APPENDIX 30-1

LEGISLATION

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1. CLIMATE LEGISLATION, POLICY, AND GUIDANCE

Although variation in climate is thought to be a natural process, the rate at which the climate is changing has been accelerated rapidly by human activities. Climate change is one of the most challenging global issues facing the world today and is primarily the result of increased levels of greenhouse gases in the atmosphere. Increasing human emissions of carbon dioxide and other greenhouse gases cause a positive radiative imbalance at the top of the atmosphere, meaning energy is being trapped within the climate system. The imbalance leads to an accumulation of energy in the Earth system in the form of heat that is driving global warming.[1,2] Greenhouse gases come primarily from the combustion of fossil fuels in energy use.

In March 2024 the European Environment Agency (EEA) published the European Climate Risk Assessment.[3] This assessment states that Europe is the fastest warming continent on the planet and is warming at about the twice the global rate. The average global temperature in the 12-month period between February 2023 and January 2024 exceeding pre-industrial levels by 1.5°C. 2023 was the warmest year on record over more than 100,000 years globally, at 1.48°C above pre-industrial levels, with the world's ocean temperature also reaching new heights.

The Intergovernmental Panel on Climate Change (IPCC), in their AR6 Synthesis Report: Climate Change 2023[4], state that widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred. This has led to widespread adverse impacts and related losses and damages to people and nature due to the pressures of climate change and the inability to adapt to a rapidly changing environment. Moving away from our reliance on coal, oil and other fossil fuel-driven power plants is essential to reduce emissions of greenhouse gases and combat climate change.

1.1 International Greenhouse Gas Emission and Climate Targets

Globally, governance relating to climate change has changed significantly since 1994 when the United Nations Framework Convention on Climate Change (UNFCCC) entered into force. Greenhouse Gas emissions have been a primary focus of climate related international agreements for almost two decades.

International greenhouse gas emission and climate targets play an important role in stimulating and enabling action for developed and developing nations. The following sections provide an overview of the international agreements that have played key roles in establishing climate governance.

1.1.1 Kyoto Protocol

The Kyoto Protocol was adopted on 11 December 1997; this Protocol operationalised the UNFCCC and was the first international agreement that committed countries to reduce their greenhouse gas emissions. It set limitations and reduction targets for greenhouse gases for developed countries (Annex I countries) and set a special obligation for certain countries to provide financial resources and facilitate

[1] *Hansen, J.; Sato, M.; Kharecha, P. et al. Earth's Energy Imbalance and Implications. Atmospheric Chemistry and Physics 2011, 11 (24), 13421–13449.* https://doi.org/10.5194/acp-11-13421-2011
[2] *von Schuckmann, K.; Palmer, M. D.; Trenberth, K. E. et al. An Imperative to Monitor Earth's Energy Imbalance. Nature Clim Change 2016, 6 (2), 138–144.* https://doi.org/10.1038/nclimate2876.
[3] *European Environment Agency (2024) European Climate Risk Assessment* <https://www.eea.europa.eu/publications/european-climate-risk-assessment>
[4] *IPCC AR6 Synthesis Report: Climate Change 2023.* https://www.ipcc.ch/report/sixth-assessment-report-cycle/

technology transfer to developing countries (Annex II countries). The EU, and therefore Ireland, was both an Annex I and Annex II country.

The Kyoto Protocol came into effect in 2005, as a result of which, emission reduction targets agreed by developed countries, including Ireland, became binding for the first time.

Under the Kyoto Protocol, the EU agreed to achieve a significant reduction in total greenhouse gas emissions in the period 2008 to 2012. These EU emission targets are legally binding in Ireland. Ireland's contribution to the EU commitment for the period 2008 – 2012 (the first commitment period) was to limit its greenhouse gas emissions to no more than 13% above 1990 levels. Ireland achieved its Kyoto Protocol targets under the EU burden-sharing agreement.

1.1.1.1 Doha Amendment to the Kyoto Protocol

In Doha, Qatar, on 8th December 2012, the "Doha Amendment to the Kyoto Protocol" was adopted. The amendment includes:

- New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from starting in 2013 and lasting until 2020.
  - The amendment entered into force on 31 December 2020
- A revised list of greenhouse gases to be reported on by Parties in the second commitment period; and
- Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

During the first commitment period, 37 industrialised countries and the European Community committed to reduce greenhouse gas emissions to an average of 5% below 1990 levels. During the second commitment period, Parties committed to reduce greenhouse gas emissions by at least 18% below 1990 levels in the eight-year period from 2013 to 2020. The composition of Parties in the second commitment period is different from the first; however, Ireland and the EU signed up to both the first and second commitment periods. Under the protocol, countries must meet their targets primarily through national measures, although market-based mechanisms (such as international emissions trading) can also be utilised.

Although the 1997 Kyoto Protocol and 2012 Doha Amendment were in force in 2020, the 2015 Paris Agreement superseded the Kyoto Protocol as the principle regulatory instrument governing the global response to climate change.

1.1.2 Conference of the Parties

Every year since 1995, the Conference of the Parties (COP) has gathered the 196 Parties (195 countries and the European Union) that have ratified the Convention in a different country, to evaluate its implementation and negotiate new commitments, and is the supreme decision-making body of the UNFCCC.

The following details the most significant COPs in terms of impact on climate action as well as a summary of the most recent COP, COP28, which took place in Dubai.

1.1.2.1 COP21 Paris Agreement

COP21 was the 21st session of the COP to the UNFCCC. COP21 was organised by the United Nations in Paris and held from 30th November to 12th December 2015.

COP21 closed on 12th December 2015 with the adoption of the first international climate agreement (concluded by 195 countries and applicable to all). The twelve-page text, made up of a preamble and 29 articles, provides for a limitation of the temperature rise to below 2°C above pre-industrial levels and even to tend towards 1.5°C. It is flexible and takes into account the needs and capacities of each country. It is balanced as regards adaptation and mitigation, and durable, with a periodical ratcheting-up of ambitions.

1.1.2.2 COP25 Climate Change Conference- Madrid

The 25th United Nations Climate Change conference, COP25, was held in Madrid and ran from December 2nd to December 13th, 2019. While largely regarded as an unsuccessful conference, the European Union launched its most ambitious plan, 'The European Green Deal' which aims to lower CO_2 emissions to zero by 2050. The deal includes proposals to reduce emissions from the transport, agriculture and energy sectors and will affect the technology chemicals, textiles, cement, and steel industries. Measures such as fines and pay-outs by member states who rely on coal power will be in place to encourage the switch to renewable clean energies such as wind. On the 4th of March 2020, the European Commission put forward the proposal for a European climate law. This aims to establish the framework for achieving EU climate neutrality. It aims to provide a direction by setting a pathway to climate neutrality and to this end, aims to set in legislation the EU's 2050 climate-neutrality objective.

1.1.2.3 COP28 Climate Change Conference – Dubai

The 28th COP for the UNFCCC (COP28) took place in Dubai from the 30th of November 2023 to the 13th of December 2023.

COP28 resulted in a landmark deal to 'transition away' from fossil fuels, the United Arab Emirates (UAE) Consensus. The agreement calls for 'transitioning away from fossil fuels in energy systems, in a just, orderly, and equitable manner.' This is the first time in 28 years that fossil fuels have been mentioned in a COP outcome. However, it is noted that the text of 'phase out as soon as possible inefficient fossil fuel subsidies' does not address energy poverty or the just transition. The UAE Consensus also calls for more explicit near-term goals in the lead up to 2050, calling for the world to cut greenhouse gas emissions by 43% by 2030 as compared to 2019 levels. However, many island states have criticised that despite the text being an improvement over previous agreements, there is a litany of loopholes that will enable destructive environmental practices to continue and do not assuage their concerns over rising sea levels and other climate change impacts.

COP28 concluded the first ever Global Stocktake under the Paris Agreement. The Global Stocktake recognises that the world is not on track to meet 1.5°C and will require Parties to align their national targets and measures with the Paris Agreement. Parties have two years to submit their Nationally Determined Contributions for 2035, these need to be aligned with the best available science and the outcomes of the Global Stocktake.

1.1.2.4 COP29 – Climate Change Conference – Azerbaijan

The 29th COP of the UNFCCC, (COP29), held in Baku, Azerbaijan, from November 11th 2024 to November 22nd 2024.

