

# Trends in greenhouse gas emissions

## Identifying and analysing recent developments in GHG emissions in Europe

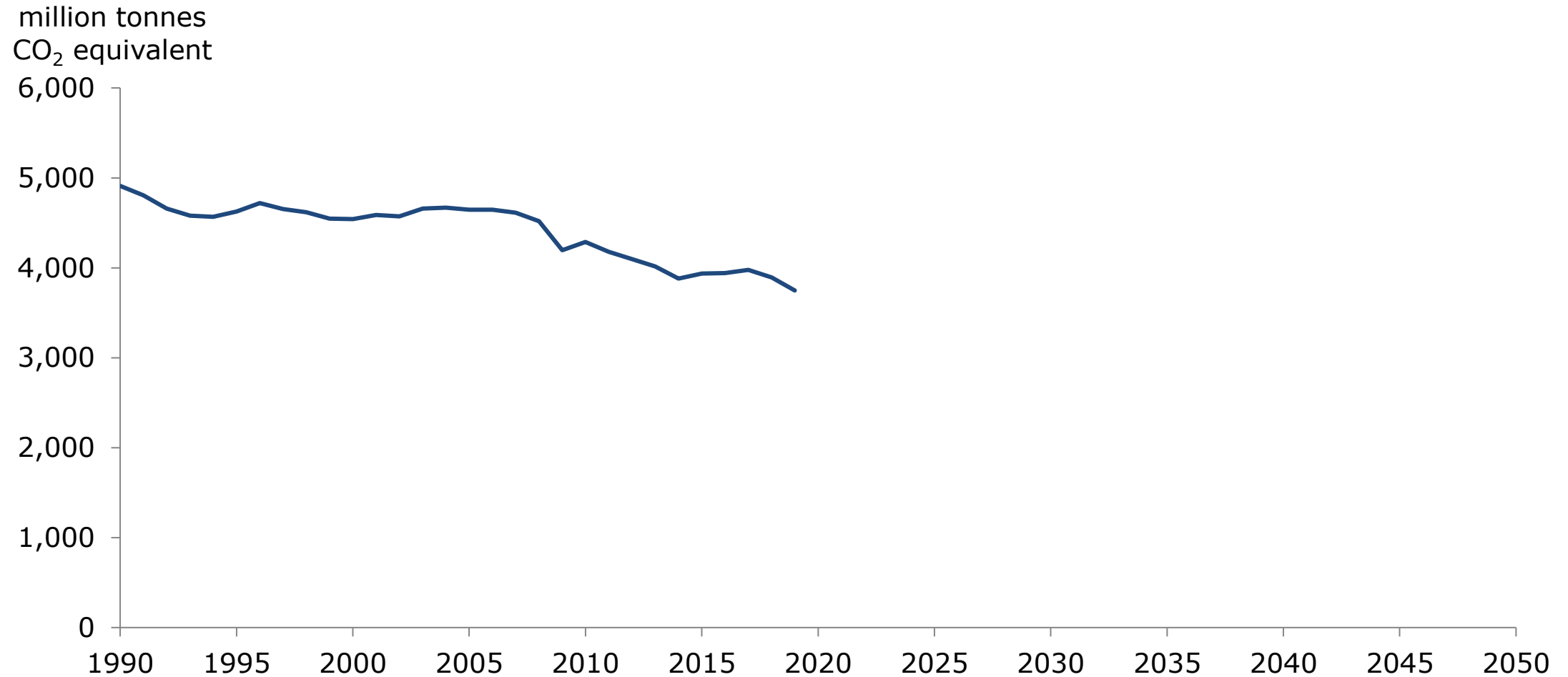


François Dejean, Head of group 'Mitigation, Energy and Transport' | 11<sup>th</sup> EU ETS COMPLIANCE CONFERENCE | 25 November 2020

