact development of the town more likely.

The approach under Alternative Type 2 (i): "More Compact Development" would benefit the protection of various environmental components. Although potentially adverse effects associated with land use development would exist, they would be mitigated to a significant degree.

Alternative Type 2 (ii): "Less Consolidated, Less Compact"

By not following a more compact, serviced/serviceable land and infrastructure assessment approach, this alternative would not allow for water supply, waste water, compact growth, public transport and co-ordinated development considerations to be integrated into the Plan to the highest degree.

Additional infrastructure would be required to accommodate sporadic development, more than would be required for Alternative 1 'More Compact Development' and some development may have to be serviced by private waste water treatment systems which would have to be properly maintained.

The development of the Town Centre would be less compact and less sustainable under this scenario and would not optimally support the longer-term viability of the settlement. 30% of Residential units would be less likely to be achieved on Town Centre lands (in comparison with Type 2 (i).

Opportunity sites are identified but no clear guidance on the design parameters or uses identified – making successful applications for the sustainable, compact development of the town less likely.

An opportunity to mitigate potentially adverse effects arising from land use development to a significant degree would have been missed by the approach under Alternative Type 2 (ii): "Less Compact Development".

Selected Alternative: Type 2 (i): "More Consolidated, More Compact" ; however, certain Material Alterations that were adopted as part of the Plan (MA38 and MA49 – see Section 5) would introduce elements of Type 2 (ii): "Less Compact Development".

4.5 Type 3: Alternatives for Transport

Type 3 (i) Low Carbon Corridors and Connections

Supporting the use of a low carbon corridors and connections within the Plan boundary (Type 3 (i) Alternative A) would facilitate a greater achievement of sustainable modes of transport more likely. This would be likely to improve the potential for meeting important objectives relating to emissions/energy objectives. Applications for such development would be more likely to be granted permission. Project level consideration of environmental impacts and mitigation, including those relating to construction, would need to take place in the context of more detail around potential proposals.

Not explicitly supporting the use of a low carbon corridors and connections within the Plan boundary, would make a greater achievement of the sustainable modes of transport less likely. This would be likely to reduce the potential for meeting important objectives relating to emissions/energy objectives. Applications for such development would be less likely to be granted permission. Project level consideration of environmental impacts and mitigation, including those relating to construction, would need to take place in the context of more detail around potential proposals.

Selected Alternative: Alternative A

Type 3 (ii) How to provide cycling and walking capacity

The provision of new cycling and walking infrastructure, with all additional environmental mitigation left to be defined until project level (Alternative A) would offer the least certainty for environmental protection and management and would be more likely to result in important individual projects (relating to sustainable mobility and emissions objectives) not getting permission.

Specifying environmental constraints (including those related to habitats and potential impacts such as disturbance from lighting – e.g. minimising river crossings, avoiding sensitive habitats, not increasing barriers to flood waters and sustainable design and construction techniques) at Plan level (Alternative B) would offer the most certainty for environmental protection and management and would be more likely to result in important individual projects (relating to sustainable mobility and emissions/energy objectives) receiving permission.

Selected Alternative: Alternative B

Type 3 (iii) How to provide multi-model hubs

The provision of new cycling hubs/parks at optimum locations as identified by the Local Transport Plan, with all additional environmental mitigation left to be defined until project level (Alternative A) would offer the least certainty for environmental protection and management and would be more likely to result in important individual projects (relating to sustainable mobility and emissions/energy objectives) not getting permission.

Specifying environmental constraints (including those related to habitats and potential impacts such as disturbance from lighting – e.g. minimising river crossings, avoiding sensitive habitats, not increasing barriers to flood waters and sustainable design and construction techniques) at Plan level (Alternative B) would offer the most certainty for environmental protection and management and would be more likely to result in important individual projects (relating to sustainable mobility and emissions objectives) receiving permission.