COP29 focused on accelerating global efforts to address climate change, in particular global efforts related to climate finance. The New Collective Quantified Goal on Climate Finance (NCQG) was agreed in the final days of COP; while developing countries advocated for at least USD 1 trillion annually by 2035, developed nations agreed to triples finance to developing countries, with commitments increasing from USD 100 billion annually to USD 300 billion annually by 2035. The NCQG has already drawn criticism for being inadequate given the global financial need of developing nations to mitigate and adapt to climate change effects and due to its lack of strong terminology in relation to the requirements of developed nations and detailed implementation strategies.

At COP29, significant progress was made in the discussions surrounding carbon markets, with nearly 200 nations agreeing on critical rules under Article 6 of the Paris Agreement. These rules aim to establish an UN-backed international carbon market. The adoption of these rules is seen as a crucial step towards operationalising a robust and credible carbon market. Despite the advances, concerns were expressed about the potential for weak governance and risks of exploitation in the system; these issues must be addressed to ensure the market's full functionality.

Energy transition discussions focused on accelerating the global shift toward sustainable energy systems, aligned with the Paris Agreement goals of limiting warming to 1.5°C. The conference emphasized the need for robust policies to phase out coal, expand renewable energy infrastructure, and develop green hydrogen as a low-carbon alternative for hard-to-electrify sectors.

COP29 operationalized the Fund for responding to Loss and Damage ('the Fund') with $50 billion in initial pledges aimed at assisting vulnerable countries. The Fund is expected to begin financing initiatives by 2025, focusing on the most vulnerable populations facing extreme weather events and slow-onset climate impacts. Despite these advancements, ongoing discussions are required to define the Fund's vision, scope, and integration with existing climate finance mechanisms.

1.1.3 United Nations Sustainable Development Goals

Transforming our World: the 2030 Agenda for Sustainable Development which includes 17 Sustainable Development Goals (SDGs), and 169 targets was adopted by all UN Member States at a UN summit held in New York in 2015. The agenda is universally applicable with all countries having a shared responsibility to achieve the goals and targets which came into effect on January 1st, 2016. The goals and targets are to be actions over the 15-year period, are integrated and indivisible i.e., all must be implemented together by each Member State.

On the 28th of June 2024, the United Nations published '*The Sustainable Development Goals Report 2024*'[5] (hereafter referred to as the UN SDG 2024 Report) highlighting how the lasting impacts of the COVID-19 pandemic, the war in Ukraine, ongoing and escalating geopolitical conflicts, and the increasing consequences of the climate crisis have hindered the achievement of the SDGs. The UN SDG 2024 Report finds that, following an assessment of all 169 targets, for which trend data is available, only 17% of the SDG targets are on track, 48% of SDG targets are showing minimum or moderate progress, 18% having stalled in progress and 17% having regressed from 2023. The UN SDG 2024 Report highlights the urgent need for stronger and more effective international cooperation to maximize progress, with immediate effect.

The UN SDG 2024 Report further details the progress, setbacks and recommendations in relation to SDG 7: affordable and clean energy; stating that "*the world's capacity to generate renewable power is expanding at an unprecedented rate, presenting a tangible opportunity to triple global capacity by 2030".* However, the UN SDG 2024 Report also confirms that 685 million people still lacked electricity in 2022, up 10 million than in 2021; further emphasising the need for robust policies to help "*accelerate electrification, enhance energy efficiency and increase investments in renewable energy".*

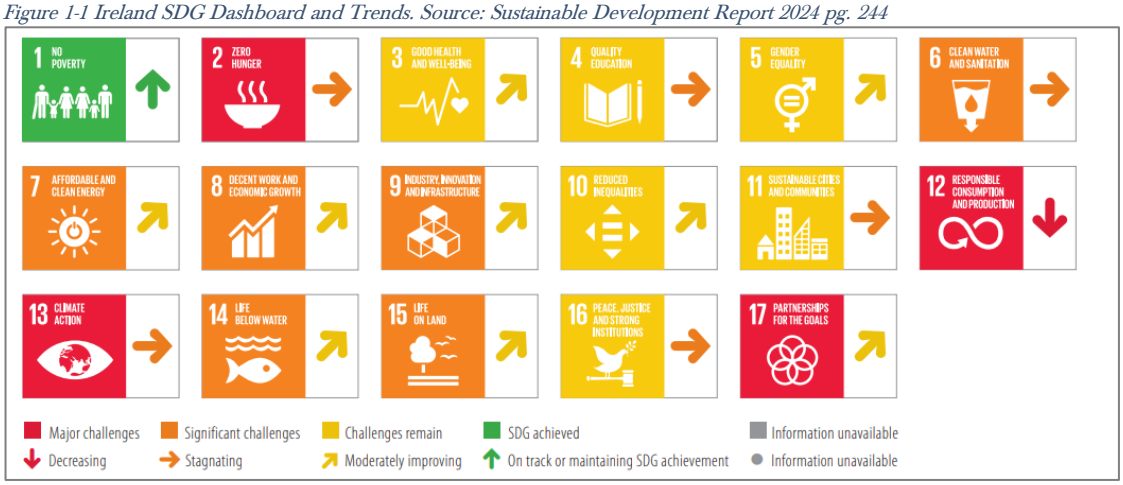
On the 17th of June 2024 the Dublin University Press published the *'Sustainable Development Report 2024'*.[6] The report highlights five key findings:

- On average, only 16% of the SDG targets are on track to be met globally by 2030, with the remaining 84% showing limited progress or a reversal of progress.
    - At the global level, SDG progress has been stagnant since 2020.

[5] *The Sustainable Development Goals Report (2024). Available at: https://unstats.un.org/sdgs/report/2024/*
[6] *Dublin University Press (2024) Sustainable Development Report 2024 The SDGs and the UN Summit of the Future Includes the SDG Index and Dashboards. <https://s3.amazonaws.com/sustainabledevelopment.report/2024/sustainable-development-report-2024.pdf>*

- The pace of SDG progress varies significantly across country groups.
  - As in previous years, European countries – notably the Nordic countries – top the 2024 SDG Index.
- Sustainable development remains a long-term investment challenge. Reforming global financial architecture is more urgent than ever. The world requires many essential public goods that far transcend the nation-state.
- Global challenges require global cooperation.
  - The report's new Index of support to UN-based multilateralism ranks countries based on their engagement with the UN system – including treaty ratification, votes at the UN General Assembly, membership in UN organisations, participation in conflicts and militarisation, use of unilateral sanctions, and financial contributions to the United Nations.
    - Ireland is ranked 28/167 with an overall country score of 78.7/100 (this is higher than the regional average 77.2); please see Figure 11-1 below for a detailed breakdown of Irelands SDG trends for each goal.
- The SDG targets related to food and land systems are particularly off-track.
  - Greenhouse gas emissions from agriculture, forestry, and other land use account for almost a quarter of total annual global greenhouse gas emissions.
  - The Food, Agriculture, Biodiversity, Land-Use, and Energy (FABLE) Consortium determined a "global sustainability" pathway which would avoid up to 100 million hectares of deforestation by 2030 and 100 gigatons of CO_2 emissions by 2050.

Figure 1-1 Ireland SDG Dashboard and Trends. Source: Sustainable Development Report 2024 pg. 244



In October 2022 the Department of Communications, Climate Action & Environment in partnerships with all Government Departments, key stakeholders, and based on input from two public consultation processes published the Sustainable Development Goals National Implementation Plan 2022-2024 ('the SDG Plan').[7] The SDG Plan identifies that, overall, the world is not on track to achieve the global Goals by 2030. The SDG Plan sets out how Ireland will work to achieve the goals and targets of the Agenda for Sustainable Development both domestically and internationally. Irelands first National Implementation Plan provided a framework for Ireland to work towards the implementation of the SDGs; the SDG Plan aims to build on the structures and mechanisms from the first National Implementation Plan and to develop and integrate additional approaches in areas identified as requiring further action.