European Environment Agency

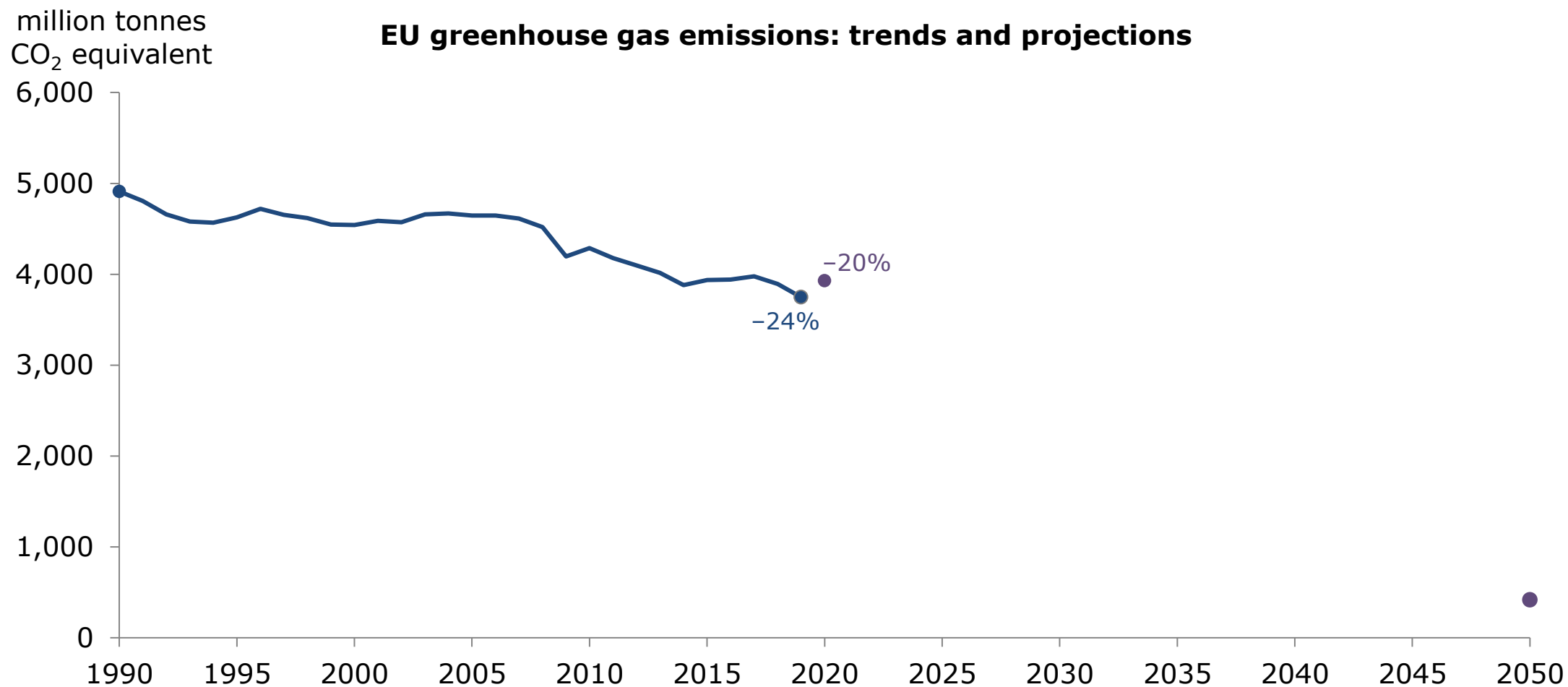


# A look into historic trends in EU greenhouse gas emissions...



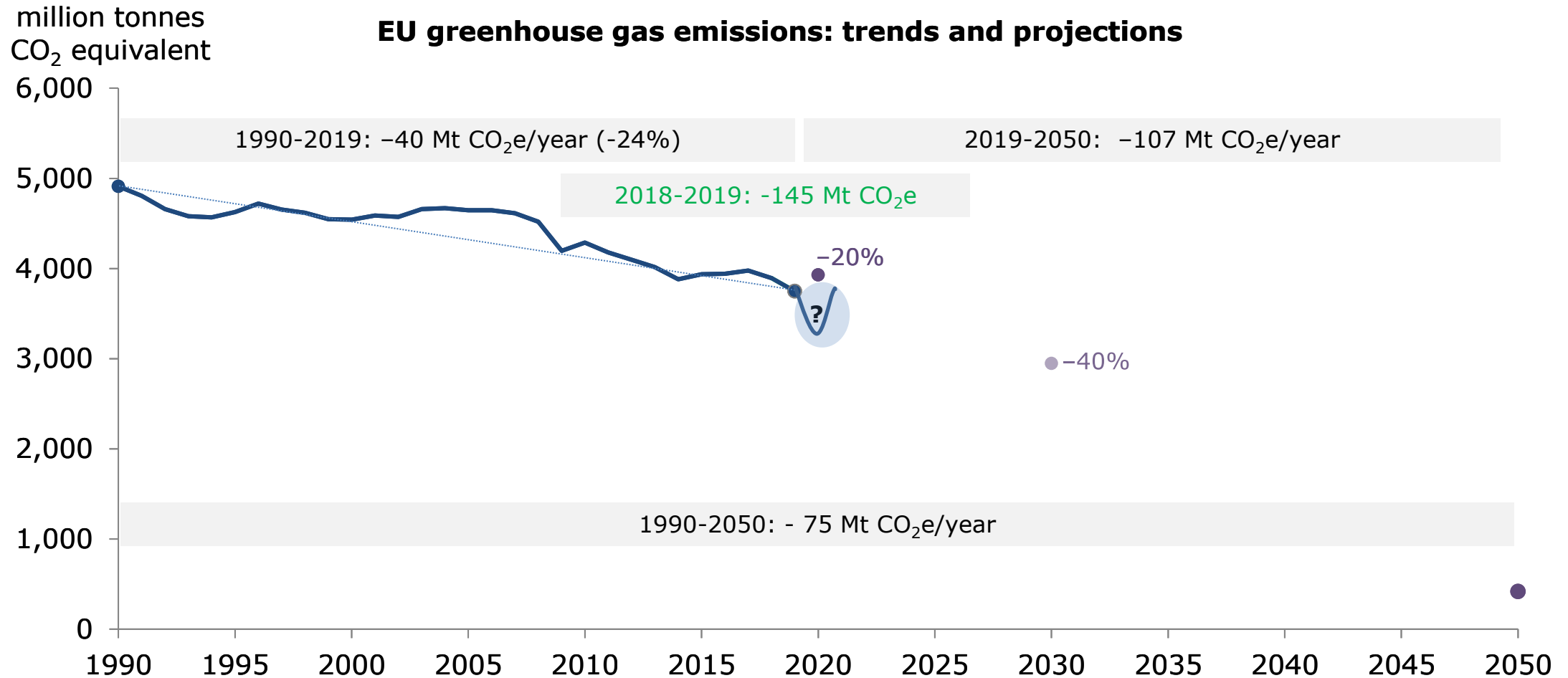
Source: European Environment Agency

# EU on track to is 2020 target (-24% in 2019)

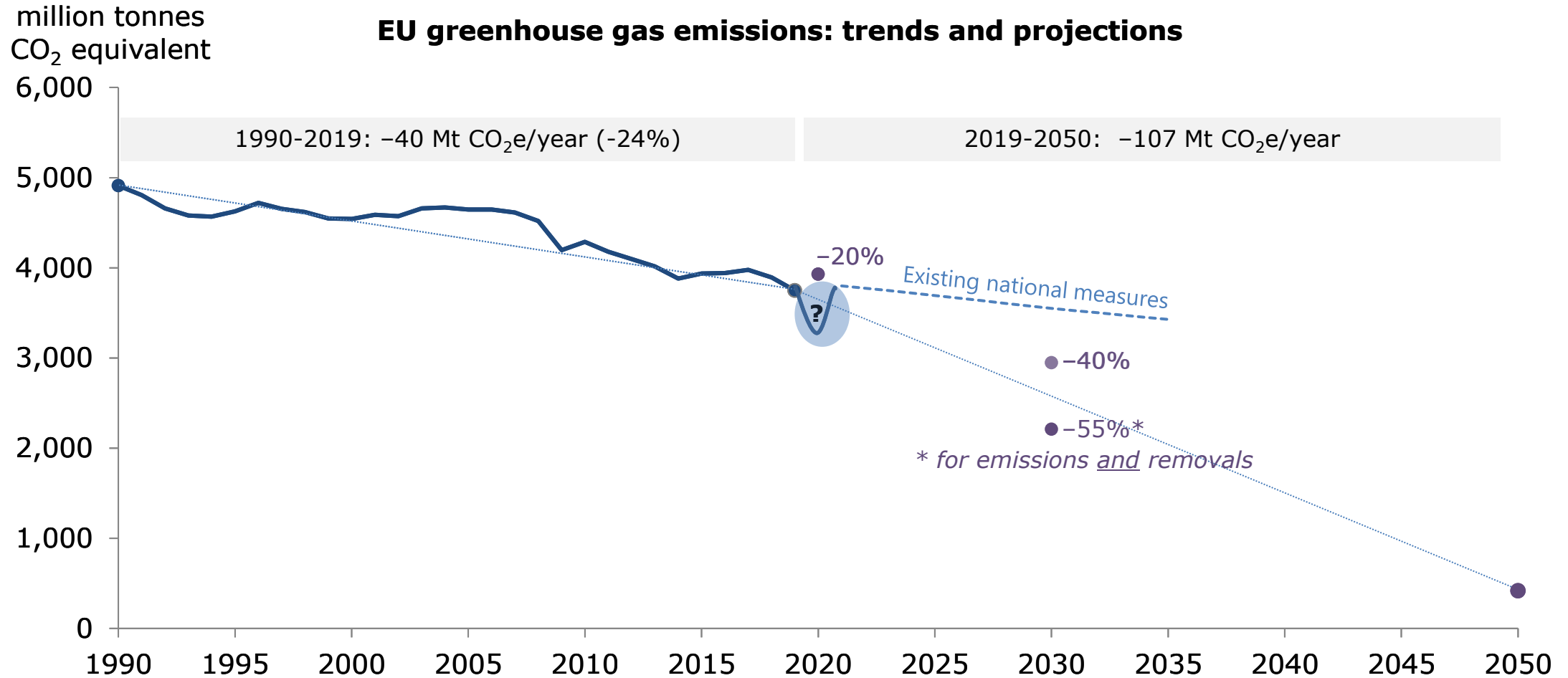