Selected Alternative: Alternative B

Type 3 (iv) Roadspace Capacity

These alternatives would have the potential to change behaviours and would influence the profile of users of the urban centre and mode share of transport. Reallocating roadspace within Tuam to walking, cycling and public transport to accompany / occur concurrently with the provision of any additional roadspace capacity that may arise in the future (Type 3 (ii) Alternative A) could take the form of removing traffic from streets, removing lanes of traffic, narrowing carriageways, traffic management measures, or removing on-street parking to provide cycle tracks or widened footpaths. This would benefit efforts to maximise sustainable mobility. This would also facilitate the enhancement of the public realm (including cultural heritage and its context) by contributing towards the replacement of motorised transport modes with more sustainable and non-motorised modes. Project level consideration of environmental impacts and mitigation, including those relating to construction, would need to take place in the context of more detail around proposals. To not accompany the development of additional roadspace capacity by a corresponding reallocation of roadspace within Tuam to walking, cycling and public transport (Type 3 (ii) Alternative B) would not benefit efforts to maximise sustainable mobility.

Selected Alternative: Alternative A

4.6 Selected Alternatives

Selected alternatives for the Plan from each of the three types of alternatives that emerged from the planning/SEA process are indicated above.

These alternatives have been adopted by the Members having regard to both:

1. The environmental effects which were identified by the SEA and are summarised above; and
2. Planning - including social and economic - effects that also were considered by the Members.

Section 5 Summary of Effects arising from Plan

Table 5.1 summarises the overall environmental effects arising from Plan provisions. The effects encompass all in-combination/cumulative effects arising from implementation of the Plan. The potentially significant adverse environmental effects (if unmitigated) arising from implementation of the Plan are detailed as are residual effects, taking into account mitigation integrated into both the Plan and the Galway County Development Plan 2022-2028 – see Section 6.

Environmental impacts which occur will be determined by the nature and extent of multiple or individual projects and site-specific environmental factors. Environmental impacts which occur will be determined by the nature and extent of multiple or individual projects and site-specific environmental factors. Strategic Environmental Objective (SEO) codes are taken from Table 3.1.

Stage 2 Appropriate Assessment (AA) has also been undertaken alongside the preparation of the Plan. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The AA assesses the effects of the Plan on European Sites designated for certain habitats and species. The conclusion of the AA is that the Plan will not affect the integrity of the Natura 2000 network[12].

A Strategic Flood Risk Assessment (SFRA) document accompanies this SEA Environmental Report and the Plan. Requirements in relation to SFRA are provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (Department of Environment and Office of Public Works, 2009) and associated Department of the Environment, Community and Local Government Circular PL2/2014. Flood risk management and drainage provisions are already in force through the County Development Plan and related provisions have been integrated into the LAP. In addition, land use zoning contained within the Plan has been informed by the SFRA process and associated delineation of flood risk zones.

[12] Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be:
(a) no alternative solution available;
(b) imperative reasons of overriding public interest for the plan/programme/project to proceed; and
(c) adequate compensatory measures in place.

Table 5.1 Overall Findings – Environmental Effects arising from Plan Provisions

Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework including the NPF and associated NDP, the Western and Northern RSES, the Galway County Development Plan 2022-2028 and adjacent Development Plans and lower-tier land use plans.			SEO Codes
	Significant Positive Effect, likely to occur	**Potentially Significant Adverse Environmental Effects, if unmitigated**	**Likely Residual Adverse Non-Significant Effects**	
Biodiversity and Flora and Fauna	• Contribution towards protection of ecology (including designated sites, ecological connectivity, habitats) by facilitating development of lands (including those within and adjacent to the Plan area) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the Plan area and beyond. • Contribution towards the maintenance of existing green infrastructure and associated ecosystem services, listed species, ecological connectivity and non-designated habitats. • Contribution towards protection and/or maintenance of biodiversity and flora and fauna by contributing towards the protection of natural capital including the environmental vectors of air, water and soil. Biodiversity and flora and fauna includes biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species (including birds and bats), listed/protected species, ecological connectivity and non-designated habitats (including terrestrial and aquatic habitats), and disturbance to biodiversity and flora and fauna – including terrestrial and aquatic biodiversity and flora and fauna. • Sustains existing sustainable rural management practices – and the communities who support them – to ensure the continuation of long-established managed landscapes and the flora and fauna that they contain.	Arising from both construction and operation of development and associated infrastructure: • Loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna; • Habitat loss, fragmentation and deterioration, including patch size and edge effects; and • Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species such as birds (e.g. swifts) and bats.	• Loss of an extent of non-protected habitats and species arising from the replacement of semi-natural land covers with artificial surfaces. • Losses or damage to ecology (these would be in compliance with relevant legislation).	**BFF**

Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework including the NPF and associated NDP 2018, the Western and Northern RSES, adjacent Development Plans and lower-tier land use plans.			SEO Codes
	Significant Positive Effect, likely to occur	**Potentially Significant Adverse Environmental Effects, if unmitigated**	**Likely Residual Adverse Non-Significant Effects**	
Population and Human Health	• Promotion of economic growth to encourage retention of working age population and funding of sustainable development and environmental protection and management. • Contribution towards appropriate provision of infrastructure and services to existing population and planned growth by facilitating compact development of lands (including those within and adjacent to the Plan area) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the Plan area and beyond • Contribution towards the protection of human health by facilitating development of lands (including those within and adjacent to the Plan area) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the Plan area and beyond. • Contributes towards protection of human health as a result of contributing towards the protection of natural capital including environmental vectors, including air and water.	• Potential adverse effects arising from flood events. • Potential interactions if effects arising from environmental vectors.	• Potential interactions with residual effects on environmental vectors – please refer to residual adverse effects under "Soil", "Water" and "Air and Climatic Factors" below.	**PHH**
Soil	• Contribution towards the protection of soils (including those used for agriculture) and designated sites of geological heritage by facilitating development of lands (including those within and adjacent to the Plan area) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the Plan area and beyond. • Contribution towards the protection of the environment from contamination the highest standards of remediation, and where appropriate to consultations with the EPA and other relevant bodies, will be required to resolve any instances of environmental pollution created by contaminated land.	• Potential adverse effects on the hydrogeological and ecological function of the soil resource, including as a result of development on contaminated lands. • Potential for riverbank erosion.	• Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces. • Riverbank erosion will continue to occur naturally over time and is likely to be enhanced by climate change.	**S**

Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework including the NPF and associated NDP 2018, the Western and Northern RSES, adjacent Development Plans and lower-tier land use plans.			SEO Codes
	Significant Positive Effect, likely to occur	**Potentially Significant Adverse Environmental Effects, if unmitigated**	**Likely Residual Adverse Non-Significant Effects**	
Water	• Contribution towards the protection of water by facilitating development of lands (including those within and adjacent to the Plan area) that have relatively low levels of environmental sensitivities and are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop more sensitive, less well-serviced lands elsewhere in the Plan area and beyond. • Contributions towards the protection of water resources including the status of surface and groundwaters and water-based designations. • Contribution towards flood risk management and appropriate drainage.	• Potential adverse effects upon the status of water bodies and entries to the WFD Register of Protected Areas (ecological and human value), arising from changes in quality, flow and/or morphology. • Increase in flood risk and associated effects associated with flood events.	• Any increased loadings as a result of development to comply with the River Basin Management Plan. • Flood related risks remain due to uncertainty with regard to extreme weather events – however such risks will be mitigated by measures that have been integrated into the Plan.	**W**
Material Assets	• Contribution towards appropriate provision of infrastructure and services to existing population and planned growth by facilitating compact development of lands (including those within and adjacent to the Plan area) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the Plan area and beyond. • Contribution towards compliance with national and regional water services and waste management policies. • Contribution towards increase in renewable energy use by facilitating renewable energy and electricity transmission infrastructure developments. • Contribution towards limits in increases in energy demand from the transport sector by facilitating sustainable compact growth. • Contribution towards reductions in average energy consumption per capita including promoting energy efficient buildings, retrofitting, smart buildings, cities and grids.	• Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Failure to adequately treat surface water run-off that is discharged to water bodies (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Failure to comply with drinking water regulations and serve new development with adequate drinking water (water services infrastructure and capacity ensures the mitigation of potential conflicts). • Increases in waste levels. • Potential impacts upon public assets and infrastructure. • Interactions between agricultural waste and soil, water, biodiversity and human health – including as a result of emissions of ammonia from agricultural activities (e.g. manure handling, storage and spreading) and the production of secondary inorganic particulate matter.	• Exceedance of capacity in critical infrastructure risks remain, including due to uncertainty with regard to climate – however, such risks will be mitigated by: measures, including those requiring the timely provision of critical infrastructure, and compliance with the Water Framework Directive and associated River Basin Management Plan. • Residual wastes to be disposed of in line with higher-level waste management policies. • Any impacts upon public assets and infrastructure to comply with statutory planning/consent-granting framework.	**MA**

