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Country Factsheet Ireland

Accompanying the document

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE, THE COMMITTEE OF THE REGIONS AND THE EUROPEAN INVESTMENT BANK

State of the Energy Union

{COM(2015) 572}
{SWD(2015) 208 à 209}
{SWD(2015) 217 à 227}
{SWD(2015) 229 à 243}

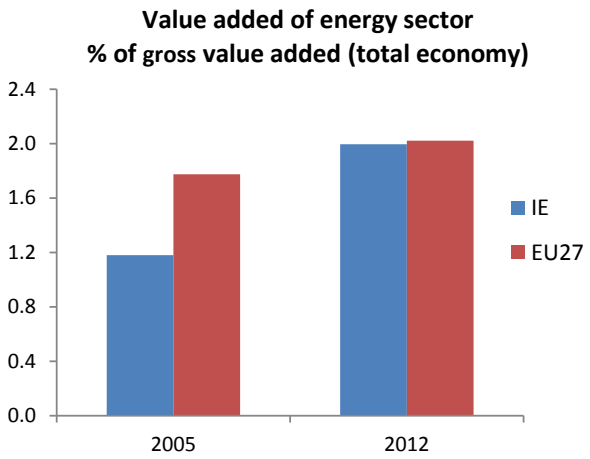
Towards an Energy Union

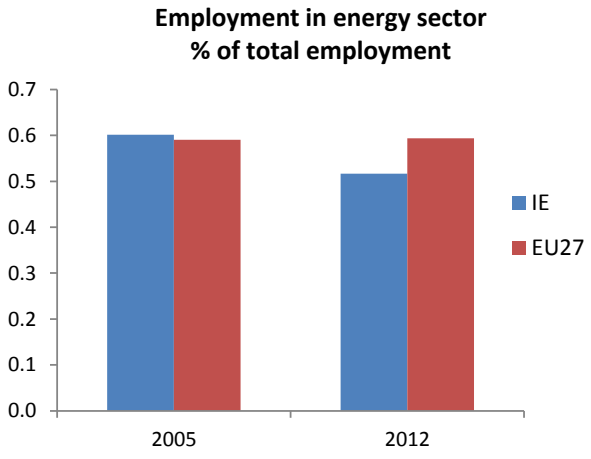
Ireland

Macroeconomic relevance of energy

IMPORTANCE OF THE ENERGY SECTOR

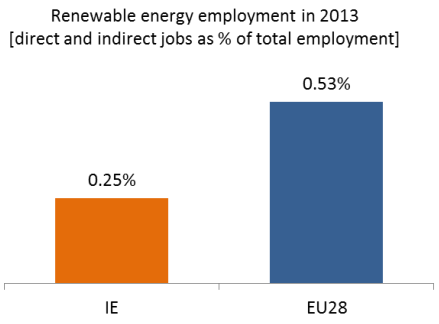
Between 2005 and 2012, the Irish energy sector's share in GDP has converged towards the EU average. During the same period, the share in total employment has fallen to well under the EU average, pointing to some restructuring in the Irish energy sector.





Source: EUROSTAT – National Accounts

According to EurObserv'ER, in 2013, the share of direct and indirect renewable energy related employment in total employment of the economy in Ireland was at about 0.25%, below the EU average of 0.53%.

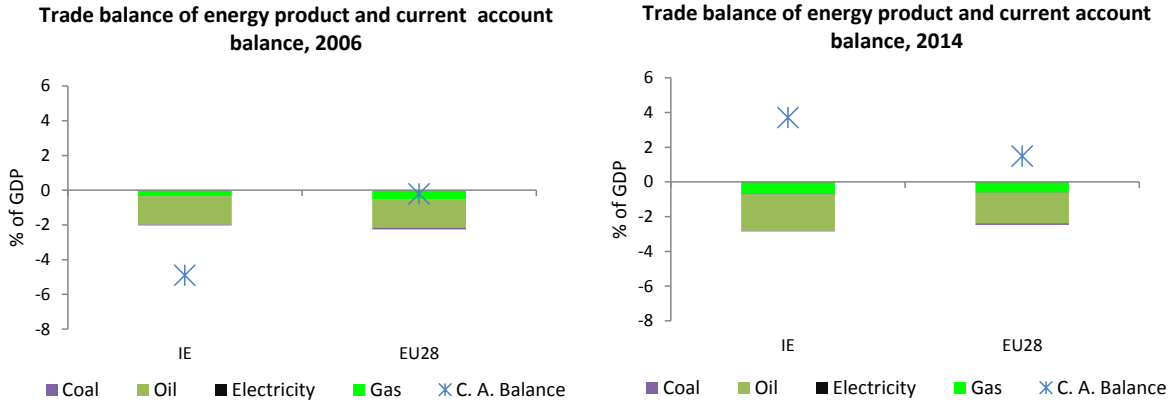


Source: European Commission, based on EurObserv'ER and EUROSTAT

TRADE BALANCE OF ENERGY PRODUCTS

Over the period under consideration the Irish energy trade deficit has stayed rather close to the one for the EU as a whole. In fact, this deficit is rather persistent as it occurred both in the context of a sizeable current account deficit (in 2006) and of a sizeable current account surplus (in 2013) in

Ireland[1]. It reflects Ireland's dependency on imported energy products.



