

Carbon Reduction Strategy



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Gröschfort
Terminal 2

daa

Leadership Statement

At Dublin Airport, we recognise that climate change is the greatest challenge facing us all. It is our responsibility and our obligation to reduce our greenhouse gas emissions and help to contribute to a sustainable future for the aviation sector in Ireland. As a significant contributor to Ireland's carbon emissions, the aviation industry must continue to meet international targets and reduce our impact on the climate.

The ongoing management and reduction of carbon emissions at Dublin Airport is part of our strategic vision to be a national public sector exemplar, with a climate positive culture, on track to achieve Net Zero Emissions by 2050.

We know that the way we design, build and operate our airport infrastructure and assets has a carbon impact during both build and operation, and that we can significantly reduce this impact through careful planning, innovation and by working collaboratively with partners, stakeholders and customers.

We have been working to reduce the amount of energy that we use at the airport for many years, but we must go further, and we are dedicated to doing that. We are committed to reducing our overall carbon emissions by 51% by 2030 and to becoming net zero for our carbon emissions by 2050.

In 2019, Dublin Airport committed to achieving net zero carbon emissions by 2050, along with almost 200 other European airports, in a landmark move for the aviation industry. The deadline of 2050 is aligned with the decarbonisation strategy set out by the European Commission and adopted by the Council of the European Union. In 2020, Dublin Airport was the first airport in Ireland to achieve Airport Carbon Accreditation Level 3+ "Carbon Neutrality" status, for Scopes 1 and 2 emissions. This followed an extensive programme of activities to reduce and offset our carbon emissions in recent years.

This Carbon Reduction strategy captures our approach to the challenge - in it we present the detail of how we can achieve short term objectives, as well as our long term road map to net zero carbon by 2050.

It will help us to navigate towards the low carbon airport of the future. Our strategy is supported by clear and tangible commitments to progress on the journey, and is strengthened by the implementation of strong governance practices. As we proceed our approach will enable us to review and adjust, ensuring carbon reduction continues.

With our continued collaborative approach, we aim to pave the way to reduce emissions from the aviation industry.



Vincent Harrison
Managing Director, Dublin Airport



**Part of our
strategic vision:**
To be a national public
sector exemplar, with a
climate positive culture, on
track to achieve Net Zero
Emissions by 2050



1.0 Preface

Dublin Airport developed a Carbon Reduction Strategy (CRS) during 2020-2021 as a response to the Fingal County Council Dublin Airport Local Area Plan and the Fingal County Council (FCC) Climate Change Action Plan. The strategy described the approach to meeting a 30% carbon reduction target by 2030, aligned to the 2019 Climate Action Plan. Since that time, some key changes have resulted in the need for the CRS to be updated to align with the new requirements for carbon and energy to which Dublin Airport is now subject.

By the end of 2021, the national legal and policy context in which Dublin Airport operates had changed significantly with the introduction of new legislation on carbon, energy, air quality and climate change. The legislation introduced increased targets for carbon reduction and energy efficiency. Dublin Airport objectives and projects have also been developed and aligned with these overarching policies during this time. Our 2022 CRS update facilitates:

- **New legislative requirements and increased carbon reduction targets to be incorporated**
- **Seeking to future proof for Fingal Development Plan 2023-2029 to support FCC in working towards becoming a low carbon economy - key requirement in draft is that relevant applications prepare a Climate Action Energy Statement**
- **Achievement of Airport Carbon Accreditation Level 4 by 2025**
- **Engagement with CAR (Commission for Aviation Regulation Ireland) on reassessing the current CIP 2019 – 2024 to accommodate additional requirements**
- **Identification of new sustainability projects which form part of our carbon reduction measures**

The new regulations that have been enacted during 2021 include:

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

Enacted in Ireland July 2021 to support Ireland's transition to Net Zero and achieve a climate neutral economy by 2050

The Climate Action Plan 2021

Introduced in Ireland November 2021 which brought about the target of 51% reduction by 2030, and net-zero greenhouse gas emissions no later than 2050

EU Fit for 55

Adopted in August 2021, Fit for 55 is the EU's plan for a green transition

EU Clean Vehicle Directive

Passed into Irish law on 2 August 2021, it promotes the uptake of low and zero-emission vehicles with legally binding targets for public sector bodies



2.0 Introduction

2.1 Dublin Airport

Dublin Airport is Ireland's largest and busiest airport serving approximately 32 million passengers through its terminals in 2019, with air services operated by almost 50 airlines to 200 destinations in 42 countries, through a significant short-haul, medium-haul and long-haul network.

Dublin Airport is Ireland's main international gateway and plays a key role in the Irish economy, with the connectivity it provides underpinning Irish trade, tourism, and foreign direct investment. According to a 2019 Economic Impact Study, Dublin Airport supports and facilitates almost 130,000 jobs in the Republic of Ireland and generates €9.8 billion in Gross Value Added to the Irish economy.

The sustainable growth of the airport is a vital driver of connectivity between Ireland and key global markets for both business and leisure travel. As an island, the effectiveness of our airport connections is vital to our survival, our competitiveness, and our future prospects (National Planning Framework).

The airport is located in Collinstown, 7km north of Dublin City Centre, and 3km south of the town of Swords. It is in the Fingal County Council Local Authority area.

Dublin Airport is operated by daa, a global airports and travel retail group with businesses in 16 countries. daa is owned by the Irish State and headquartered at Dublin Airport.

€9.8billion

Dublin Airport generates €9.8b in Gross Value Added to the Irish economy

130,000

Dublin Airport supports and facilitates almost 130,000 jobs in the Republic of Ireland

Almost **50** airlines to **200** destinations in **42** countries



2.2 Background

This Carbon Reduction Strategy (CRS) presents our approach to decarbonise Dublin Airport and charts an emissions reduction pathway to 2030 as part of an interim step in our transition to Net Zero Carbon (NZC) emissions by 2050 (NZC50).

Our approach to reduce carbon emissions at Dublin Airport seeks to ensure that our business can continue to grow sustainably long into the future, for the benefit of all our stakeholders and communities, and the Irish economy, while protecting the environment and minimising our climate impact.

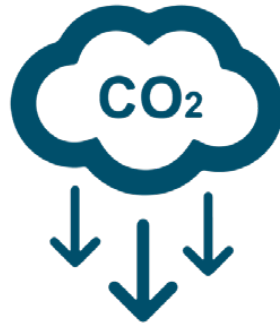
Dublin Airport is undertaking a Capital Investment Programme (CIP) of significant infrastructural investments that improve the built environment, during 2022-2026. This programme of incremental infrastructure replacement and upgrades will be delivered in a sustainable manner to enable Dublin Airport to accommodate up to 40million passengers per year (mmpa).

To support the amendment of the existing passenger cap from 32mmpa to 40mmpa, we will submit an Infrastructure Application (IA) to Fingal County Council (FCC). The IA submission will seek permission to develop the infrastructure needed to enhance the airport's capacity. Major applications for aviation related expansion at Dublin Airport are required to be supported by a CRS that includes mitigation measures as part of development proposals. This CRS is an essential part of our IA, that demonstrates how we will meet future traffic demand whilst also meeting our responsibility to reduce carbon emissions in line with international, national, and local commitments and objectives.

As well as supporting airport growth, this CRS has been produced to set out the measures to implement the daa Environmental and Social Governance ESG Strategy, published in 2021.

daa has a long term goal of achieving NZC emissions by 2050. Alongside this NZC goal, we have been tasked by the Irish government to achieve a 51% carbon emissions reduction by 2030 (vs 2018 levels). Achieving our 2030 target relies on the deployment of effective emission reduction measures in our Capital Investment Programmes and all airport projects.

Our emissions action plan, outlined in Figure 1, is focused on the initial measures to help us achieve our 2030 carbon reduction target.



