



# Overview



Rialtas  
na hÉireann  
Government  
of Ireland



- Highlights and Long Term trends
- Progress Toward Targets
- Sectoral Summaries



Provisional national total (excl. LULUCF) for 2023 greenhouse gas emissions is 55.01 Mt CO<sub>2</sub>eq



**1<sup>st</sup> time in 33 years emissions are below 1990 baseline and 4 Mt CO<sub>2</sub>eq (6.8%) below 2022 is largest p.a. decline outside of a recession**



Largest single year emission reductions in the energy and agriculture sectors and the lowest level of residential emissions since 1990, while transport emissions were below pre-Covid levels

64% of the Carbon Budget for 2021-2025 has been used in the first three years



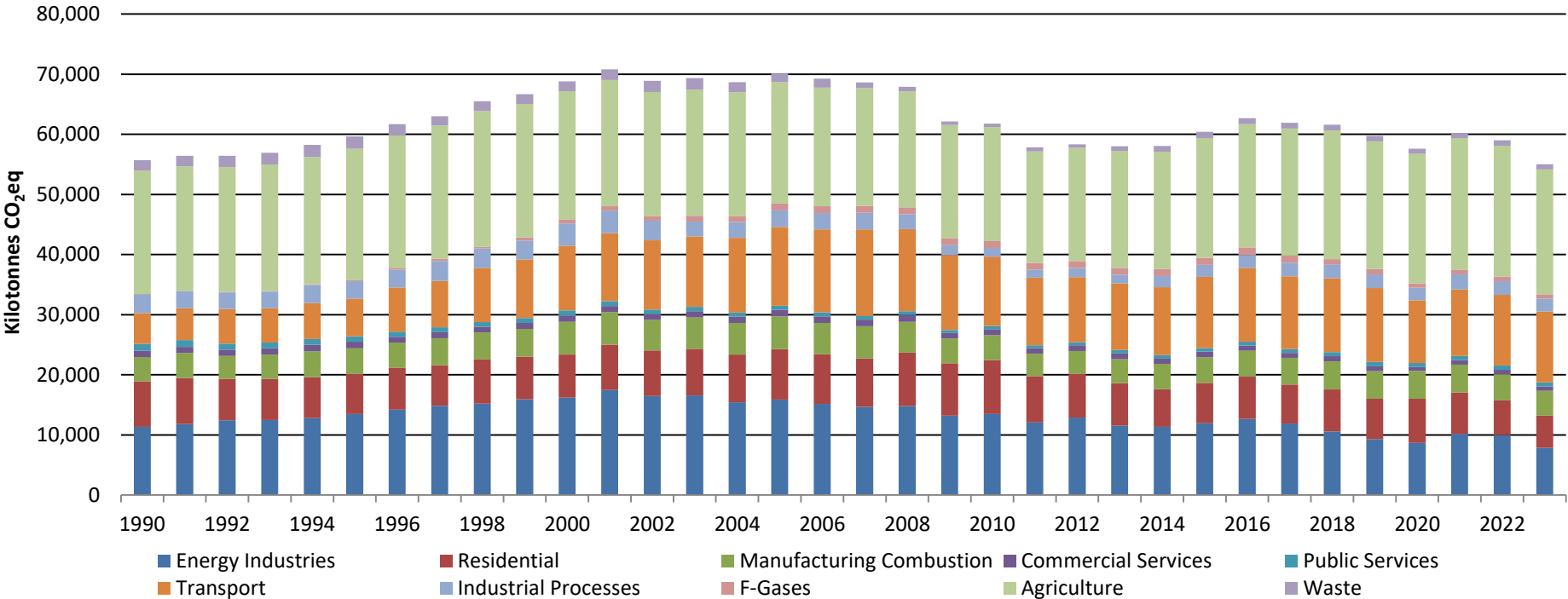
Since 2005, under the EU Effort Sharing Regulation, our emissions have decreased by 10.1% **but the target is a 42% reduction by 2030**

# Highlights

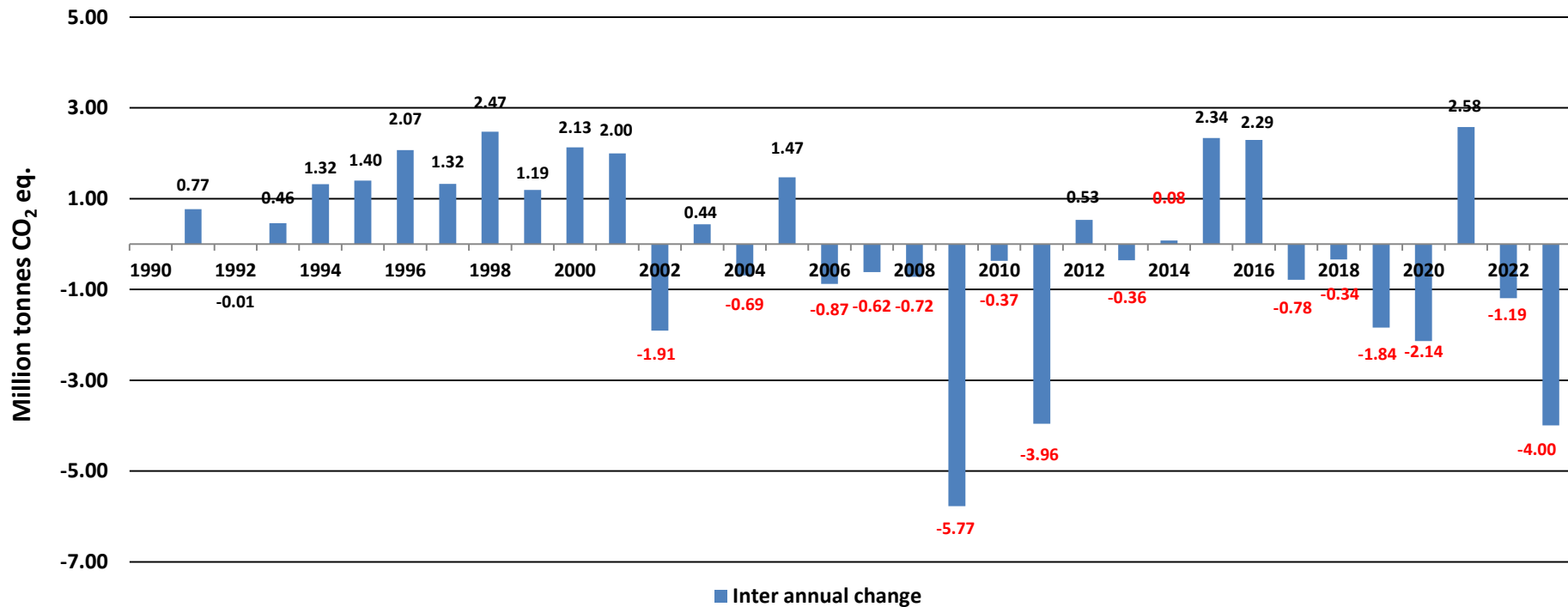


- **Energy Industries** emissions decreased by 21.6% (-2.2 Mt CO<sub>2</sub>eq) in 2023, the largest p.a. decrease and lowest level since 1990, due to a 12-fold increase in imported electricity (9.5% of electricity supply) and increasing share (40.7%) of renewable energy.
- **Agriculture** emissions decreased by 4.6% (-1.0 Mt CO<sub>2</sub>eq) in 2023, the largest p.a. decrease since 1990, driven by reduced fertiliser nitrogen use (-18%) and liming (-27%).
- **Residential** emissions decreased by 7.1% in 2023 (-0.4 Mt CO<sub>2</sub>eq), lowest level since 1990, driven by reduced fossil fuel use accelerated by high fuel prices and a mild winter.
- **Transport** emissions increased by 0.3% (0.03 Mt CO<sub>2</sub>eq) in 2023, following 6% increases in 2021 and 2022, and emissions are still 4.3% below pre-COVID levels.
- **Overall**, 2023 total national greenhouse gas emissions (incl. LULUCF) were 7.8% below 2018 levels, well off the National Climate Ambition of a 51% reduction by 2030.