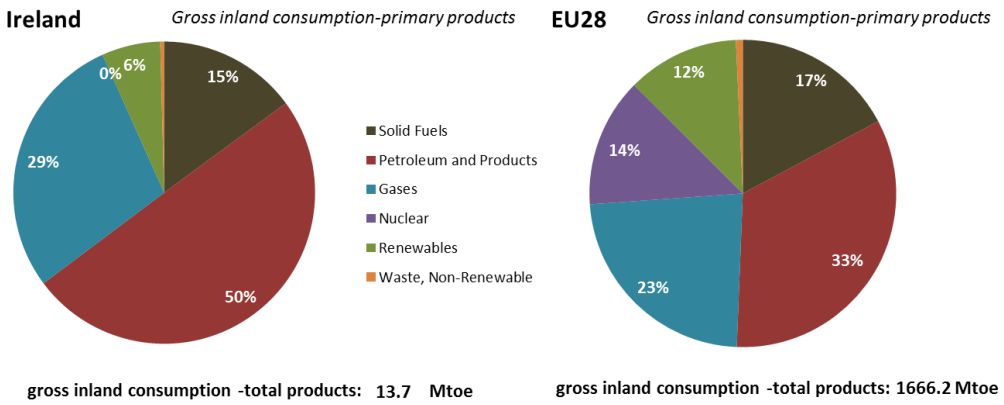
Source: EUROSTAT
Note: Current account balance for EU28 from European Commission (AMECO)

1. Energy Security, solidarity and trust

ENERGY MIX

The energy mix of Ireland is broadly in line with the one of the EU-28, with the notable difference of a considerably higher share of "Petroleum and Products" and lack of nuclear. Compared to 1995, the share of renewable energy increased more than EU average (from 2% to 6% of gross inland energy consumption), while the share of petroleum and products decreased by 2 percentage points. The main decrease concerns the use of solid fuels (9 percentage points).

Gross inland energy consumption in 2013



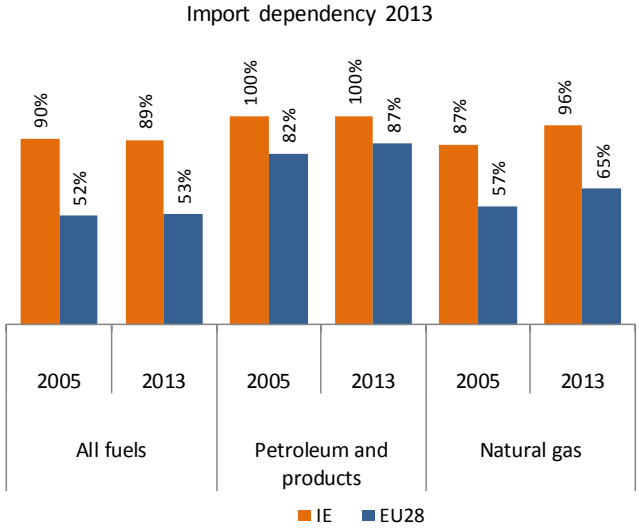
Source: DG ENER, based on EUROSTAT

IMPORT DEPENDENCY

Energy import dependency is very high in Ireland and increasing in particular as regards gas, although the commencement of indigenous gas flow from the Corrib gas field later this year should significantly reduce import dependency in the short term. Ireland currently imports nearly all its gas from the UK. Power generation relies heavily on gas imports from the UK and both interconnectors

[1] Due to data availability, the 2006 current account figure is sourced from CSO, the national statistical office.

experienced outages in winter 2012/13[2]. As a peripheral country and less well connected part of the single market, Ireland might expect to have few suppliers owing to the existence of fewer significant economies of scale and high marginal cost of supplying. The country supplier concentration index is among one of the highest in the EU. The energy trade deficit, expressed in percentage of GDP, is above EU average.



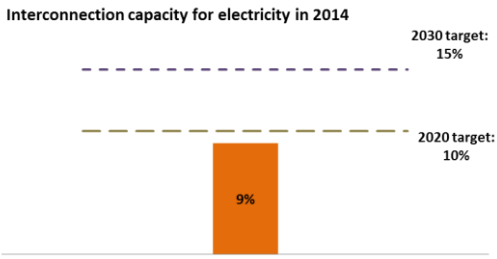
Top non-EU gas suppliers in 2013 (% in total imports)

Ireland		European Union	
country	[%]	country	[%]
-		Russia	39.0
		Norway	29.5
		Algeria	9.7
		Qatar	6.7

