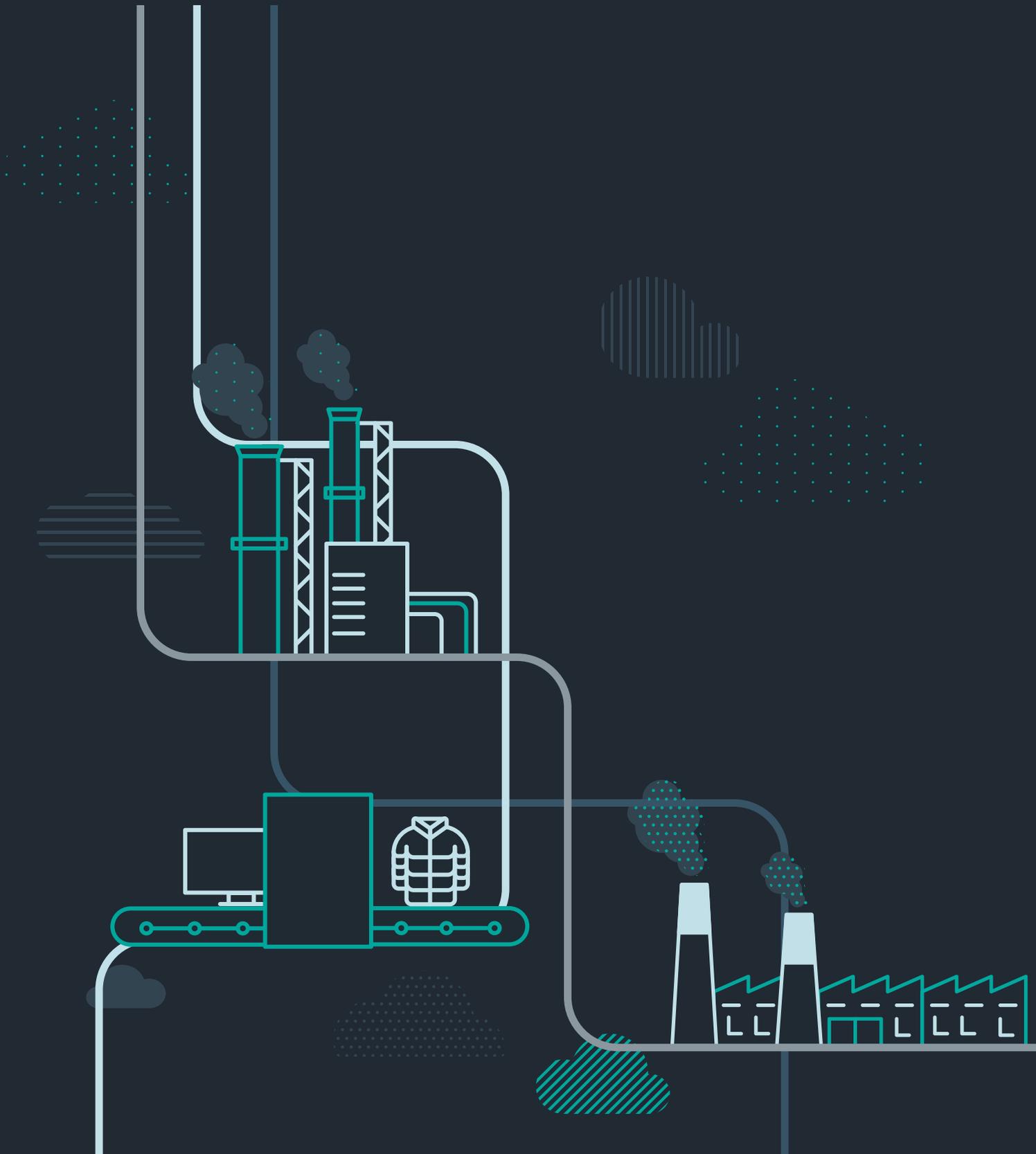




Llywodraeth Cymru
Welsh Government

Industry: Sector Emission Pathway



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The industry sector includes manufacturing, construction, cement production, operation of machinery, food processing and the extraction and production of fossil fuels.