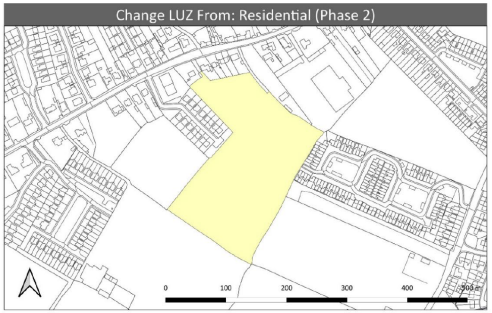
Environmental Component	Environmental Effects, in combination with the wider planning framework Effects include in-combination effects that are planned for through the wider planning framework including the NPF and associated NDP 2018, the Western and Northern RSES, adjacent Development Plans and lower-tier land use plans.			SEO Codes
	Significant Positive Effect, likely to occur	**Potentially Significant Adverse Environmental Effects, if unmitigated**	**Likely Residual Adverse Non-Significant Effects**	
Air and Climatic Factors	• Contribution towards climate mitigation and adaptation by facilitating compact development of lands (including those within and adjacent to the Plan area) that are served (or can be more easily served) by infrastructure and services, thereby helping to avoid the need to develop less well-serviced lands elsewhere in the Plan area and beyond. • In combination with other plans, programmes etc., contribution towards the objectives of the wide policy framework relating to climate mitigation and adaptation, and associated contribution towards maintaining and improving air quality and managing noise levels, including through measures relating to: o Sustainable compact growth; o Sustainable mobility, including walking, cycling and public transport; o Drainage, flood risk management and resilience; o Sectors including agriculture, residential heating and infrastructure; o Sustainable design, energy efficiency and green infrastructure.	• Potential conflict between development under the Plan and aiming to reduce carbon emissions in line with local, national and European environmental objectives. • Potential conflicts between transport emissions, including those from cars, and air quality. • Potential conflicts between increased frequency of noise emissions and protection of sensitive receptors. • Potential conflicts with climate adaptation measures including those relating to flood risk management.	• An extent of travel related greenhouse gas and other emissions to air. This has been mitigated by provisions which have been integrated into the Plan, including those relating to sustainable compact growth and sustainable mobility. • Interactions between noise emissions and sensitive receptors. Various provisions have been integrated into the Plan to ensure that noise levels at sensitive receptors will be minimised.	**AC**
Cultural Heritage	• Contributes towards protection of cultural heritage elsewhere by facilitating development within the Plan area. • Contributes towards protection of cultural heritage within the Plan area by facilitating brownfield development and regeneration.	• Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.	• Potential effects on known architectural and archaeological heritage and unknown archaeology however, these will occur in compliance with legislation.	**CH**
Landscape	• Contributes towards protection of wider landscape and landscape designations by facilitating development within the Plan area.	• Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape.	• Landscapes will change overtime as a result of natural changes in vegetation cover combined with new developments that will occur in compliance with the Plan's landscape protection measures.	**L**

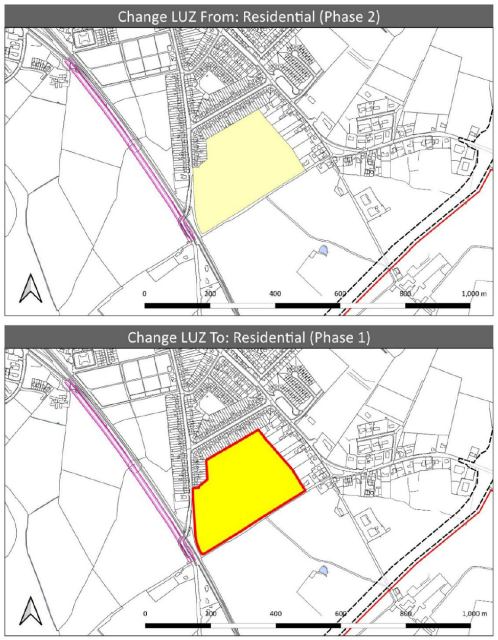
Instances whereby Environmental Considerations were not integrated into the Plan

Table 5.2 describes instances whereby environmental considerations were not integrated into the Plan by the Members and the corresponding environmental advice that was provided at the time through the SEA/AA/SFRA processes.