Source: European Environment Agency

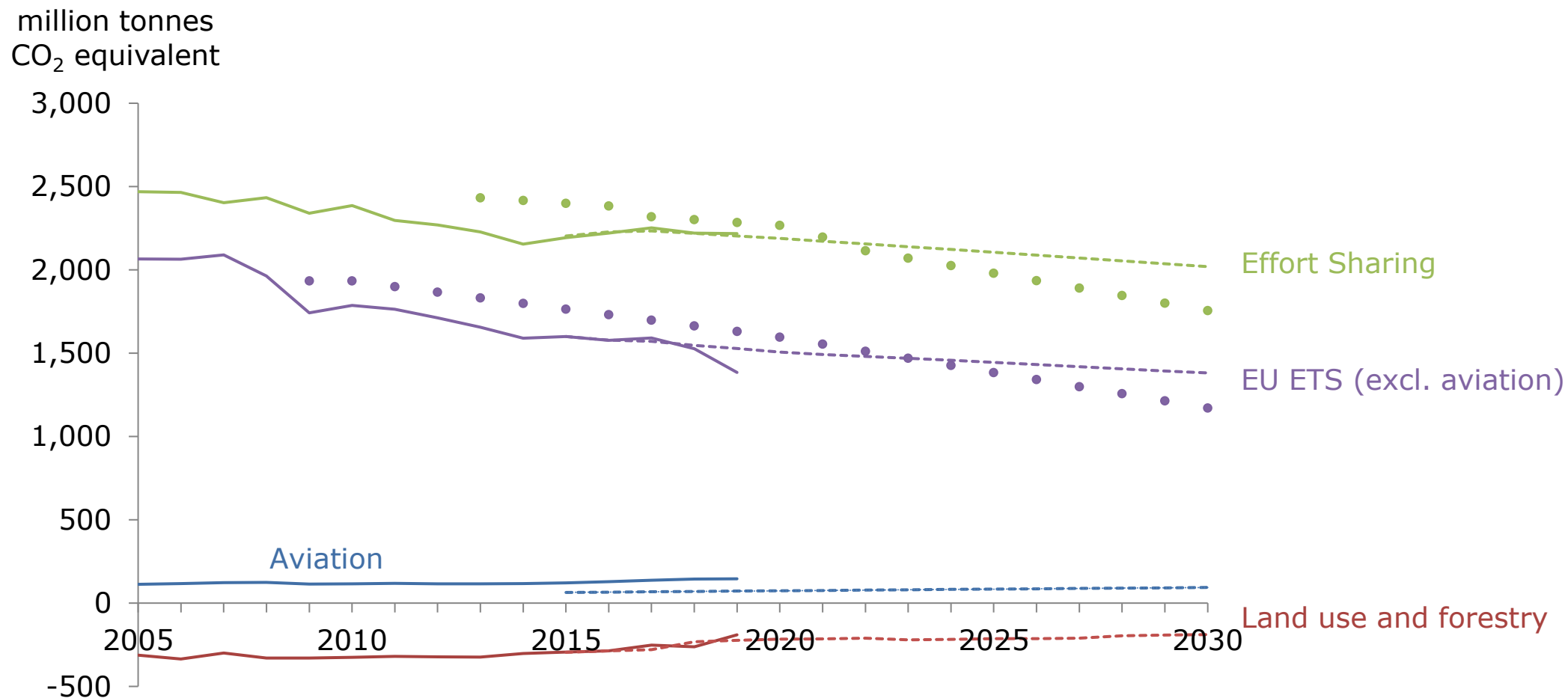
# -4% in 2019: largest reduction in the decade, 2020 unknown



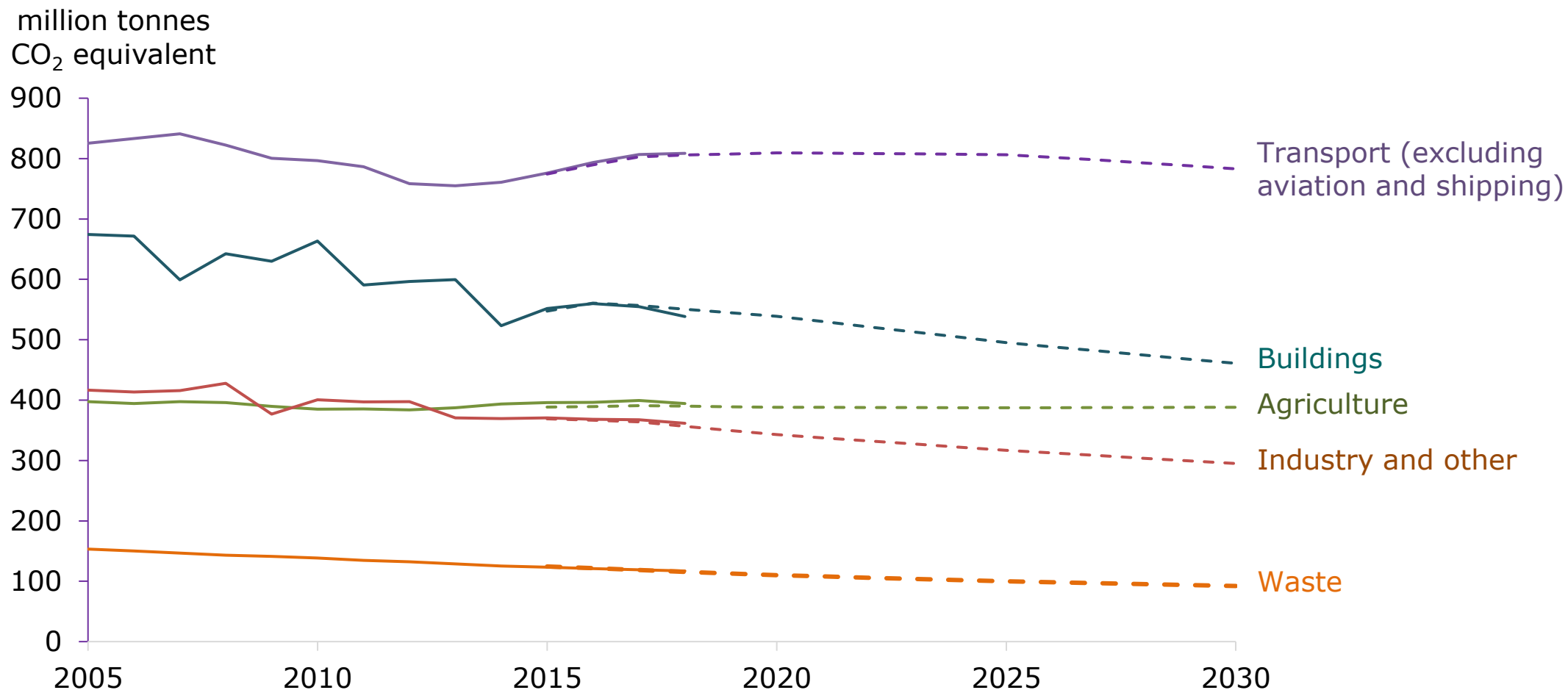
# Insufficient progress planned with national measures in place