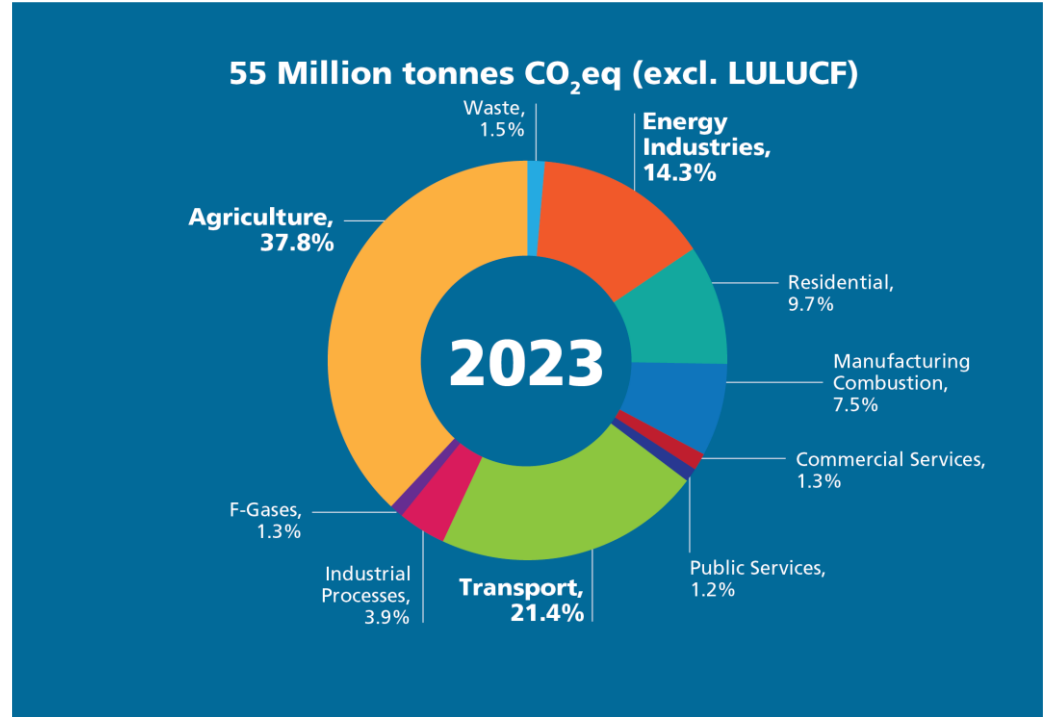
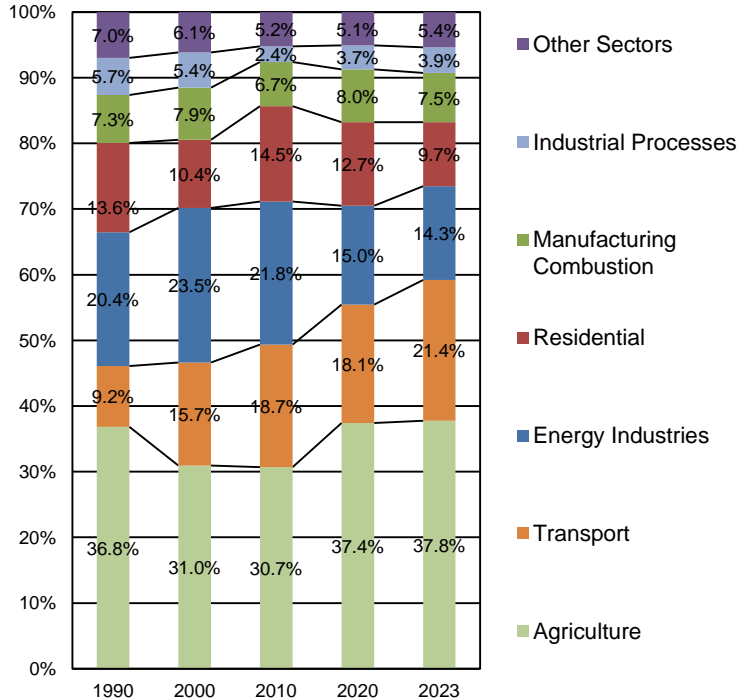
# Annual Emissions 1990-2023