Source: DG ENER, based on EUROSTAT

2. A fully-integrated internal energy market

INTERCONNECTIONS



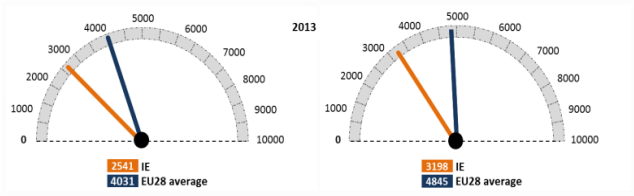
Source: DG ENER based on ENTSO-E scenario outlook and adequacy forecast 2014
Note: Reference to 2030 target is based on October 2014 European Council conclusions stating that "the Commission will also report regularly to the European Council with the objective of arriving at a 15% target by 2030"

Both in gas and electricity, Ireland is currently only connected to the UK. The interconnection level for electricity was 9% in 2014, which is slightly below the 2020 target of 10%. The interconnection level of the Single Energy Market on the island of Ireland remains well below the EU target, which is however not relevant to the Member States' target. With the completion of PCI projects currently being looked at, Ireland's interconnection capacity would increase substantially and the 15% for 2030 would be met, considering the island of Ireland as a whole. Besides several reinforcements of the connections with the UK, the PCI list also includes a link from Ireland to France.

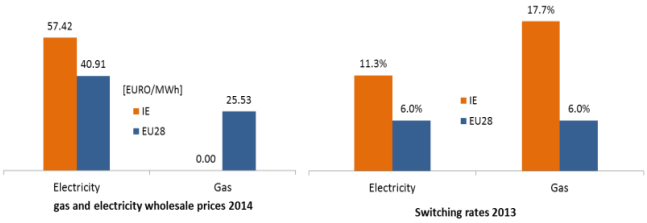
[2] Top non-EU gas suppliers table is based on EUROSTAT data. The share of imports from non-EU countries is calculated as the ratio between volumes of imports from that specific non-EU supplier and total imports (from EU and non-EU countries).

ELECTRICITY AND GAS MARKETS

Market concentration index for power generation (left) and gas supply (right) (2013) (Herfindahl index – 10000 means monopoly)



Sources: DG ENER based on ESTAT, CEER and Platts Power Vision



Sources:ESTAT and DG ENER Calculations

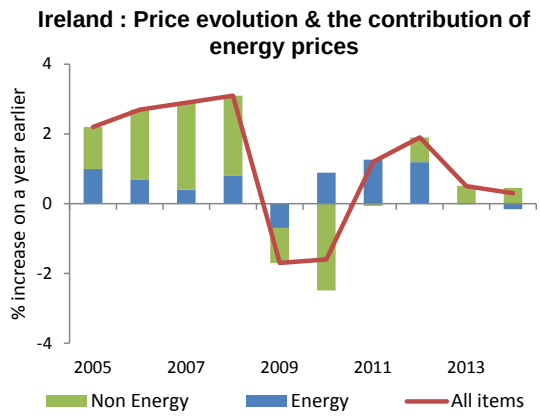
The concentration of power generation and gas supply markets is relatively low in Ireland, a sign of good competition.

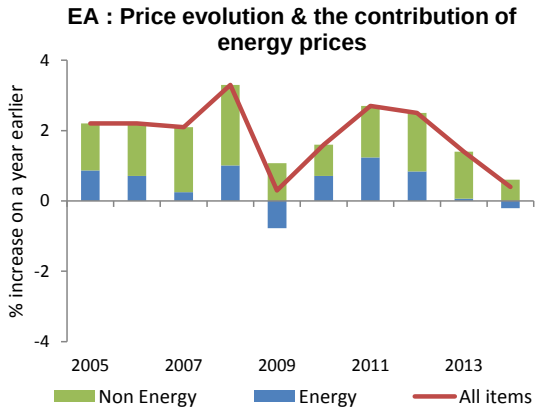
The wholesale electricity prices are above EU average. Gas trading takes place largely in the highly liquid UK market – reflecting both the small size of the Irish market and the fact that almost all gas is imported from UK.

The switching rates for electricity and gas consumers are well above the EU average. The gas retail market has been fully deregulated since July 2014 when the incumbent's market share remained below the 55% threshold set by the Regulator for retail price deregulation. In electricity the incumbent's market shares remain high. Further efforts seem required to improve competition in the retail sector and encourage customers to fully participate. Consumer satisfaction is above the EU average in both electricity and gas markets[3]. Ireland is proceeding with a roll-out of smart metering systems for both electricity and gas.

CONTRIBUTION OF ENERGY TO CONSUMER PRICE EVOLUTION

The energy price developments over time for Ireland and that for the whole Euro area do not seem to differ too much, while the respective non-energy price developments seem to differ strongly in the severe economic downturn for Ireland, in particular the deflation in the years 2009 and 2010). Whereas in 2009, energy price developments contributed to the overall deflation, in 2010 it provided some counterweight to the deflationary pressures in other sectors of the Irish economy.