# Historic reductions mostly took place in ETS sectors

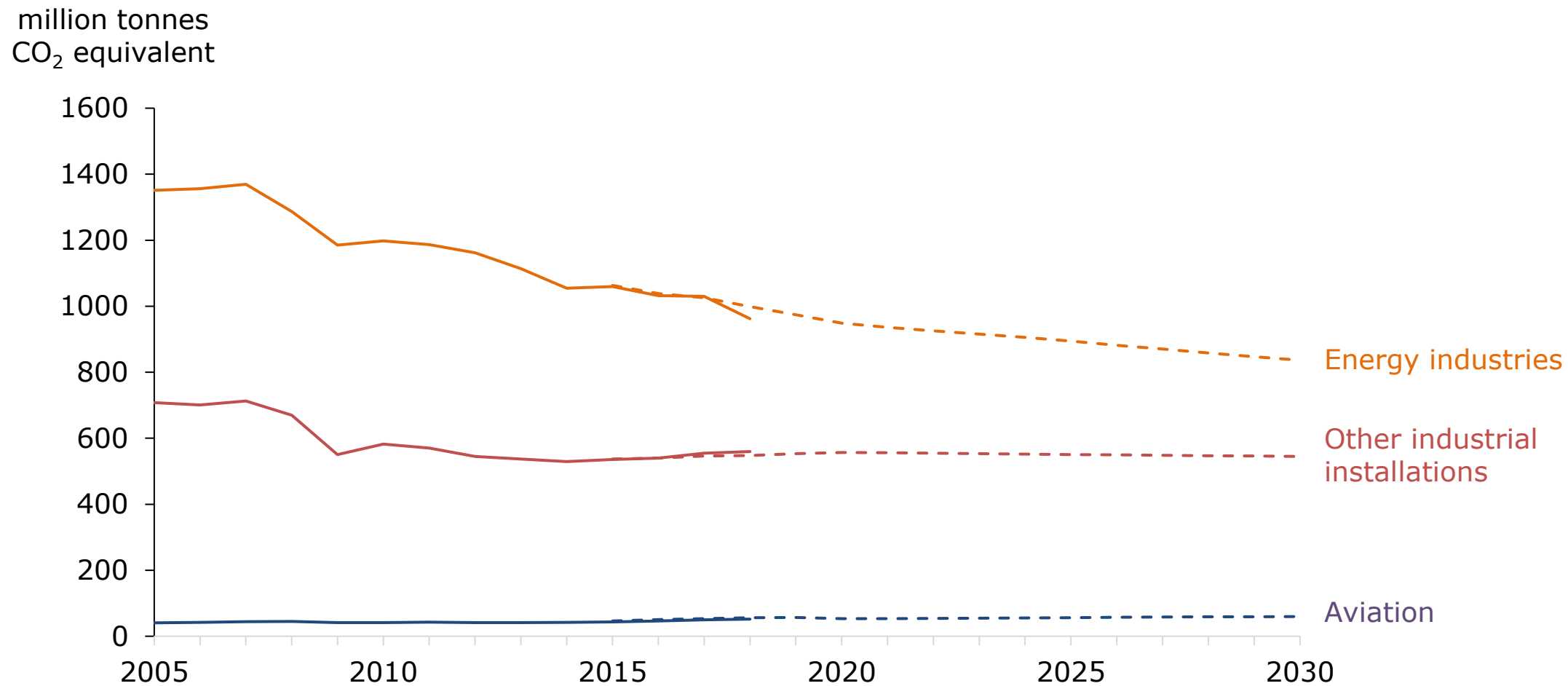


# Effort Sharing: transport sector most problematic



Source: European Environment Agency

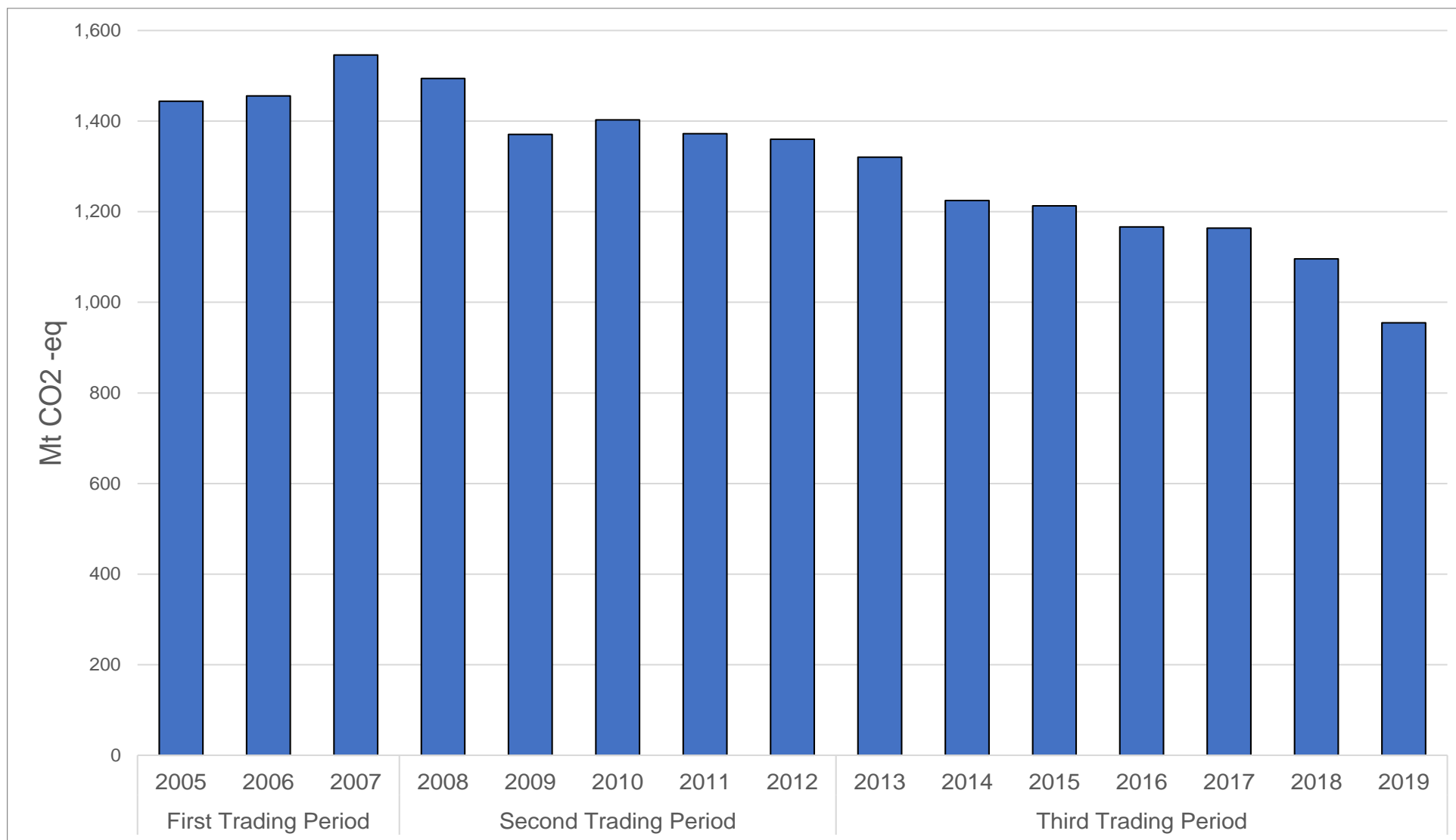
# EU ETS: the energy sector drives emission reductions