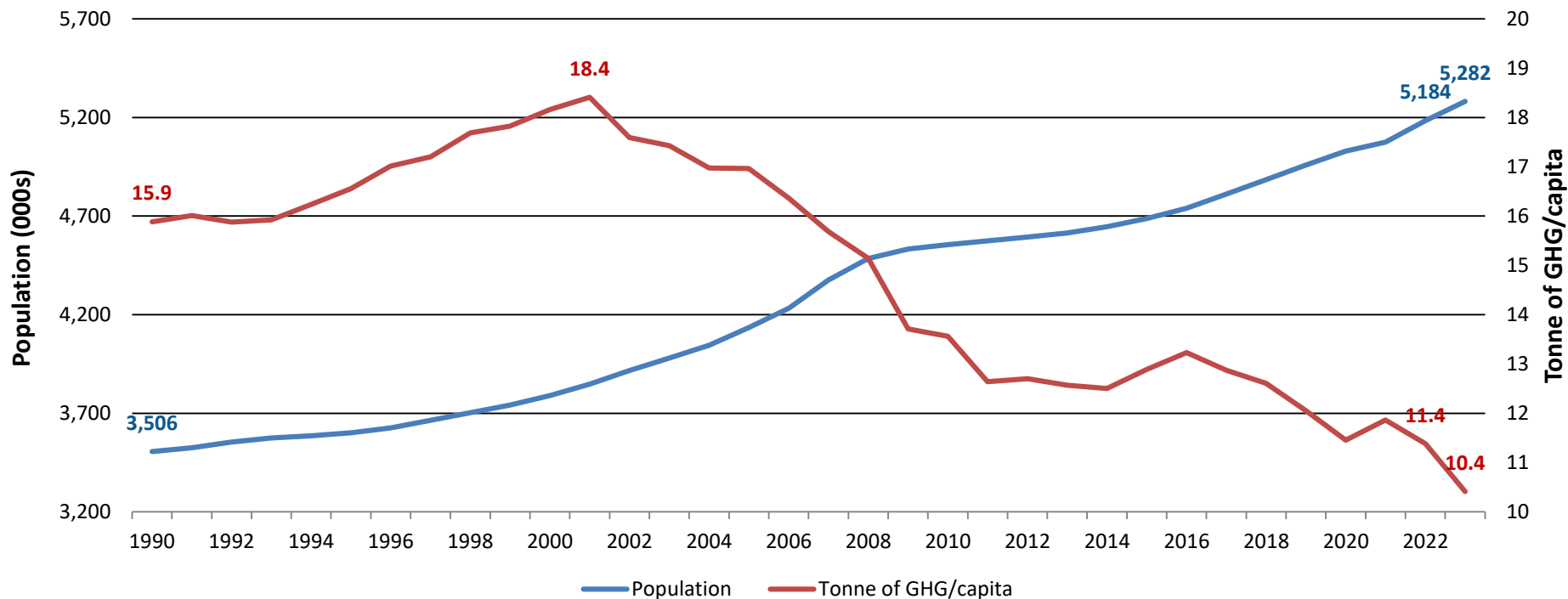
# Annual Emissions trends



# Sectoral Share of GHG emissions

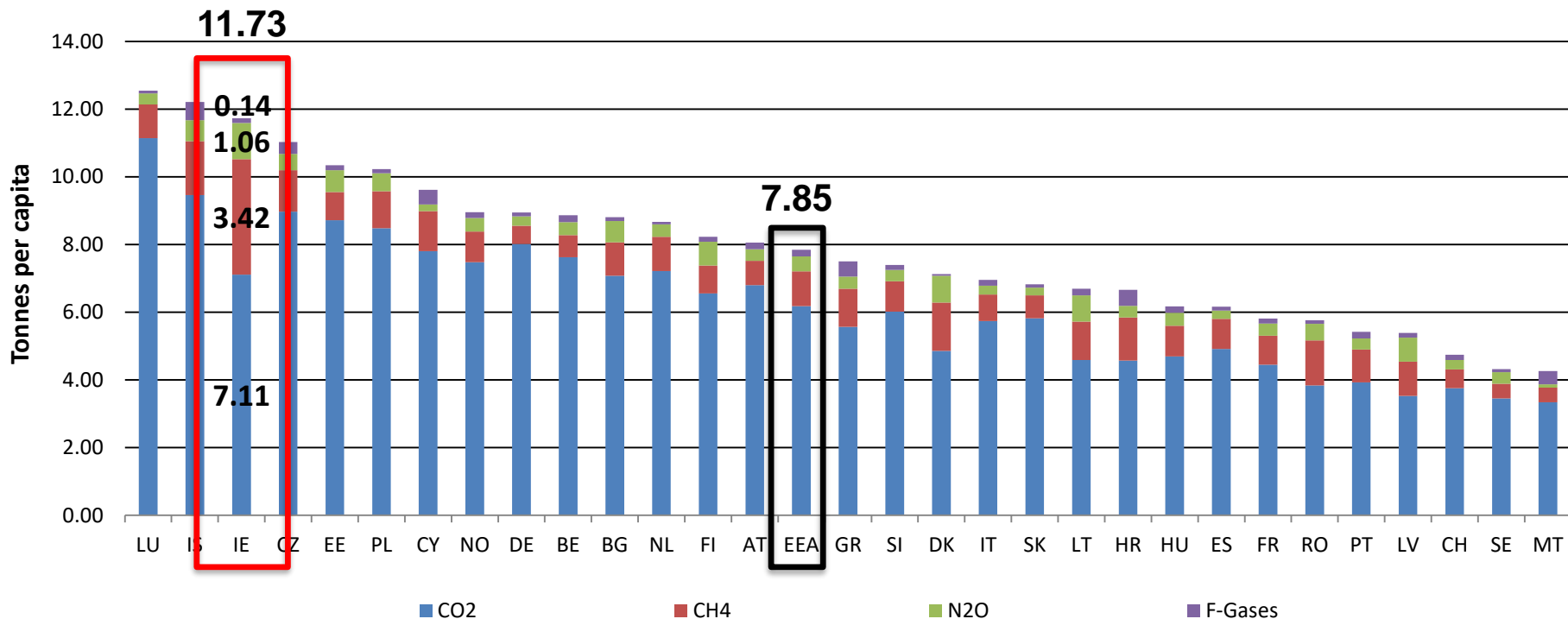


# Population and per capita emissions

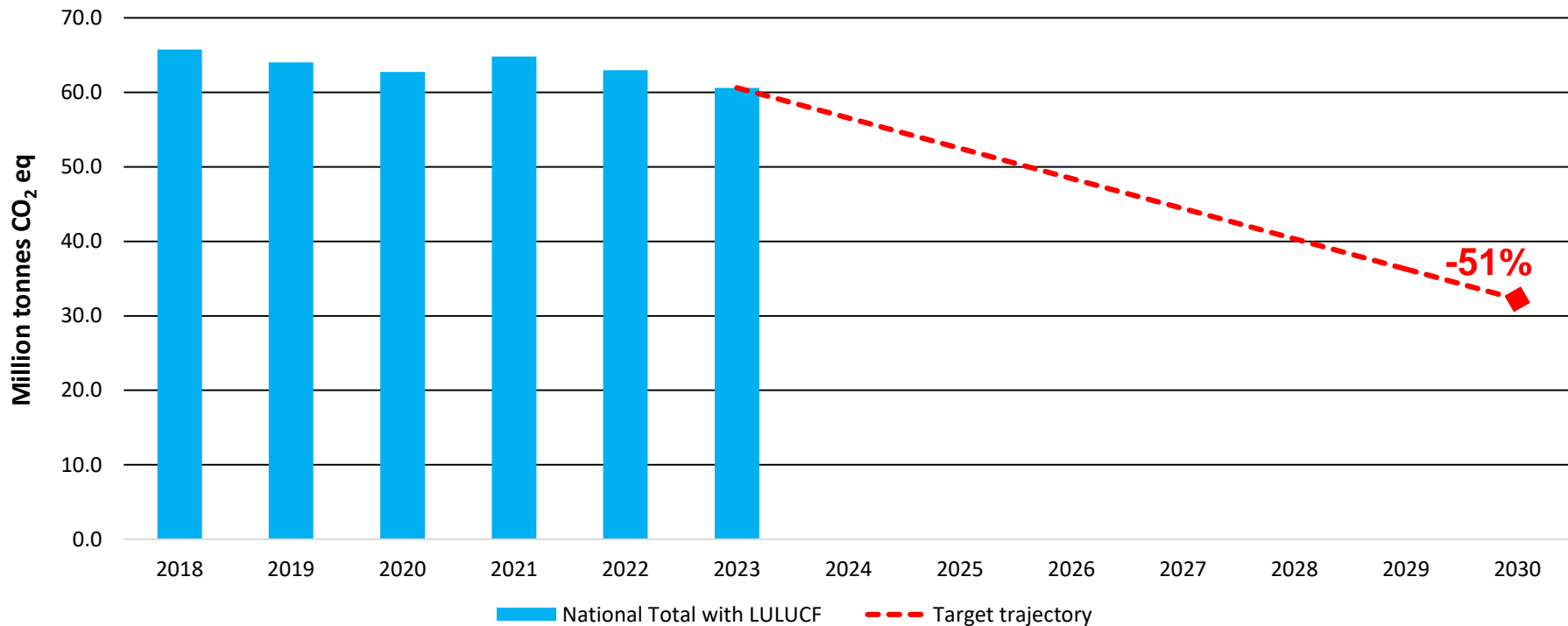




# Emissions per capita (2022 comparison)



# 2018-2030: Climate Act Target



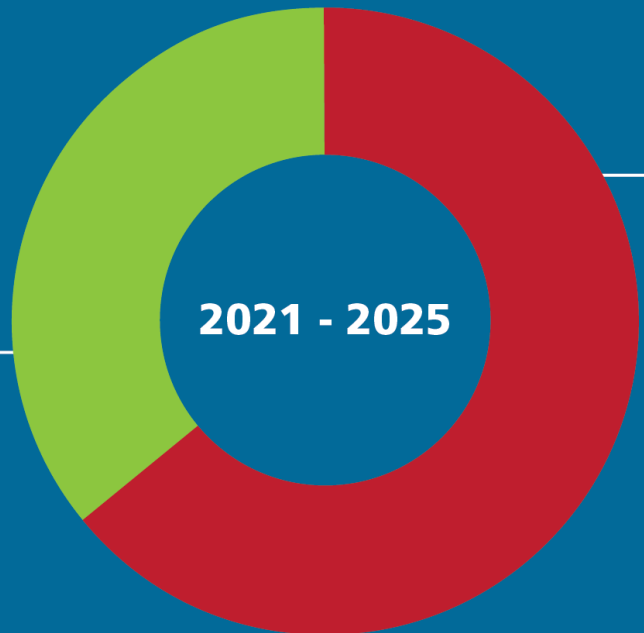
# Carbon Budget 1 and Sectoral Ceilings (2021-2025)