[7] *National Implementation Plan for the Sustainable Development Goals 2022-2024. Available at:* <https://www.gov.ie/en/publication/e950f-national-implementation-plan-for-the-sustainable-development-goals-2022-2024/>

In September 2024, the UN Summit on the SDGs took place in New York and was facilitated by the United Nations. A Pact for the Future was agreed; the Pact consists of 56 actions designed to 'turbocharge; the SDGs with particular emphasis on increasing progress on issues around peace and security, global governance, climate change, digital cooperation, human rights, gender, youth and future generations. The Sustainable Development Goals Report 2024[8] was published in September 2024. The 2024 Report goes on to highlight the current standing of each SDG and its relevant indicators; flagging that only about 16% of the SDG targets are on track to be achieved. The remaining 84% either show limited progress (insufficient to achieve the target by 2030) or even a reversal of progress. The majority of the targets that are particularly off-track are related to food systems, biodiversity, sustainable land use, or peace and strong institutions.

The push for transformation to achieve the SDGs will come through shifts in six key entry points:

1. *Human Well Being and Capabilities*
2. *Sustainable and Just Economies*
3. *Food Systems and Healthy Nutrition*
4. *Energy Decarbonisation with Universal Access*
5. *Urban and Peri-Urban Development*
6. *Global Environmental Commons*

The Project will contribute to Entry Point 4 due to the clean and renewable energy it will provide over its operational life. The phase out of fossil fuels in a manner that is globally and domestically just, while strengthening the transition to renewables by increasing energy efficiency and encouraging behavioural change will be key to achieving the relevant SDGs to the Project.

Relevant SDGs to the Project and how they are implemented into Irish National plans and policies can be found in Table 1-1.

[8] *The Sustainable Development Goals Report 2024* <https://unstats.un.org/sdgs/report/2024/The-Sustainable-Development-Goals-Report-2024.pdf>

Table 1-1 Sustainable Development Goals Report 2023, Relevant SDGs to the Project, and Implementation into Irish National Plans

SDG	Targets	International Progress/Downfalls to Date (2024)[9]	National Relevant Policy
SDG 7 Affordable and Clean Energy: *Ensure access to affordable, reliable, sustainable and modern energy for all*	› By 2030, ensure universal access to affordable, reliable and modern energy services › By 2030, increase substantially the share of renewable energy in the global energy mix › By 2030, double the global rate of improvement in energy efficiency › By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology › By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support	In 2022, global electricity access declined for the first time in a decade, primarily due to disruptions from COVID-19 and the Ukraine conflict. Despite improvements in energy intensity and renewable energy growth, international financial flows for clean energy in developing countries remain insufficient. At the current rate, 660 million people will still lack electricity and 1.8 billion will not have access to clean cooking by 2030. To achieve universal access to energy by 2030, we need to expedite electrification efforts, boost investments in renewable energy, enhance energy efficiency, and establish supportive policies and regulatory frameworks. In 2021 the global share of renewable sources in total final energy consumption stood at 18.7%. Excluding traditional use of biomass, the share of modern renewable sources rose gradually from 10% in 2015 to 12.5% in 2021. The electricity sector led the charge with renewables, contributing 28.2% to total final electricity consumption. However, insufficient progress in the heat and transport sectors underscores the need for stronger conservation measures and policy actions. Tripling world's installed renewable energy generation agreed at the COP28 is an important step aligning with the SDG7. Installed renewable energy capacity is on the rise worldwide, reaching 424 watts per person globally in 2022. Developed nations averaged 1,073 watts per person, while developing countries averaged 293 watts per person. This represents an 8.5% increase from 2021, maintaining a steady compound annual growth rate of 8.1% over five-year periods.	*Ireland's Transition to a Low Carbon Energy Future 2015-2030;* *Energy Poverty Action Plan;* *Ireland's Transition to a Low Carbon Energy Future 2015- 2030;* *National Mitigation Plan;* *National Energy Efficiency Action Plan;* *One World, One Future;* *The Global Island Economic Recovery Plan* *Project Ireland 2040: National Planning Framework;* *Project 2040;* *National Development Plan 2021-2030;* *Climate Action Plan 2024*
SDG 9: Industry, Innovation, and Infrastructure	› Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder	Since 2022, the manufacturing sector has faced stagnation, attributed to geopolitical instability, inflation, logistical challenges, rising energy costs, and	*National Development Plan 2021-2030;*

[9] *United Nations, the 17 Goals – Sustainable Development <https://sdgs.un.org/goals>*

SDG	Targets	International Progress/Downfalls to Date (2024)[9]	National Relevant Policy
Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation	infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all. › Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries › Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities	a broader global economic slowdown. Globally, manufacturing's share in employment has regressed. While there has been progress in reducing CO2 intensity in manufacturing, it falls short of 2030 target values. To expedite progress towards SDG 9, efforts should prioritize accelerating the green transition, strategically prioritizing sectors, and addressing inequalities in digital and innovation sectors. The manufacturing sector rebounded strongly in 2021 post-COVID, but growth has plateaued at around 2.7% since 2022, expected to continue in 2024. Despite this, global manufacturing value added per capita rose by 16% from 2015 to 2023, reaching $1,922 per capita. Regional gaps are stark, with Europe and Northern America hitting a record $4,986 per capita, contrasting with stagnant levels of $163 in sub-Saharan Africa. Since 2015, global manufacturing employment has fluctuated. Starting at 14.3% in 2015, it dipped to 14.2% in 2020 but saw a marginal recovery in 2021. However, by 2022, it declined to 14.1%, with notable regional disparities.	*National Economic Recovery Plan;* *Climate Action Plan 2024;* *National Implementation Plan on Persistent Organic Pollutants;* *Waste Action Plan for a Circular Economy;* *National Waste Prevention Programme;* *A Better World*
SDG 11: Sustainable Cities and Communities *Make cities and human settlements inclusive, safe, resilient and sustainable*	› By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums › By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons › Strengthen efforts to protect and safeguard the world's cultural and natural heritage › By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	More than half the world's population currently reside in cities. However, cities are grappling with a multitude of complex issues, made more difficult by rising global urban poverty levels in the wake of COVID-19. From rising slum populations, insufficient public transport, city expansion outpacing population growth to threats to critical infrastructure and disruption of basic services by disasters, it is essential that cities are equipped to adequately handle these challenges. As the world turns more urban, with nearly 70% of the global population projected to reside in cities by 2050, critical infrastructure, affordable housing, efficient transport and essential social services are crucial for creating resilient, sustainable cities for all. On average, 104,049 critical infrastructure units and facilities were destroyed or damaged by disasters annually from 2015 to 2022. Furthermore, disasters disrupted over 1.6 million basic services, including educational and health services, each year.	*Rebuilding Ireland Action Plan for Housing and Homelessness;* *Housing for All;* *EU Regulation 1370/2007 on Public Passenger Transport Services by Rail and by Road;* *Project Ireland 2040 National Planning Framework;* *National Clean Air Strategy;* *Rural Development Programme 2014-2022;*

SDG	Targets	International Progress/Downfalls to Date (2024)[9]	National Relevant Policy
		A comparison of air pollution five-year average before and after the development of the SDGs showed a significant decrease of 9% in fine particulate matter global levels and current alignment with the WHO Air Quality Guideline (AQG) Interim Target 1 value of 35 ug/m3.	*National Implementation Plan on Persistent Organic Pollutants; Waste Action Plan for a Circular Economy; National Waste Prevention Programme; A Better World*
SDG 12 Responsible Consumption and production: *Ensure sustainable consumption and production patterns.*	› By 2030, achieve the sustainable management and efficient use of natural resources. › By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment › Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle › Promote public procurement practices that are sustainable, in accordance with national policies and priorities. › Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products	Unsustainable patterns of consumption and production are the root cause of the triple planetary crisis: 1. *Climate Change* 2. *Biodiversity Loss* 3. *Pollution* The world is seriously off track in its effort to halve per-capita food waste and losses by 2030. While countries are fulfilling their environmental agreement obligations and embracing comprehensive approaches to address environmental degradation, public funding supporting the production and consumption of fossil fuels has more than tripled since 2015, impeding the transition to net-zero emissions. Each phase of production or manufacturing presents an opportunity to reduce resource and fossil fuel use, foster innovation, conserve energy, cut emissions, and advocate for a circular economy approach. From 2019 to 2023, one-third of member states (63 countries) have reported 516 policy instruments related to sustainable consumption and production. In 2021-2022, 73% of companies included in the sample published sustainability reports, with the number of companies tripling since 2016. This growth was observed in all regions in 2022.	*National Implementation Plan on Persistent Organic Pollutants; Waste Action Plan for a Circular Economy; National Waste Prevention Programme; Climate Action Plan 2024 Tourism Action Plan; National Clean Air Strategy; Towards Responsible Business: Ireland's Second National Plan on Corporate Social Responsibility (CSR) 2017-2020; Sustainable, Inclusive and Empowered Communities 2019-2024;*

