Iarnród Éireann
Irish Rail

Scope 3 Emissions Reduction Strategy

Net Zero by 2050

A long-term strategy to embed low carbon thinking into everything we do.

Iarnród Éireann services are at the heart of Ireland's transport system. We're working responsibly to place sustainability at the heart of the service and infrastructure we deliver and how we deliver them to limit our own carbon emissions and contribution to climate change.

This Emissions Reduction Strategy outlines how we're addressing and taking action to manage our indirect carbon emissions produced by suppliers, contractors and other stakeholders up and down our supply chain, ultimately outlining how we'll achieve a net zero position by 2050.

This strategy will facilitate our compliance with the various emerging reporting requirements and the Green Public Procurement Strategy and Action Plan 2024 – 2027.

Our growing team of over 4,900 colleagues are working every day to achieve this, in what we do today, and in how we build for the future.

While railways are one of the most energy efficient modes of mass movement of passengers and freight, operational carbon footprint must be considered. Through measurement of our operational carbon footprint, Iarnród Éireann can determine measures and initiatives to reduce our emissions and meet sustainability targets.

In the Paris Agreement of 2015, global governments recognised that warming of the earth must be limited to below a 2°C increase and ideally no more than 1.5°C above pre-industrial levels.

To limit this global warming, a significant reduction of greenhouse gas emissions (GHG), including CO2, is required, hence the concept of net zero by 2050.

The achievement of this relies on emission reduction under three specific groups known as Scope 1, Scope 2 and Scope 3 emissions.

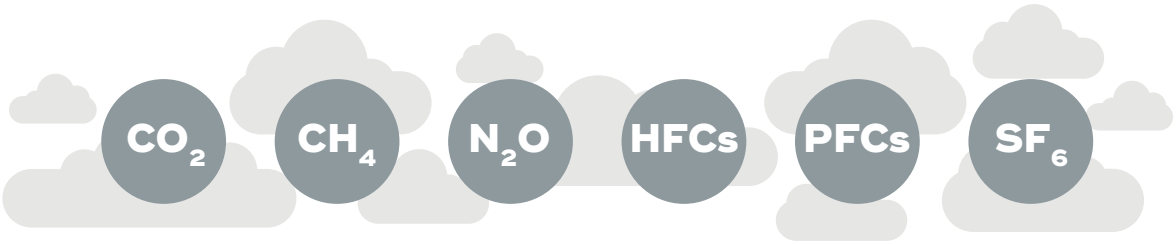
Net Zero by 2050

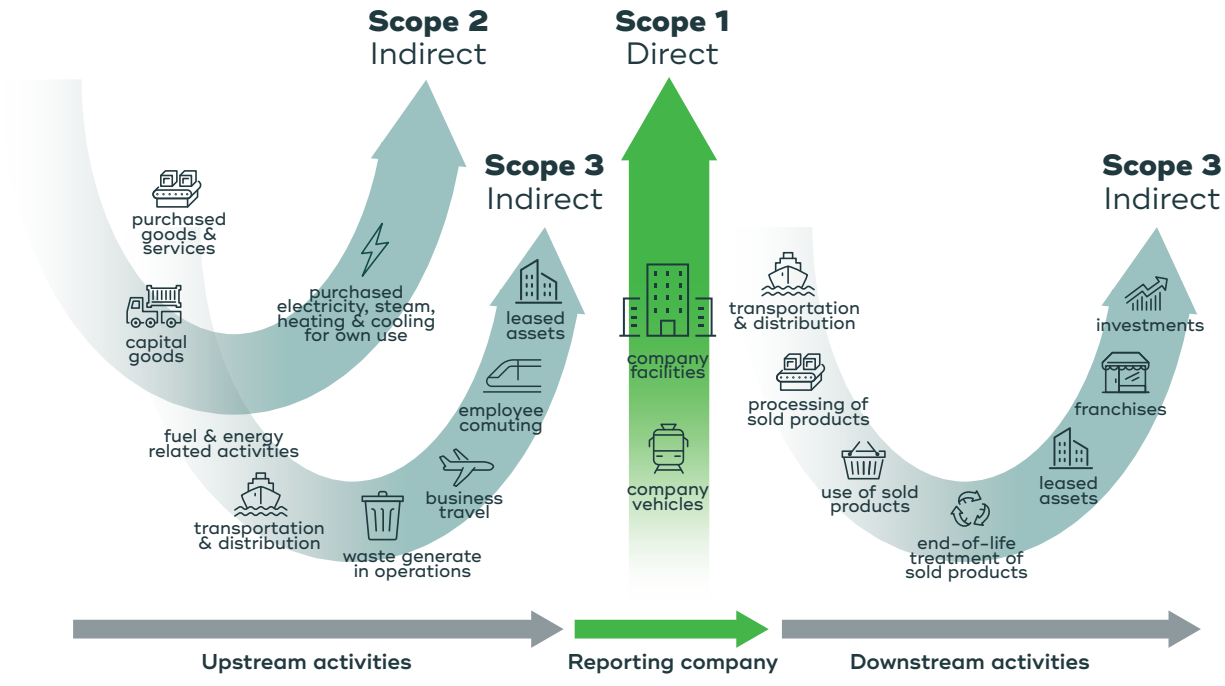
What are Scope 1, 2 and 3 emissions?