## Carbon Budget 1

295 Mt CO<sub>2</sub>eq

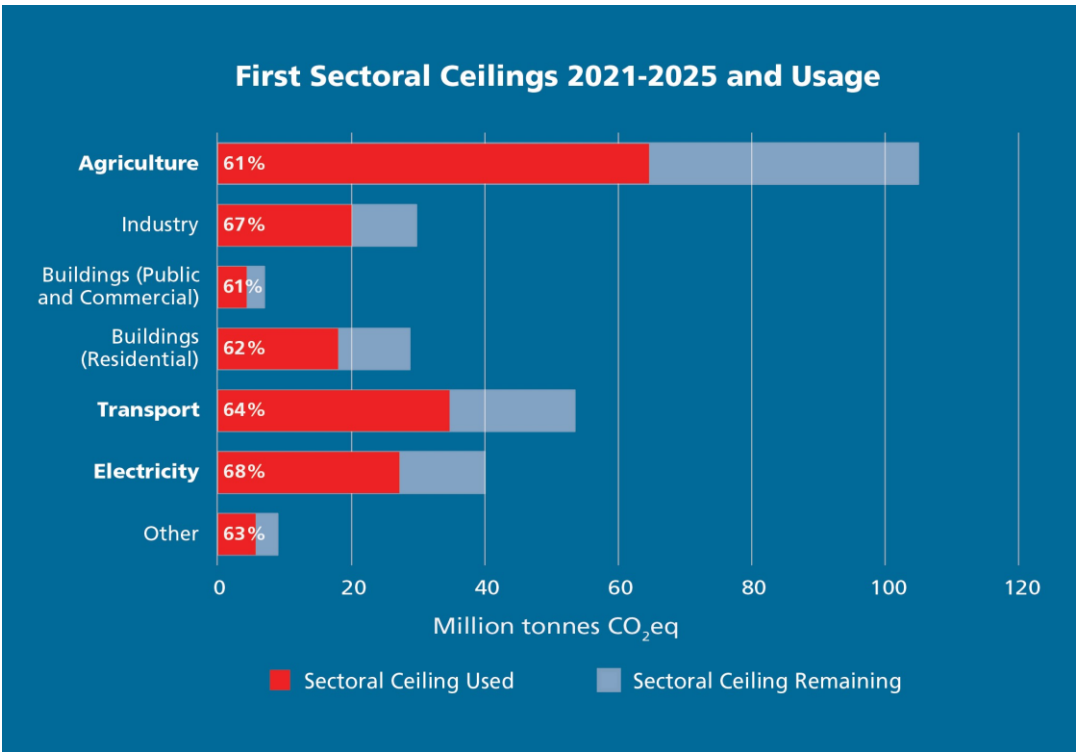
Remaining Carbon Budget, 36.1%



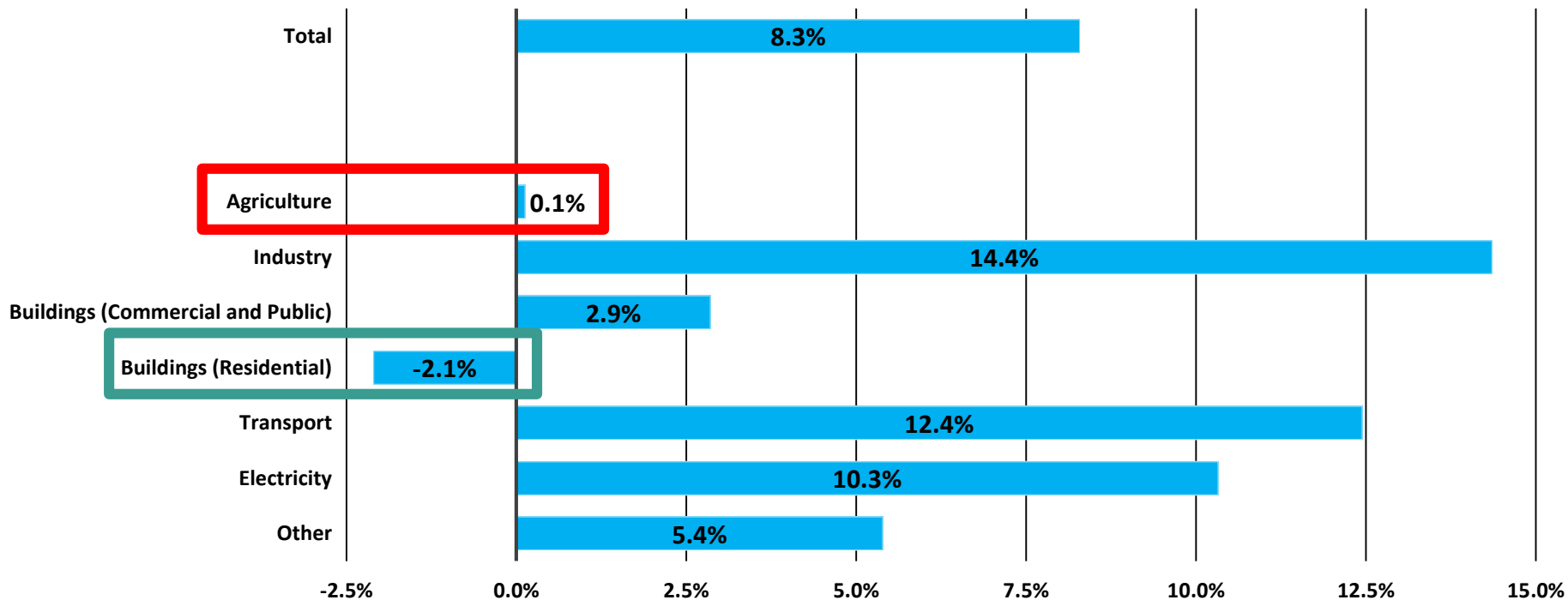
2021-2023 GHG Emissions, 63.9%



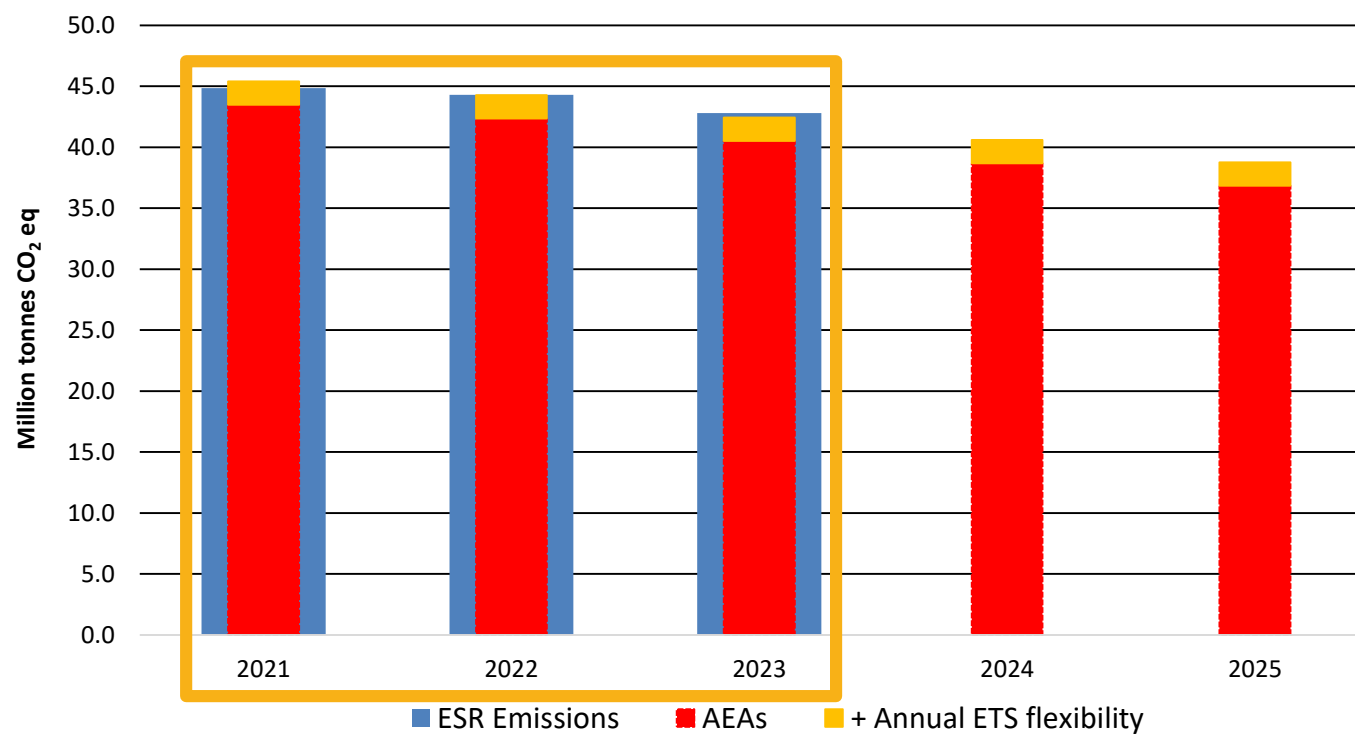
# Carbon Budget 1 and Sectoral Ceilings (2021-2025)



# Annual Emission Reductions Required 2024 & 2025 to Stay Within Sectoral Emission Ceilings



# Compliance with EU Effort Sharing Targets



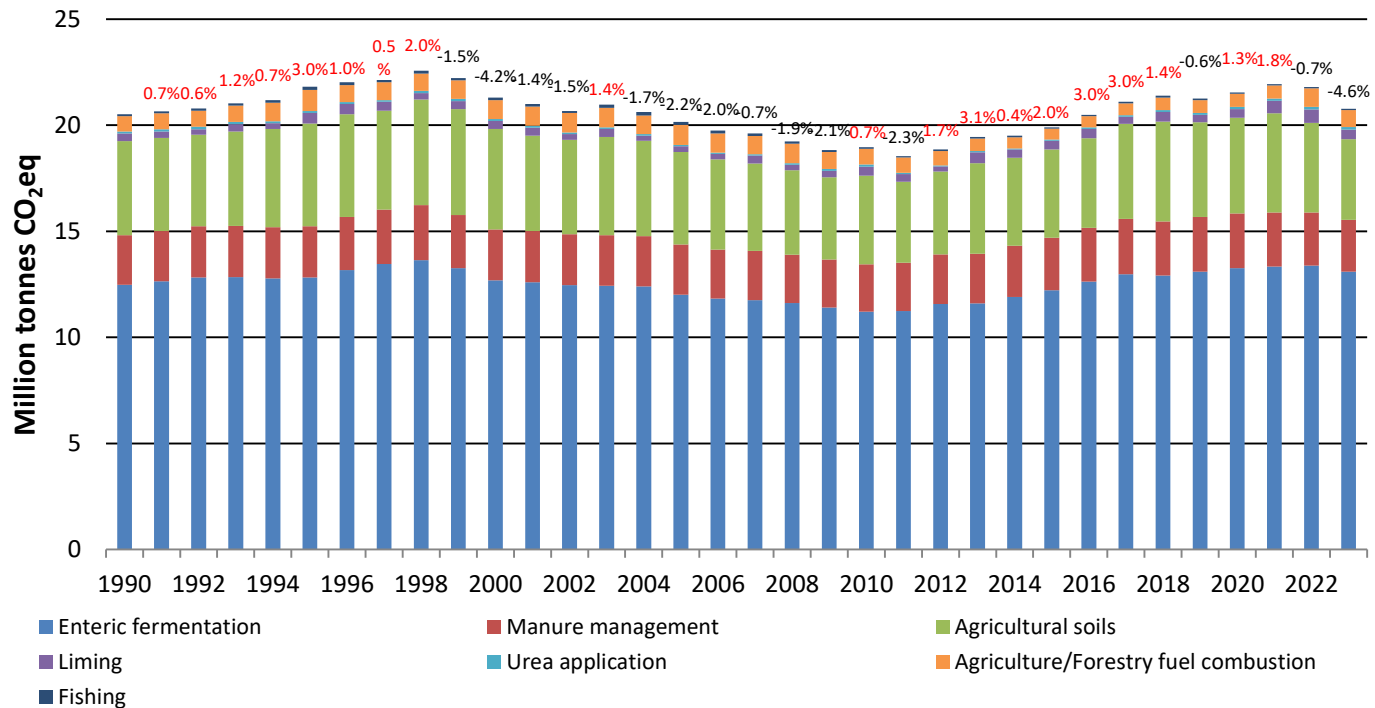
## EU Targets



Before use of flexibilities Ireland has exceeded its 2023 annual Effort Sharing Regulation (ESR) limit by **2.3 Mt CO<sub>2</sub>eq.**

Cumulatively from 2021-2023, Ireland is in compliance with the Effort Sharing Regulation (ESR) by **0.15 Mt CO<sub>2</sub>eq.**