Table 5.2 Instances whereby Environmental Considerations were not integrated into the Plan and corresponding SEA/AA/SFRA advice

<table>
<tr><th>Instances whereby Environmental Considerations were not integrated into the Plan</th><th>Corresponding SEA/AA/SFRA advice</th></tr>
<tr><td>Members rejected recommendations of the Chief Executive and adopted Material Alterations No. 38 and 49 as part of the Plan.

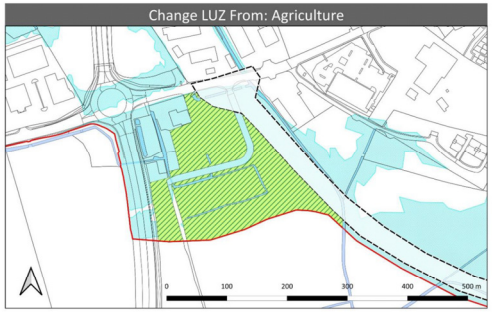
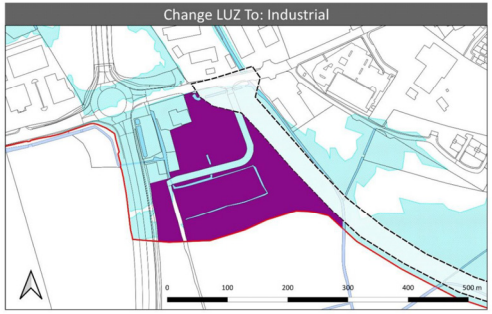
<table>
<tr><td>Amendment Number</td><td>MA38</td></tr>
<tr><td>Submission Number</td><td>Elected Member Motion</td></tr>
<tr><td>Section/Policy Objective</td><td>R2 to R1</td></tr>
<tr><td>Proposed Material Amendment</td><td></td></tr>
</table>
Change Zoning From: Residential (Phase 2)
Change Zoning to: Residential (Phase 1)
Area: 4.132 Ha.


<table>
<tr><td>Amendment Number</td><td>MA49</td></tr>
<tr><td>Submission Number</td><td>Elected Member Motion</td></tr>
<tr><td>Section/Policy Objective</td><td>R2 to R1</td></tr>
<tr><td>Proposed Material Amendment</td><td></td></tr>
</table>
Change Zoning From: Residential (Phase 2)
Change Zoning to: Residential (Phase 1)
Area: 7.322 Ha.


</td><td>As identified in the SEA Environmental Report that accompanied the Proposed Material Alterations on public display:

"….These alterations would not provide the most evidence-based framework for development in compliance with the Core Strategy of the County Development Plan and therefore have the potential to undermine sustainable development and proper planning - with potential for associated unnecessary adverse environmental effects on various environmental components.

These Proposed Material Alterations would contribute towards an exceedance of the core strategy allocation for Tuam from the County Development Plan in locations that are beyond the Draft Plan boundary. Given the deviation from County Development Plan allocations and the locations of the areas proposed to be zoned, development at these locations would conflict with established higher-level objectives relating to compact growth, sustainable mobility and transition to a low carbon and climate resilient society…."</td></tr>
</table>