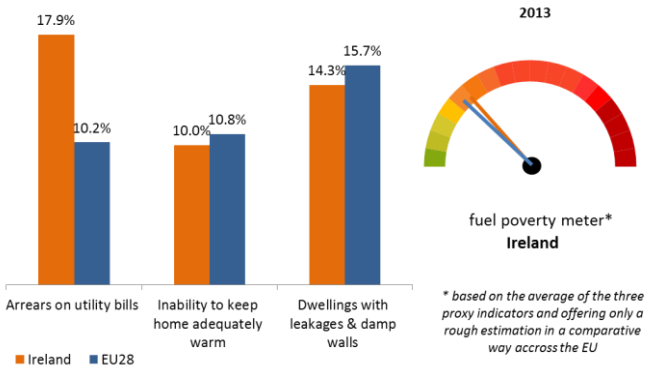




Source: DG ECFIN based on Eurostat

[3] Assessment based on MPI index (SANCO Report – Consumer Markets Scoreboard: Making markets work for consumers, 10th edition, June 2014).

VULNERABLE CONSUMERS

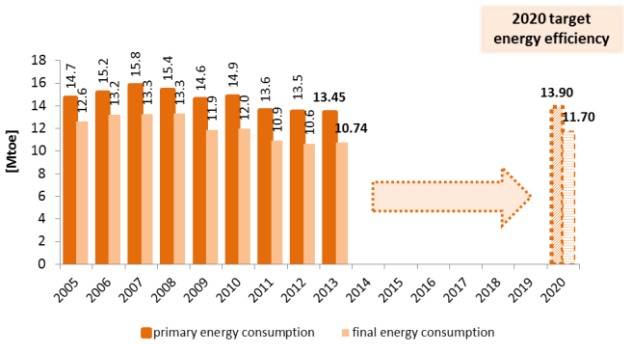


Source: DG ENER, based on on EUROSTAT SILC survey

Based on a EUROSTAT survey on income and living conditions, three proxy indicators are used to assess fuel poverty. They indicate potential issues for Ireland, in particular as regards arrears on utility bills. This might be related to the overall economic situation in Ireland. Consumer satisfaction is above the EU average in both electricity and gas retail markets.

3. Energy Efficiency and moderation of energy demand

ENERGY EFFICIENCY TARGET 2020
(13.9 Mtoe primary energy and 11.7 Mtoe final energy)



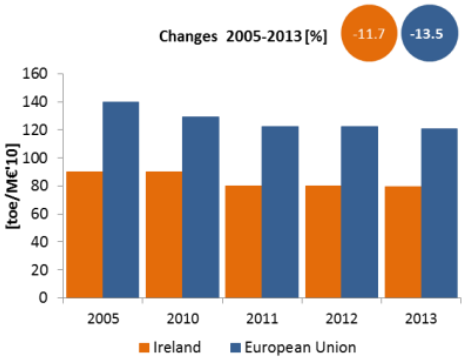
Source: DG ENER, based on EUROSTAT and on national energy efficiency targets as declared by the MS under the EED

Ireland's 2020 target for energy efficiency is 13.9 Mtoe expressed in primary energy consumption. Even if Ireland's current primary energy consumption (13.4 Mtoe in 2013) is close to its 2020 target, the margin is small and additional efforts regarding energy efficiency are needed to lower the primary energy consumption further and then keep it at this level afterwards when GDP increases again during the next five year period. The ability to implement additional efforts would need to be considered in the context of Ireland's fiscal situation and its obligations derived from the Stability and Growth Pact, and also the level of private sector indebtedness.

ENERGY INTENSITY

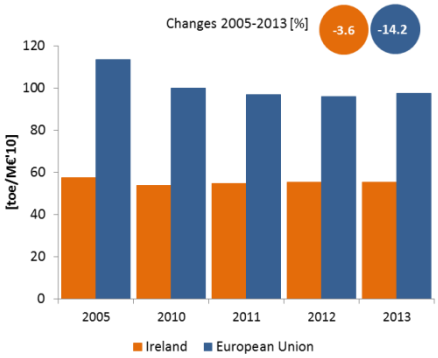
Primary energy intensity in Ireland is below and has decreased faster than the EU average. A lower energy intensity reduction is recorded in the industrial sector, but it remains well below EU average.

Primary energy intensity of the economy



Source: DG ENER based on EUROSTAT and DG ECFIN/AMECO

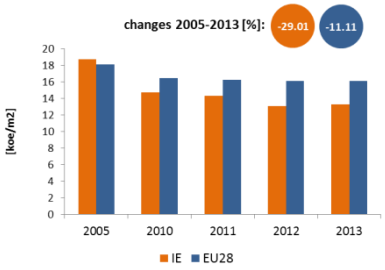
Final energy intensity in industry



Source: DG ENER based on EUROSTAT and DG ECFIN/AMECO

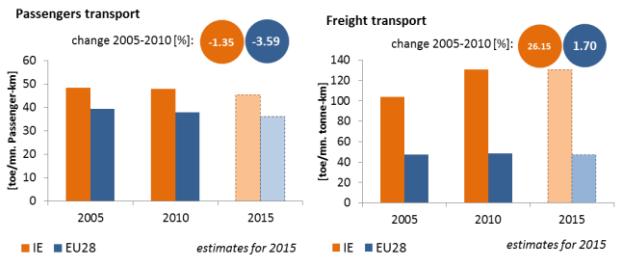
Specific energy consumption by households is below EU average and decreased faster than the EU average. The specific energy intensity of passengers cars decreased slightly between 2000 and 2010 which reflects a more efficient usage of cars (i.e. higher stock, maybe more efficient but fewer passengers per car). The specific energy intensity for freight transport is however much higher than EU average.