# Agriculture 1990-2023



**↓ -4.6%**  
Agriculture

**18%** Decrease in fertiliser nitrogen use resulted in less emissions from agricultural soils.

Dairy cow numbers **+ 0.6%**  
Milk production **- 4.1%**

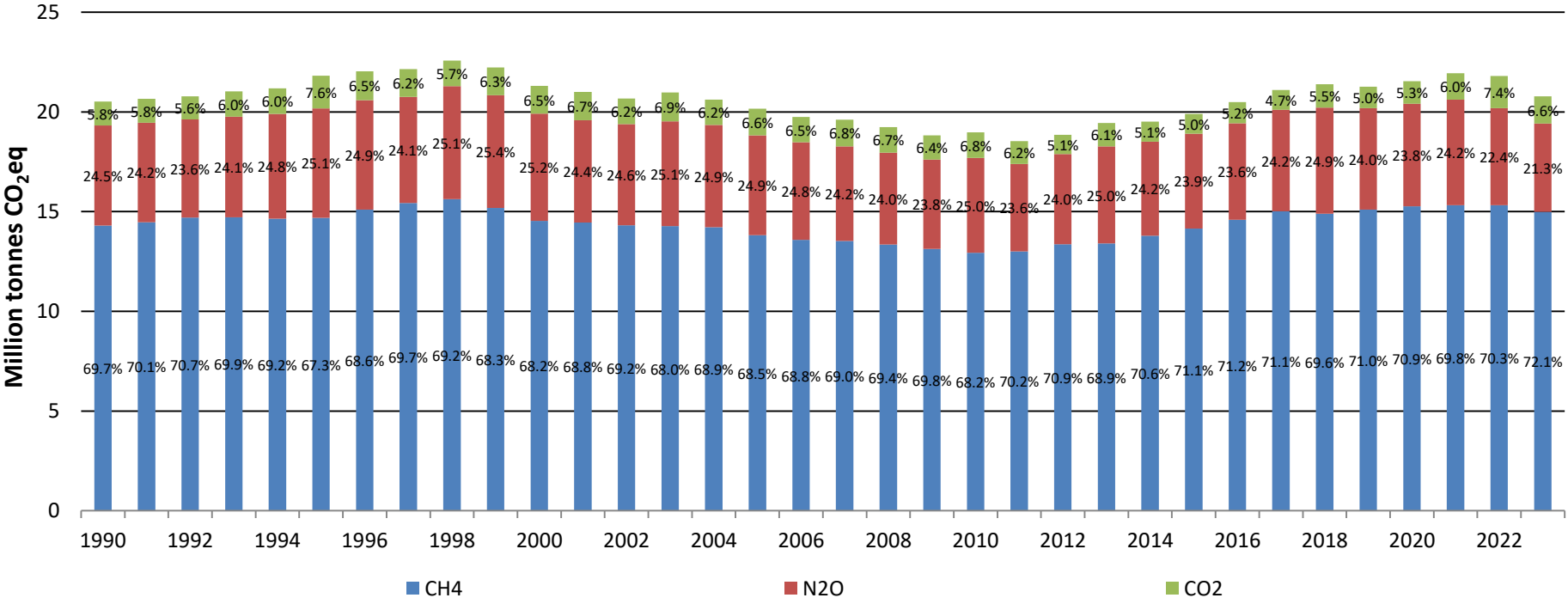
# Agriculture inventory refinement



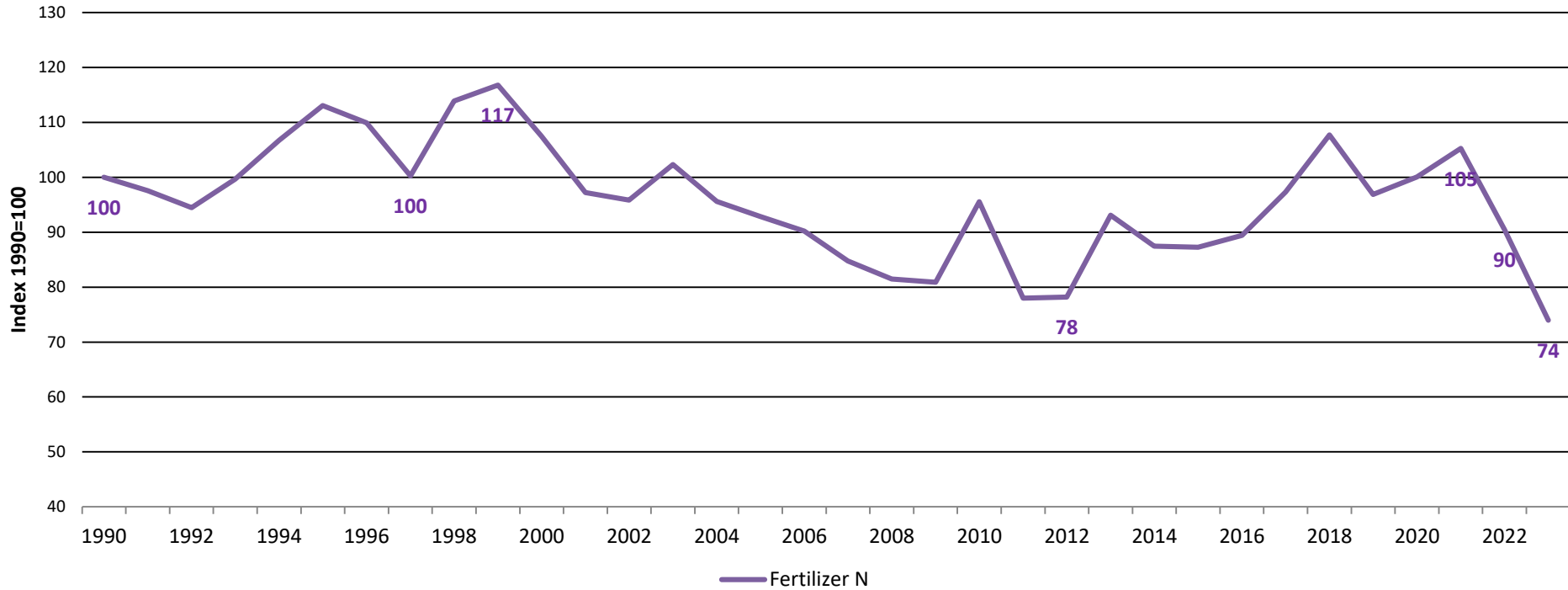
- Ongoing Inventory refinement across all sectors
- With respect to non-dairy cattle, additional disaggregation of production systems within the herd (than those previously modelled) have been taken on board.
  - Revised live weight and average daily weight gain.
  - The approach also better tracks the changes in slaughter age that have occurred over the last decade or so.
  - Future proofing of the approach so that changes in feed characteristics and use of feed additive can be more readily incorporated in emission estimates.
- With respect to sheep, a Tier 2 approach to estimating emissions from the national flock developed by Teagasc has been implemented.



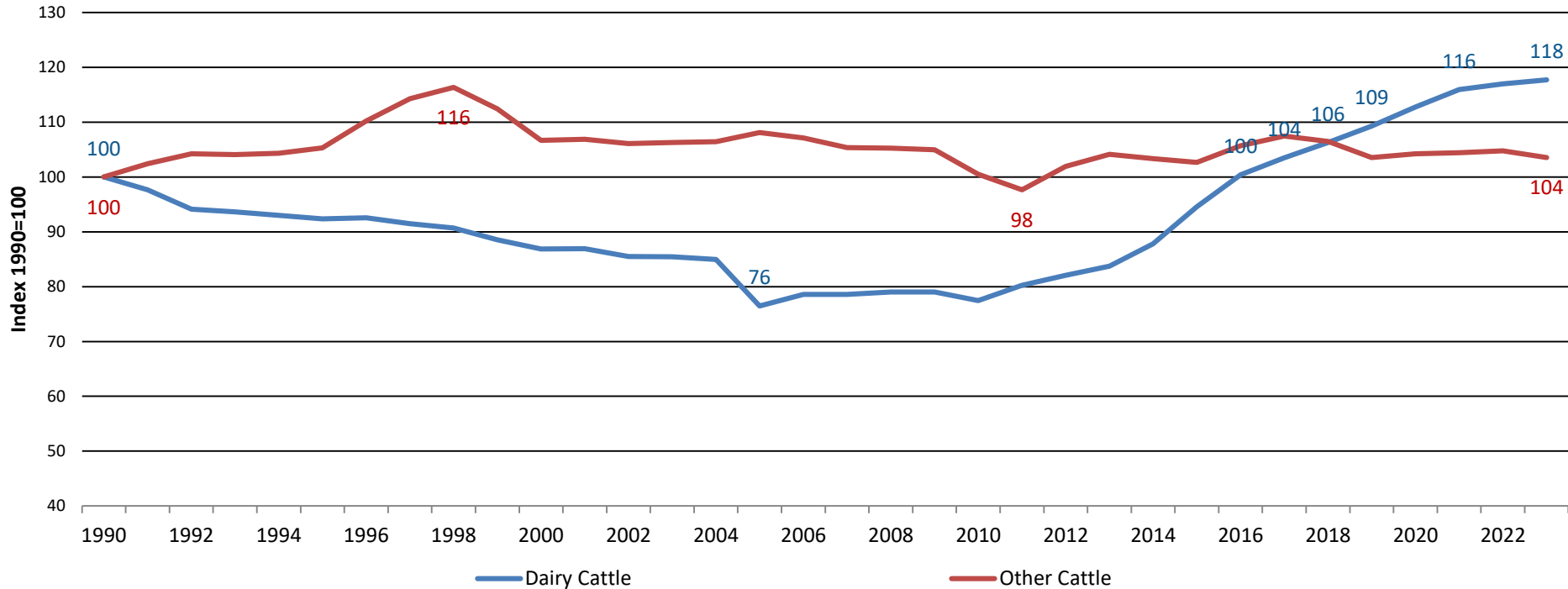
# Agriculture 1990-2023 (by gas)



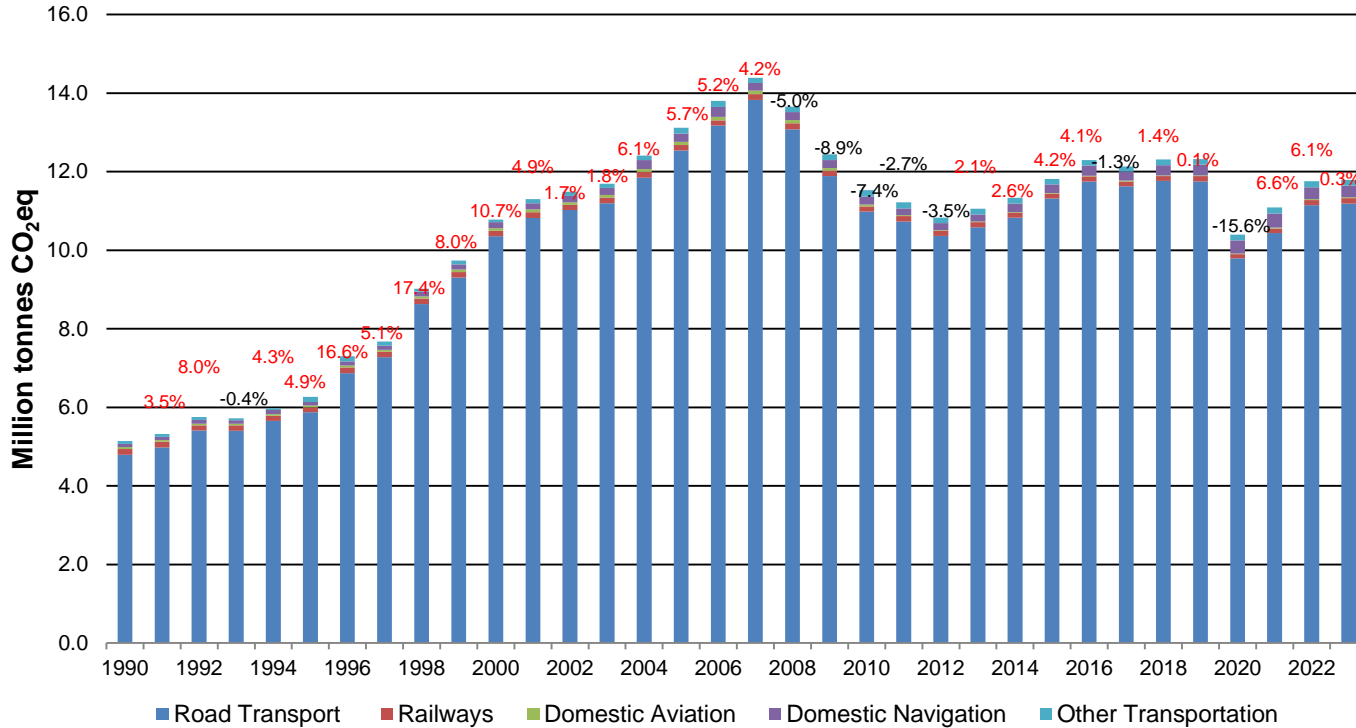
# Agriculture emissions drivers – Fertiliser use



