

# Major rethink needed if chemical industry is to meet greenhouse gas targets

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The UK chemical industry requires "an urgent and radical rethink" into how it produces chemicals if it is to play its part in meeting Government's stringent greenhouse gas emission reduction targets of 80% plus by 2050.

That is one of the conclusions of a major new report issued today by the University of Manchester's Tyndall Centre for Climate Change Research. Entitled 'Can the UK afford (not) to produce chemicals in 2050?' the report was generated in collaboration with the North East Process Industry Cluster (NEPIC) following investigations into chemical sector [greenhouse gas emissions](#).

Funded by Engineering and Physical Sciences Research Council (EPSRC), the report highlights the role of industry, the issues surrounding carbon leakage and the responses to the goal of reducing carbon emissions. Setting out the challenges, the report looks to encourage a long-term strategy that encompasses both a re-balanced and low carbon economy.

The report states that the chemical industry's [greenhouse gas](#) emissions have fallen significantly since 1990 by 70%. This is as a result of technological and efficiency improvements along with factors such as the economic crisis, rising energy and [feedstock](#) prices, factory closures and off-shoring.

The report adds that there is currently no evidence to suggest that the

UK's carbon emissions targets have played a direct role in relocation.

Dr Paul Gilbert, lead author of the report, said: "If the UK chemical industry is to grow beyond 2050 then it needs to radically think how it will achieve absolute [emission reductions](#) across the sector. This will require the sector to go above and beyond incremental efficiency improvements. It will require significant changes to the current processes operated, with commensurately high levels of capital investment. This is challenging, but with changing patterns of supply and demand for chemicals overseas, it is something industry needs to step up to."

The chemical industry is one of the UK's largest manufacturing sectors with more than 95% of all manufactured products containing inputs from it. Ranking fourth in Europe, the chemical industry also generates a significant trade surplus and accounts for approximately 19% of the UK's exports.

Government and industry need to carefully consider how they respond to the climate challenge, taking into account both the sectors high emissions due to its energy intensiveness and the vital strategic role it plays in the UK economy.

Other key findings of the Tyndall Manchester report conclude:

- Reduction in the emission intensity of the industry's energy and feedstock supply will be challenging;
- Carbon capture and storage (CCS) technology is an attractive long-term option to reduce emissions, but this requires the development of new infrastructure and integration into processes. This is unlikely to contribute substantially to the UK emission targets prior to 2030;
- Waste must be valued as a commodity but using biomass or waste products as a low-carbon energy and feedstock supply is

- currently not economically viable; and
- The industry perceives that UK emission targets are more demanding than the rest of Europe, and certainly the Far and Middle-East and the US. This needs to be addressed if disinvestment is to be curtailed.

Mark Lewis, Technical Manager of NEPIC, added: "The chemical industry in the UK is the leading manufacturing export sector and underpins the advanced manufacturing sector across the economy. It is an essential part of any attempt to move to a low-carbon, advanced economy. But in playing this role in the UK and within the EU it is exposed to a number of challenges, which government and companies need to meet if its contribution to society is to be maintained."

In 2008, the UK Government established the world's first legally binding climate change target through the Climate Change Act. The Act aims to reduce UK greenhouse gas emissions by at least 80% (from the 1990 baseline) by 2050.

Provided by University of Manchester

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