GOAL:

Decarbonise all aspects of our operations and future development. Continue to work with our partners, passengers and stakeholders to reduce or even eliminate their emissions

Improvement Measure	
1	Upgrade our Airport Carbon Accreditation to the Transition level (4+) by 2025
2	Large Solar PV Phase 1 - 8.5 MWp Solar PV Farm
3	Replace and upgrade end-of-life lights with energy efficient Light Emitting Diodes (LED)
4	Deliver new Near Zero Energy Buildings (nZEB) across the airport in line with latest Part L Building Regulations
5	Replace and upgrade end-of-life ventilation and building control systems with high efficiency and intelligent technologies
6	Continue to purchase 100% renewable electricity through REGO backed supply contracts
7	Airport light vehicle fleet replacements and augmentation
8	Aerodrome Ground Lighting (AGL) improvement programme - replace with LEDs
9	High Mast Lighting improvement
10	Replace all campus street & car park lighting with upgrade to LED
11	Small Energy Projects (LED, electrical and thermal demand management, building management upgrades, battery storage)
12	CHP Thermal Storage Terminal 2 - increase efficiency of CHP heating and electrical systems
13	Airport Charging - i) facilities for Dublin Airport fleet and car park bussing ii) airside charging facilities for third parties, iii) charging facilities for carparks, car hire and other areas on the broader campus
14	Install more EV chargers across the airport for daa, tenant and customer vehicles
15	Alternate Fuels - create a transition plan and develop initial infrastructure for the implementation of Sustainable Aviation Fuel (SAF)
16	Integration of an onsite anaerobic digester as waste and energy solution
17	Sustainable Fleet - complete the transition of our light vehicle fleet and our continue the transition of heavy vehicle fleet to LEVs
18	Fixed Electrical Ground Power (FEGP) Expansion - expand FEGP to all remaining airfield contact and remote stands.
19	Install additional ground level solar Photovoltaic Farm (Phase 2) with generating capacity of 12 MWp, battery storage and control systems
20	Mobility Improvements - improve access to public transport, cycling and walking
21	Deliver Terminal 2 Sustainable Upgrade - renewable energy alternative heating
22	Transition to biodiesel or electric buses following trials/feasibility
23	Optimise the thermal energy storage capacity of the CHP 4 plant and upgrade its heat exchanger and LPHW pipe system
24	Terminal 1 sustainable upgrade feasibility study to inform future planning

Figure 1 - Dublin Airport Emissions Action Plan Carbon reduction measures which will be implemented as we progress to a 51% emissions reduction by 2030 and beyond to NZC50

Our CRS describes the carbon management initiatives, performance, and future reduction plans for Dublin Airport out to 2030 and beyond. It presents our approach to decarbonise Dublin Airport, charting an emissions reduction pathway to 2030 as part of an interim step in our transition to Net Zero Carbon.

Overview of responsibility for carbon emissions

There are many sources of carbon emissions in the aviation sector. Our carbon footprint includes airport emissions that we directly control and our partners' emissions that we can influence.

As the airport operator, we have direct control and responsibility for some of these emissions, some control and responsibility over some of the emissions at the airport and very limited control over other emissions. Therefore, we have varying ability to measure, manage and reduce emissions.

The World Resources Institute (WRI) Greenhouse Gas (GHG) Protocol (2004) sets out best practice guidance on how to calculate and report carbon emissions. We calculate Dublin Airport's carbon footprint in accordance with the GHG Protocol and ISO14064 principles. Carbon emissions are classified into three broad categories; Scope 1, Scope 2 and Scope 3 (see Figure 2)

Dublin Airports carbon footprint is reported annually under three different schemes

- Sustainable Energy Authority of Ireland's (SEAI) Monitoring and Reporting (M&R) System
- European Union's (EU) Emissions Trading Scheme (ETS) through the Irish Environmental Protection Agency (EPA)
- ACI's Airport Carbon Accreditation programme

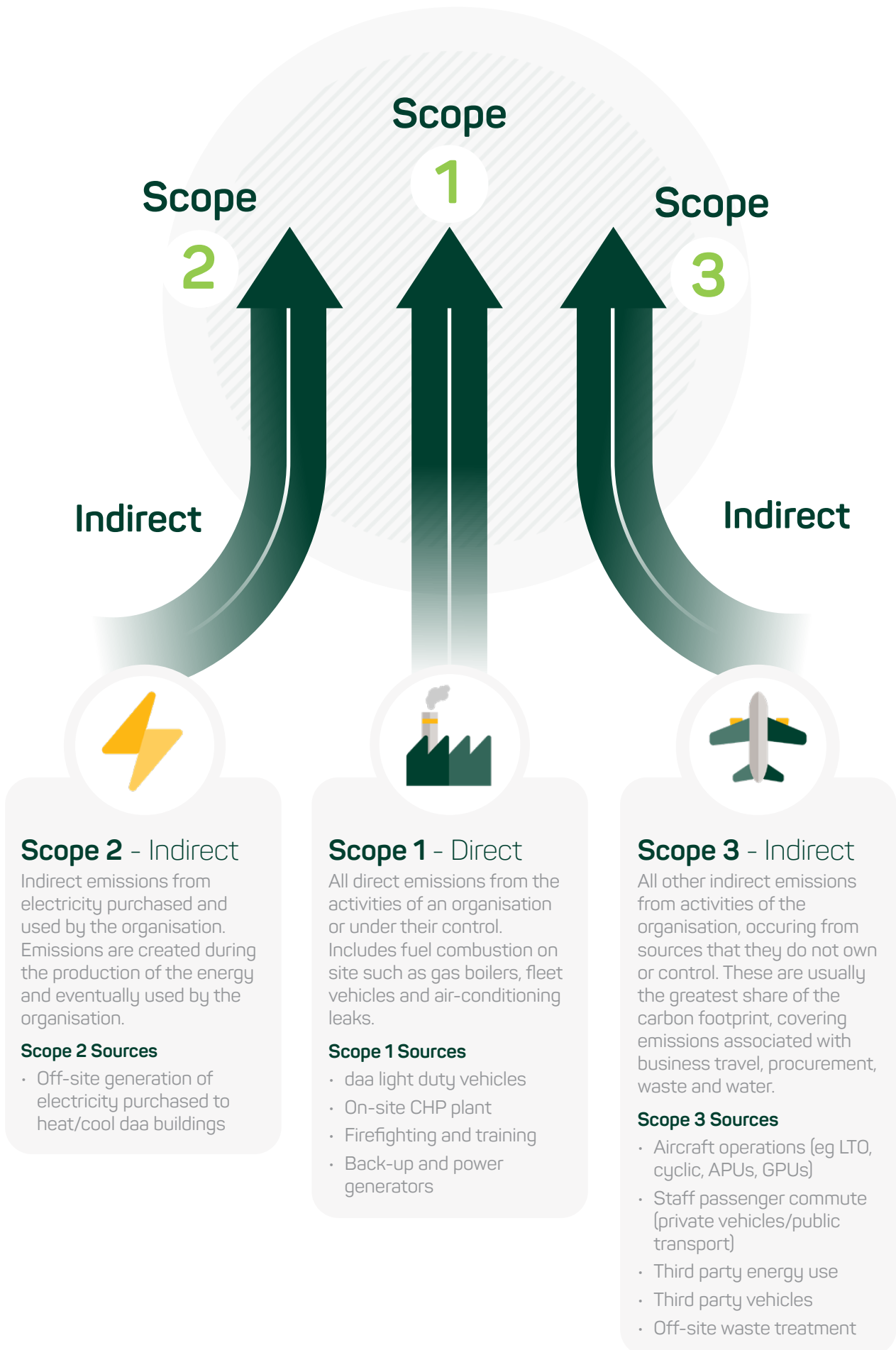


Figure 2 - Carbon Emissions Categories as defined by Greenhouse Gas Protocol global standard

3.0 Policy Context

This CRS sits within a framework of national, regional and local policies relating to energy, carbon emissions and climate change. These sit against a backdrop of existing international, and EU measures, including:

- IPCC October 2018 Special Report
- UN Sustainable Development Goals
- COP26 The Glasgow Climate Pact

There are a number of pieces of key carbon and energy legislative requirements which Dublin Airport is required to meet. New legislation, including the Climate Action and Low Carbon Development (Amendment) Bill 2021, was adopted by the Irish Government in 2021 and this significantly influenced our approach.

3.1 Existing Policy

European Green Deal

The EU aims to be a climate-neutral economy by 2050, with NZC emissions. This objective is at the heart of the European Green Deal and aligns with the EU's commitment to global climate action under the Paris Agreement. The Green Deal provides a road map to boost the efficient use of resources by moving to a clean, circular economy, restore biodiversity and cut pollution. To achieve the NZC50 target, interim 2030 climate and energy targets have been set by the EU for member states, including a -40% reduction in carbon emissions, a +32.5% increase in energy efficiency and an increase in renewable energy sourcing of at least +32%.

Integral to the Green Deal is the EU Emissions Trading Scheme (ETS), which is used as a key tool for cutting Green House Gas (GHG) emissions from large-scale facilities in the power and industrial sectors, as well as the aviation sector. Dublin Airport participates in the EU ETS and hold a permit under the Irish Environmental Protection Agency Act 1992, as amended. The permit, administered by the Environmental Protection Agency authorises us to emit a given quantity of GHGs annually from our onsite CHP plants that exceed a generating capacity of 20MW to heat buildings across the airport.

Under the EU ETS we are required to purchase emission allowances (EUAs) where 1 EUA = 1tCO₂. Our current free allocation of EUAs means that we will not have to purchase any EUAs until 2027. Nonetheless, we will continue to monitor carbon

prices within the ETS to minimise our future risk exposure to significant price premiums (€/tCO₂) and market valuation under a +1.5°C limit.

CORSIA – Scope 3 Emissions

In Montreal in 2016, the International Civil Aviation Organization adopted the Carbon Offsetting Scheme for International Aviation (CORSIA). CORSIA is a global, route-based carbon offsetting scheme to address carbon emissions and holds airlines accountable for their climate impact.