# Agriculture emissions drivers – Livestock numbers



# Transport

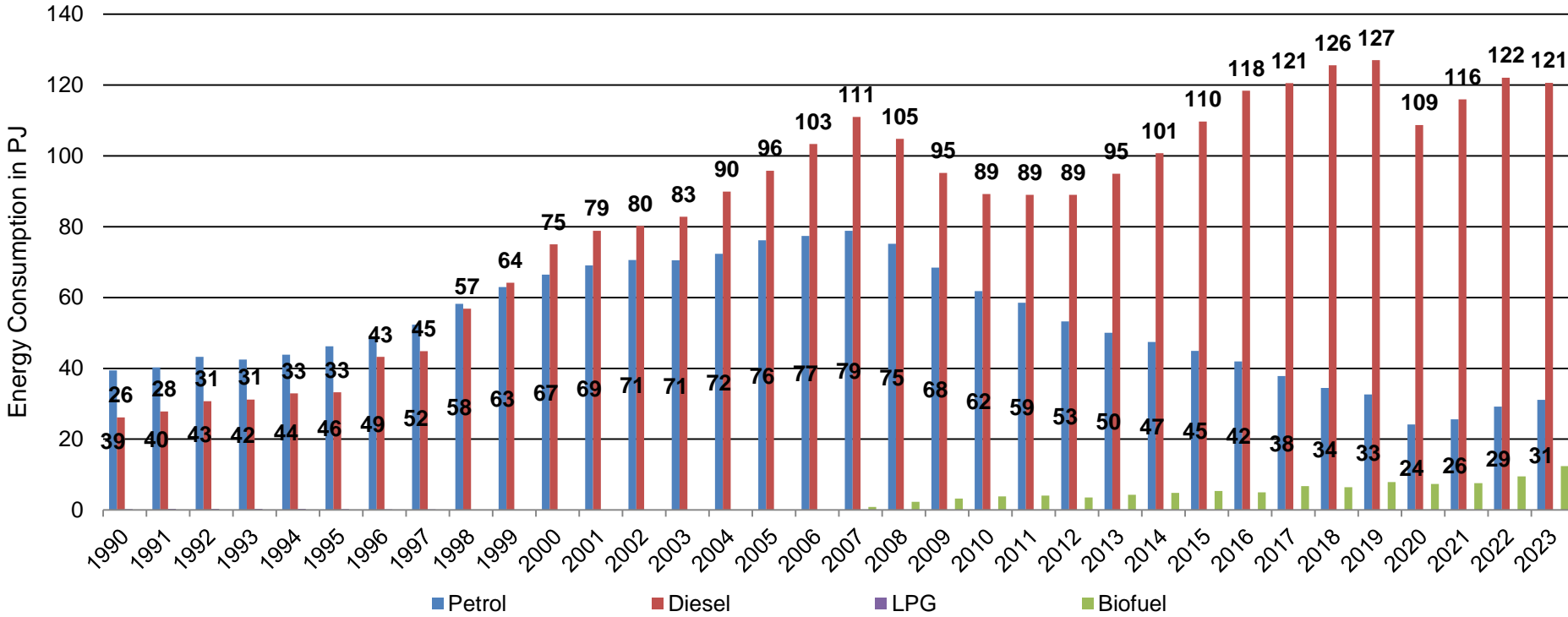


**↑ +0.3%**  
Transport

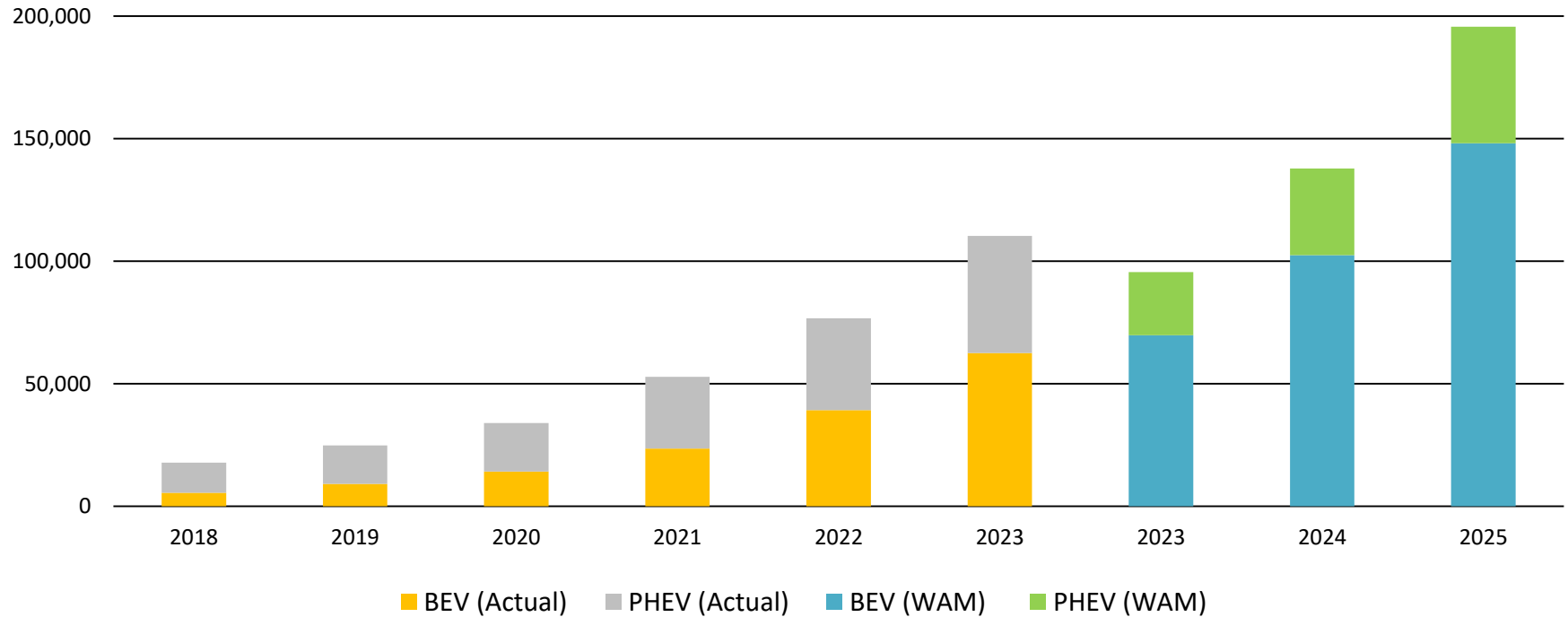


Emissions are **4.3%** below pre-Covid levels. **23%** of new car registrations were electric in 2023, with **110,000** EVs overall on Irish roads.