Final energy consumption per m2 in residential sector, climate corrected



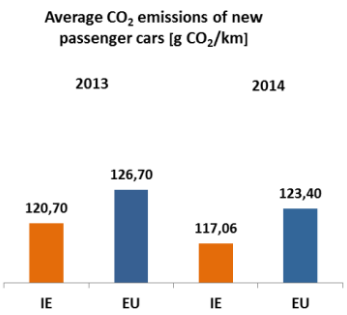
Source: DG ENER based on Odyssee database

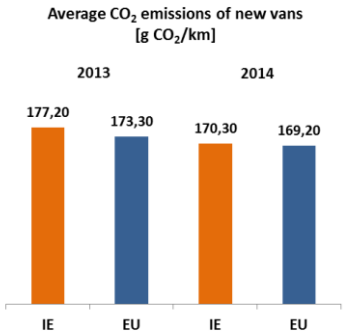
Specific energy intensity for passenger cars and freight transport[4]



Source: PRIMES model background data and estimations based on EU Commission and EU MS inputs

EU legislation sets mandatory CO_2 emission reduction targets for new cars and vans. By 2021, the fleet average to be achieved by all new cars is 95 grams of CO_2 per kilometre. For new vans, the fleet average is set at 147 g/km by 2020.





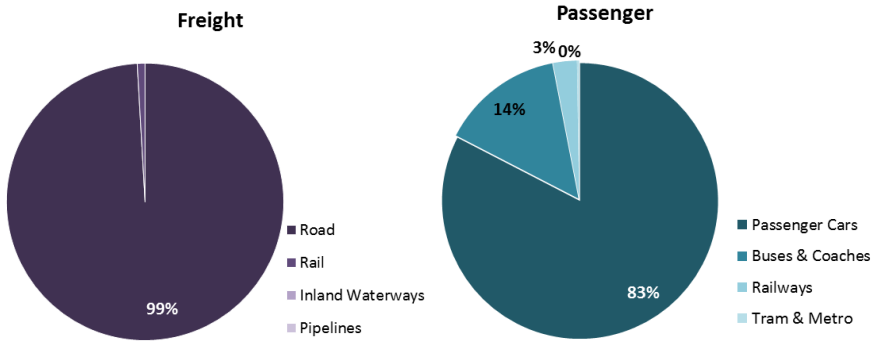
Source: European Environmental Agency. 2014 values are provisional. 2013 EU average refers to EU-27.

Regarding transport performance, in EU-28 the inland freight modal shares are 71% by road, 17% by rail, 7% by inland waterways and 5% by pipelines. The respective inland passenger modal shares are

[4] Statistics on energy demand for passengers and freight transport are not available and model estimates have been used instead. These issues should be borne in mind when comparing energy intensity in freight or passenger transport between Member States, which should be regarded as merely indicative.

82% by private car, 9% by buses and coaches, 7% by railways and 2% by tram and metro. In Ireland, freight and passenger transport is almost exclusively performed by road transport.
The roll out of electric car charge points began in March 2010 in Dublin and currently there are 1.200 public charge points deployed across the country, including fast chargers along main inter-urban routes. The IT and payment systems being implemented will have open accessibility for all energy supply companies and all types of electri cars.

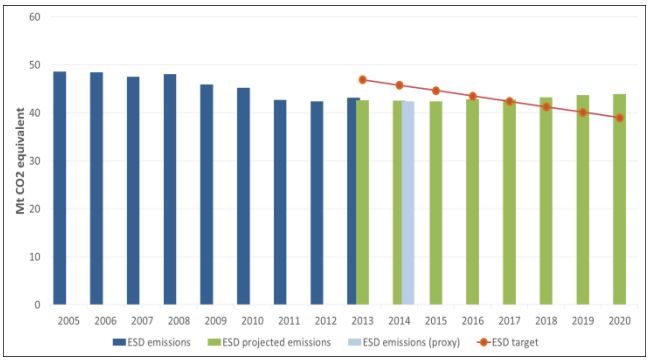
Modal shares Ireland



Source: Eurostat and EU transport in figures 2015. Data refers to 2013. Modal shares based on tonne-kilometres for freight sector and passenger-kilometres for passenger sector, freight data based on activity within country territory. Estimates are made when data is missing.