SDG	Targets	International Progress/Downfalls to Date (2024)[9]	National Relevant Policy
		Fossil fuel subsidies hit a record high of $1.53 trillion in 2022, reversing the declining trend observed from 2012 to 2020. The post-COVID energy price surge inflated these subsidies, prompting some governments to introduce new support measures. Consequently, public funding for oil, coal, and gas production and consumption more than doubled from 2021 to 2022 and tripled since 2015, impeding progress towards net-zero transition.	
SDG 13 Climate Action: *Take urgent action to combat climate change and its impacts** **Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.*	› Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries › Integrate climate change measures into national policies, strategies and planning › Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	Climate records were shattered in 2023, with the world watching the climate crisis unfold in real time. Communities around the world are suffering the effects of extreme weather, which is destroying lives and livelihoods on a daily basis. The roadmap to limit the rise in global temperature to 1.5°C and avoid the worst of climate chaos cannot afford any delays, indecision or half measures by the global community. It demands immediate action for drastic reductions in global greenhouse gas emissions in this decade and the achievement of net zero by 2050. The number of disaster-related deaths and missing persons per 100,000 population (excluding COVID-19 deaths) has nearly halved from 1.62 in the decade 2005-2014 to 0.82 in 2013-2022. However, the absolute number remains high. Between 2013 and 2022, disasters worldwide claimed 42,553 mortalities each year. Further, the number of persons affected by disasters per 100,000 population has increased by over two-third, from 1,169 in 2005-2014 to 1,980 in 2013-2022. The year 2023 broke every single climate indicator and was the warmest year on record according to the World Meteorological Organization. Global temperatures rose to 1.45°C, dangerously close for the first time to the 1.5°C lower limit of the Paris Agreement on climate change. Despite some reduction in greenhouse gas emissions in developed countries, concentrations of greenhouse gases reached record high observed levels in 2022 and real-time data in 2023 show greenhouse gases continuing to increase. Carbon dioxide levels are 150% above pre-industrial levels.	*National Adaptation Framework;* *Building on Recovery: Infrastructure and Capital Investment 2016-2021;* *National Mitigation Plan;* *National Biodiversity Action Plan 2017-2021;* *National Policy Position on Climate Action and Low Carbon Development;* *Project 2040: National Development Plan 2021-2030;* *Climate Action Plan 2024;* *National Dialogue on Climate Action;* *Agriculture, Forest, and Seafood Climate Change sectoral Adaptation Plan;* *The National Strategy on Education for*

SDG	Targets	International Progress/Downfalls to Date (2024)[9]	National Relevant Policy
		Climate finance, reported by Annex I Parties as support provided to developing countries, has increased at a compound rate of 5% from 2015 to 2020, amounting to $41 billion. Although there are a range of estimates and a lack of an agreed accounting methodology on the $100 billion per year goal, the goal was not yet met as of 2021. However, recent progress made in the provision and mobilization of climate finance amounted to $89.6 billion in 2021.	*Sustainable Development in Ireland*
SDG 14 Life Below Water: *Conserve and sustainably use the oceans, seas and marine resources for sustainable development*	› By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution › By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans › Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries › Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The future we want"	Oceans cover over 70% of the Earth's surface and play a crucial role in providing food and livelihoods for more than 3 billion people as well as combating the effects of climate change. Yet, alarming trends from declining fish stocks, marine pollution, ocean acidification and habitat destruction threaten marine ecosystems and the livelihoods of coastal communities worldwide. Urgent action is needed to address these challenges and ensure the long-term health and sustainability of the ocean through sustainable fishing practices, marine conservation efforts, pollution reduction and global cooperation to safeguard marine life and ecosystems for future generations. Ocean acidification is increasing and will continue to do so if carbon dioxide emissions do not stop rising. An increasing number of countries and stations (from 178 stations in 2021 to 638 in 2024) highlights the growing capacity of countries to observe the continued decline of ocean pH in the global ocean as well as the strong regional differences in the pace of change. Illegal, unreported and unregulated (IUU) fishing threatens the social, economic and environmental sustainability of global fisheries, hindering countries' abilities to manage their fisheries effectively. The first binding international agreement to specifically target IUU fishing, the Agreement of Port State Measures, now has 102 States covered under the Agreement (from 25 in 2016), covering 63% of the world's coastal States. States have made good overall progress with close to 75% scoring highly in their degree of implementation of relevant international instruments in 2022 compared to 70% in 2018.	*Clean Oceans Initiative;* *Climate Action Plan 2024;* *Marine Strategy Part 1 and Part 2 under the Marine Strategy Framework Directive;* *Maritime Area Planning Act;* *National Marine Planning Framework;*

1.1.4 Climate Change Performance Index 2025

Established in 2005, the Climate Change Performance Index (CCPI)[10] is an independent monitoring tool which tracks countries climate protection performance. It assesses individual countries based on climate policies, energy usage per capita, renewable energy implementation and greenhouse gas emissions and ranks their performance in each category and overall. The 2025 CCPI was published in December 2024. While the CCPI 2025 indicates signs of potential reductions in global emissions, no country achieved its Paris Climate targets and therefore the first three places of the ranking system remain unoccupied.

Ireland, ranked 43rd in 2024, has risen 14 places to 29th for 2024, and is now considered a 'medium' performer in international performance. The CCPI states that Ireland's policies are missing a long-term strategy for phasing out fossil fuel infrastructure and shifting investments from natural gas towards an emissions-neutral energy supply. The CCPI flag an urgent need for port infrastructure and grid strengthening to ensure medium-to-long-term offshore wind expansion and heating and transport electrification can be achieved in Ireland. Coupled with low levels of battery storage and ongoing gas connections, the state is set to remain greatly dependent on fossil fuel generation. However, in the electricity sector, the experts report Ireland's solar capacity has almost doubled in one year because of the country's surge in utility-scale solar projects and a significant rise in small and domestic rooftop solar.

Ireland has remained in the 'low' category in 2025 on the Greenhouse Gas Emissions ratings. Ireland remains in the 'Medium' category in the Renewable Energy rating table; however, Ireland has risen from 31st in 2024 to 21st in 2025.

1.1.5 State of the Global Climate 2024

In November 2024, the World Meteorological Organisation (WMO) published a report entitled the '*State of the Global Climate 2024*.[11] This report provided a summary on the state of the climate indicators in 2023 with sections on key climate indicators, extreme events and impacts. The key messages in the report include:

- Greenhouse gases reached record observed levels in 2023. Real time data indicate that they continued to rise in 2024.
- January – September 2024 global mean surface air temperature was 1.54 ± 0.13°C above the pre-industrial average.

The State of the Global Climate report goes on to state that renewable energy generation, primarily driven by the dynamic forces of solar radiation, wind and the water cycle, has surged to the forefront of climate action for its potential to achieve decarbonization targets. There has been a substantial worldwide energy transition, with global renewable capacity expected to grow by 2.7 times by 2030, surpassing countries' current ambitions by nearly 25%, but it still falls short of tripling.[12] This growth represents the highest rate observed in the past two decades, signalling a significant momentum toward achieving the clean energy goal set at COP28 meeting in 2023 to triple renewable energy capacity globally to 11,000 GW by 2030.

Alterations in the physical climate can trigger a series of repercussions on national advancement and the pursuit of SDGs (Section 1.1.3 above). The interconnections between the climate emergency and

[10] *Climate Change Performance Index 2024* <https://ccpi.org/>
[11] *WMO (2024) State of the Global Climate 2024* < ttps://library.wmo.int/records/item/69075-state-of-the-climate-2024>
[12] *IEA (2024), Renewables 2023, IEA, Paris* <https://www.iea.org/reports/renewables-2024>

development pathways can foster synergistic endeavours, resulting in positive benefits for communities and human well-being (refer to Chapter 5 of this EIAR for more details). This synergy serves as a potent driver for adapt to climate change and lay the groundwork for the global energy transition. Emphasizing wind energy and other renewable sources enables the global energy transition towards sustainability.