The first phases of CORSIA are voluntary (pilot and phase 1), running from 1 January 2021 to 31 December 2026. From 2027 it will be mandatory for most countries, including Ireland. Flight emissions will need to be offset if both 'origin and destination' states participate in CORSIA. CORSIA applies to all registered international aircraft operators (commercial and private) where their operations emit more than 10,000tCO₂e/year. Under CORSIA:

- All aircraft operators must monitor, report, and verify their fuel use and carbon emissions on all international flights
- All aircraft operators will be required to purchase "emissions units" to offset any growth in emissions after 2020

We will therefore work closely with our airlines already participating in CORSIA, and advocate involvement of those that do not yet participate

Fingal County Council – Dublin Airport Local Area Plan

Fingal County Council developed the Dublin Airport Local Area Plan (LAP) for 2017-2023 to ensure consistency between the airport activities and the interests of the local community. Carbon Objectives are shown below (Figure 3).

Climate action and carbon objectives from the Fingal County Council Dublin Airport Local Area Plan 2019

Fingal County Council / Dublin Airport - Local Area Plan Objectives	
Objective	Description
CA01	Support relevant provisions contained in the Fingal County Council Climate Change Action Plan 2019-2024, the National Climate Action Plan 2019 and any subsequent plan(s), National Climate Change Adaptation Framework 2018 and any subsequent plan(s) and the National Mitigation Plan 2017 and any subsequent plan(s).
E CA02	Major applications for aviation related expansion at Dublin Airport shall be supported by a Carbon Reduction Strategy to include mitigation measures for implementation as part of development proposals.
E CA03	Require that all new developments at the Airport incorporate design solutions aimed at reducing carbon emissions, including the incorporation of renewable energy and energy saving technologies where practicable, including the use of district heating/cooling systems.
E CA04	Facilitate, where appropriate, sustainable energy development proposals and projects at Dublin Airport
E CA06	All planning applications including proposals for more than 20 car parking spaces shall demonstrate provision and installation of Electric Vehicle charging infrastructure.

Figure 3 - Climate action and carbon objectives from the Fingal County Council Dublin Airport Local Area Plan 2019

3.2 New Policy

The Climate Action and Low Carbon Development Act 2021

Climate action is a top priority for Ireland's future and resulted in the publication of the updated National Climate Action Plan in 2021. In July 2021, the government introduced the Climate Action and Low Carbon Development (Amendment) Act 2021 (July 2021) and subsequently in November 2021, published the Climate Action Plan 2021, which commits Ireland to a legally binding target of net-zero greenhouse gas emissions no later than 2050, and defined the emissions reductions for each sector of the economy.

The Irish greenhouse gas emissions target is to halve emissions by 2030 (vs 2018) and reach net zero no later than 2050. CAP defines Ireland's road map to reduce carbon emissions in line with key policy actions and incentives. It reflects the Paris Agreement climate goals, EU targets and sets the direction to NZC50. The CAP includes these requirements which are relevant to Dublin Airport.

- A reduction of 51% by 2030 on a 2016-18 average baseline on thermal and transport emissions
- Reduce emissions from electricity in line with expected national grid decarbonisation: current figure is a 67% improvement by 2030
- Each organisation to have a climate action road map by end of 2022
- Target at least a 50% overall contribution from renewable space heating by 2030
- Purchase only zero-emission vehicles where available and operationally feasible from end of 2022
- No installation of fossil fuel based systems after 2023
- Display Energy Certificates in every public building
- Value of emissions to be considered as part of investment decisions, climate objectives to be integrated into business planning

Fingal County Council Development Plan 2023

FCC are currently in the process of developing the Fingal Development Plan 2023, which has a dedicated chapter on Climate Action. In the Draft Plan, one key requirement is that all applications for developments of 1,000 m², must prepare a Climate Action Energy Statement.

Clean Vehicles Directive

The EU Clean Vehicles Directive passed into Irish law on 2 August 2021, it promotes the uptake of low and zero-emission vehicles. It covers procurement by public sector bodies - purchase, lease, rent or hire-purchase contracts and relevant services contracts. The Directive sets maximum target for cars and light trucks

- 40% of cars and light trucks publicly procured to be clean vehicles
- 10% of heavy-duty trucks publicly procured to be clean vehicles
- 45% of buses publicly procured to be clean vehicles

These targets are legally binding and will become more stringent from 2026.

Fit for 55

Adopted in August 2021, Fit for 55 is the EU's plan for a green transition. It includes the following:

- Targets for Fixed Electrical Ground Power (FEGP) supply to stationary aircraft
 - January 2025: all gates used for commercial air transport operations
 - January 2030: all outfield posts used for commercial air transport operations
- Planning of infrastructure for alternative fuels, electrified and hydrogen powered aircraft operations
 - Publicly accessible electric recharging points - Targets: 2025, 2030 and 2035
 - Hydrogen refuelling infrastructure to be set up by end 2030
 - Sustainable Aviation Fuels (SAF) - boost the uptake using of SAF targets, starting with 2% in 2025 and reaching 5% in 2030



Fixed Electrical Ground Power (FEGP)

3.3 Non-legislative Commitments

Alongside the new legislative requirements and targets, Dublin Airport has the following existing commitments and requirements:

- Upgrade from Carbon Neutrality (Level 3+) to the Transition level (4+) under the Airport Carbon Accreditation programme
- daa Carbon & Energy Policy
- daa Environmental Social and Governance Strategy 2021 (including alignment to key UN Sustainable Development Goals (SDG) Carbon Goals)
- daa Air Quality Policy
- FCC Dublin Airport LAP 2020 including six Climate Action Objectives (Figure 3, p15)
- ISO 50001:2018 Management System Objectives and targets

Policy Backdrop



- Kyoto Protocol - 1997
- Paris Agreement (COP21) - 2015
- UN SDGs
- IPCC Special Report 1.5 - 2015
- IATA 3 - Climate Goals | Industry-wide strategy - 2009
- AO Airport Carbon Accreditation Programme - 2009
- ICAO CORSIA MGM - 2012-35



- Climate and Law policies
- Energy performance of buildings
- Directive (2012/30)
- Energy Efficiency Directive (2021/27)
- Renewable Energy Directive(2018/21)
- Clean Vehicles Directive (2019/2021)
- EU Emissions Trading System (ETS)
- Clean Energy for all Europeans
- European Green Deal - 2019
- EU Climate Law - 2020
- Climate Target Plan - 2050
- ACI European NET Zero Carbon 2050 Resolution
- 100 Carbon Neutral Airports 2030 Commitment
- Fit for 55 2021



- Climate Action Plan 2021
- Project Ireland 2040
- National Energy Efficiency Action Plan
- National Energy and Climate plan
- National Mitigation Plan 2017
- Action Plan for Aviation Emissions Reduction 2019
- Climate Action & Low Carbon Development Act 2015
- Eastern & Midland Region Special & Economic Strategy 2019-21
- 2017 nZEB Part L Regulations
- NASI 15393
- NASI 15399 EED Management
- SEAI EXCEED Certification
- Display Energy Certificate



- Dublin Airport Local Area Plan 2020
- Climate Change Action Plan 2019-24
- Fingal Development Plan 2017-23 (update scheduled)



- Sustainability Policies
- Sustainability Strategy
- Sustainability Targets
- EUETS Permit (Irish EPA)
- Mobility Management Plan
- Carbon Reduction Strategy
- Airport Carbon Accredited at Neutrality level (3+)
- Sustainability Certifications
- Sustainability Procurement
- ISO 14001-2015
- ISO 50001-2018
- ISO 55001 - 23014



- Planning Permission
- Project Approval Documentation
- Environmental Permits and Licences
- Project Sustainability Statements
- Sustainability Rating System
- Mandatory Sustainability Requirements (MSRs)
- Project Sustainability Measurements/Initiatives

4.0 Carbon Footprint Data

Our carbon footprint consists of emissions in our direct control (Scope 1 and 2) and those which we can influence (Scope 3). Carbon emissions are generated at various points in airport operations and as part of the passenger journey. Understanding where emissions are generated enables us to focus on opportunities to make reductions.

4.1 Emissions Data

Current scope 1 & 2 emissions summary - 2021

Emission data for 2021 is presented in Figure 4. It is structured to align to reporting categories for SEAI and the 2021 Climate Action Plan public sector requirements for electricity, thermal and transport. Scope 1 and 2

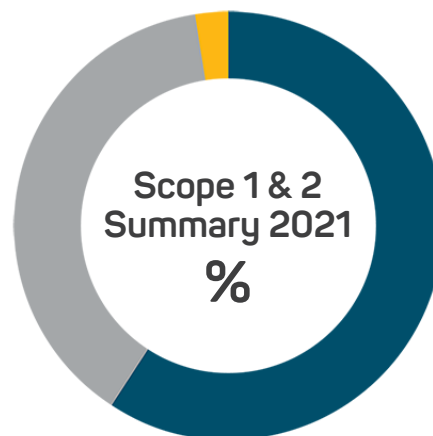
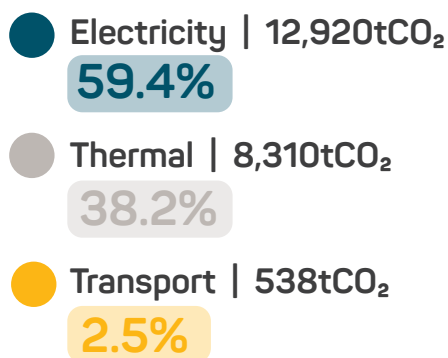


Figure 4 - Dublin Airport 2021 Carbon emissions as reported to SEAI

Baseline emissions average 2016 - 18

The Climate Action Plan 2021 target reductions are set against a baseline of the average of 2016-2018 carbon emissions. The baseline data is shown in Figure 5.