Instances whereby Environmental Considerations were not integrated into the Plan	Corresponding SEA/AA/SFRA advice
Members rejected recommendations of the Chief Executive and adopted Material Alteration No. 50 as part of the Plan. **Amendment Number:** MA50 **Submission Number:** Elected Member Motion **Section/Policy Objective:** A to I **Proposed Material Amendment:** Change Zoning From: Agriculture Change Zoning to: Industrial Area: 3.721 Ha. Change LUZ From: Agriculture  Change LUZ To: Industrial  	The SEA Environmental Report that accompanied the Proposed Material Alterations on public display addressed a number of Proposed Material Alterations, including Proposed Material Alteration No. 50, as follows: "These alterations are related to the zoning of lands that include those at higher risk of flooding as identified by the SFRA. These proposals could result in an increase in flood risk – including to populations and human health and material assets – and associated adverse effects. MA39, MA50, MA51, MA55 and MA56 propose zoning that would not be considered compatible to complying with the Flood Risk Management Ministerial Guidelines. The current meaning of the proposed zonings would fail the Justification Test set out in the 2009 Guidelines as, inter alia, there are alternative lands available elsewhere, in areas of lower risk. Please also refer to the suggested further modifications under Section 9.7 of this report." The Plan that was adopted includes the following clarification to the meaning of the Industrial Land Use Zoning Objective as one of a number "General Notes on Land Use Zoning Matrix" under Table 1.6.1 "Land Use Matrix" of the Plan: "12. Industrial - Uses for Industrial Zoning where the matrix indicates "Permitted in Principle" and "Open to Consideration". This is applicable on the lands adjacent and including the existing commercial/industrial development between the River Clare and the N83; and lands to the south east of the N17/M17 and N83/Galway Road roundabout. This shall be limited in areas at elevated risk of flooding, as per the Flood Risk Management Guidelines, as follows: • In Flood Zone A, uses shall be limited to water compatible uses. • In Flood Zone B, uses shall be limited to less vulnerable and water compatible uses (as per the Flood Risk Management Guidelines); These limitations shall take primacy over any related provision relating to the land use zoning matrix (see Land Use Zoning Map accompanying this plan)."

Section 6 Mitigation and Monitoring Measures

6.1 Mitigation

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Plan. Various environmental sensitivities and issues have been communicated to the Council through the SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) processes. By integrating recommendations into the Plan, the Council have ensured that both the beneficial environmental effects of implementing the Plan have been and will be maximised and that potential adverse effects have been and will be avoided, reduced or offset.

Mitigation was achieved through:

- Strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development[13];
- Considering alternatives for the Plan[14];
- The integration of environmental considerations into zoning provisions of the Plan[15];
- The integration of individual SEA, AA and SFRA provisions into the text of the Plan; and
- The integration of individual provisions into the text of the County Development Plan.

6.2 Monitoring

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. Monitoring is based around indicators that allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives identified at Table 3.1 and used in the evaluation. Monitoring indicators, targets, sources and remedial action is provided at Table 6.1 overleaf.

[13] Far in advance of the placing of the Draft Plan on public display, Galway County Council undertook various works in order to inform the preparation of the Plan.

The findings of this strategic work have been integrated into the Plan and will contribute towards both environmental protection and management and sustainable development.

The undertaking of this SEA process was part of this strategic work and contributed towards the integration of environmental considerations into individual Plan provisions.

[14] Although strategic alternatives in relation to the content of the Plan were significantly limited for the Plan (see Section 4), as part of the Plan preparation/SEA process, the Council considered a number of alternatives for the Plan. These alternatives were assessed by the SEA process and the findings of this assessment informed the selection of preferred alternatives, facilitating an informed choice with respect to the type of Plan that was prepared and placed on public display.

[15] Environmental considerations, including those relating to ecology, cultural heritage, landscape and water, were integrated into the Local Area Plan's zoning through an interdisciplinary approach which was informed by the environmental considerations identified by the SEA, AA and SFRA processes.

Zoning has been applied in a way that primarily seeks to achieve sustainable and compact growth, taking into account the various requirements set out in the higher-level NPF, Western and Northern RSES and Galway County Development Plan 2022-2028.

Flood risk management and drainage provisions are already in force through the County Development Plan and related provisions have been integrated into the LAP. In addition, land use zoning contained within the Draft Plan has been informed by the SFRA process and associated delineation of flood risk zones. The detailed Plan preparation process undertaken by the Planning Department combined with specialist input from the SFRA process facilitated zoning that helps to avoid inappropriate development being permitted in areas of high flood risk.