1.1.6 Renewable Energy Directive

The Renewable Energy Directive (RED) is the legal framework for the development of clean energy across all sectors of the EU economy, supporting cooperation between EU countries towards this goal.

The first RED[13] is legislation that influenced the growth of renewable energy in the EU and Ireland for the decade ending in 2020. The directive set and confirmed mandatory national targets consistent with the EU's overall goal. It also required EU countries to develop indicative trajectories for achieving their targets, submit national renewable energy action plans and publish national renewable energy progress reports every two years.

In 2018, as part of the 'Clean Energy for all Europeans' package, the first revision of RED entered into force (the second Renewable Energy Directive (REDII)[14]) which continued to promote the growth of renewable energy out to 2030. REDII introduced a binding EU-wide target for overall RES of 32% in 2030 and requires Member States to set their national contributions to the EU-wide target. As per the National Energy and Climate Plan (NECP) 2021-2030, Ireland's overall RES target is 34.1% in 2030. This directive, which had to be transposed into national law by EU countries by June 2021, established a new binding renewable energy target for the EU of at least 32% of gross final energy consumption by 2030, along with an increased target of 14% for the share of renewable fuels in transport by 2030.

Under REDII, Ireland's National Energy and Climate Plan 2021-2030 included a planned renewable energy share in electricity (RES-E) of 70% in 2030, which has been replaced by the 80% by 2030 RES-E target as detailed in the most recent Climate Action Plan (2024).

Given the need to ratchet up the EUs clean energy transition, RED was revised in 2023, and the amending Directive EU/2023/2413 (REDIII)[15] entered into force on 20 November 2023. REDIII amended the EU-wide overall 2030 RES target from 32% to at least 42.5%, and it is assumed that Irelands 2030 RES target will increase accordingly. REDIII establishes the following sectoral and innovation targets for EU countries:

- In the industry sector, a binding target of 42% for renewable hydrogen in total hydrogen consumption by 2030 and 60% by 2035, with an indicative target of an annual average increase of 1.6 percentage points in renewable sources.
- In the buildings sector, an indicative target of 49% for the share of renewable energy by 2030, with heating and cooling targets to increase by 0.8 percentage points per year until 2025 and by 1.1 percentage points from 2026 to 2030.
- In the transport sector, either a 29% target for the share of renewable energy by 2030, or a 14.5% reduction of greenhouse gas emissions, through greater use of advanced biofuels and renewable fuels of non-biological origin (RFNBO), such as hydrogen.
- In research and innovation, an indicative target of 5% of newly installed renewable energy capacity from innovative technologies by 2030.

[13] *Directive 2009/28/EC on the promotion of the use of energy from renewable sources. Available from: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:en:PDF*
[14] *Directive (EU) 2018/2001 on the promotion of the use of energy from renewable resources (recast). Available from: https://eurlex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018L2001*
[15] *Directive (EU) 2023/2413 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources and repealing Council Directive (EU) 2015/652. Available from: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202302413*

1.1.7 European Green Deal

The European Green Deal was introduced by the European Commissioning in December 2019 as the EUs response to the Paris Agreement ambitions (COP21 (please see section 1.1.1.2.1 above)). The European Green Deal is a comprehensive package of policy initiatives aimed at achieving climate neutrality across the EU by 2050. It features a wide range of actions and targets in different sectors such as energy, transport, industry, environment and agriculture. The goal is to transform the EU into a resource-efficient, competitive circular economy that is fair and inclusive for every individual and region.

Key aspects of the European Green Deal include the adoption of the European Climate Law, which legally binds the EU to achieve net-zero emissions by 2050, and the establishment of a Carbon Border Adjustment Mechanism to prevent carbon leakage. Additionally, the Deal focuses on boosting green technologies, fostering clean energy, improving energy efficiency, and promoting biodiversity and sustainable agriculture.

To finance these ambitious goals, the European Green Deal is supported by the EU's Green Deal Investment Plan, also known as the "Just Transition Mechanism," which aims to mobilize at least €1 trillion in investments over the next decade. This funding will be used to help EU regions and industries transition to greener alternatives while mitigating social and economic impacts on communities and workers. The European Green Deal also emphasizes the importance of international collaboration in tackling climate change and aims to align European policies with the global agenda of the Paris Agreement.

In its approach to decarbonisation, the EU has split greenhouse gas emissions into two categories, the Emissions Trading System (ETS) and the non-ETS. Under the European Green Deal, the targets for the ETS and non-ETS sectors will be revised upwards in order to achieve the commitment, at EU level, to reach an economy-wide 2030 reduction in emissions of at least 55%, compared to 1990 levels

1.1.8 Council Regulation (EU) 2022/2577 and 2024/223

Arising from REPowerEU, Council Regulation (EU) 2022/2577 laying down a framework to accelerate the deployment of renewable energy was adopted on the 22 December 2022. Regulation 2022/2577 came into effect on the 23 December 2022 and has effect until the 30 June 2024. The Regulation made provision for a review by the commission within 12 months. Following this review the Council introduced Regulation 2024/223 on the 22 December 2023 amending Regulation 2022/2577. Regulation 2022/2577 and 2024/223 recognises the relative importance of renewable energy deployment in the current difficult energy context and provides significant policy and legislative support to enabling renewable energy projects.

Article 2(2) of Regulation EU) 2022/2577 requires priority to be given to projects that are recognised as being of overriding public interest whenever the balancing of legal interests is required in individual cases and where those projects introduce additional compensation requirements for species protection. An analogous provision is not present in Directive (EU) 2018/2001. The first sentence of Article 3(2) of Regulation (EU) 2022/2577 has the potential, in the current urgent and still unstable energy situation on the energy market which the Union is facing, to further accelerate renewable energy projects since it requires Member States to promote those renewable energy projects by giving them priority when dealing with different conflicting interests beyond environmental matters in the context of Member States' planning and the permit-granting process. The Commission's report demonstrated the value of the first sentence of Article 3(2) of Regulation (EU) 2022/2577 which beyond the specific objectives of the derogations foreseen in the Directives referred to in Article 3(1) of Regulation (EU) 2022/2577. (emphasis added).

As such, the Project, a renewable energy project, is critical to helping Ireland, and the EU in addressing energy security challenges as well as addressing the country's over-dependence on imported fossil fuels.

1.1.9 EU Effort Sharing Regulation

The EU Effort Sharing Regulation (ESR[16]) was adopted in 2018 and establishes annual binding greenhouse gas emissions targets from 2020 to 2030 for each Member State. In its approach to decarbonisation, the EU has split greenhouse gas emissions into two categories, the Emissions Trading System (ETS) and the non-ETS. Emissions from electricity generation and large industry in the ETS are subject to EU-wide targets which require that emissions from these sectors be reduced by 43% by 2030, relative to 2005 levels. Within the ETS, participants are required to purchase allowances for every tonne of emissions, with the amount of these allowances declining over time to ensure the required reduction of 43% in greenhouse gas emissions is achieved at EU-level[17]. Emissions from all other sectors, including buildings, agriculture, waste, small industry, and transport, which account for around 60% of EU emission, are covered by the EU ESR.

The EU ESR focus on national accountability helps drive climate action at the local level while maintaining flexibility to account for economic disparities across Member States.

Considerable progress has been made in the decarbonisation of the electricity sector, with emissions falling by 45% between 2001 and 2022.[18] The decarbonisation of the Electricity Sector has been made possible through the deployment of renewables and their successful integration into the national grid, further facilitating the decarbonisation other sectors, such as transport, heating and industry as they look towards electrification.

1.2 National Greenhouse Gas Emission and Climate Targets

1.2.1 Programme for Government

The Programme for Government – Our Shared Future ('Programme for Government') was published in October 2020 and last updated July 2021. In relation to climate change the programme recognises that the next ten years are a critical period in addressing the climate crisis. It is an ambition of the programme to more than halve carbon emissions over the course of the decade (2020-2030). The programme notes that the government are committed to reducing greenhouse gas emissions by an average 7% per annum over the next decade in a push to achieve a net zero emissions by the year 2050. The programme also recognises the severity of the climate challenge as it clarifies that:

> *"Climate change is the single greatest threat facing humanity".*

Actions in the Programme for Government commit to enacting a new Policy Update on Ireland's Implementation of the SDG targets October 2022 legislation to achieve 10% coverage of marine protected areas (MPAs) as soon as practicable to achieve SDG14. The Programme for Government further aims to achieve 30% MPA coverage by 2030 in line with the EU Biodiversity Strategy and the UN Convention on Biodiversity.

