Provisional greenhouse gas emissions 1990-2020

EPA Emissions Statistics team, October 2021
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“Produce Greenhouse gas and Air Pollutant Inventories and Projections to fulfil Ireland’s international reporting commitments and provide the evidence basis for National Climate Policy.”
Transport emissions are down 15.7%, by almost 2 million tonnes due to COVID restrictions. Residential and Agriculture emissions increased.

Welcome Reduction in overall GHG emissions. 2020 emissions declined by 3.6% on 2019 levels.

Less Peat and more wind means less emissions from electricity generation. 51% less peat used in electricity generation in 2020.
Provisional greenhouse gas emissions data for 2020 indicate that Ireland will exceed its 2020 annual limit under the EU’s **Effort Sharing Decision (ESD)** by **6.73 Mt CO\(_2\)eq**.

**Energy Industries** emissions show a decrease of **7.9% (0.74 Mt CO\(_2\)eq)** in 2020, due to a **51% decrease in peat used in electricity generation**. Renewables up to **42%**.

**Transport** emissions decreased by **15.7%** due to COVID restrictions. Petrol and Diesel use in road transport were down **26% and 14%**.

Greenhouse gas emissions from the **Residential** sector increased by **9.0% or 0.59 Mt CO\(_2\)eq** with kerosene, coal and peat use up **19%, 6% and 3%**.

**Agriculture** emissions increased by **1.4% (0.29 Mt CO\(_2\)eq)** in 2020, driven by increased activity in all areas, including a **3.2% increase in dairy cows**.
Annual Emissions trends (Mt CO$_2$ eq)
Effort Sharing Decision targets

For years 2013-2020, total allocation was exceeded by 12 million tonnes

- 2013: 46.9 million tonnes CO₂ eq
- 2014: 45.8 million tonnes CO₂ eq
- 2015: 44.6 million tonnes CO₂ eq
- 2016: 43.5 million tonnes CO₂ eq
- 2017: 40.9 million tonnes CO₂ eq
- 2018: 39.8 million tonnes CO₂ eq
- 2019: 38.7 million tonnes CO₂ eq
- 2020: 37.7 million tonnes CO₂ eq

Legend:
- ESD Emissions
- ETS Emissions
- EU AEAs** 2013-2020
Agriculture emissions drivers

![Chart showing the relationship between thousand cows and million litres of milk. The chart includes data from 2010 to 2020, with CSO dairy cow numbers in thousands and total milk deliveries in million litres multiplied by 10^6.]
Transport

COVID restrictions on car and public transport journeys led to a sharp drop in emissions.

-15.7%
Transport Fuels

Jet fuel kerosene inland Deliveries (TJ)

Source: Petrol and Diesel from NORA levy data, Jet kerosene from SEAI monthly deliveries of fuel
Transport (International Aviation)
Energy Industries

Overall emissions in 2020 are 23.3% below 1990 levels
Electricity Daily Demand

Source: SEAI from Eirgrid data
CO₂ Intensity of electricity generation
Global Impact of COVID - Energy
Residential emissions increased by 9.0% due to historic low oil prices and working from home.
Residential emissions drivers

- Number of Households
- Tonnes CO2/household

Year: 2010 - 2020

- 2010: 1,650,000 Households, 3.6 Tonnes CO2/household
- 2012: 1,700,000 Households, 3.7 Tonnes CO2/household
- 2014: 1,750,000 Households, 3.8 Tonnes CO2/household
- 2016: 1,800,000 Households, 3.9 Tonnes CO2/household
- 2018: 1,850,000 Households, 3.6 Tonnes CO2/household
- 2020: 1,900,000 Households, 3.9 Tonnes CO2/household

Graph shows a trend of increasing households with a slight fluctuation in CO2 emissions per household.
• Emissions from the **Manufacturing Combustion** sector decreased by 1.5% or 0.07 Mt CO$_2$eq in 2020

• Emissions from the **Industrial Processes** sector decreased by 7.0% (0.16 Mt CO$_2$eq) in 2020 due to a reduction in cement production with extended closures (COVID)

• Emissions from the **Waste sector** decreased by 0.8% in 2020 or 0.01 Mt CO$_2$eq.

• **F-Gas** emissions were down 14.4% from 2019 to 2020. This is driven by a reduction in refrigeration and air conditioning emissions.

• Emissions from **Commercial Services** sector decreased by 0.3% and **Public Services** sector emissions increased by 1.0% in 2020.
Planned National targets

- 51% below 2018 level
- 24% below 2018 level

Graph showing emissions from Total Emissions WEM, Total Emissions WAM, and 51% reduction on 2018 level.
Conclusion

- While the overall reduction in emissions is welcome, the majority (almost 2 Mt) was due to a short term decrease in transport emissions due to the Covid 19 pandemic, which is likely to be once-off.

- In many sectors, greenhouse gas emissions are still closely coupled with activity and output. To meet the Climate Act target or the increased EU ‘fit for 55’ ambition need to break this link.

- Urgent action is also necessary to avoid a growth in greenhouse gas emissions during post-COVID economic recovery.
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.

Greenhouse gas emissions Ireland

Key messages
Greenhouse gas (GHG) emissions in Ireland decreased in 2020
Change in emissions since 2009
-3.6%
Emissions decreases were driven by the COVID impact on transport highlighting that further efforts are needed to combat carbon emissions.

Latest emissions estimates
Ireland's latest greenhouse gas (GHG) emissions 1990-2020 are provisional figures based on the SEAI's energy balance released in September 2021.

Latest emissions data
57.70 Mt CO2eq

Energy industry
Greenhouse gas emissions decreased by 7.9% from 2019. This decrease was driven by a reduction in peat use and an increase in renewable electricity generation.

Emissions mainly from electricity generation
-7.9%

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.

Remember:
“EVERY BIT OF WARMING MATTERS. EVERY YEAR MATTERS.
EVERY CHOICE MATTERS”

Intergovernmental Panel on Climate Change