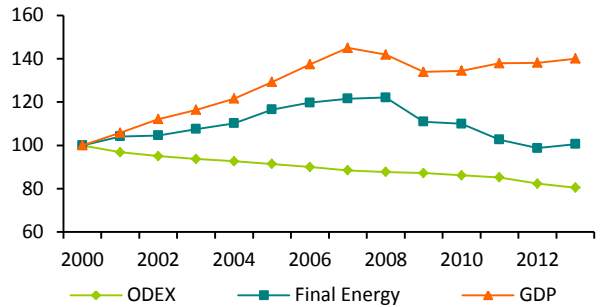


Energy Efficiency Trends

Overview

In Ireland the overall energy efficiency of the economy, as measured by ODEX indicator, improved by 17.5% over the period 2000 to 2013 (1.5% per annum on average). Over the same period total primary energy consumption decreased by 3.5% (0.3% per annum); total final energy demand increased by 0.6% (0.05% per annum); GDP increased by 40.1% (2.6% per annum).

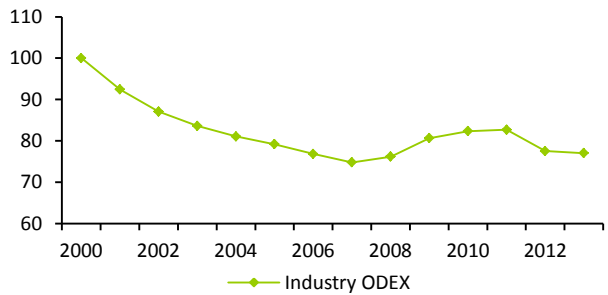
Energy cons., GDP and energy efficiency index (100=2000)



Industry

Between 2000 and 2007 the ODEX indicator of energy efficiency for industry improved by 25.2%. This trend was reversed between 2008 and 2011. The overall improvement in efficiency over the full period 2000 to 2013 was 23.0%, or 2.0% per annum. Final energy use in industry fell by 12.8% (1.0% per annum) between 2000 and 2013 to 2.22 Mtoe. While final energy demand decreased, the value added of industry increased by 10.0% over the full time period, resulting in a reduction in the economic energy intensity of industry of 20.7%

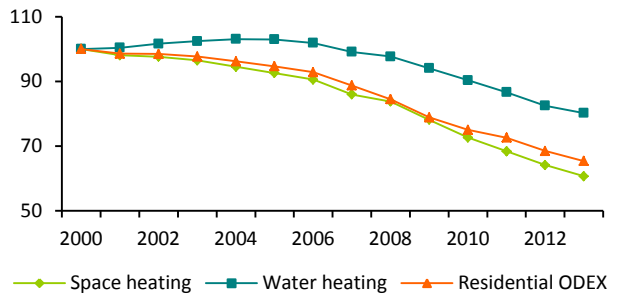
Main energy efficiency indicators in industry (100=2000)



Households

Over the period 2000 to 2013 the ODEX indicator of energy efficiency for the residential sector improved by 33.9% (3.1% per annum). Residential final energy use grew by 10.3% to 2,504 ktoe (0.8% per annum) over the period 2000 to 2013. Correcting for climate variation the overall increase was 6.0% (0.4% per annum). Over the same period, the average floor area per household of the housing stock is estimated to have increased by 10.3% (0.8% per annum) while the total floor area of the stock increased by 50.1%, (3.2% per annum). Energy usage per square metre fell by 26.5% (2.3% per annum), direct fuel usage per square metre decreased by 29.2% (2.6% per annum) while electricity usage per square metre decreased by 16.9% (1.4% per annum).