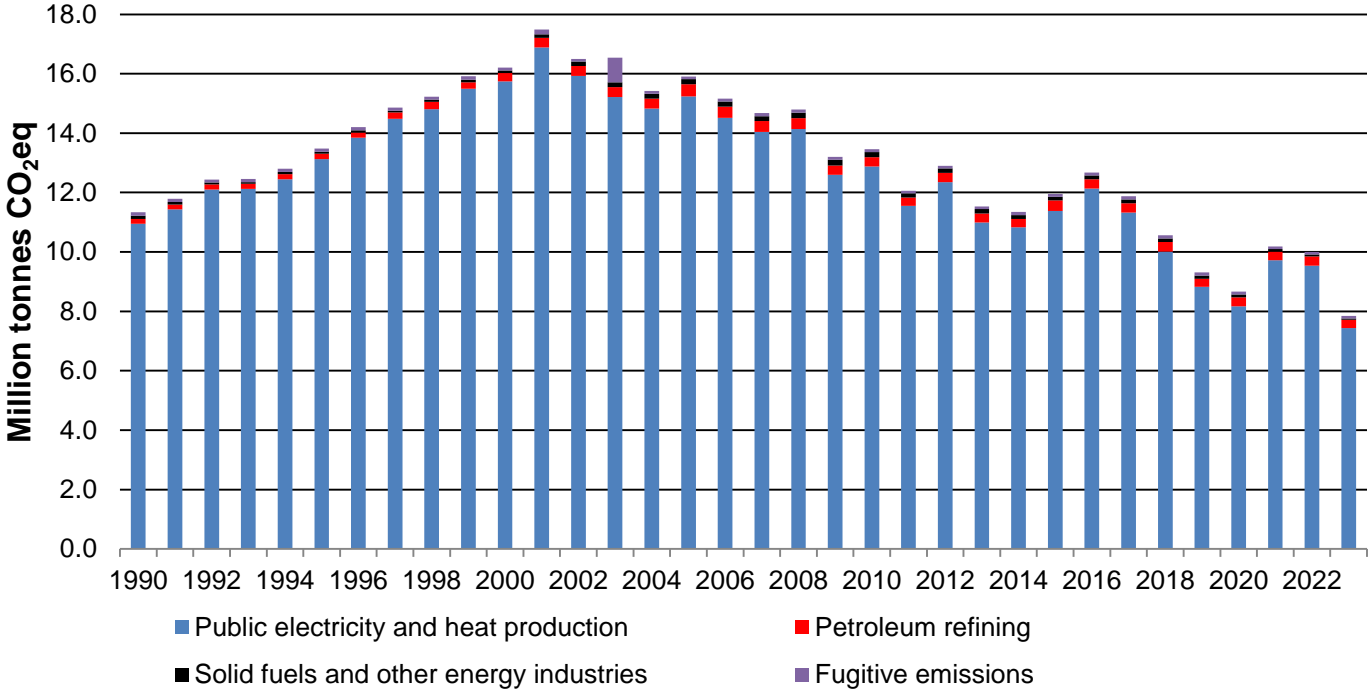
# Transport emissions drivers



# Transport – Electric Vehicles



# Energy Industries

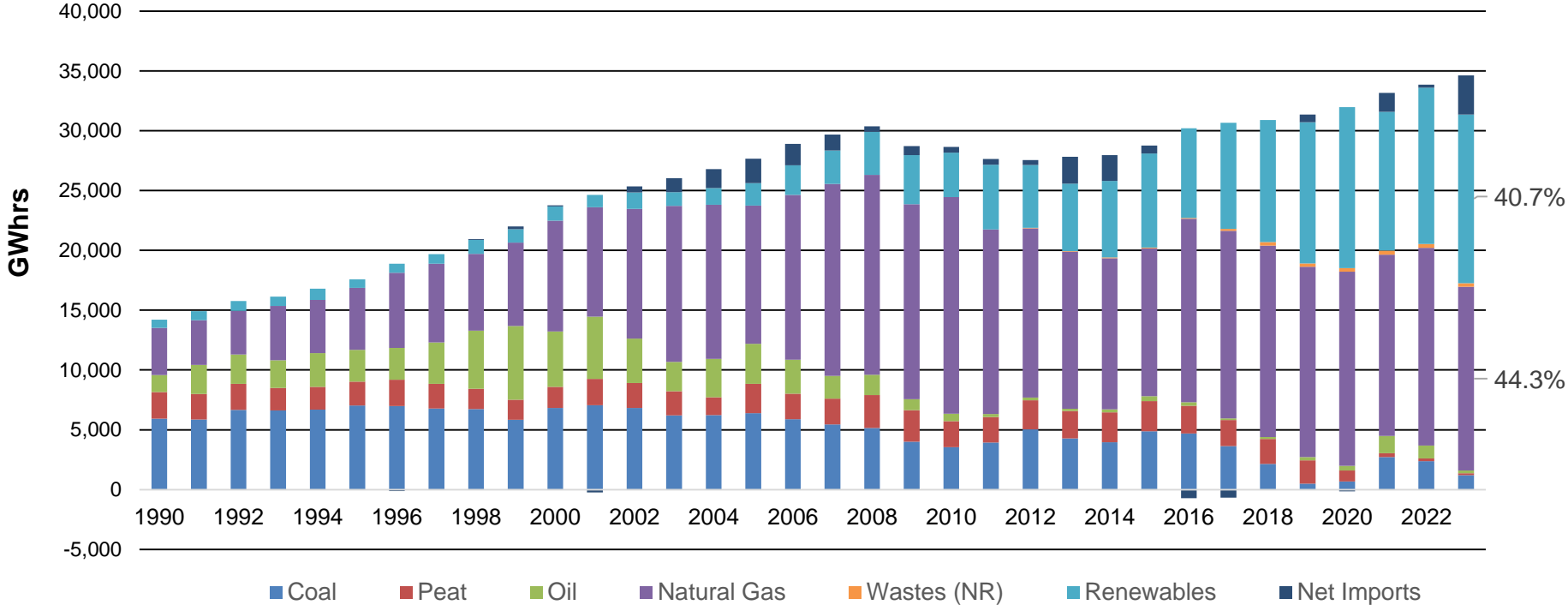


**↓ -21.6%**  
Energy Industries

Reductions in coal (-44%), oil (-78%), peat (-33%), and natural gas (-7%) in electricity generation. Renewable share increased from 39% to 41%. Imported electricity now 9.5%

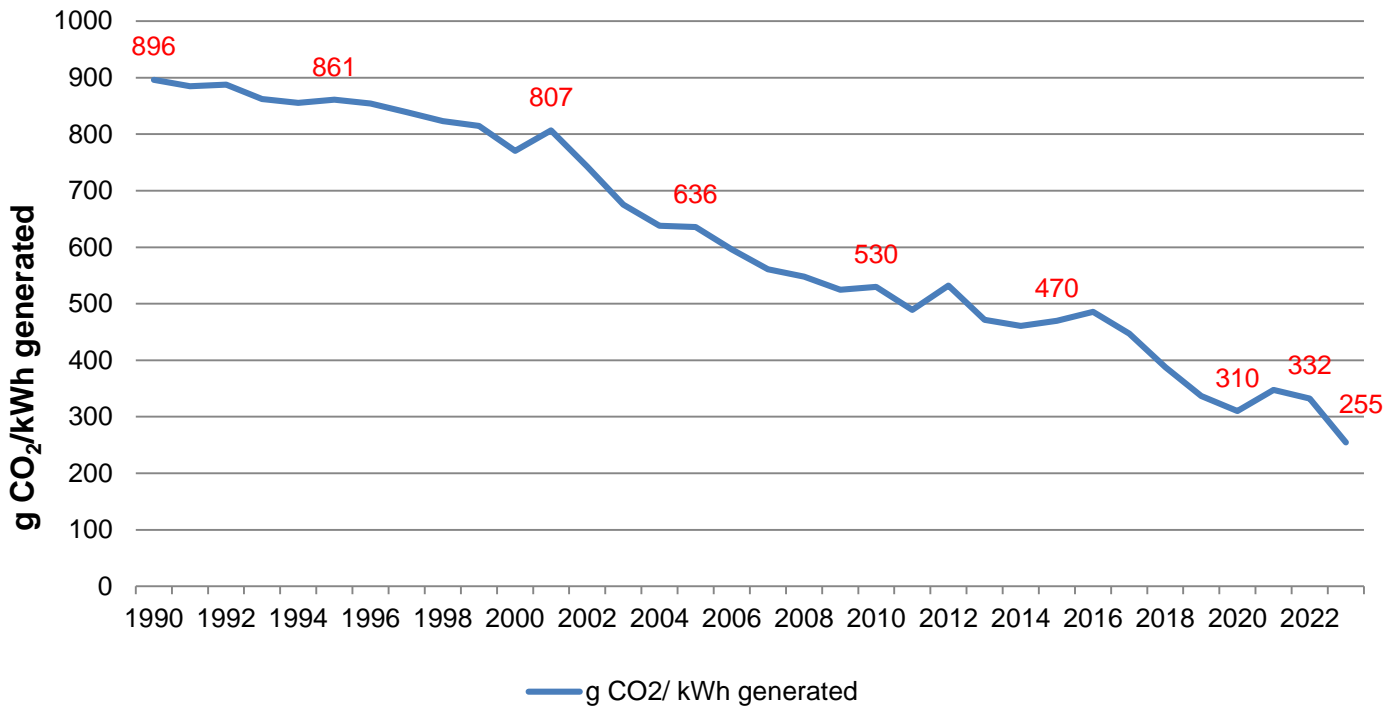
Overall emissions in 2023 are 30.8% below 1990 levels