SCOPE 1 Scope 1 are direct emissions resulting from Iarnród Éireann operations and services (typically directly from diesel emissions and from maintenance and service delivery activities, including stations, office buildings and depots.)

SCOPE 2 Scope 2 are indirect but controllable emissions associated with generation of purchased energy (electricity and gas).

SCOPE 3 Scope 3 are indirect emissions that occur because of Iarnród Éireann's activities but are outside of our direct control. These emissions come from products or services from suppliers, contractors and other stakeholders in our supply chain. These are the most significant and challenging emissions category to measure, manage and reduce.





Reporting requirements

Iarnród Éireann will be required to report on Scope 1 and 2 emissions by 2026 and Scope 3 emissions by 2028 under the Corporate Sustainability Reporting Directive (CSRD).

Reporting on Scope 3 emissions will include at a minimum:

- Total gross indirect Scope 3 GHG emissions
- Purchased Goods & Services
- Fuel and energy-related activities
- Upstream leased assets
- Waste generated in operations
- Processing of sold products
- Use of sold products
- End-of-life treatment of sold products
- Downstream leased assets
- Franchises

A materiality assessment for Scope 3 will be required to determine the scope of the impact, risks and opportunities (IRO).

Although not yet fully assessed, Scope 3 emissions typically account for 80-90% of a railway businesses' carbon footprint.

Iarnród Éireann completed a Scenario Analysis with an external consultant procured by CIÉ in 2023 to determine the impacts of climate change to the CIÉ Holding Company and bus/train Operating Companies, and their contribution to climate change (double materiality). On-going updates will be required as emissions change in these companies.

Challenges

Scope 3 emissions are largely outside of the direct control of Iarnród Éireann and therefore pose a challenge to accurately measure and report on. However, we are seeking to support our suppliers in their transition to more sustainable practices and assist with future reporting requirements.

Determining categories

The Greenhouse Gas Protocol has pre-determined a list of Scope 3 Emissions reporting categories and Iarnród Éireann must determine which categories are most relevant to our supply chain and report into these categories. These will be periodically reviewed to ensure appropriate emissions are comprehensively measured and reported.

Data collection

To measure Scope 3 emissions we need lots of data from internal sources, suppliers, customers and other stakeholder. This will be challenging as Scope 3 emissions include things like transportation and distribution, emissions from suppliers, waste disposal and emissions caused by employees' work commute.

Reporting requirements

Iarnród Éireann will be required to report on Scope 1 and 2 emissions by 2026 and Scope 3 emissions by 2028 under the Corporate Sustainability Reporting Directive (CSRD). As this reporting is a new requirement it can pose challenges for our supply chain. To assist with the reporting requirements, Iarnród Éireann became a founding member of the Supply Chain Sustainability School in 2023 where short courses and supports are available.

CASE STUDY

Iarnród Éireann and the Supply Chain Sustainability School

Iarnród Éireann requires a supply chain which positively contributes to meeting carbon emission reduction targets of 51% by 2030 and net zero by 2050. In 2023 Iarnród Éireann became a founding member of the Supply Chain Sustainability School which aims to provide a collaborative environment for suppliers to drive sustainability and carbon reductions through the provision of training courses and tools.

In line with the Sustainable Procurement Policy, all large tenders will be required to incorporate sustainability criteria into tender processes. Tenderers will be required to demonstrate, by verifiable evidence, the measure they are adopting to embed sustainability practices into their organisation and practical measures to achieve decarbonisation. To assist in this process, tenderers also become member of the Supply Chain Sustainability School, granting them access to a variety of sustainability related training materials and workshops, including use of a Carbon Calculator to assist in measuring their own carbon emissions.

Implementation of the Supply Chain Sustainability School commenced in 2024 and is helping to make the supply chain greener, raising standards in sustainability, and driving innovation.

Iarnród Éireann's Scope 3 Emissions Reduction Strategy

We are working to reduce emissions from our own operations and those of our suppliers and customers by:

1. **Identifying our significant emissions hotspots and priorities.**
   Collecting Scope 3 emission data from our suppliers will allow Iarnród Éireann to assess where emission hotspots exist and enable a prioritised approach to reductions.

2. **Implementing our Sustainability Procurement Policy and utilising our Procurement Sustainability Guidance Document.**
   This will ensure a focus on sustainability during the purchase of goods and services and ensure that we seek to engage with suppliers whose values are aligned with our objectives.

3. **Implementing our Waste Management and Circular Economy Strategy.**
   Iarnród Éireann is dedicated to incorporating key principles of the circular economy into everyday business practices.