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[16] *Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013 (Text with EEA relevance)*

[17] *Department of the Environment, Climate and Communications (2023) - Climate Action Plan 2024* https://www.gov.ie/en/publication/79659-climate-action-plan-2024/

[18] *Department of the Environment, Climate and Communications (2023) - Climate Action Plan 2024* https://www.gov.ie/en/publication/79659-climate-action-plan-2024/

1.2.2 Climate Action and Low Carbon Development (Amendment) Act 2021

The Climate Action and Low Carbon (Amendment) Act 2021 is a piece of legislation which commits the country to move to a climate resilient and climate neutral economy by 2050. This was passed into law in July 2021.

The Programme for Government has committed to a 7% average yearly reduction in overall greenhouse gas emissions over the next decade, and to achieve net zero emissions by 2050. This Act will manage the implementation of a suite of policies to assist in achieving these annual targets.

The Act includes the following key elements, among others:

- Places on a statutory basis a 'national climate objective', which commits to pursue and achieve no later than 2050, the transition to a climate resilient, biodiversity-rich, environmentally sustainable and climate-neutral economy.
- Embeds the process of carbon budgeting into law, the Government are required to adopt a series of economy-wide five-year carbon budgets, including sectoral targets for each relevant sector, on a rolling 15-year basis, starting in 2021.
- Actions for each sector will be detailed in the Climate Action Plan, updated annually.
- A National Long Term Climate Action Strategy will be prepared every five years.
- Government Ministers will be responsible for achieving the legally binding targets for their own sectoral area with each Minister accounting for their performance towards sectoral targets and actions before an Oireachtas Committee each year.
- Strengthens the role of the Climate Change Advisory Council, tasking it with proposing carbon budgets to the Minister.
- Provides that the first two five-year carbon budgets proposed by the Climate Change Advisory Council should equate to a total reduction of 51% emissions over the period to 2030, in line with the Programme for Government commitment.

1.2.3 Climate Change Advisory Council

The CCAC was established on 18th January 2016 under the Climate Action and Low Carbon Development Act 2015. The CCAC aims to provide independent evidence-based advice and recommendations on policy to support Ireland's Just Transition to a biodiversity-rich, environmentally sustainable, climate-neutral, and resilient society.

In July 2023, the CCAC published the 2023 Annual Review[19], this is the seventh annual review carried out by CCAC and details the CCAC concerns that the necessary national actions are not taking place or being enabled at the required speed, going on to state that 'at the current rate of policy implementation, Ireland will not meet the targets set in the first and second carbon budget periods unless urgent action is taken immediately, and emissions begin to fall much more rapidly.'

In 2024 the CCAC has changed it approach to produce sector specific annual reviews in order to emphasise the requirement for greater effort across all sectors to remain within their sectoral emission ceiling. In a statement released on 9th July 2024 the CCAC state that while '*the provisional greenhouse gas emissions data published today by the EPA shows some positive results across the sectors but overall, it is increasingly unlikely that the first carbon budget will be achieved. Much more urgent action is required from Government if Ireland is to achieve its climate change objectives.*'[20]

[19] *Climate Change Advisory Council 2023 Review* <https://www.climatecouncil.ie/councilpublications/annualreviewandreport/CCAC-AR-2023-postfinal.pdf>
[20] https://www.climatecouncil.ie/news/chairs-statement-irelands-provisional-greenhouse-gas-emissions-1990-2023.html

The Annual Review 2024: Electricity[21] report has been released by the CCAC and focuses specifically on key findings and recommendations for the Electricity sector. In 2023, emissions from the sector reduced by approximately 21% from 2022 to the lowest level since records began in 1990. This was driven by a considerable decline in the use of coal for electricity generation, coupled with a notable rise in imported electricity.

Renewables accounted for 41% of electricity demand in 2023, up from 39% in 2022 and approaching the 2025 target of a 50% renewable energy share in electricity generation. By the end of 2023, the total renewable grid capacity in Ireland was 5.7 GW, with the majority (4.7 GW) from onshore wind turbine installations. However, there is still a significant lack of progress towards onshore wind targets in 2023, with just 0.2GW of new onshore wind being connected to the grid in 2023.

1.2.4 Carbon Budgets

The first national carbon budget programme proposed by the CCAC, approved by Government and adopted by both Houses of the Oireachtas in April 2022 comprises three successive 5-year carbon budgets. The total emissions allowed under each budget are shown in Table 1-2.

Table 1-2 Proposed Carbon Budgets of the Climate Change Advisory Council

	2021 – 2025 Carbon Budget 1	2026 – 2030 Carbon Budget 2	2031 – 2035 Provisional Carbon Budget 3
	All Gases		
Carbon Budget (Mt CO_2eq)	295	200	151
Annual Average Percentage Change in Emissions	-4.8%	-8.3%	-3.5%
The figures are consistent with emissions in 2018 of 68.3 Mt CO_2eq reducing to 33.5 Mt CO_2eq in 2030 thus allowing compliance with the 51% emissions reduction target by 2030			

Ireland has expended 47% of its emissions for the first carbon budget period in the budget first two years. Thus, only 53% is leftover, requiring a 12.4% reduction in emissions each year to stay in budget.

1.2.5 Sectoral Emissions Ceilings

The Sectoral Emissions Ceilings were launched in September 2022. The objective of the initiative is to inform on the total amount of permitted greenhouse gas emissions that each sector of the Irish economy can produce during a specific time period. The Sectoral Emissions Ceilings alongside the annual published Climate Action Plan provide a detailed plan for taking decisive action to achieve a 51% reduction in overall greenhouse gas emissions by 2030.

Section C of the Climate Action and Low Carbon Development (Amendment) Act 2021 provides the minister with a method of preparing the Sectoral Emissions Ceiling within the bounds of the carbon budget. The Sectoral Emission Ceilings for each 5-year carbon budget period was approved by the government on the 28th of July 2022 and are shown in Table 1-3 below.

[21] *Climate Change Advisory Council (2024) Annual Report 2024: Electricity* <https://www.climatecouncil.ie/councilpublications/annualreviewandreport/AR2024-Electricity-final.pdf>

Table 1-3 Sectoral Emission Ceilings 2022

	Sectoral Emission Ceilings for each 5-year carbon budget period (MtCO2eq.)	
Sector	2021 – 2025 Carbon Budget 1	2026 – 2030 Carbon Budget 2
Electricity	**40**	**20**
Transport	54	37
Built Environment-Residential	29	23
Built Environment-Commercial	7	5
Industry	30	24
Agriculture	106	96
LULUCF[1]	Yet to be determined	Yet to be determined
Other (F-Gases, Waste & Petroleum refining)	9	8
Unallocated Savings		*-26*
Total[2]	Yet to be determined	Yet to be determined
Legally binding Carbon budgets and 2030 Emission Reduction Targets	295	200

[1] Finalising the Sectoral Emissions Ceiling for the land-use, Land-use Change and Forestry (LULUCF) sector has been deferred for up to 18 months to allow for the completion of the Land-use Strategy
[2] Once LULUCF sector figures are finalised, total figures will be available.

The electricity sector is the third largest emitting sector in Ireland and the successful decarbonisation of this sector could lead to decarbonisation in other sectors, such as the electrification of transport and heating. The CCAC 2023 Annual Review states that the electricity sector has been set one of the smallest sectoral emission ceilings and the steepest decline in emissions of all sectors with emission ceilings of 40MtCO$_2$eq for the first carbon budget period (2021–2025) and 20MtCO$_2$eq for the second carbon budget period (2026–2030). This equates to a headline target of a 75% reduction in emissions in the sector from 2018 levels by 2030, which will be achieved by increasing the share of renewable electricity to 80%, encompassing 9GW of onshore wind capacity, at least 5GW of offshore wind capacity, with 2 GW earmarked for green hydrogen production, and 8GW of solar photovoltaic capacity, supported by a range of actions set out in the Climate Action Plan 2024 (CAP 2024).