Main energy efficiency indicators in households (100=2000)

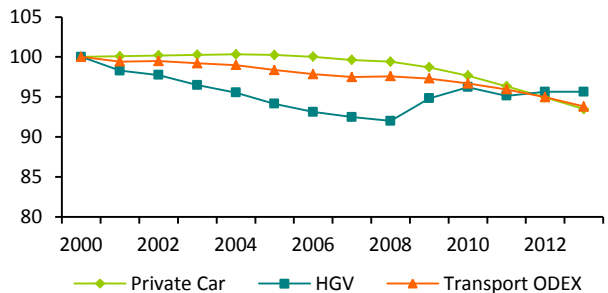


Space heating : koe per m2
Water heating: toe per dwelling

Transport

The transport ODEX improved by 18.5% over the period 2000 to 2013 (1.6% per annum) indicating an improvement in energy efficiency. The overall change in transport sector final energy demand between 2000 and 2013 was an increase of 6.0%. Between 2000 and 2007 final energy demand increased by 39.3% but between 2007 and 2013 it reduced by 23.9%.

Main energy efficiency indicators in transport (100=2000)



Cars: litres per 100 km
Road traffic of goods (trucks): koe per tonne-km

Energy Efficiency Policy

Institutional and energy efficiency targets:

Ireland's third National Energy Efficiency Action Plan (NEEAP3) was published in August 2014. NEEAP3 reiterates the government commitment to achieving a 20% reduction in energy demand across the whole of the economy by 2020 through energy efficiency measures. It notes that although substantial savings have been made in the last three years "it is clear that a significant acceleration of effort is required if we are to realise our 2020 targets". It describes in detail the measures and associated savings achieved in 2012 and targeted for 2016 and 2020 for buildings, public sector bodies, industry, transport, supply side, as well as cross cutting measures.

In the residential sector the key energy efficiency measures are the various iterations of the building regulations, for example the 2011 changes to the Building Regulations, and programmes to incentivise energy efficiency retrofitting of the residential building stock, for example the Better Energy Homes Scheme.

The measures for the services sector prior to 2005 were education-information-training (for example the public sector energy efficiency programme) and co-operative (voluntary standards and certification). Since 2005 there was a shift towards more legislative (building regulations) and financial (grants for energy efficient boilers) measures. The planned 2015 Building Regulations revision for

Buildings other than dwellings will improve minimum standards set in previous 2005 regulations, with a minimum overall performance set at a 40% improvement on an equivalent building built to 2005 Regulations. A target of a 33% reduction in energy demand by 2020 has been set for the Public Sector.

The key policy driving energy efficiency in road transport in Ireland since 2008 has been the overhaul of the vehicle registration tax (VRT) and the annual motor tax (AMT) systems to be graduated based on CO₂ emissions as opposed to engine size. More recent innovative measures include the UK-Ireland Functional Airspace Block and measures to encourage more efficient driver behaviour.

In the industrial sector the most common measures are informational/education/training. The key energy efficiency measure in the industrial sector is the Large Industry Energy Network (LIEN), a voluntary grouping, facilitated by SEAI, of companies that work together to develop and maintain robust energy management. The SEAI Energy Agreements Programme is a sub-set of 80 LIEN companies, who have agreed to work towards implementing ISO 50001. The accompanying table lists a selection of policy measures contained in Ireland's third NEEAP along with the achieved and targeted savings for energy and CO₂ emissions.

Main energy efficiency policy measures and their impacts

Sector	Title of Measure	Energy savings (GWh)			CO ₂ savings (ktCO ₂)		
		2012 (achieved)	2016 (expected)	2020 (expected)	2012 (achieved)	2016 (expected)	2020 (expected)
Residential	Residential Retrofit	507	1,500	3,000	126	370	738
Services	Commercial & Industry Retrofit	0	1,000	25,000	0	256	633
	2015 Building regulations - Buildings other than Dwellings	0	146	518	0	35	123
Transport	Functional Airspace block	253	253	253	65	65	65
	More efficient road traffic movements	63	177	310	16	45	79
Industry	Accelerated Capital Allowance	137	368	688	32	80	140
	Large Industry Energy Network	1,802	2,235	2,728	449	539	642