Source: European Environment Agency



# Historic 2019 reduction from fuel combustion (Activity 20)



Source: European Environment Agency

# Power generation driving emissions down

- Combustion of fuels (activity 20)
  - 60% of all ETS emissions
  - > one-third reduction since the beginning of the ETS
  - Exceptional 12.9% reduction in 2019 (-141 Mt CO<sub>2</sub>eq)
- Drivers of emission reductions
  - Fuel switch away from coal, mainly to gas and renewables
  - Electricity generation in 2019 compared to 2018:
    - Coal: -144 TWh
    - Gas: +75 TWh
    - Wind: +54 TWh
    - Solar: +8 TWh

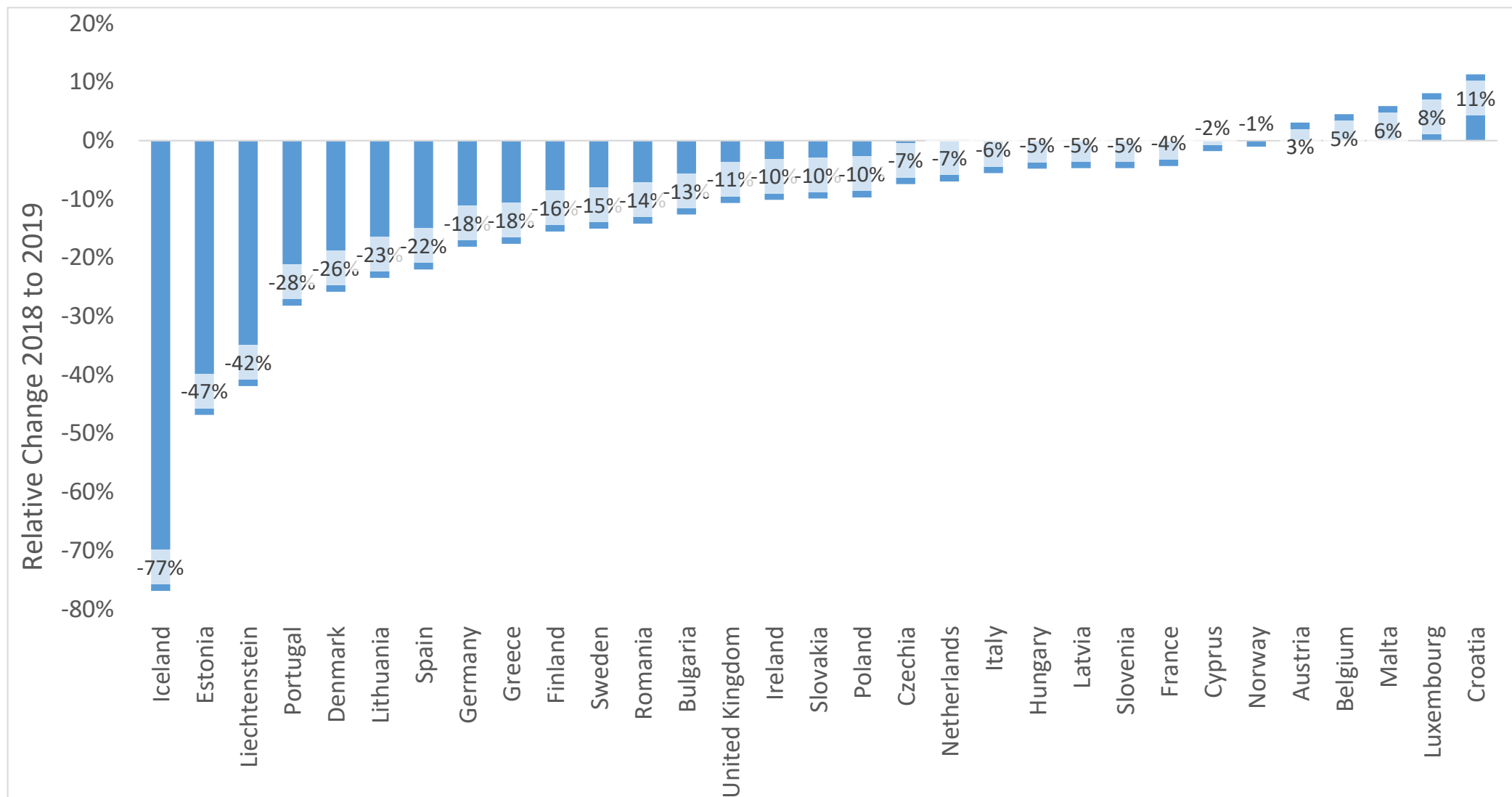


# Main drivers of the 2019 reduction in the power sector

- Carbon price up by 60%
  - 2018: €15.5
  - 2019: €24.7
- Higher share of renewables in power generation:
  - 2018: 32.9%
  - 2019: 34.7% (EU27+UK+NO)
- Lower electricity consumption
  - Generation dropped by -48 TWh in 2019