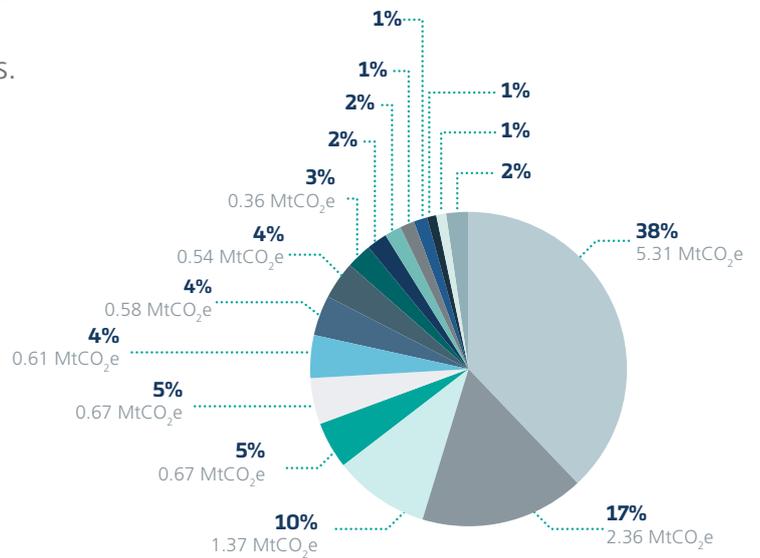
Ambition

In the low carbon transition, ensuring a sustainable, competitive industry and business environment is paramount. We need to steer the growth of a resilient economy where we can continue to exploit our capabilities in new low-carbon technologies and markets, underpinned by a competitive industrial base.

Where do Industry sector emissions come from?

At 14.0 MtCO₂e the industry sector accounted for 29% of Welsh emissions in 2016. Industrial emissions in Wales are dominated by iron and steel production and petroleum refining. Wider industry including manufacturing and construction, solid fuel production, cement, gas production and distribution, operation of machinery, minerals and mines, chemical production, food and drink processing and manufacture and paper and pulp also account for a significant proportion of emissions. Industrial emissions are largely comprised of emissions of carbon dioxide (95.83%), with smaller amounts of methane (3.54%) and nitrous oxide (0.63%).

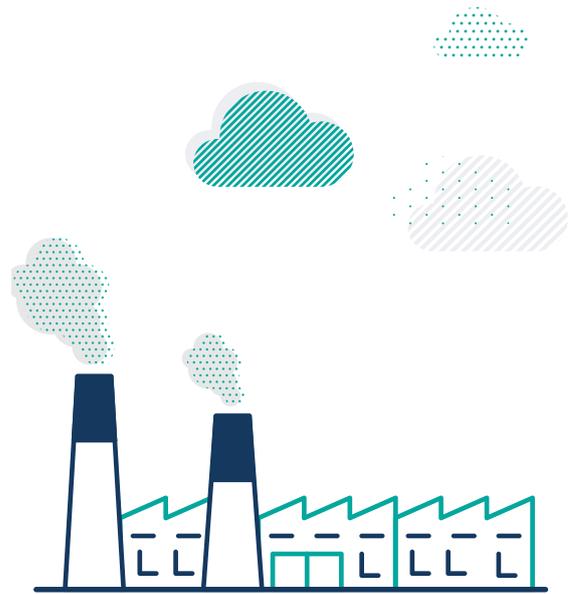
Industry sector emissions in 2016



- Iron and steel
- Petroleum refining
- Manufacturing and construction
- Pig Iron production
- Sinter production
- Manufacture of solid fuels
- Cement production - process emissionst
- Gas production
- Industrial machinery
- Cement production - combustion
- Closed coal mines
- Gas distribution - leakage
- Chemical production - combustion