Table 6.1 Indicators, Targets, Sources and Remedial Action[16]

Environmental Component	SEO Code	Indicators	Targets	Sources	Remedial Action
Biodiversity, Flora and Fauna	**BFF**	• Condition of European sites	• 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 • Implement and review, as relevant, County Galway Heritage and Biodiversity Plan 2017-2022	• DHLGH report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years). • DHLGH National Birds Directive Monitoring Report for the under Article 12 (every 6 years) • Consultations with the NPWS	• 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.
		• Number of spatial plans that have included ecosystem services content, mapping and policy to protect ecosystem services when their relevant plans are either revised or drafted	• 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 • Implement and review, as relevant, County Galway Heritage and Biodiversity Plan 2017-2022	• Internal review of local land use plans	• Review internal systems
		• SEAs and AAs as relevant for new Council policies, plans, programmes etc.	• Screen for and undertake SEA and AA as relevant for new Council policies, plans, programmes etc.	• Internal monitoring of preparation of local land use plans	• Review internal systems
		• Status of water quality in the County's water bodies	• Included under Water below	• Included under Water below	• Included under Water below
		• Compliance of planning permissions with Plan measures providing for the protection of Biodiversity and flora and fauna – see County Development Plan Chapter 10 "Natural Heritage, Biodiversity and Green Infrastructure"	• For planning permission to be only granted when applications demonstrate that they comply with all Plan measures providing for the protection of biodiversity and flora and fauna – see County Development Plan Chapter 10 "Natural Heritage, Biodiversity and Green Infrastructure"	• Internal monitoring of likely significant environmental effects of grants of permission[17]	• Review internal systems
Population and Human Health	**PHH**	• Implementation of Plan measures relating to the promotion of economic growth as provided for by County Development Plan Chapter 5 "Economic, Enterprise and Retail"	• For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to the promotion of economic growth as provided for by County Development Plan Chapter 5 "Economic, Enterprise and Retail" • By 2020 all citizens will have access to speeds of 30Mbps, and that 50% of citizens will be subscribing to speeds of 100Mbps	• Internal review of progress on implementing Plan objectives • Consultations with DECC	• Review internal systems • Consultations with DECC

[16] Indicators are linked to and should be considered alongside the environmental effects outlined in Table 8.3 and proposed mitigation measures outlined in Table 9.1.

[17] Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: habitat loss; disturbance (e.g. due to noise and lighting along transport corridors)' and 'displacement of protected species such as birds and bats.

Environmental Component	SEO Code	Indicators	Targets	Sources	Remedial Action
		• Number of spatial concentrations of health problems arising from environmental factors resulting from development permitted under the Plan	• No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan	• Consultations with the Health Service Executive and EPA	• Consultations with the Health Service Executive and EPA
		• Proportion of people reporting regular cycling / walking to school and work above previous CSO figures	• Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures	• CSO data • Monitoring of Galway County Council's Climate Change Adaptation Strategy 2019-2024	• Where proportion of population shows increase in private car use above previous CSO figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.
		• Number of spatial plans that include specific green infrastructure mapping	• Require all local level land use plans to include specific green infrastructure mapping	• Internal review of local land use plans	• Review internal systems
Soil (and Land)	S	• Proportion of population growth occurring on infill and brownfield lands compared to greenfield (also relevant to Material Assets)	• Maintain built surface cover nationally to below the EU average of 4% as per the NPF • In accordance with National Policy Objectives 3c of the 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 • To map brownfield and infill land parcels across the County	• EPA Geoportal • Compilation of greenfield and brownfield development for the DHLGH • AA/Screening for AA for each application	• Where the proportion of growth on infill and brownfield sites is not keeping pace with the targets set in the NPF and the RSES, the Council will liaise with the Regional Assembly to establish reasons and coordinate actions to address constraints to doing so.
		• Instances where contaminated material generated from brownfield and infill must be disposed of	• Dispose of contaminated material in compliance with EPA guidance and waste management requirements	• Internal review of grants of permission where contaminated material must be disposed of	• Consultations with the EPA and Development Management
		• Environmental assessments and AAs as relevant for applications for brownfield and infill development prior to planning permission	• Screen for and undertake environmental assessments and AA as relevant for applications for brownfield and infill development prior to planning permission	• Internal monitoring of grants of permission	• Review internal systems
Water	W	• Status of water bodies as reported by the EPA Water Monitoring Programme for the WFD	• Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' • Implementation of the objectives of the River Basin Management Plan	• EPA Monitoring Programme for WFD compliance	• 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 stakeholders in such a circumstance. • 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 and Irish Water to achieve the necessary capacity.
		• Number of incompatible developments permitted within flood risk areas	• Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	• Internal monitoring of likely significant environmental effects of grants of permission	• 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