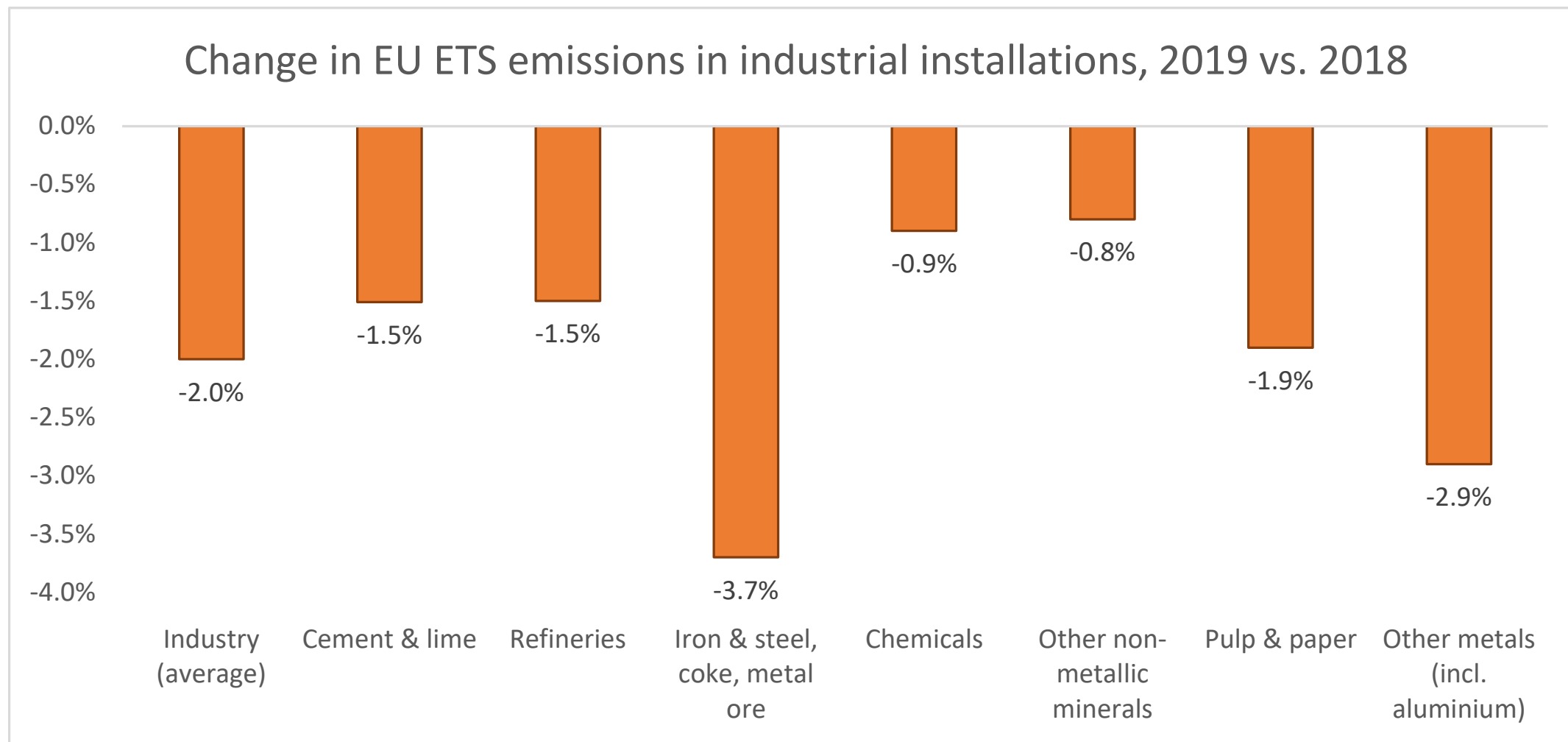


# Combustion of fuels (Activity 20) – by country



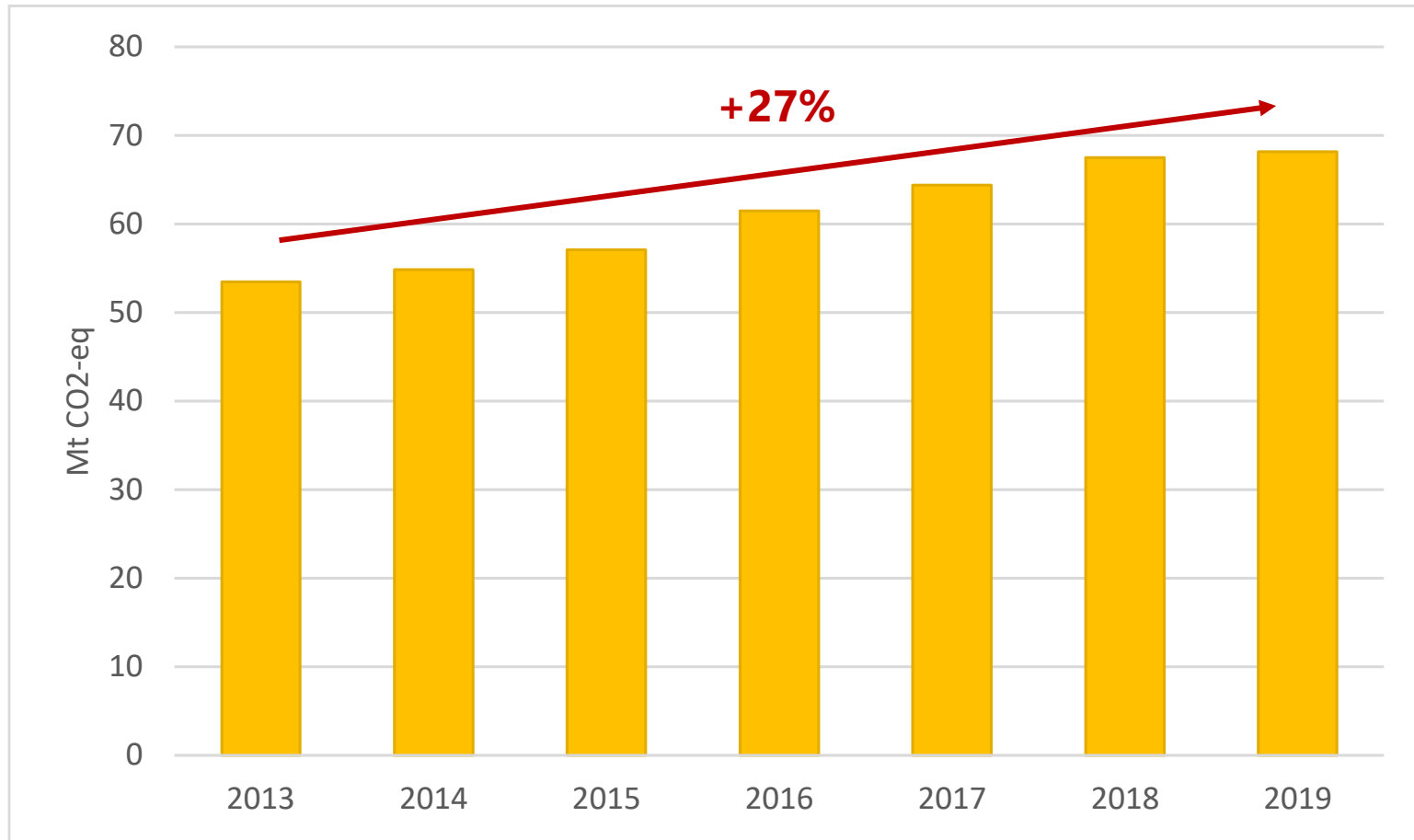
Source: European Environment Agency