4. Decarbonisation of the economy

NON-ETS GHG EMISSION REDUCTION TARGET 2020 (-20% by 2020 as compared to 2005 in the non-ETS sector)



Source: DG CLIMA based on EEA. Based on preliminary inventory data.

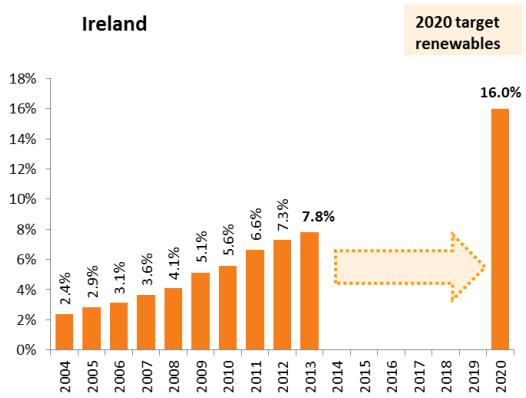
ESD (Effort Sharing Decision) emissions are the emissions not covered by the EU ETS

Ireland has decreased its emissions by 13% between 2005 and 2014 (based on approximated data). According to its 2015 projections, Ireland is not on track to reach its 2020 target, with a 10% gap as compared to 2005.

Non-ETS Emissions (vs. 2005)	Projections/ proxy	target
Projections with existing measures 2020	-10%	-20%
Proxy 2014	-13%	-6%

Unlike in comparable Member States and according to projections with existing measures, transport emissions are expected to increase by 19% between 2013 and 2020 in the absence of investment in public transport for instance in the city of Dublin. Agriculture emissions will be stable (2% increase during the same period). In this sector, Ireland has identified cost efficient abatement measures but has not taken action yet.

RENEWABLE ENERGY SHARE TARGET 2020 (16%)



Source: DG ENER based on EUROSTAT

With a share of 8% of renewable energy in 2013, Ireland is close to its 2013/14 interim targets as set out in the Renewable Energy Directive. However, the existing policy, market and budget framework appears to be insufficient to enable the step-wise achievement of the 2020 objective (16%).

GREENHOUSE GAS EMISSION INDICATORS

- In Ireland the Agriculture sector is the largest in terms of share of total emissions, with a value that is nearly three times the EU average.
- As a result, Irish emissions per capita are among the highest in the EU.

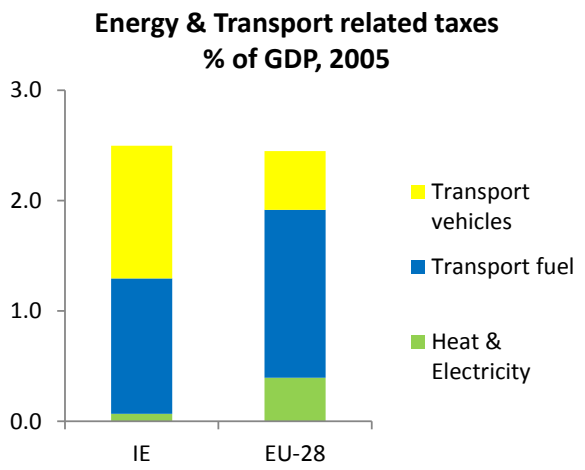
Largest Sectors of GHG Emissions in 2012 (*)	Ireland	EU Average
Energy/power industry	22%	33%
Transport	19%	20%
Industry	11%	19%
Agriculture (incl. forestry & fishery)	32%	12%
Residential & Commercial	14%	13%
Waste & others	2%	3%

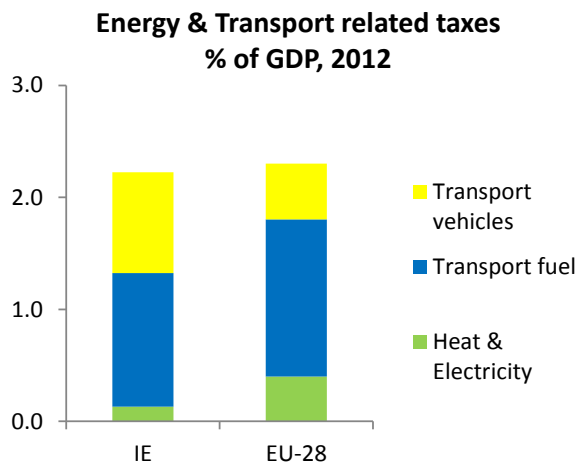
GHG Emissions	Ireland	EU
EU ETS auctioning revenues in 2014 (EUR millions)	36	3205
Share of ETS emissions 2013	27%	42%
GHG emissions/capita in 2013 (tCO_2equivalent)	12.8	8.5
Carbon intensity of the economy in 2013 (tCO_2equivalent/EUR millions)	347	328

Source: DG CLIMA based on EEA
(*)Sectoral breakdown for 2013 data not available.