The Annual Review 2024: Electricity report, detailed above in Section 1.2.3, states that to stay within the agreed carbon budget, the Electricity sector needs to achieve the largest reduction in sectoral emissions of all sectors, i.e., a 75% decrease by 2030 compared with 2018. The CCAC has found that approximately 49% of the Electricity sectoral emissions ceiling has now been used in the first 2 years of the first carbon budget period; with the SEAI estimating that 68% of the Electricity sectoral emissions ceiling has now been used in the first 3 years of the first carbon budget period. Accelerated deployment of onshore wind and solar electricity generation is crucial if the Electricity sector is to meet its sectoral emissions ceiling for the first carbon budget period.

1.2.6 Climate Action Plan 2024

The National CAP 2024[22] was launched in December 2023. Following on from Climate Action Plans 2019, 2021, and 2023, CAP 2024 sets out the roadmap to deliver on Ireland's climate ambition. It aligns with the legally binding economy-wide carbon budgets and sectoral ceilings that were agreed by Government in July 2022 following the Climate Action and Low Carbon Development (Amendment) Act 2021, which commits Ireland to a *legally binding target of net-zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030*. CAP 2024 seeks to build on the progress made under Climate Action Plan 2023 by delivering policies, measurements and actions that will support the achievement of Irelands carbon budgets, sectoral emission ceilings, and 2030 and 2050 climate targets; while further enabling the closure of identified emissions gaps and the allocation of unallocated emission savings associated with each carbon budget period.

CAP 2024 highlights the firm commitment that has been made by Ireland in relation to the clean energy transition and provides an outline of precise goals for renewable energy, focusing on solar, onshore wind, and offshore wind. Delivery and integration of onshore and offshore wind and solar PV is the best performing mitigation measure to deliver emissions abatement at scale and at speed. Already under the first Climate Action Plan in 2019, reaching 70% renewables by 2030 provided the core of emissions reduction in the sector. Increasing renewables to 80% of demand under Climate Action Plan 2021 and beyond this to the Climate Action Plan 2023 capacity targets of 22 GW of wind and solar achieves a further 16% emissions reductions over the first two carbon budgets. No other supply side measure comes close to the emissions abatement achieved by the early and rapid deployment of wind and solar capacity. Achieving the CAP 2024 renewable energy capacity of 9 GW of onshore wind, 8 GW of solar and **at least 5 GW of offshore wind** can deliver circa 10 Mt of emissions abatement reduction over the first two carbon budgetary periods. The highest levels of offshore wind are expected to be recorded in the third carbon budget period.

Six Vital High Impact Sectors were identified within Climate Action Plan 2023[23] relating to the sectoral emission ceilings (Section 1.2.5 above). These sectors and their associated targets are as follows:

Powering Renewables – 75% Reduction in emissions by 2030

We will facilitate a large-scale deployment of renewables that will be critical to decarbonising the power sector as well as enabling the electrification of other technologies.

- *Accelerate the delivery of onshore wind, offshore wind, and solar.*
- *Dial up to 9 GW onshore wind, 8 GW solar, and at least 5 GW of offshore wind by 2030 (with 2 GW earmarked for green hydrogen production).*
- *Support at least 500 MW of local community-based renewable energy projects and increased levels of new micro-generation and small-scale generation.*
- *Phase out and end the use of coal and peat in electricity generation.*
- *New, dynamic Green Electricity Tariff will be developed by 2025 to incentivise people to use lower cost renewable electricity at times of high wind and solar generation.*

Achievement of the 75% reduction in emissions by 2030 and the decarbonisation of the grid in Ireland would assist in the achievement of the Electricity sectoral emission ceiling.

[22] *Department of the Environment, Climate and Communications (2023) Climate Action Plan 2024. Available at: https://www.gov.ie/en/publication/79659-climate-action-plan-2024/#new-approach-to-the-2024-annex-of-actions*
[23] *Department of the Environment, Climate and Communications (2022) Climate Action Plan 2023 – Summary Document*

Building Better – 45% (Commercial/Public) and 40% (Residential) Reduction in Emissions by 2030

We will increase the energy efficiency of existing buildings, put in place policies to deliver zero-emissions new builds, and continue to ramp up our retrofitting programme.

- *Ramp up retrofitting to 120,000 dwellings to BER B2 by 2025, jumping to 500,000 by 2030.*
- *Put heat pumps into 45,000 existing and 170,000 new dwellings by 2025, up to 400,000 existing and 280,000 new dwellings by 2030.*
- *Generation up to 0.8 TWh of district heating by 2025 and up to 2.5 TWh by 2030.*

Achievement of the 45% (Commercial/Public) and 40% (Residential) reduction in emissions by 2030 would assist in the achievement of the Built Environment (Commercial/Residential) sectoral emission ceiling.

Turning Transport Around – 50% Reduction in Emissions by 2030

We will drive policies to reduce transport emissions by improving our town, cities, and rural planning, and by adopting the Avoid-Shift-Improve approach: reducing or avoiding the need for travel, shifting to public transport, walking, and cycling and improving the energy efficiency of vehicles.

- *Change the way we use our road space.*
- *Reduce the total distance driven across all car journeys by 20%.*
- *Walking, cycling and public transport to account for 50% of our journeys.*
- *Nearly 1 in 3 private cars will be an Electric Vehicle.*
- *Increase walking and cycling networks.*
- *70% of people in rural Ireland will have buses that provide at least 3 trips to the nearby town daily by 2030.*

Achievement of the 50% reduction in emissions relating to transport by 2030 would assist in the achievement of the Transport sectoral emission ceiling.

Making Family Farms More Sustainable – 25% Reduction in Emissions by 2030

We will support farmers to continue to produce world class, safe and nutritious food while also seeking to diversify income through tillage, energy generation and forestry.

- *Significantly reduce our use of chemical nitrogen as a fertilizer.*
- *Increase uptake of protected urea on grassland farms to 90-100%.*
- *Increase organic farming to up to 450,000 hectares, the area of tillage to up to 400,000 ha.*
- *Expand the indigenous biomethane sector through anaerobic digestion, reaching up to 5.7TWh of biomethane.*
- *Contribute to delivery of the land use targets for afforestation and reduced management intensity of organic soils.*

Achievement of a 25% reduction in emissions by 2030 in agriculture and farming practices would assist in the achievement of the Agriculture sectoral emission ceiling.

Greening Business and Enterprise – 35% Reduction in Emissions by 2030

We're changing how we produce, consume, and design our goods and services by breaking the link between fossil fuels and economic progress. Decarbonising industry and enterprise are key to Ireland's economy and future competitiveness.

- *Reduce clinker content in cement and substitute products with lower carbon content for construction materials, ensuring 35% reduction in emissions by 2030 (against 2018).*
- *Reduce fossil fuel use from 64% of final consumption (2021) to 45% by 2025 and further by 2030.*
- *Increase total share of heating to carbon neutral to 50-55% by 2025, up to 70-75% by 2030.*
- *Significantly grow the circular economy and bioeconomy.*

Achievement of a 35% reduction in emissions by 2030 in relation to Irish production and consumption would enable a more circular economy and assist in the achievement of the Industry and Other sectoral emission ceilings.

Changing our land use

The first phase of the land use review will tell us how we are using our land now. Then, we can map, with evidence, how it can be used most effectively to capture and store carbon and to produce better, greener food and energy.

- Increase our annual afforestation rates to 8,000 hectares per annum from 2023 onwards.
- Rethink our Forestry Programme and Vision.
- Promote forest management initiatives in both public and private forests to increase carbon sinks and stores.
- Improve carbon sequestration of 450,000 ha of grasslands on mineral soils and reduce the management intensity of grasslands on 80,000 ha of drained organic soils.
- Rehabilitate 77,600 hectares of peatlands.

By improving the manner in which Ireland utilises its land use, Ireland can achieve emission reductions and mitigate the ongoing climate and biodiversity crisis's. The LULUCF sectoral emission ceiling will be set after completion of the Land-use Strategy. Exact reduction target for this sector is yet to be determined.

Adaptation

CAP 2024 highlights the need for adaptation to climate change. Adaptation is the process of adjustment to actual or expected climate change and its effects. Observations show that Irelands climate is changing in terms of coastline, sea level rise, seasonal temperatures, and changes in typical weather patterns. Climate change is expected to have diverse and wide-ranging impacts on Ireland's environment, society, and economic development, including managed and natural ecosystems, water resources, agriculture and food security, the built environment, human health, and coastal zones.