Environmental Component	SEO Code	Indicators	Targets	Sources	Remedial Action
					flood risk mitigation and management measures.
Material Assets	MA	• 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 • Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan	• All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan • Where septic tanks are proposed, for planning permission to be only granted when applications demonstrate 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 • Facilitate, as appropriate, Irish Water in developing water and wastewater infrastructure • See also targets relating to greenfield and brownfield development of land under Soil and broadband under Population and Human Health	• Internal monitoring of likely significant environmental effects of grants of permission Consultations with the Irish Water • DHLGH in conjunction with Local Authorities	• 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 and Irish Water to achieve the necessary capacity.
		• Proportion of people reporting regular cycling / walking to school and work above previous CSO figures	• Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures	• CSO data • Monitoring of Galway County Council's Climate Change Adaptation Strategy 2019-2024	• Where proportion of population shows increase in private car use above previous CSO figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.
Air	A	• Proportion of journeys made by private fossil fuel-based car compared to previous National Travel Survey levels of 74% • NO_x, SO_x, PM10 and PM2.5 as part of Ambient Air Quality Monitoring	• Decrease in proportion of journeys made by private fossil fuel-based car compared to previous National Travel Survey levels • Improvement in Air Quality trends, particularly in relation to transport related emissions of NO_x and particulate matter	• CSO data • Data from the National Travel Survey • EPA Air Quality Monitoring • Consultations with Department of Transport and Department of Environment, Climate and Communications	• Where proportion of population shows increase in private car use above previous CSO figures, Council will coordinate with the Regional Assembly, DHLGH, DECC and NTA to develop a tailored response. See also entry under Population and human health above
Climatic Factors	C	• Implementation of Plan measures relating to climate reduction targets	• For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to climate reduction targets	• Internal monitoring of likely significant environmental effects of grants of permission	• Review internal systems
		• A competitive, low-carbon, climate-resilient and environmentally sustainable economy	• Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050	• Monitoring of Galway County Council's Climate Change Adaptation Strategy 2019-2024 • EPA Annual National Greenhouse Gas Emissions Inventory reporting • Climate Action Regional Office • Consultations with DECC	• 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.
		• Share of renewable energy in transport	• 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 provisions of the Plan		

Environmental Component	SEO Code	Indicators	Targets	Sources	Remedial Action
		• Carbon dioxide (CO_2) emissions across the electricity generation, built environment and transport sectors	• Contribute towards the target of aggregate reduction in carbon dioxide (CO_2) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors		
		• Energy consumption, the uptake of renewable options and solid fuels for residential heating	• To promote reduced energy consumption and support the uptake of renewable options and a move away from solid fuels for residential heating		
		• Proportion of journeys made by private fossil fuel-based car compared to previous levels	• Decrease in the proportion of journeys made by residents of the County using private fossil fuel-based car compared to previous levels	• CSO data • Monitoring of Galway County Council's Climate Change Adaptation Strategy 2019-2024	• 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.
		• Proportion of people reporting regular cycling / walking to school and work above previous CSO figures	• Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures	• CSO data • Monitoring of Galway County Council's Climate Change Adaptation Strategy 2019-2024	• Where proportion of population shows increase in private car use above previous CSO figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response.
Cultural Heritage	CH	• 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	• 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	• Internal monitoring of likely significant environmental effects of grants of permission	• Where monitoring reveals visitor or development pressure is causing negative effects on designated archaeological or architectural heritage, the Council will work with Regional Assembly, Fáilte Ireland and the National Monuments Service and other stakeholders, as relevant, to address pressures through additional mitigation..
		• 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	• 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	• Consultation with DHLGH	
Landscape	L	• 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	• 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	• Internal monitoring of likely significant environmental effects of grants of permission	• Where monitoring reveals developments permitted which result in avoidable adverse visual impacts on the landscape, the Council will re-examine Plan provisions and the effectiveness of their implementation