ENERGY AND TRANSPORT TAXATION

Over the period 2005 – 2012, the taxation of energy and transport in relation to GDP in Ireland fell slightly from just above the EU average (which as a whole has hardly changed) to just below it. This decrease results as a balance of different elements: on the one hand, a decrease in the share of the taxes on transport vehicles to GDP, quite likely largely due to the rebalancing registration and circulation taxes on a carbon basis being more successful than predicted; on the other hand, a small increase in the taxation of heat and electricity. The taxation of transport fuels expressed as a share of GDP hardly changed.





Source: Eurostat

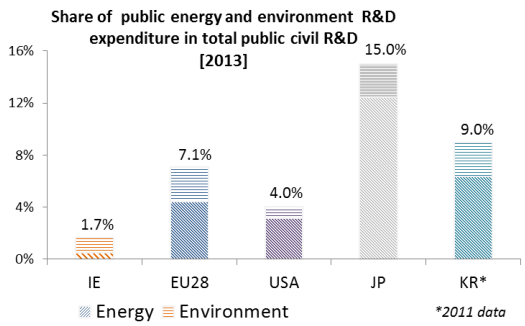
5. Research, innovation and competitiveness

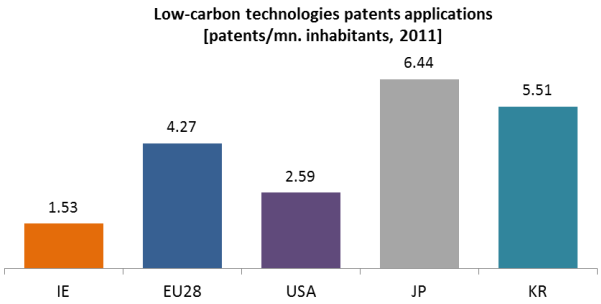
RESEARCH AND INNOVATION

Whereas Ireland may be below the EU average, the US and Japan and South Korea in terms of public support share allocated to research and innovation in the field of energy and environment, energy R&D is conducted across a wide range of institutions. SMEs have also a significant participation. Irish organisations have participated in energy related research, development and demonstration projects.

In terms of intensity of low-carbon technologies patents, Ireland is also behind the EU average and main worldwide partners.

Ireland is carrying out research on ocean energy research primarily by the Science Foundation Ireland MaREI Centre, but also has several test centres (e.g. the National Ocean Test Facility, the Dublin Bay Digital Diamond and the Atlantic Marine Energy Test Site). SmartBay Ireland manages the national marine test facility for the development of innovative products and services for the global maritime sector.





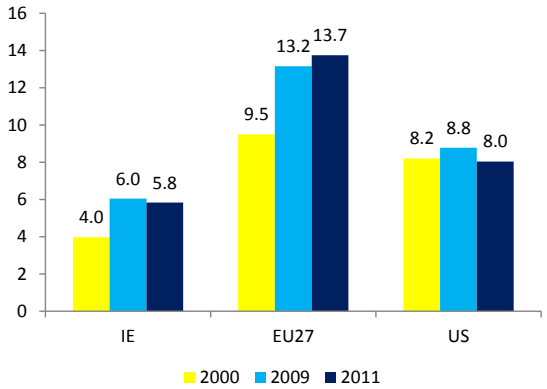
Source: DG ENER based on EUROSTAT

COMPETITIVENESS

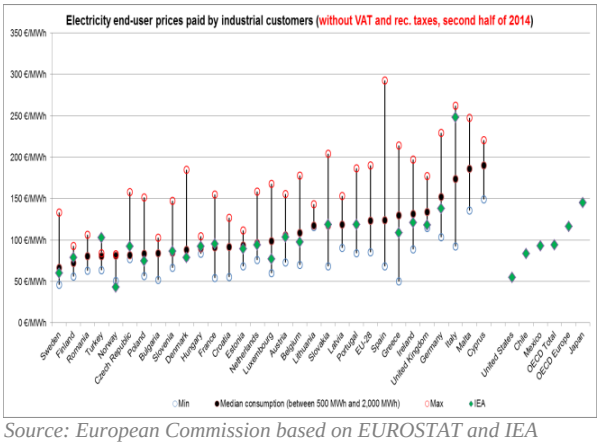
The real unit energy costs[5] in Ireland have remained much lower than in the EU or in the US since 2000. However, no data is available to break down this development into energy price and energy intensity factors.

However, electricity and gas prices paid by industrial customers are higher than the EU average. Such prices are also higher than the OECD average.