Significant work has been undertaken already at Dublin Airport - the baseline represents a 35.3% reduction in CO₂ emissions under SEAI Public Sector scheme 2012-2020. Our emissions reductions to date are described later in this document.

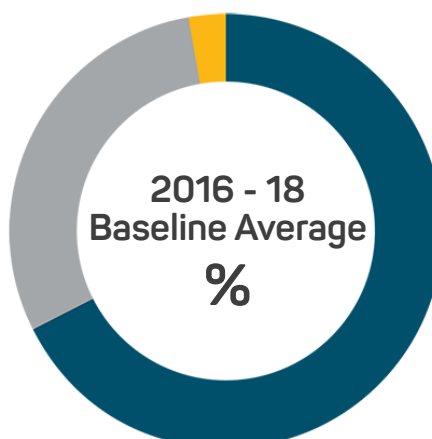
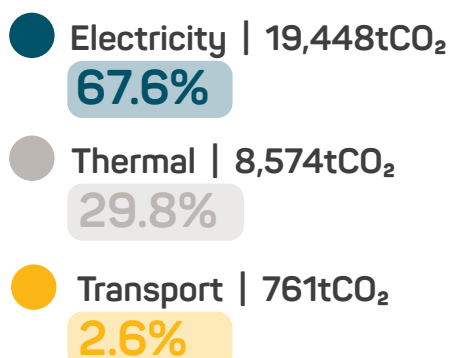


Figure 5 - Dublin Airport 2016-18 Carbon Emissions Baseline

4.2 Targets

The targets which Dublin Airport is working towards are defined by/based on CAP 2021 and specific public sector guidance provided by SEAI

- 51% absolute reduction required from thermal and transport emissions

Reduce emissions from electricity in line with expected national grid decarbonisation, the current figure is a 67% improvement by 2030 *1

- 50% of space heating from renewable sources

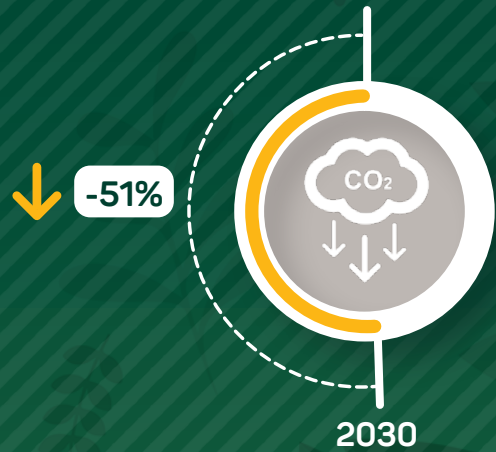
It is important to note that the emissions reduction from grid decarbonisation are built in and do not contribute to Dublin Airports carbon reductions. Dublin Airport will achieve carbon reductions arising from the balance of 33%.

To achieve our 2030 target, we will need to reduce our emissions as shown in Figure 6. The overall target reduction is:

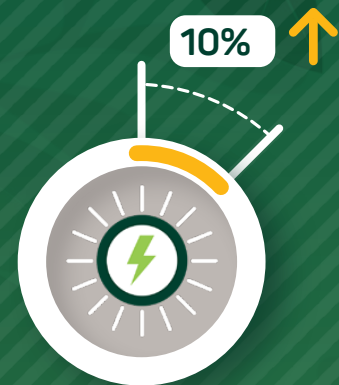
- Scope 1 (Thermal and Transport) Emissions - 4761tCO₂e from baseline of 9335 tCO₂e
- Scope 2 (Electricity) Emissions - 13030 tCO₂e from the baseline of 19448 tCO₂e

*1 - If the grid emissions reductions are not as expected then the 67% figure will be adjusted as time goes on

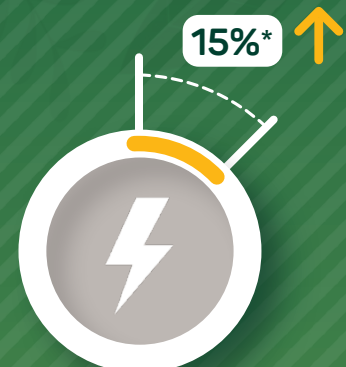
Carbon



Onsite Renewables



Energy Efficiency Improvement



*Exceed public sector target of 50% energy efficiency improvement by 15%

4.3 Emissions Forecast New Emissions Sources

We are planning for sustainable growth at Dublin Airport. We have in place a rolling 5-year Capital Investment Programme (CIP) including infrastructure development projects directly related to the to increase the airport’s capacity to handle 40mppa safely, efficiently, and sustainably.

These projects are the main development components of the proposed IA submission and together introduce an additional 32,345m2 of floorspace to be lit and conditioned. They comprise:

- Extra and improved terminal capacity
- Expanded and improved security arrangements within the airport
- Increased capacity for surface transport access to the airport

- Upgraded ancillary utility infrastructure (water, sewerage, and drainage)
- More aircraft parking stands

Outside of the IA , Dublin Airport has a series of other projects, including the new 3,110m north runway 10L/28R (granted permission to build by An Bord Pleanála in 2007) in 2022 and the refurbishment of levels 4 and 5 in Terminal 1.

Without appropriate emission reduction measures, the new infrastructure projects in this IA could increase our Scope 1+2 emissions above the 2019 baseline by 4,500 tCO₂e to 29,000 tCO₂e. This is attributable to increases in both annual energy consumption and peak demands .

Source	Baseline	Target-reduce by	Already achieved	Remainder to meet target	2030 Carbon Expectation
Electricity	19448	-67% (13030)	6528	6502	6,418
Thermal and Transport	9.335 (8574+761)	-51% (4761)	487	4274	4574
Total	28783	17791	7,015	10776	10992

Figure 6 - Dublin Airport Emissions Forecast and Targets for 2030

4.4 Scope 3 Emissions

In 2019, Scope 3 emissions generated by third party activities accounted for more than 93% of Dublin Airport’s total carbon footprint with 387,853tCO₂e. The five largest sources of emissions are responsible for 94% of the airport’s Scope 3 footprint. These are:

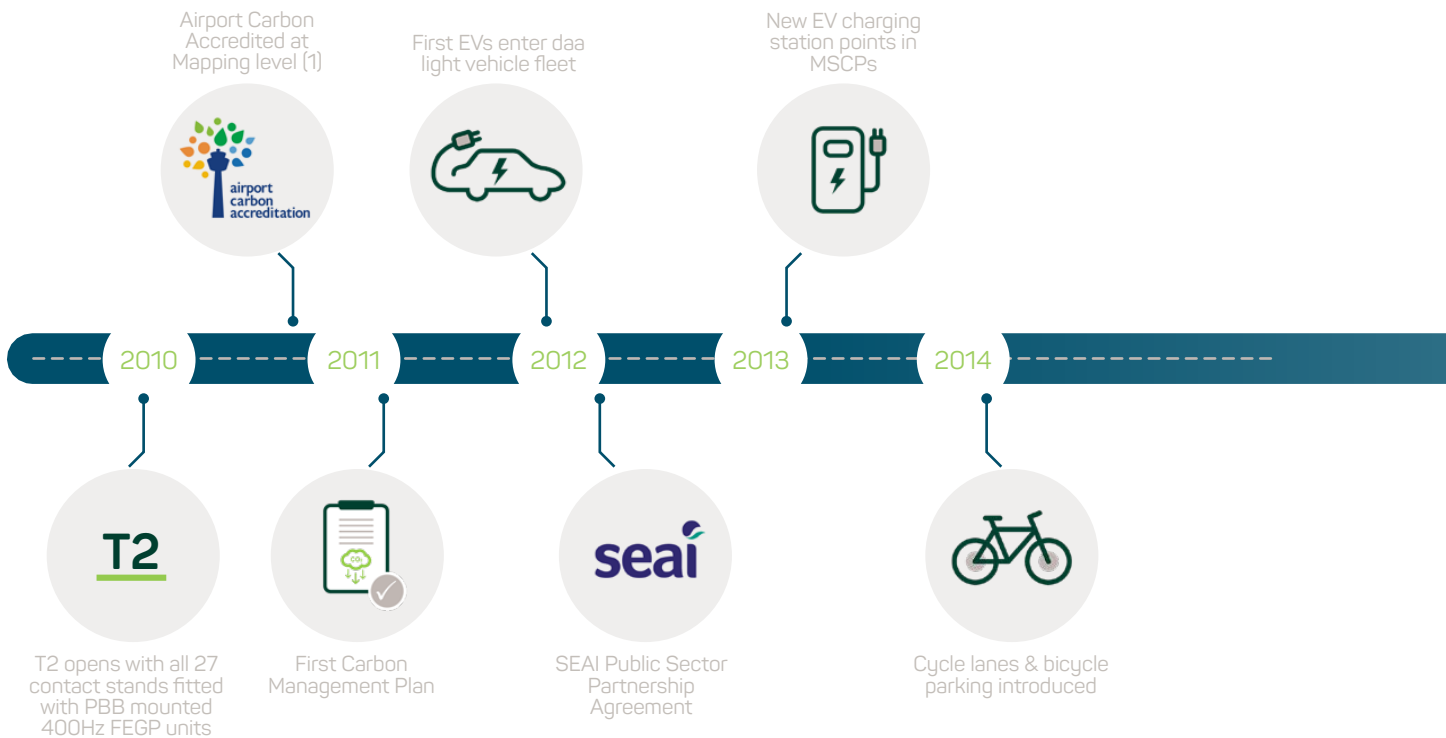
- Aircraft Landing and Take-off (LTO) cycle – 258,832tCO₂e
- Passenger commute – 41,444tCO₂e
- Shuttle buses – 27,381tCO₂e