# Electricity generated by Fuel

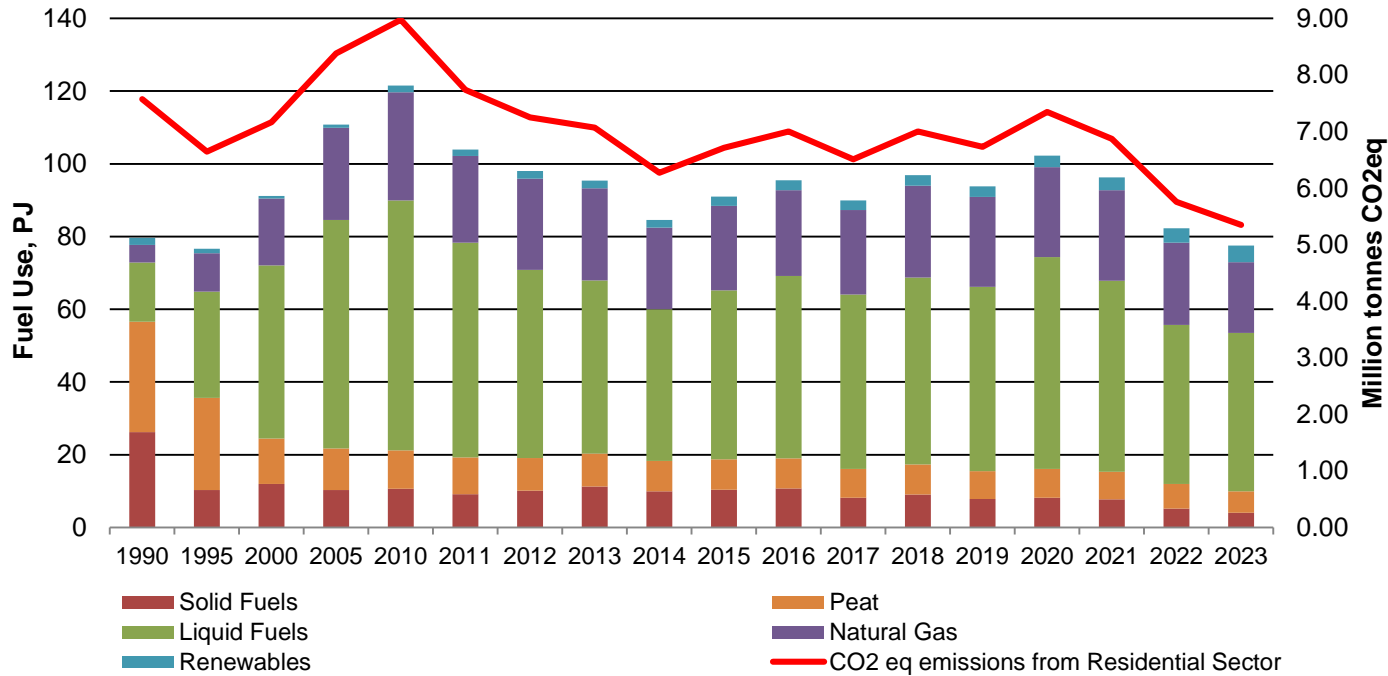




# CO<sub>2</sub> Intensity of electricity generation



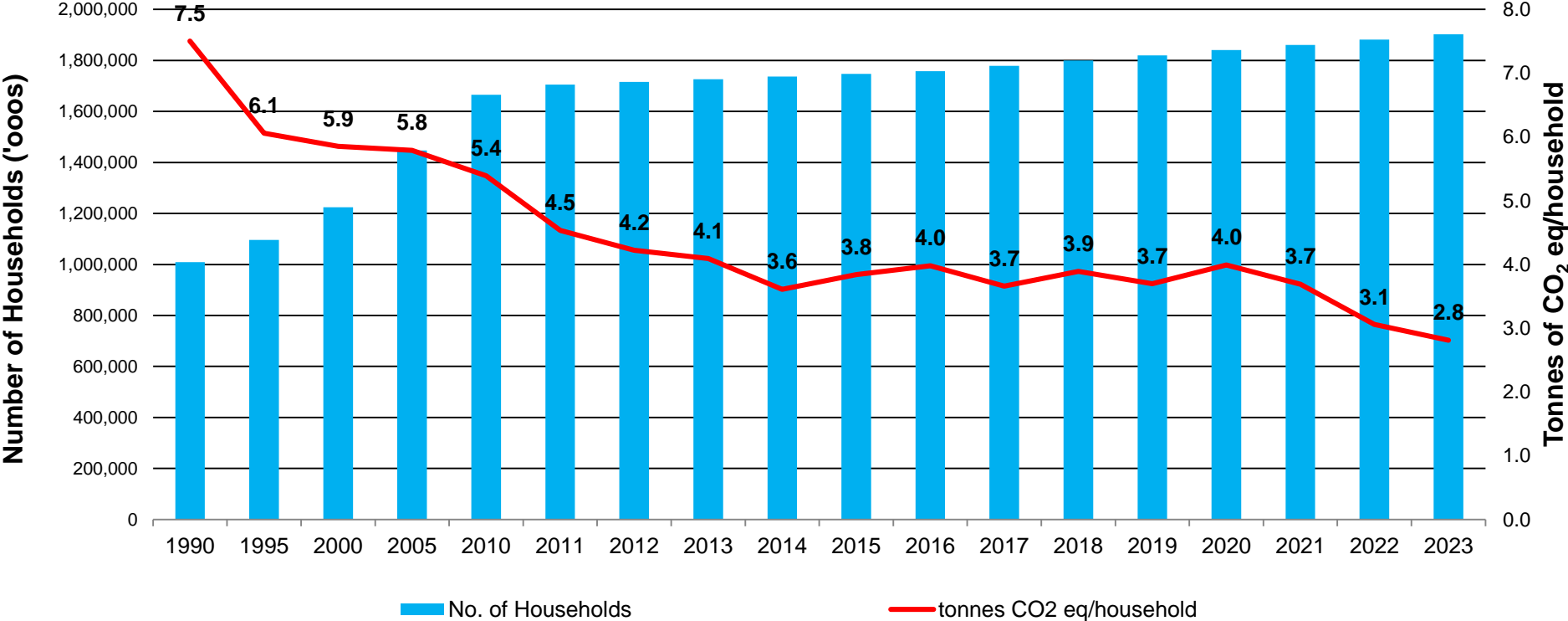
# Residential



**↓ -7.1% Residential**

Substantial reduction in emissions driven by high fuel prices, regulation, and a milder winter. Coal use reduced by **22%**, peat by **13%**, oil by **0.3%** and natural gas by **14%**.

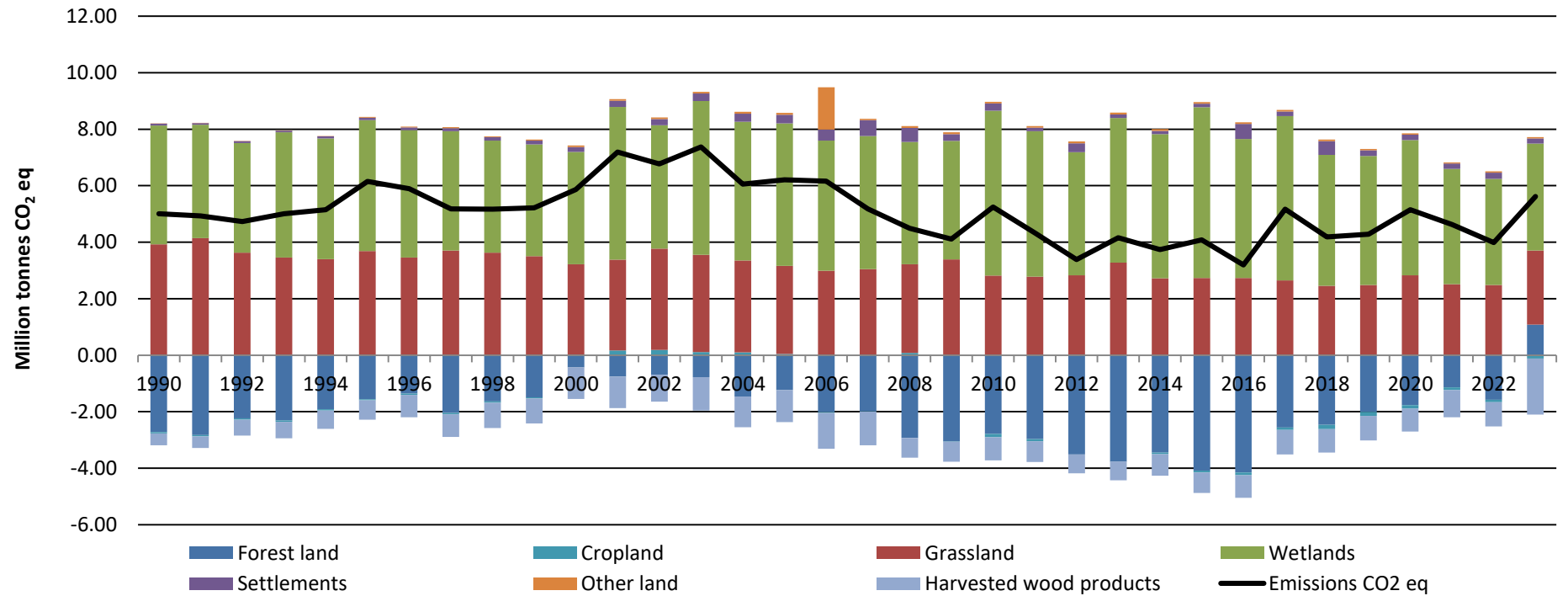
# Residential emissions drivers



# LULUCF 1990-2023



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# Remaining Sectors



- Emissions from the **Manufacturing Combustion** sector decreased by 4.6% or 0.2 Mt CO<sub>2</sub>eq in 2023.
- Emissions from the **Industrial Processes** sector decreased by 5.8% (0.13 Mt CO<sub>2</sub>eq) in 2023 following a 7.4% decrease in 2022
- Emissions from the **Waste** sector decreased by 4% in 2023, largely as a result of a decrease in emissions of methane from landfills by 6.3%.
- **F-Gas** emissions in 2023 are down 5.7%, due to a reduction in use in the semiconductor industry.
- Emissions from **Commercial Services** and **Public Services** decreased by 2.5% and 2.7%, respectively.

Search



Search for a licence or permit

## The EPA's Role in addressing climate change

The EPA's role in addressing climate change challenges includes collating national greenhouse gas emissions and projections; regulating emissions from industrial sectors; supporting climate science research; supporting behavioural change and facilitating the National Dialogue on Climate Action. **Note: These pages were updated with the provisional 1990-2022 inventory data in July 2023 and latest 2022-2030 projections estimates in June 2023.**



### What can you do?

Reduce your transport carbon footprint, improve the energy efficiency of your home and avoid food waste - a climate action you can do every day.

"EVERY BIT

Int



Learn more on  
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Environmental Protection Agency 2023

## Greenhouse gas emissions Ireland



### Key messages

Greenhouse gas (GHG) emissions in Ireland decreased in 2022

Change in emissions since 2021

**-1.9%**

Emissions decreases were driven by the reductions in the Residential sector, Industry, Agriculture and Electricity generation. The overall emissions reduction, while welcome, falls short of reductions required to achieve National and new EU targets.



### Latest emissions estimates

Ireland's latest greenhouse gas (GHG) emissions 1990-2022 are provisional figures based on the SEAI's energy balance released in June 2023.

Latest emissions data

**60.76 Mt CO<sub>2</sub>eq**

Ireland's provisional GHG emissions are estimated to be 60.76 million tonnes carbon dioxide equivalent (Mt CO<sub>2</sub>eq)

Greenhouse gas emissions decreased in 2022 due to a decrease in coal and peat use and an increase in renewable energy for electricity generation

Emissions mainly from electricity generation

**-1.8%**

Decreases in coal (-16.1%), oil (-29.1%) and peat (-24.8%) used in electricity generation in 2022