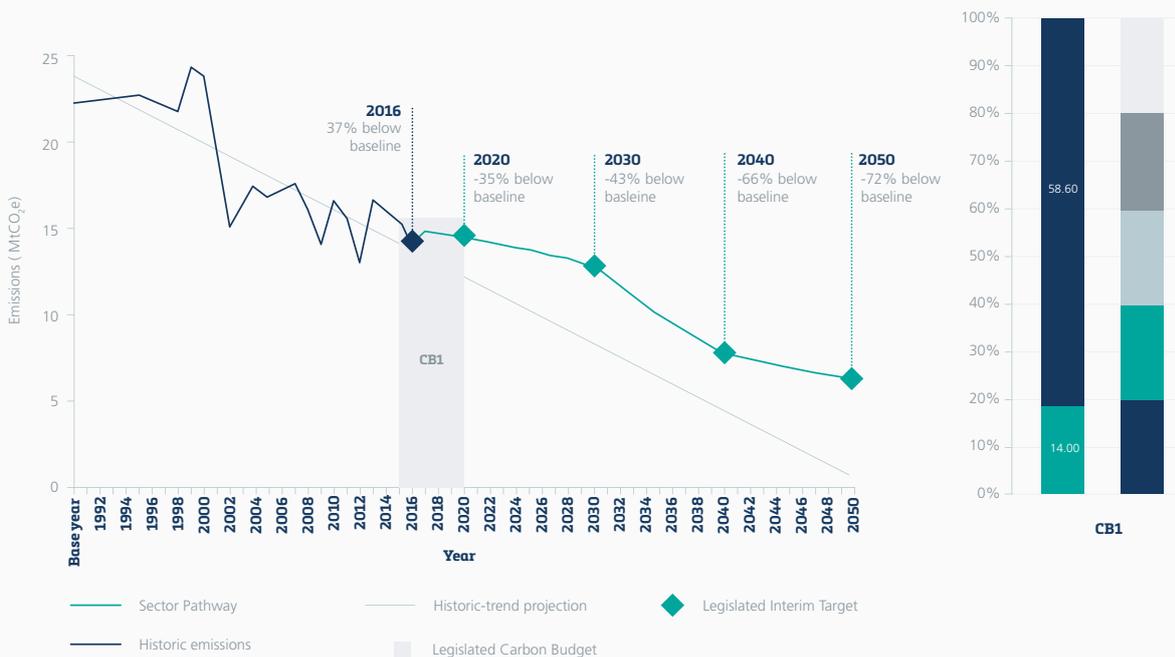
How the biggest emissions sources in the industry sector contribute to the Welsh total

Source	% of total Welsh emissions
Iron and steel	11.0%
Petroleum refining	4.9%
Manufacturing and construction	2.8%



Progress to date

Historic emissions for the Industry Sector and UKCCC modelling to show emission reductions for the first carbon budget (CB1) and a possible route for a contribution to an 80% reduction in all Welsh emissions in 2050

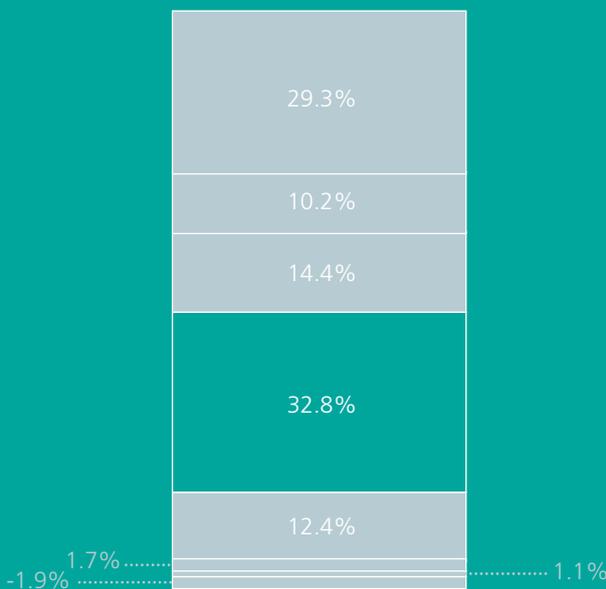


What are we aiming for?