4. **Delivering an Infrastructure Manager Multi-Annual Contract (IMMAC) maintenance and renewal programme.**
   Rollout of innovative materials and work practices in the delivery of the Infrastructure Manager Multi-Annual Contract (IMMAC) maintenance and renewal programme to achieve a steady state of infrastructure.

CASE STUDY

Ballast Cleaning

Railway ballast is the material used as a bed for tracks, providing drainage and strength for heavy loads. Over time, railway ballast wears down and becomes rounded reducing its effectiveness. Fine pieces of granite, like sand, are also created mainly under the sleepers and start to build up contributing to drainage problems.

Iarnród Éireann commenced a programme of mechanical ballast cleaning as an effective means of prolonging its life and reducing new ballast requirements by up to 60% accounting for a saving of 2,800 tonnes of ballast per kilometer of track. During cleaning the ballast is mechanically excavated, the re-usable portion is separated from the spoil and placed back into the track bed with the addition of new ballast as required. The emissions saved due to the reuse of ballast is c.876 tonnes CO2 per track kilometer.

Other complimentary track infrastructure circular economy measures include rail milling, sleeper recycling, use of under sleeper pads, alternative materials for concrete sleepers (e.g. Thiocrete), sleeper rail recycling and sourcing rail from lower (-30% CO2) production methods. Between them these measures, apart from ballast cleaning, could generate c.690 tonnes per track kilometer of CO2 emissions within the value chain.

5. Designing for low cost, low carbon infrastructure.

All major Capital Investment programmes and projects will develop and implement a three-stage sustainability strategy ensuring sustainability is embedded into the project life cycle.

6. Reducing fleet Scope 3 emissions.

Through regular maintenance and the use of alternative fuels and increased electrification, fleet related Scope 3 emissions can be reduced.

7. Setting key targets and Action Plans.

Our targets for Scope 1 and 2 decarbonisation are as set out in the Iarnród Éireann Climate Action Plan (2023) and include 51% reduction by 2030 and net zero by 2050. Our Scope 3 decarbonisation target is to achieve net zero by 2050 and the roadmap to achieving this is summarised below.

CASE STUDY

Circular Economy

Iarnród Éireann recognises the responsibility we have to reduce our environmental impact by operating in a way that minimises the negative impacts and maximises the benefits of the railway to the environment. Already, we promote initiatives to minimise resource usage and support a circular economy system and we're committed that by 2030 we'll achieve 70% reuse and/or recycling of all waste, general and construction.

It is also our goal that 25 percent of raw material purchases will come from recycled sources and that all contracts for concrete sleeper disposal will prioritise reuse of the material.

Scope 3 emissions reduction targets:

2025
Commence Baseline quantification of Scope 3 emissions for our value chain

2030
30% reduction in Scope 3 emissions for top 100 vendors

2040
60% reduction in Scope 3 emissions

2050
Net Zero for all Scope Emissions

CASE STUDY

Implementation of Sustainability in Project Life Cycle

The Cork Area Commuter Rail Programme (CACR) is modelling the three-stage sustainability strategy that will be used as the standard for all major Capital Investment programmes and projects moving forward, ensuring sustainability is embedded into the project life cycle. Each stage has its own set of templates for monitoring and reporting and will ensure Scope 3 emissions and associated carbon reductions are fully integrated, monitored and reviewed ensuring transparency and accountability.

Stage 1 - Sustainability Strategy: Developing the Sustainability Strategy at a Programme/ Project level sets out key sustainability themes and related targets. The CACR Programme has 9 themes and 28 targets embedded into its Sustainability Strategy across design, construction and operation.

Stage 2 – Developing and Implementing a Sustainability Plan with KPIs: The second stage of the sustainability process involves creating a comprehensive Sustainability Implementation Plan (SIP), supported by a robust Key Performance Indicator (KPI) framework. This is a live document, regularly updated and serves as the primary reporting mechanism for all sustainability initiatives and actions. For each of the 28 targets, specific, measurable KPIs have been identified to effectively monitor progress, evaluate impact, and maintain alignment with sustainability objectives. These KPIs serve as actionable indicators to drive continuous improvement to deliver the sustainability strategy.

Stage 3 – Carbon Management Plan: The Carbon Management Plan (CMP) sets out how to decarbonise the proposed CACR. Activities cover everything from the supply of raw materials, manufacturing, transportation of materials, construction processes, maintenance to end of life management of deconstruction and waste recovery and disposal.

One key target in the CACR CMP is achieving at least a 40% reduction in overall construction carbon emissions relative to the preliminary design baseline.

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SUSTAINABILITY IN MOTION

Iarnród Éireann
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NTA
Údarás Náisiúnta Iompair
National Transport Authority

SDG AMBASSADOR

Rialtas na hÉireann
Government of Ireland

irishrail.ie/sustainability