# Industrial installations (Activity 21-99)



Source: European Environment Agency

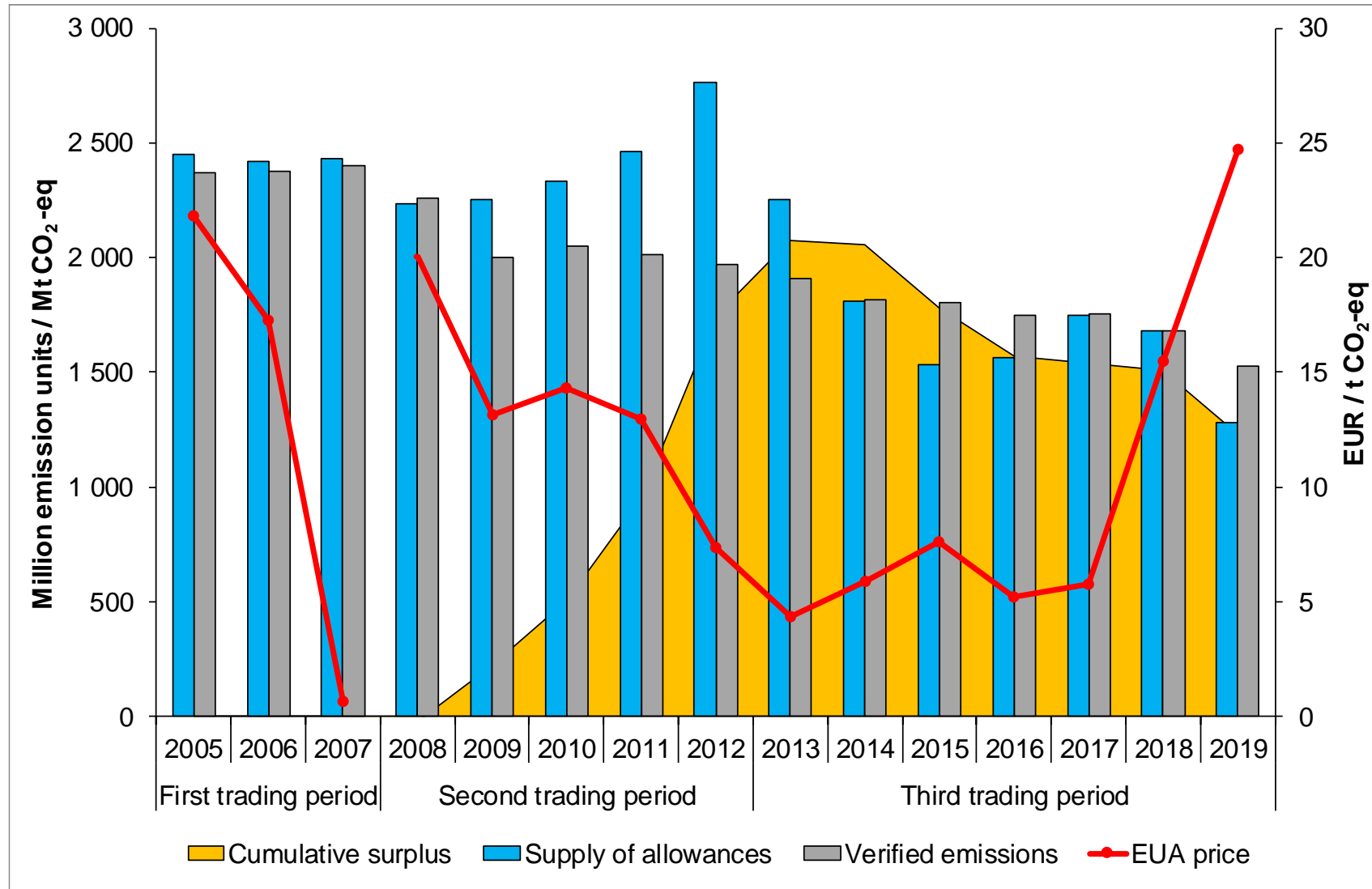
# Aviation emissions keep increasing, driven by demand