- Aircraft auxiliary power unit (APU) use – 23,668tCO₂e
- Staff commute – 11,993tCO₂e

Whilst we are not directly responsible for Scope 3 emissions, we are committed to working closely with our business partners to help them reduce their emissions.

5.0 Emissions Reductions to Date

5.1 A decade of Initiative



Reductions achieved

As noted earlier, the airport reduced its carbon footprint by 12% between 2018 and 2019 and has reduced its overall carbon emissions by 25% between 2013 and 2019, despite a 63% increase in passenger numbers during the same period. Figure 7 shows the Carbon Emissions Reductions at Dublin Airport between 2010 - 2021. Dublin Airport has introduced a wide range of energy management measures in recent years that allow it to monitor

and improve its overall energy use across the campus. The use of building management systems, the installation of efficient LED lighting, a pilot solar farm project and a range of other measures have all helped the airport to significantly reduce its overall energy consumption. In 2019, Dublin Airport had reduced its energy consumption levels by 48% compared to the average consumption levels in 2006-2008.

Carpark lighting developed using all stages of SEAI EXEED

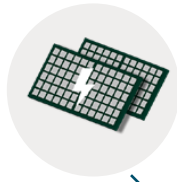


2016



Certified ISO50001 EnMS

Installed 110kWp solar PV (268 panels)



2017



LEED Platinum certified DAC Building (ESG Global HQ)

46% energy efficiency improvement (vs. 2006-08 baseline)



2019



Pier 3 installed 400Hz FEGP units at all contact stands

Airport Carbon Accreditation at Neutrality level (3+)

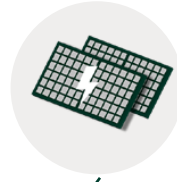


2020



Electric bus trials

Installed 8.9MWp Solar PV Farm



2021



Renewable Heating assessment - thermodynamic



5.2 Projects which Directly Impacted Dublin Airport's Sustainability Goals

In 2012, we purchased our first electric vehicle (EV). Since then we have progressively updated our vehicle fleet with LEVs to help reduce our Scope 1 emissions. We have placed a contract for landside buses in May 2022 that will see full transition of landside bus fleet to EV before April 2024.

Since 2012, we have participated in the SEAI's Public Sector Partnership Programme. In accordance with the National Energy Efficiency Action Plan 2009-2020, we were required to improve energy efficiency by at least 33% by 2020 from a 2006-2008 baseline. We met this objective in 2013 and had reduced the amount of primary energy used on a floor space basis by 48% in 2019 (kWh/m²).

In 2015, we became one of the world's first airports to certify our energy management system under ISO 50001. Our energy management system provides a strong framework for developing and implementing our energy policy, setting objectives and targets, identifying, and managing energy use across the airport. This is done against a cycle of continual review of energy practices at the airport and initiatives to improve our performance.

We were the first organisation in Ireland to be awarded LEED Platinum certification, the highest level of sustainability performance that can be achieved under this internationally recognised rating scheme, for the "One Dublin Central" refurbishment; a six storey, 8,300m² former 1960s office building.

We were one of the first organisations in Ireland to successfully deliver a project across all three stages of the SEAI Excellence in Energy Efficient Design (EXEED) – Design, Verify and Manage. The project was completed in 2018 and involved a major lighting upgrade of our Terminal 1 multi-storey and surface carparks. We installed 690 new LED lights saving 964,500kWh of electricity annually.

In 2018, we also installed a small-scale solar PV system at Dublin Airport. This generates on-site renewable electricity, which helps to reduce the amount of electricity we need to purchase from the grid network, as well as reducing our carbon emissions.

In late 2020, Dublin Airport was accredited at the Neutrality level (3+) under the Airport Carbon Accreditation programme, a significant milestone reflecting the carbon management implemented since joining the programme in 2011 at Mapping level (1).

In 2021, we commenced the development of a large solar PV project and delivered several projects which reduce energy consumption, including: Terminal 1 Chiller HVAC Replacement; Terminal 1 Boiler and pipework replacement with upgrade to our boilers ensuring that exhaust gas heat is recovered; ongoing LED upgrades across several campus and terminal buildings; and the completion of Landside Facility & Snow Base building to Part L Nearly Zero Emission Building (nZEB) standard.

Other 2021 projects which will result in reduced energy usage included the introduction of Advanced Visual Docking Guidance (AVDGS) (see Project Highlights), the rehabilitation of Runway 16/34 and the North South Sewer project. Carbon Emissions for 2021 are shown in Figure 8.

Alongside the significant reductions we have made in Scope 1+2 emissions over the past decade, we have also helped our business partners to reduce their emissions (our Scope 3 emissions) through the installation of new EV charging stations across the airport. The first landside EV charger was installed in 2013. All contact gates at Terminal 2 have been equipped with 400Hz Fixed Electrical Ground Power (FEGP) units since its opening in 2010. In 2019, FEGP units were installed at all Terminal 1 (Pier 1 and Pier 3) contact gates. In 2021 we rolled out EV chargers across a number of car parks and at the taxi holding area.