Climate Sectoral Adaptation Planning[24] includes for 12 sectoral adaptation plans that describe and assess the extent of the risks presented by climate change to a sector, and present contingency plans to address these risks and ensure climate resilience. They include actions to mainstream adaptation into policy and administration at sectoral level to improve the resilience of existing and planned critical infrastructure, systems, and procedures, to the effects and variability of climate change, as well as to improve cooperation and coherence within and across sectors, as well as on a local and national level.

[24] *Department of the Environment, Climate and Communications (2020) Sectoral Adaptation Planning.* https://www.gov.ie/en/collection/51df3-sectoral-adaptation-planning/

1.2.7 Irelands Climate Change Assessment

In 2023 the EPA published Irelands Climate Change Assessment (ICCA).[25] This assessment provides a comprehensive overview and breakdown of the state of knowledge around key aspects of climate change with a focus on Ireland. The ICCA report is presented in four volumes.

- Volume 1: Climate Science – Ireland in a Changing World
- Volume 2: Achieving Climate Neutrality in 2050
- Volume 3: Being Prepared for Irelands Future
- Volume 4: Realising the Benefits of Transition and Transformation

The ICCA Synthesis Report states that having peaked in 2001, Irelands greenhouse gas emissions have reduced in all sectors except agriculture. However, Ireland currently emits more greenhouse gases per person than the EU average. The report goes on to state that there has been an identified gap in policy that indicates that Ireland will not meet its statutory greenhouse gas emission targets. Already Ireland has seen significant and ongoing deterioration in environmental quality, including declines in water quality, biodiversity and ecosystem quality. Developing a climate-resilient Ireland will require sufficient public and private investment and financial support in ways that adequately recognise the value of ecosystem services and the importance of societal wellbeing.

There are well-established 'no-regret options' that need to happen now, which can get Ireland most of the way to net zero carbon dioxide emissions. Beyond that, there are 'future energy choices' relating to the scale and magnitude of technologies that will assist in achieving Ireland statutory climate targets. Ireland's no-regret options are demand reduction (e.g. through energy efficiency and reduced consumption), electrification (e.g. electric vehicles and heat pumps), deployment of market-ready renewables (e.g. wind energy and solar photovoltaics) and low-carbon heating options (e.g. district heating). Irelands future choices include hydrogen, carbon capture and storage, nuclear energy and electro-fuels.

Achieving net zero carbon dioxide emissions by 2050 requires significant and unprecedented changes to Ireland's energy system. Policies tailored to suit different stages of technology development are critical for achieving a net zero energy system. Established technologies, such as wind energy, solar photovoltaics and bioenergy, will be key in meeting short-term emission reduction targets (i.e. 2030), whereas offshore wind infrastructure is expected to be the backbone of future energy systems (i.e., 2050).

The ICCA serves as a stark warning: Ireland stands to face a myriad of challenges in efforts to mitigate and adapt to climate change at the almost halfway mark to 2030. Further decisive action is imperative to mitigate the escalating impacts of climate change on Irelands environment, economy, and society that are highlighted throughout the four volumes of the ICCA.

1.3 Local Greenhouse Gas Emission and Climate Targets

1.3.1 Galway Local Authority Climate Action Plan 2024-2029

The Galway County Council Local Authority Climate Action Plan 2024-2029 (Galway LACAP)[26] was adopted on 19th February 2024.

[25] *EPA (2023) Irelands Climate Change Assessment <https://www.epa.ie/our-services/monitoring--assessment/climate-change/irelands-climate-change-assessment-icca/>*
[26] *Galway County Council (2024) Local Authority Climate Action Plan <https://consult.galway.ie/en/consultation/galway-county-council-local-authority-climate-action-plan-2024-2029>*

The Galway LACAP highlights the current state of climate action in Ireland, and how Galway County Council intends to deliver and enable climate action for a just transition to a low carbon and climate resilient future within County Galway.

Overall, the greenhouse gas emissions generated from County Galway equated to 1,950,000 tCO2eq in the baseline year, 2018.[27] The top emitting sectors within County Galway in terms of total greenhouse gas emissions in the baseline year were Agriculture, Transport, Land use, Land Use Change and Forestry (LULUCF) and Residential producing 44%, 16%, 16% and 15% respectively of the total greenhouse gas emissions in the county. In 2019, Irelands national emissions totalled 65,152,000tCO2eq, with County Galway being responsible for approximately 5% of this (i.e., 3,009,000 tCO2eq). During the operational phase the Project will assist in reducing emission by enabling renewable energy to be fed into the grid and the subsequent decarbonisation of other sectors, particularly the main emitting sectors in County Galway as identified above. Please see Section 30.4.2.4 of Chapter 30 of the EIAR for further information on carbon savings associated with the Project.

The Galway LACAP assesses climate risk relevant to Ireland and to County Galway, this, plus the evidence baseline, inform the climate objectives and actions that will be undertaken by Galway County Council to assist in the achievement of national and international climate targets. Key objectives form the Galway LACAP include:

- Support the development of renewable energy sources, such as offshore wind only, solar, tidal, and biomass in suitable locations
- Ensure the integration of climate action in spatial planning to enable the County of Galway to transition to a low carbon and resilient society.

The Galway County Development Plan 2022-2028[28] sets out the overall strategy for the proper planning and sustainable development of the County over a 6-year period. The Development Plan includes numerous objectives on sustainability and climate within, as well as a Renewable Energy Strategy and a Wind Energy Strategy[29].

1.3.2 Clare Local Authority Climate Action Plan 2024-2029

The Clare County Council Local Authority Climate Action Plan 2024-2029 (Clare LACAP)[30] was adopted in March 2024.

The Clare LACAP highlights the current state of climate action in Ireland, and how Clare County Council intends to deliver and enable climate action for a just transition to a low carbon and climate resilient future within County Clare.

Overall, the greenhouse gas emissions generated from County Clare equated to 1,905,730 tCO_2eq in the baseline year, 2018. The top emitting sectors within County Clare in terms of total greenhouse gas emissions in the baseline year were Agriculture, Transport, and Residential producing 45%, 20%, and 16% of the total greenhouse gas emissions in the county. This is broadly in line with National greenhouse gas emissions data. During the operational phase the Project will assist in reducing emission by increasing the share of renewable energy on the national electricity grid and the subsequent decarbonisation of other sectors, particularly the main emitting sectors in County Clare as identified above. Please see Section 30.4.2.4 of Chapter 30 of this EIAR for further information on carbon savings associated with the Project.

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[27] *Galway County Council (2023) Baseline Emissions Inventory* <https://consult.galway.ie/en/system/files/materials/7736/Baseline%20Emissions%20Inventory_Galway.pdf>
[28] *Adopted Galway County Development Plan 2022-2028* <https://consult.galway.ie/en/consultation/adopted-galway-county-development-plan-2022-2028>
[29] *County Galway Wind Energy Strategy – Appendix IV to the Galway County Development Plan* <https://www.galway.ie/en/media/GCDP%202015-2021%20Appendix%20IV%20County%20Galway%20Wind%20Energy%20Strategy.pdf>
[30] *Clare County Council (2024) Local Authority Climate Action Plan* <https://clarecoco-local-area-climate-action-plan>

An important insight from the predraft public consultation was the importance of protecting livelihoods and lives most at risk from climate-related policies and actions. Therefore, supporting a just transition is a core element throughout the Clare LACAP from the high-level mission statement through to the specific actions detailed in Section 4.2 of the Clare LACAP.

The Clare LACAP assesses climate risk relevant to Ireland and to County Clare, this, plus the evidence baseline, inform the climate objectives and actions that will be undertaken by Clare County Council to assist in the achievement of national and international climate targets.

The Clare County Development Plan 2023-2029[31] sets out the overall strategy for the proper planning and sustainable development of the County over a 6-year period. The Development Plan includes numerous objectives on sustainability and climate within, as well as a Renewable Energy Strategy and a Wind Energy Strategy[32].

[31] *Adopted Clare County Development Plan 2023-2029* <https://clarecdp2023-2029.clarecoco.ie/stage3-amendments/adoption/>
[32] *County Clare Wind Energy Strategy – Volume 6* <https://clarecdp2023-2029.clarecoco.ie/stage3-amendments/adoption/volume-6-clare-wind-energy-strategy-clare-county-development-plan-2023-2029-51390.pdf>

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