Source: European Environment Agency



# Emissions, allowances, carbon prices and surplus



Source: European Environment Agency

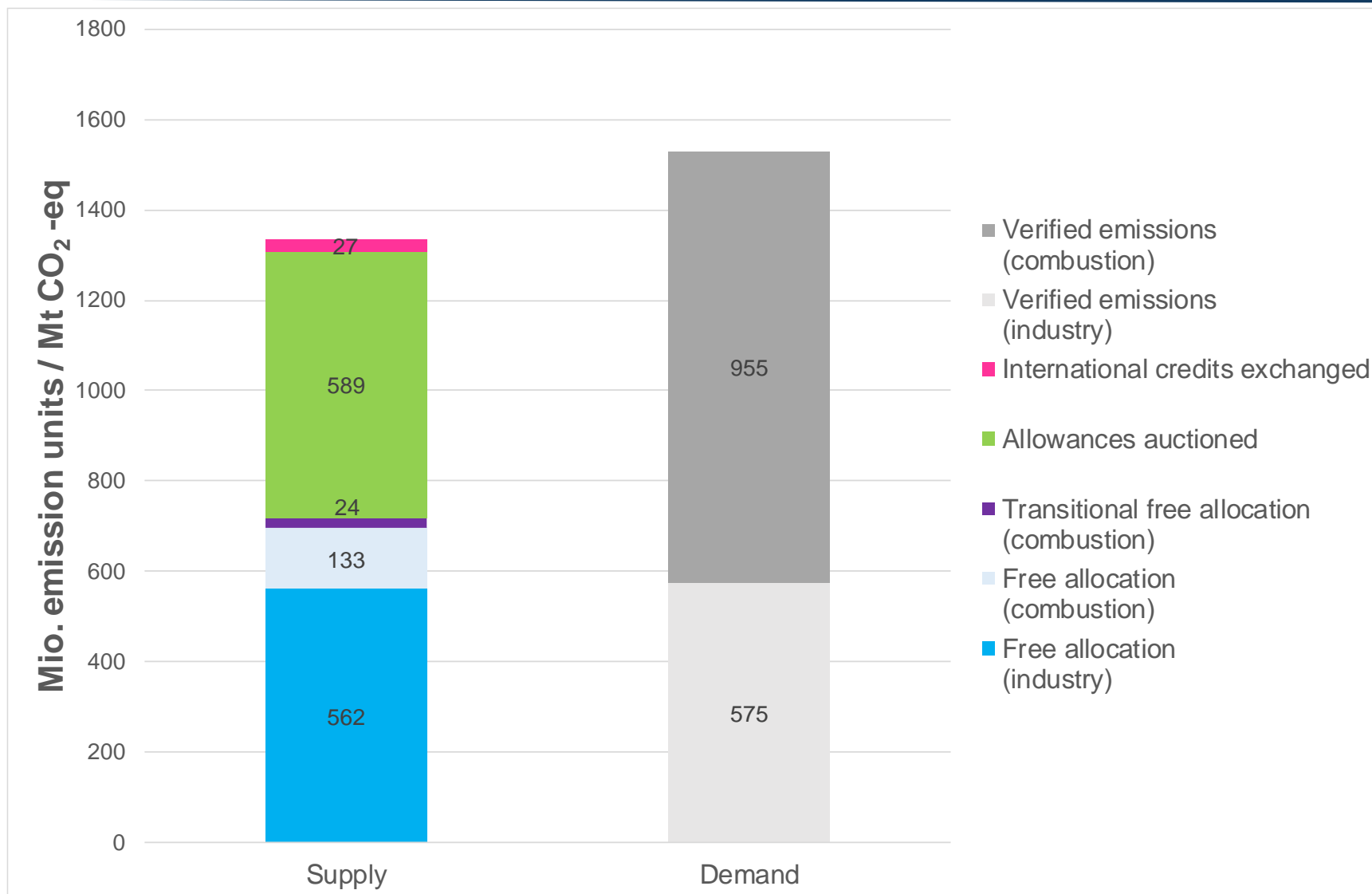
A wide-angle photograph of a glacier lagoon. In the foreground, several large, translucent blue icebergs float in the dark, rippling water. Some icebergs have dark, jagged rock formations protruding from them. Numerous white birds, likely gulls, are scattered across the icebergs and the water's surface. In the background, a vast, flat landscape stretches to the horizon under a soft, hazy sky. The overall color palette is dominated by blues, greys, and muted earth tones, with a warm, golden light from the upper left corner.

# Thank you

Simone Manfredi photographer

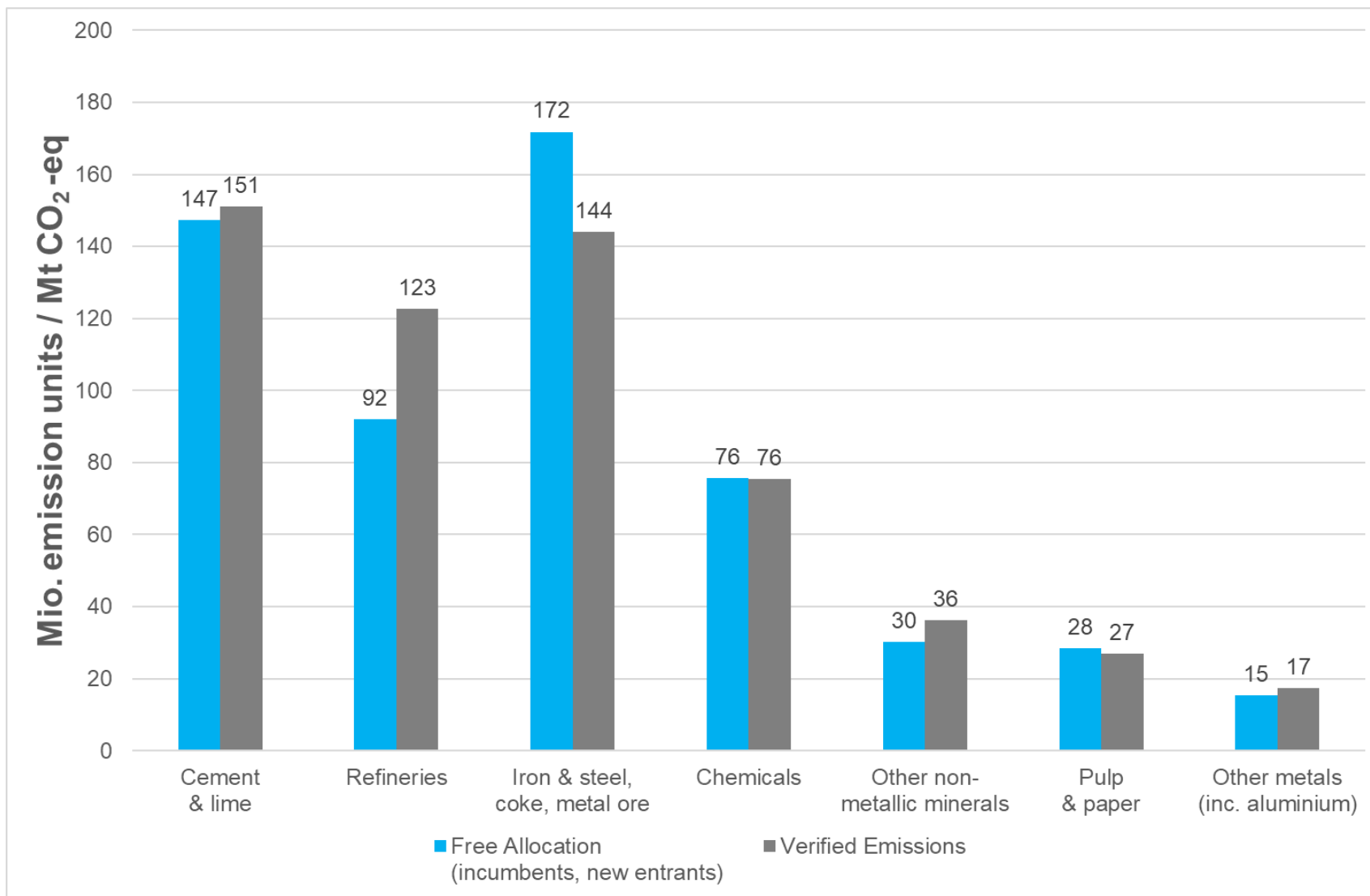


# Overall less allowances than verified emissions in 2019



Source: European Environment Agency

# Emissions in most industrial sectors exceeded free allowances



Source: European Environment Agency