Scope 1 & 2 Carbon Trend

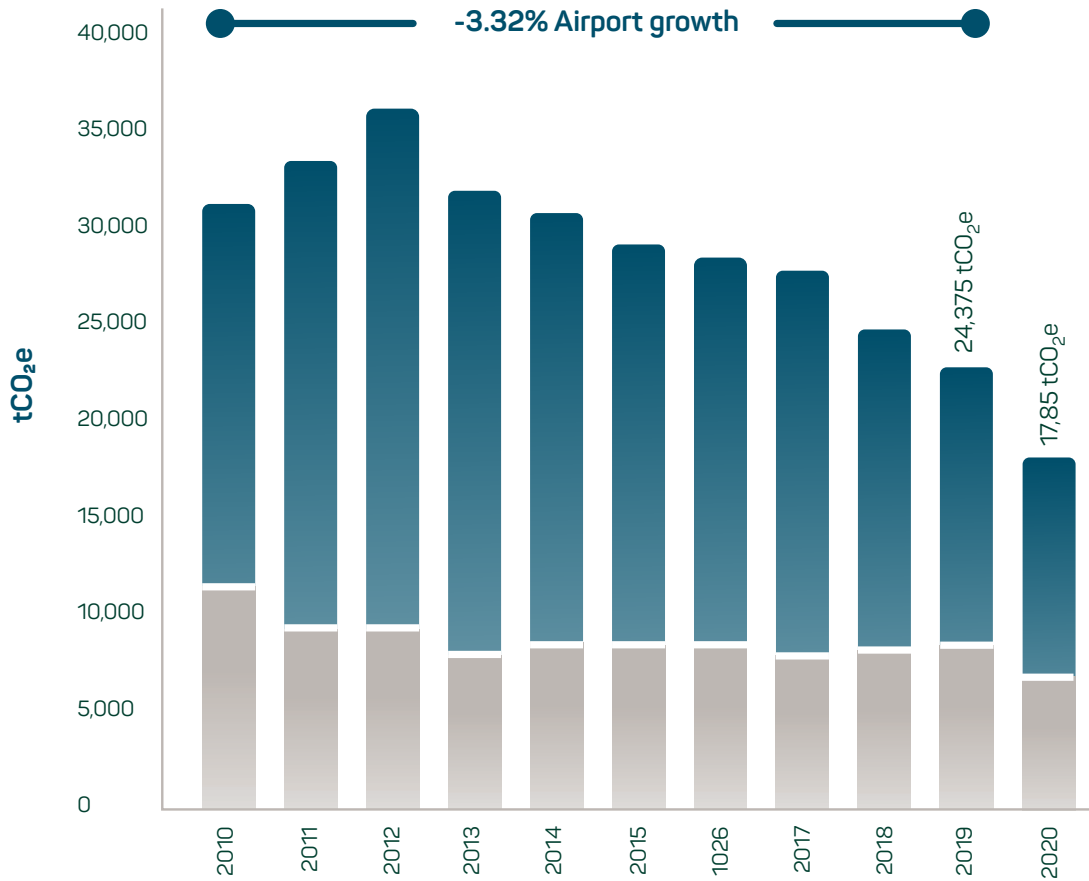


Figure 7 - Carbon Emissions Reductions at Dublin Airport 2010 - 2021

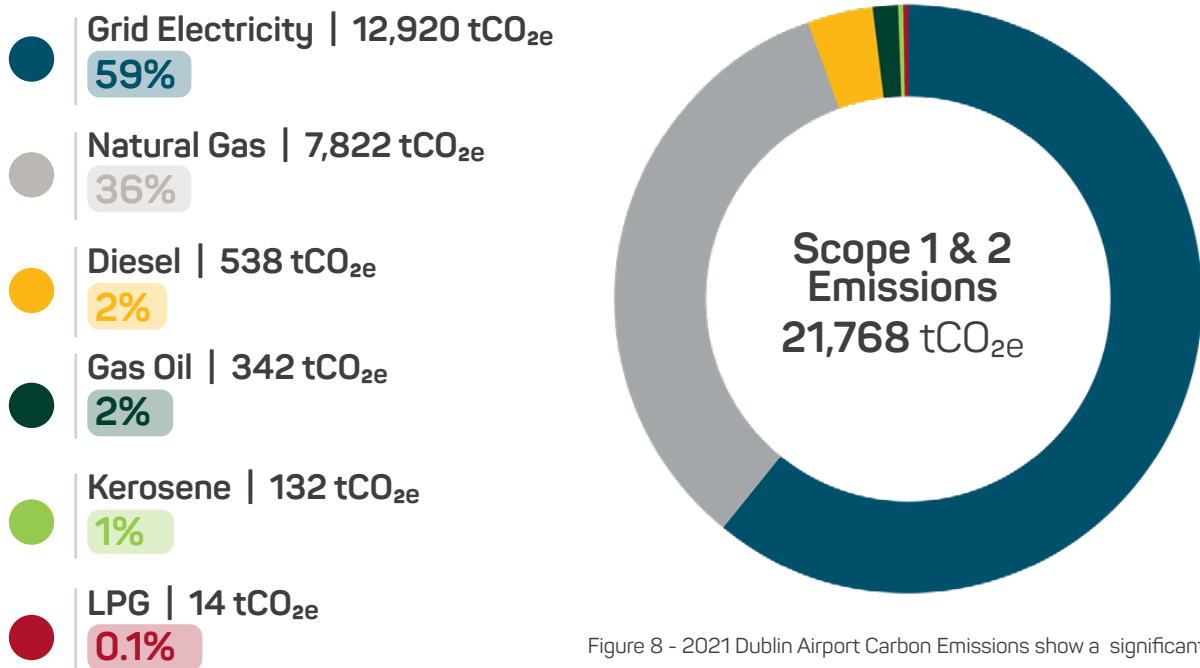


Figure 8 - 2021 Dublin Airport Carbon Emissions show a significant reduction

6.0 Future Carbon Reduction Plan

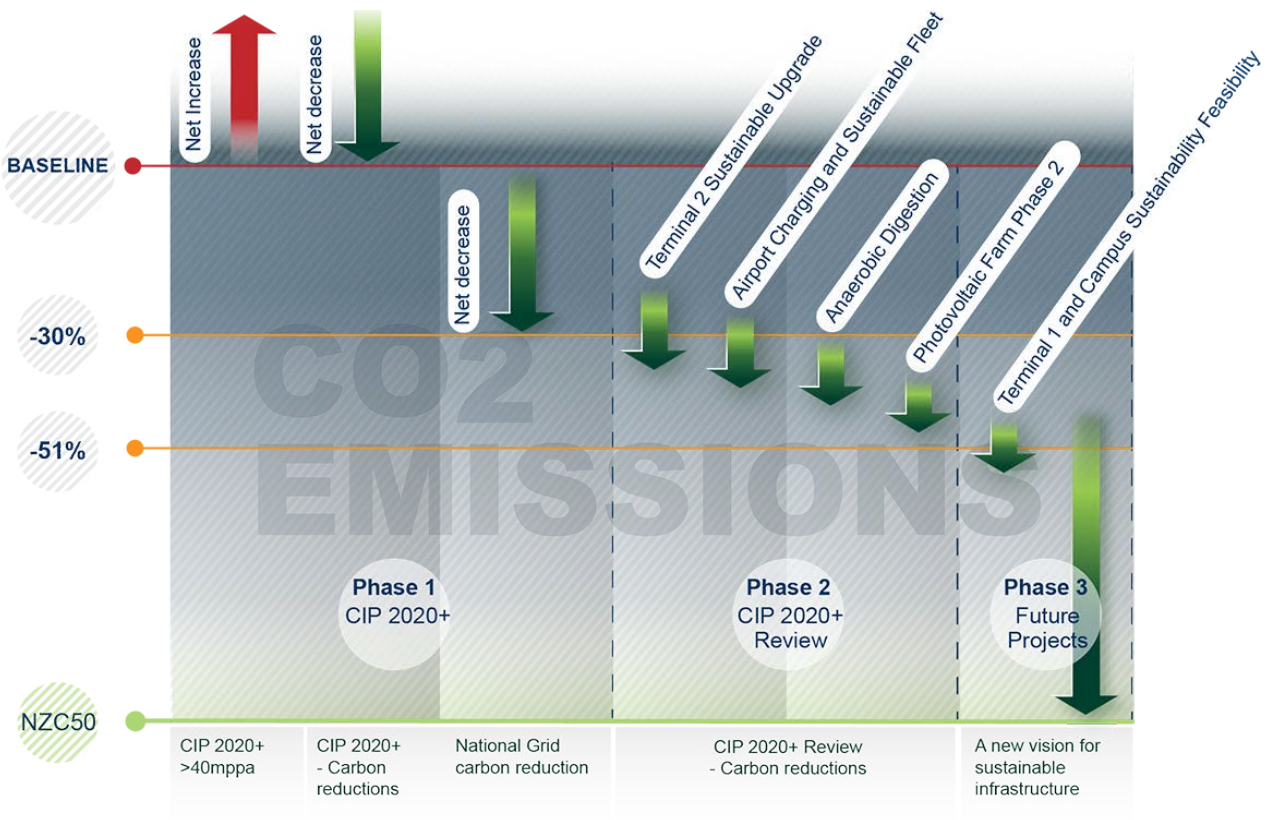


Figure 9 - Indicative path to carbon reductions showing projects in Phases 1-3

The Carbon reduction chart presented by Figure 9 indicatively demonstrates our overall approach to achieving the carbon reduction targets, showing some of the key reduction projects and phases of activity. The phases are aligned to our current CIP, recognising that some of the larger projects will also roll into the next period.

Dublin Airport is currently actively working to understand what this path beyond 2030 is, and recently submitted a proposal to commence a research study to the Commission for Aviation Regulation. Figure 10 shows a summary of the projects and carbon reduction measures which we will implement as we progress towards NZC50

In the long term, to get to NZC50, we will take steps to decarbonise Dublin Airport:

- Operate a 100% zero carbon-low emissions vehicle fleet.
- Phase out diesel and natural gas in our operations
- Alternative supply for onsite CHP plants
- Integrate circular economy principles

Prepare for new generation technologies including considerations to incorporate Biogas/Biomethane, carbon capture storage, green hydrogen, electric and hybrid aircraft.

Carbon Management Plan

In accordance with the requirements of the Airport Carbon Accreditation programme, we have had in place a Carbon Management Plan (CMP) for Dublin Airport since 2012. The CMP has been updated and

sets out the management framework, protocols, and measures to reduce, monitor and report Scope 1+2 emissions across the airport. It is updated every three years in line with our corporate policies and Airport Carbon Accreditation requirements.

6.1 Phase 1 (CIP 2020 +) - Projects in Progress

Integrating carbon reduction to all CIP projects

To limit the impacts of the new infrastructure development we will implement several complementary measures that balance opportunities to conserve, generate, and control energy across the airport.

The most recent energy efficiency measures will be implemented to new construction and refurbishment buildings using the Dublin Airport Infrastructure Project Sustainability Guidelines. The Sustainability Guidelines set minimum values to be achieved for a wide range of criteria, including materials selection, lighting and ventilation, potable water use, waste minimisation and recycling. These apply to all our capital projects and will be regularly reviewed and updated.

