Energy intensity of industry

The industry sector includes the manufacture of food and beverages, metals, minerals, and other products. In 2013 industry consumed about 21% of Ireland's final energy. In addition to emissions from the energy used, industry emitted 2.4 $MtCO_2e$ of greenhouse gases directly from its processes. 28% of industrial energy demand was for gas, 36% was for electricity, with the rest from oil, coal or biomass.

In the 2050 Calculator the sector's future energy use is determined by two factors:

- industry energy intensity (described here) and
- industry growth (described on another page).

Trajectory 1

Trajectory 1 assumes that process emissions remain constant and that there is a 10% reduction in the energy intensity of manufacturing between 2013 and 2050.

Trajectory 2

Trajectory 2 assumes a 20% improvement in energy intensity; a 25% reduction in process emissions per unit of output and that 39% of industrial energy demand is met by electricity.

Trajectory 3

Trajectory 3 assumes that there is a 40% improvement in energy intensity and at least a 30% average reduction in process emission intensity. 66% of energy demanded is for electricity.

Interaction with other choices

The coal, gas and oil used by industry could be replaced with bioenergy. To do this in the 2050 Calculator, select bioenergy imports, or choose to dedicate land to biomass and to turn that biomass into solid, liquid or gaseous biofuel.

There may be significant demand for carbon dioxide (CO_2) transport infrastructure and storage capacity in three sectors: industry, carbon capture and storage, and geosequestration. Calculator users may wish to consider these options together to take a view on whether the total demand for CO_2 transport and storage infrastructure is feasible.

Figure 13: TWh/y assuming trajectory A for industry growth