2020 Emissions Target

Emissions in 2020 will be 3% higher than in 2016. This will mean that Industry Sector emissions are 35% lower than the baseline in the year 2020.

Industry sector allocation for Carbon Budget 1



The total budget for the Industry sector for CB1 is estimated to be 72.6 MtCO₂e¹. The Industry Sector contributes 32.8% of the total Welsh budget for CB1.

In 2016 the sector emitted 14.0 MtCO₂e using up 19% of the Industry Sectors contribution to CB1.

Industry sector to 2030

Industry sector emissions will reduce by 43% from baseline (1990s) levels by the year 2030 by:

- › improving energy efficiency measures of material, energy and processes, innovation and waste heat
- › increase of low carbon heat and industrial process measures

Policies & Proposals for Carbon Budget 1 (2016-2020) & towards 2030

Many of the powers relating to heavy industry are reserved to the UK Government. In addition, the pattern of emissions in Wales differs to that for the UK as a whole, with a much higher share of industry emissions leading to a greater share of emissions covered by the EU Emissions Trading System (EUETS). Collaboration between industry, government and communities will be crucial to explore the opportunities around decarbonisation including the use of waste heat, energy efficiency measures and capturing and reusing industrial process gases.

Research development and innovation will be critical to enable longer-term industrial decarbonisation by enabling the development of step-change technological options. We will work with industry to

¹ Analysis based on 1990-2016 GHGI. All absolute figure referenced here will vary slightly as our understanding of GHG emissions in Wales improves.

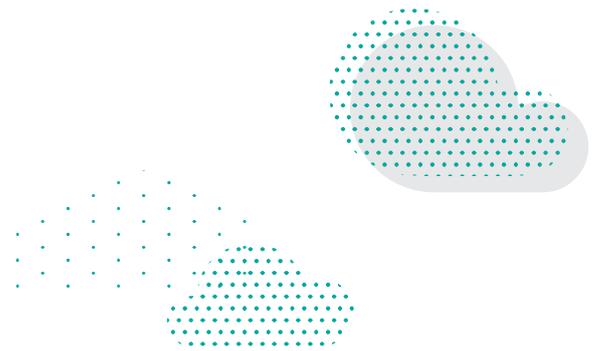
encourage participation in UK Government funding calls to access funding to develop new ideas, exploit new technology and adopt new business models that encourage a circular economy approach.

The emission reductions required to meet CB1 and the 2020 target will be delivered by the following policies and proposals.

Policies & Proposals

We will increase energy efficiency measures through:

- › The EUETS Trading Scheme
- › Climate Change Levy and Climate Change Agreements
- › Industrial Emission Reduction Support beyond 2020 for Carbon Intensive Businesses
- › Through the Economic Action Plan
- › Energy Efficiency Scheme – UK Government
- › Industry-Led Decarbonisation Group
- › Developing a Policy Position on Fossil Fuel Extraction
- › Industrial Heat Recovery
- › Carbon Capture Utilisation and Storage
- › Commission an independent economic and technical feasibility study on carbon capture use and storage
- › Food and Drink Action Plan – Towards Sustainable Growth



Well-being

Supporting the transition to a low carbon industrial sector is crucial to Wales. Unilateral rapid decarbonisation of these industries would not only put jobs at risk but risk carbon leakage that would offshore production and the related emissions. The low carbon transition offers Wales a range of opportunities to maximise the well-being goals.

The EAP is Welsh Government's key policy to drive inclusive sustainable growth and future-proof the economy through our direct support for businesses. The Well-being Matrix Tool showed that the EAP had a strong positive direct benefits against a more equal Wales, a Wales of cohesive communities well-being goals.