By ensuring all our new builds meet the Part L nZEB Regulations 2017, we expect to reduce the energy demand of planned terminal capacity enhancements. The Part L nZEB requirements not only cover energy performance but also require us to power our buildings with 10% to 20% renewable energy depending on the building's Energy Performance Coefficient (EPC). Carbon Performance Coefficient (CPC) performance.

The Part L nZEB Regulations 2017 also cover our refurbishment projects. While technical requirements vary, the end goal remains the same – reduce our operational carbon footprint. In meeting nZEB requirements our buildings will achieve Building Energy Rating, which ranks buildings according to their energy efficiency and covers energy use for space and water heating as well as lighting. The primary energy needs are calculated per unit floor area per year (kWh/m²/year).

Project highlight: ADVGS

A display providing real-time information to pilots parking aircraft or pushing back for departure. Dublin Airport is installing Advanced Visual Docking Guidance Systems (AVDGS) on all aircraft contact parking stands.

Benefits: Drive sustainability, enhanced safety at gates

- Reducing running of support vehicles engines, helping reduce airfield carbon emissions
- Reduced fuel burn and emissions through less occurrences of aircraft holding on taxiways



Embedded into the planning and design phase of our capital projects are minimum carbon performance requirements. These are performance-based targets to drive innovation and project lifecycle cost savings.

We will measure the carbon performance of each of our projects against the following minimum carbon performance requirements:

- 20-40kgCO₂e/m²/year for all new buildings
- 40-60kgCO₂e/m²/year for all building refurbishments
- 10-20% of primary energy demand for all new buildings to be supplied from onsite renewable energy
- Minimum BER B3 rating for all buildings
- All new buildings to be nearly Zero Energy Buildings

CIP targeted Energy and Carbon Projects

The reduction of our Scope 1+2 emissions will be underpinned by energy efficiency measures, fleet replacements to zero to low emission vehicles, integrating on-site renewables, fuel switching and electrification. The indicative carbon reductions

resulting from these projects is shown in Figure 10. Specific measures include:

- Onsite renewables using solar PV and battery energy storage
- Lighting upgrades to LED luminaires with smart controls
- Chiller upgrades to high efficiency systems under full and part load conditions using low global warming potential and zero ozone depletion potential refrigerants across our terminals (i.e., alternative fuels such as biogas, biomethane, hydrogen, series counterflow)
- High efficiency heat pumps to regulate thermal comfort across in our terminals and buildings
- 100% Low Emission Vehicles (LEVs) operating in our light-duty vehicle fleet
- Energy efficient baggage handling system motors and belt
- Energy efficient vertical transport systems (i.e., lifts, escalators)

Project	Carbon Reduction (tCO ₂ e)
Large Solar PV Phase 1	1500
Airport Light Vehicle Fleet Replacements and Augmentation	100
Aerodrome Ground Lighting (AGL) Improvement Programme	20
High Mast Lighting Improvement	30
Campus Street & Car Park Lighting Upgrade	230
CHP Thermal Storage T2	400
Small Energy Projects (LED, Electrical and thermal Demand Management, Building management upgrades, Battery Storage of 7.5MWh)	500

Figure 10 Indicative carbon reductions for Phase 1 projects

6.2 Phase 2 (CIP 2020 + Review) - Planned Projects

Our phase 2 projects have been identified and are in the early stages of planning for delivery and were incorporated into the CIP Review to drive further carbon reduction through the programme. With these projects, significant steps will be taken towards the 51% reduction target, but a gap will remain. The specific reductions will be identified during detailed design.



T2

Terminal 2 Sustainable Upgrade

This project seeks to replace the existing fossil fuel heating system in Terminal 2 with a renewable energy alternative new heating system powered by more sustainable energy sources. Currently, the space heating and hot water for Terminal 2 and its Pier comes from a single Combined Heat and Power (CHP) unit and three boilers, all running on natural gas. The natural gas used in Terminal 2 represents 40% of all-natural gas used by the airport and 15% of total carbon emissions. This project will essentially eliminate the use of fossil fuels from Terminal 2. We are currently researching the most appropriate heating technology and undertaking thermal modelling of the building, including a full review of the entire building envelope and heating system.

The project includes new high-efficiency boilers, water heaters, controls, chillers, pumps, and other equipment as they reach the end of their planned service life. Improve thermal energy storage and efficiency through the upgrade of plant heat generating and distribution systems.



Airport Charging Infrastructure

This project proposes the development of charging infrastructure for electric vehicles across the airport campus, providing charging for Dublin Airport, airlines, handlers, public transport, and public vehicles. This additional charging infrastructure will increase electrical load peak capacity requirements to the existing airport distribution network; therefore, this project will also assess and upgrade the existing substation, switchgear, and electrical cabling network to maintain operational resilience



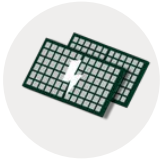
Anaerobic Digestion

This project proposes the development of an Anaerobic Digestion plant at Dublin Airport. An anaerobic digester will reduce Dublin Airports carbon emissions, while also decreasing some of our dependence on fossil fuels through the use of biomethane generated on-site. The anaerobic digestion process also supports a circular economy and reduces waste generation on-site as it can use food waste as a feedstock to produce the biogas. Anaerobic Digester will also have the benefit of lower and more predictable energy costs.



Sustainable Fleet

Dublin Airport is putting in place a strategy to transition to an efficient and effective Light and Heavy Vehicle Fleet to meet the needs of the business, including the light fleet made up of operational cars, jeeps, and vans as well as the heavy fleet made up of sweepers, tractors, snow, and ice clearing vehicles, over to zero or low emission vehicles. The plan will see all light fleet vehicles transitioned to ZEV or PHEV by 2025.



Photovoltaic Solar Farm Phase 2

Dublin Airport has already implemented a small-scale Solar PV array as part of a shift towards renewable energy generation and is currently generating 90,000kWh per annum. We are also in the process of undergoing detailed engineering design for an additional 8.5MW solar PV plant SE of the airport.

A further larger development is now proposed to develop more PV solar capacity at several locations around the airport campus. The renewable energy generated from this additional capacity will be used to offset the increased electrical energy needs of the airport that are expected over the coming years as we move away from fossil fuels and towards electrification of assets.

In addition to the PV element, this project will also include battery storage and control systems in order to better leverage the benefits of onsite renewable generation, while maintaining airport system resilience and flexibility.



Photovoltaic Solar Farm

6.3 Phase 3 - Future Projects

Phase 3 focuses mainly on the longer term goal of being a NZC50, and also covers any remaining carbon reductions needed to meet 51% reduction by 2030. During Phase 3 we will also identify further opportunities to work with our airport stakeholders and partners to address Scope 3 emissions.

A detailed review of all Dublin Airport infrastructural projects currently underway or in the planning phase that contribute to carbon emissions (positively or negatively) has demonstrated a gap to our 2030 reduction target and to our 2050 NZC goal.

Figure 11 shows the forecast carbon emissions for 2030, considering airport growth and planned carbon reduction projects. This shows that additional projects are needed to enable Dublin Airport to meet its 2030 target and to plan for NZC50. As part of closing this gap and planning our roadmap to 2050, Dublin Airport has developed a proposal to undertake an in-depth study to map out our trajectory of emissions and identify options and technologies and timelines for reductions.

This study will look at the campus as a whole, seeking to ensure that NZC emissions can be achieved. It will outline the steps to doing so, while in the shorter term ensuring that any investments and developments do not compromise the path to net zero carbon emissions.

The first step in the study is to look at the development path of Dublin Airport infrastructure regarding closing the gap to attaining the 51%

reduction by 2030 and then identifying a pathway to net zero carbon emissions by 2050. A review of options for Terminal 1 and Campus Sustainability is being developed at present, from May 2022. An additional whole airport study will also be undertaken to review the implementation of a range of technological solutions including:

- Further Renewable Energy systems
- Energy Storage
- Electrolysis Hydrogen generation
- Export to Grid
- Vehicle to Grid (V2G) technology
- FEGP to non-contact stands

Some of the projects which are likely to form part of Phase 3 will include:

- T1 investments
- Campus reorganisation
- Passenger and Public transport charging
- Supply chain sustainability
- Sustainable Aviation Fuel, Sustainable Public Transport

Carbon Source tCO ₂ e	Target	Gap to Target
Electricity	6,418	497
Thermal	4201	3,874
Transport	373	864

Figure 11 shows the forecast carbon emissions for 2030, taking into account airport growth and planned carbon reduction projects.

The Sustainable Infrastructure Project

Terminal 1 and its piers account for 53% of gas usage and 18.5% of direct carbon emissions at Dublin Airport, making it the single largest contributor within the airport's portfolio. The main terminal building dates back to the early 1970s, with extensions added as recently as 2020. The building is heated centrally by natural gas from two boilers and two CHPs. There is a significant challenge in transitioning a 50-year-old building, particularly a unique building such as a terminal, from a fossil fuel-based heating system to a renewable alternative.