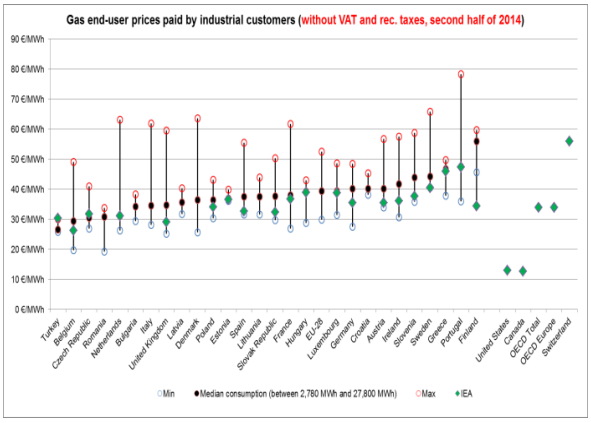
Real unit energy costs (% of value added)



Source: DG ECFIN



Source: European Commission based on EUROSTAT and IEA



6. Post-2020 Energy and Climate policy Strategy

COMPREHENSIVE MEDIUM TO LONG-TERM STRATEGY (post-2020) FOR CLIMATE AND ENERGY

- Ireland is currently developing a medium to long-term strategy for climate and energy covering the period beyond 2020.
- Ireland is developing a new energy policy framework, which is currently under public consultation. The outcome of the consultation will contribute to the preparation of a White Paper (expected publication in 2015) which will serve as a basis for establishing a 2030 energy policy framework.
- Ireland will define its 2030 objectives based on the outcome of the negotiations on the 2030 framework at the EU level.
- In April 2014, a National Policy Position on Climate Action and Low-Carbon Development was published. A related Bill on Climate Action and Low Carbon Development was published in January 2015 and is progressing through the legislative process. The Policy Position and the

[5] This indicator measures the amount of money spent on energy sources needed to obtain one unit of value added.

Bill propose a series of successive five-yearly national mitigation plans with a focus up to 2050. In anticipation of the enactment of the Bill, Ireland's first National Mitigation Plan to 2050 is currently being developed, incorporating specific elements from each of the four key sectors: electricity generation, the built environment, transport and agriculture.

- Ireland, along with Northern Ireland, is currently reforming the single electricity market in order to make it compatible with the EU target model – this is due to be completed in 2017 in order to comply with the transitional arrangements for market coupling set out in the regulation establishing a guideline on capacity allocation and congestion management. As part of this, they are also reforming the way in which capacity is remunerated (currently they operate a capacity payment mechanism) and have proposed a new design for a capacity mechanism taking into account the specificities of the Irish energy system such as small market size, peripherality and insularity. This will need to be in line with the State Aid guidelines and consistent with the objectives of the EU internal energy market.

NATIONAL TARGETS, especially for 2030

Objective, 2030-2050	Targets	Comments
GHG reduction	No	**National Policy Position** → No target for 2030, but post-2020 is captured in the transition objective for 2050 which has a vision of an aggregate reduction in CO_2 emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors and an approach to carbon neutrality in the agriculture and land-use sector, including forestry, which does not compromise capacity for sustainable food production.
Renewable energy share	No	
Energy Efficiency / savings	No	

7. Regional cooperation

Regional cooperation on infrastructure development is necessary to optimise the identification of regional infrastructure priorities and to coordinate cross-border investments. Ireland is a member of three Regional Groups which have been established under the TEN-E Regulation: Northern Seas Offshore Grid, North South Electricity Interconnections in Western Europe, and North South Gas Interconnections in Western Europe.

Ireland and Northern Ireland have set up the Single Electricity Market of the island of Ireland, with shared regulatory governance and regulatory functions. It was originally established in 2007 and is currently being reformed.

Considerable work has been undertaken, jointly with the UK, on a renewable energy export market, which would be underpinned by an Inter-Governmental Agreement. However, given the economic, policy and regulatory complexities involved delivery of renewable energy trading before 2020 is not realistic. Ireland has no concrete new plans for further regional co-operation after the arrangements for renewables trade with the UK were abandoned.

Given Ireland's dependency on the UK for its gas supply, it cooperates closely with UK authorities on security of supply and wholesale gas market issues.

8. Cohesion policy contribution

The EU Cohesion policy provides for investment possibilities to implement energy policy objectives in Ireland which will be complemented by national public and private co-financing, aiming at optimal leverage. It also ensures integrated territorial solutions to challenges by supporting capacity building, technical assistance and territorial cooperation.

Energy efficiency: Over 2014-2020, EU Cohesion Policy will invest some EUR 85 million in energy efficiency improvements in residential buildings in Ireland. A further estimated EUR 3 million will be invested in supporting the move towards an energy-efficient, decarbonised transport sector in urban areas. These investments are expected to contribute to around 30 000 households with improved energy consumption classification.

Decarbonisation: Overall, the EU Cohesion Policy investments in Ireland over 2014-2020 are expected to contribute to an estimated annual decrease of GHG of around 14 000 tonnes of CO2eq. No EU Cohesion Policy investments in renewable energy infrastructure foreseen in Ireland over 2014-2020; investments will be carried out by national funding in Ireland. Research and innovation in the area of renewable energy may be supported.

Research, Innovation and Competitiveness: Over 2014-2020, EU Cohesion Policy will invest significantly in R&I and in SME competitiveness in Ireland. This will be based on the national strategy for smart specialisation. For Ireland, the strategy includes a focus on 14 research priorities, one of which is marine renewable energy. At this stage, the allocations foreseen for investments in R&I and adoption of low-carbon technologies in Ireland are not specified, but should become available in line with the evolving content of the smart specialisation strategy.