Starting in 2022, we will undertake a feasibility study into campus-wide fossil fuel usage and the development of a sustainable strategy for the upgrade or replacement of Terminal 1 and interconnected buildings. The output of will inform future planning and CIP development.

The overall objective of this feasibility study is to determine what options are available for converting Terminal 1, associated piers and connected campus buildings away from fossil fuel-based heating systems to renewable energy alternatives.

There is a high-level understanding of the options that would be suitable for this; however, due to the level of investment and impact on operations this project would entail, it is necessary to complete a detailed feasibility study to narrow down the projects and better quantify their impact.

For Terminal 1, another option requires consideration as part of the study. Due to the nature and age of the main terminal building, the costs of retrofitting a new heating system may not be practical, feasible or present the best solution from a financial and energy perspective.

Forecast reductions will be estimated as the project is developed.

6.4 Addressing Scope 3 Emissions

Scope 3 emissions represent, by far, the largest component of emissions associated with Dublin Airport. While the reduction of Scope 3 emissions is not currently required by Government, as part of our sustainability commitments it is critical that Dublin Airport engage with its partners to find ways to address them now, through collaboration and strong partnerships with stakeholders at the airport, local communities around the airport and our supply chain. We will endeavour to work closely with them to help them to reduce the carbon emissions for which they are responsible, and to keep them informed of the steps being taken to reduce the overall carbon emissions associated with Dublin Airport. We will also work with national and international policy makers to ensure an effective and collaborative approach to reducing our scope 3 emissions in the national interest.

This will put Dublin Airport on track to meet our longer-term sustainability and climate related ambitions, ensure sustainable growth.

We will collaborate with our stakeholder groups, including airlines, tenants, and business partners to set pathways to NZC50, prepare for new generation technologies including carbon capture storage, green hydrogen, electric and hybrid aircraft

Fixed Electrical Ground Power Phase 3

Dublin Airport is expanding the delivery of Fixed Electrical Ground Power (FEGP) to all remaining airfield contact and remote stands. FEGP units have been installed at Dublin Airport through 2 previous rollout phases; this project now proposes a third phase enabling all remaining contact and remote stand. FEGP provides efficient, quiet and sustainable mains electrical power to aircraft while they are on stand during turnarounds and while parked for overnight maintenance activities.

Where FEGP is not available, diesel ground power units or the aircraft's own Auxiliary Power Unit are used with both generating greater noise, carbon and other emissions; as such, FEGP is a more efficient technology which assists both the airport and airlines in reducing their carbon footprint, while also reducing noise levels to the benefit of airport stakeholders and the local community.

This project will not contribute directly to Dublin Airports carbon reduction targets but will support airlines and ground handlers reducing carbon

emissions through reduction in use of diesel Ground Power Units

Alternative Fuels

This project proposes to create a transition and development plan for infrastructure for the implementation of Sustainable Aviation Fuel (SAF) at Dublin Airport. This project will also include research and feasibility for the enablement of Hydrogen and other alternative aviation fuel sources at Dublin Airport.

SAF Blended fuels

An emerging, but relatively straightforward technology to implement, where planes are fuelled with SAF via bowser or existing fuel hydrants, with limited infrastructure intervention. The Infrastructure Department is currently in conversation with suppliers to understand requirements, potential and implications for the airport and airline operators. This is an immediate term project, as EU legislation requires a supply of SAF from European airports by 2025.

Hydrogen

Fit for 55 requires national authorities to seek a single urban location for hydrogen fuelling. This ambition is focused on vehicles on the road network but considered with the opportunity for hydrogen fuelling of aircraft, it presents an opportunity for Dublin to promote itself as a centre for fuelling in the future. This is a long term ambition.

Mobility and Surface Access

Over the past decade, Dublin Airport has seen significant changes in how passengers travel to and from the airport, with over 50% of passengers now taking public transport. Looking to the future, investment in the development of public transport, is critical to both the future growth of the airport and our commitment to sustainable development. Mobility improvements will be implemented to improve the attractiveness of airport public transport and help persuade passengers and staff to shift to more sustainable modes of transport, helping to reduce overall carbon emissions and surrounding road network congestion.

This project will not contribute directly to achieving Dublin Airports carbon reduction targets but will create opportunity for others to make more sustainable travel choices.

Engagement and Partnership

Under the 2020 legislation, carbon budgets will be established by sector. What these budgets are, and what the agreed pathways to achieving them are, will be critical to success. This requires alignment with Department of Transport.

Scope 3 emissions, by their very nature, require us to work with the airline, handlers, concessionaires, the NTA and staff for success. A plan for engagement is currently being developed.



Next Generation Aircraft

Prepare for new electric/zero emissions commercial aircraft to enter service on short-haul routes and deliver infrastructure to support electric/hydrogen aircraft.



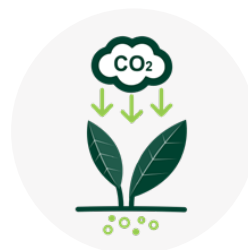
Renewable Energy

Produce clean energy using renewable energy and electrolysis to split water to power fuel cells (vehicles and power units) and onsite CHP plants.



Carbon Capture

New technology (direct air capture and bioenergy plants) deployed to capture, transport and store carbon removed from the atmosphere.



Nature-based Projects

Nature-based projects that either preserve or restore forests, peatlands and other landscapes to absorb and store atmospheric carbon.

Dublin Airport Emissions Action Plan

Carbon reduction measures which will be implemented as we progress to a 51% emissions reduction by 2030 and beyond to NZC50

	Improvement Measure	Phase	Emissions Scope
1	Upgrade our Airport Carbon Accreditation to the Transition level (4+) by 2025	1	1 2 3
2	Large Solar PV Phase 1 - 8.5 MWp Solar PV Farm	1	1 2 3
3	Replace and upgrade end-of-life lights with energy efficient Light Emitting Diodes (LED)	1	2
4	Deliver new Near Zero Energy Buildings across the airport in line with latest Part L Building Regulations	1	1 2
5	Replace and upgrade end-of-life ventilation and building control systems with high efficiency and intelligent technologies	1	2
6	Continue to purchase 100% renewable electricity through REGO backed supply contracts	1	2
7	Airport Light Vehicle Fleet Replacements and Augmentation	1	1 2
8	Aerodrome Ground Lighting (AGL) Improvement Programme - replace with LEDs	1	2
9	High Mast Lighting Improvement	1	2
10	Replace all campus Street & Car Park Lighting with upgrade to LED	1	2
11	Small Energy Projects (LED, electrical and thermal demand management, building management upgrades, battery storage)	1	2
12	CHP Thermal Storage Terminal 2 - increase efficiency of CHP heating and electrical systems	2	1
13	Airport Charging - i) facilities for Dublin Airport fleet and car park bussing, ii) airside charging Facilities for third parties, iii) charging facilities for car parks, car hire and other areas on the broader campus.	2	1 3
14	Install more EV chargers across the airport for daa, tenant and customer vehicles	2	1 3
15	Alternate Fuels - create a transition plan and develop initial infrastructure for the implementation of Sustainable Aviation Fuel (SAF)	2	3
16	Integration of an onsite anaerobic digester as waste and energy solution	2	1 3
17	Sustainable Fleet - Complete the transition of our light vehicle fleet and our continue the transition of heavy vehicle fleet to LEVs	2	1
18	Fixed Electrical Ground Power (FEGP) Expansion - expand Fixed Electrical Ground Power to all remaining airfield contact and remote stands	2	3
19	Install additional ground level solar Photovoltaic Farm (Phase 2) with generating capacity of 12 MWp, battery storage and control system	2	1 2 3
20	Mobility Improvements - improve access to public transport, cycling and walking	2	3
21	Deliver Terminal 2 Sustainable Upgrade - renewable energy alternative heating	2	1 3
22	Transition to biodiesel or electric buses following trials/feasibility	2	1 3
23	Optimise the thermal energy storage capacity of the CHP 4 plant and upgrade its heat exchanger and LPHW pipe system	3	3
24	Terminal 1 Sustainable Upgrade Feasibility Study to inform future planning		1 2

Figure 12

7.0 Conclusion

Dublin Airport has made significant reductions to our energy use and carbon emissions to date. This strategy sets out how Dublin Airport will achieve carbon reductions to 2030 and beyond as we move towards Net Zero Carbon emissions by 2050.

We have identified and outlined short term, medium term and long term projects which will enable us to move to a more efficient, low carbon and sustainable economy.

In addition to carbon reduction focused projects, as we work towards increasing our passenger capacity, we are committed to ensuring that all of our infrastructure expansion and development is designed and delivered with carbon reduction as a key driver.

Although we recognise that there are uncertainties, including how far we can reduce demand and the extent to which grid decarbonisation and electrification can occur across heating and transport, we are confident that with the study that we are rolling out in 2022 and the incorporation of innovations and technologies that we will meet the goal of NZC50 .







More information

To find out more information on our carbon reduction efforts, please visit the Dublinairport website: www.dublinairport.com/sustainability