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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

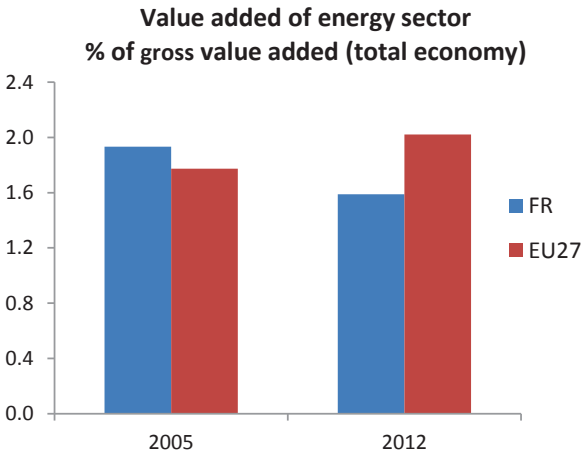
{COM(2015) 572}
{SWD(2015) 208 à 209}
{SWD(2015) 217 à 223}
{SWD(2015) 225 à 243}

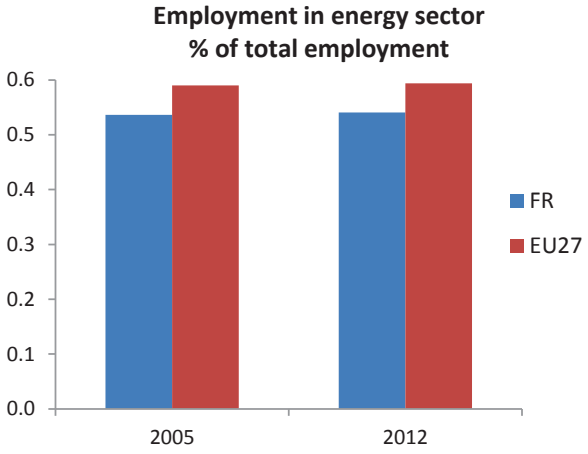
Towards an Energy Union
France

Macroeconomic relevance of energy

IMPORTANCE OF THE ENERGY SECTOR

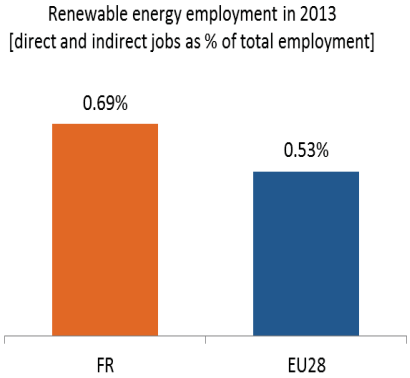
The value added of the energy sector in France represented 1,6% of the total gross added value in 2012, which is about 20% lower than the EU average. It has decreased from 1.9% in 2005, a level that was higher than the EU average at that time. In parallel, at about 0,54% of the total labour force, the share of employment in the energy sector in France has remained broadly stable between 2005 to 2012, albeit at a level 10% lower than the EU average.





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 France was at about 0.69%, above the EU average of 0.53%.

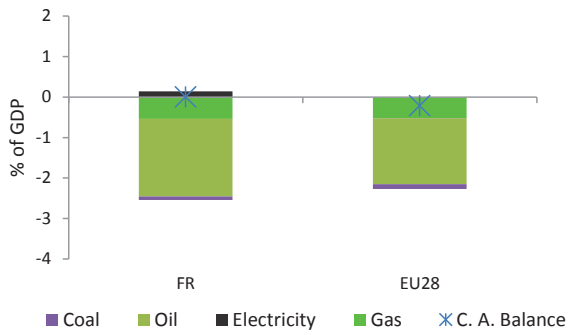


Source: European Commission, based on EurObserv'ER and EUROSTAT

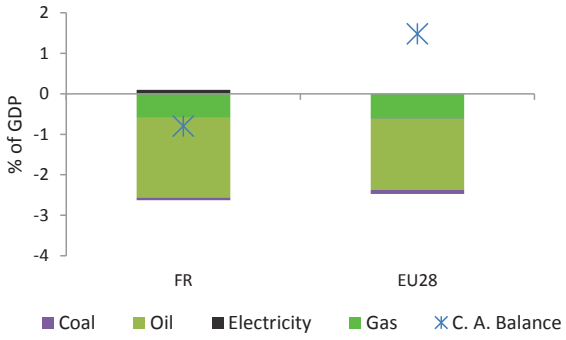
TRADE BALANCE OF ENERGY PRODUCTS

After several years of deterioration, the energy trade balance of France has reached a level in 2014 similar to 2006 (-2.4% of GDP in 2006 and -2.5% of GDP in 2014). This has contributed to an improvement of the overall current account balance deficit, although it remains negative at -0.8%. France remains a net exporter of electricity; however its net exports decreased from 0.14% of GDP in 2006 to 0.09% in 2014. For the other energy commodities, the trade balance of France is negative and at levels similar to the EU average. The trade deficit has started to shrink for oil, gas and coal since 2013, with a higher pace in 2014.

Trade balance of energy product and current account balance, 2006



Trade balance of energy product and current account balance, 2014



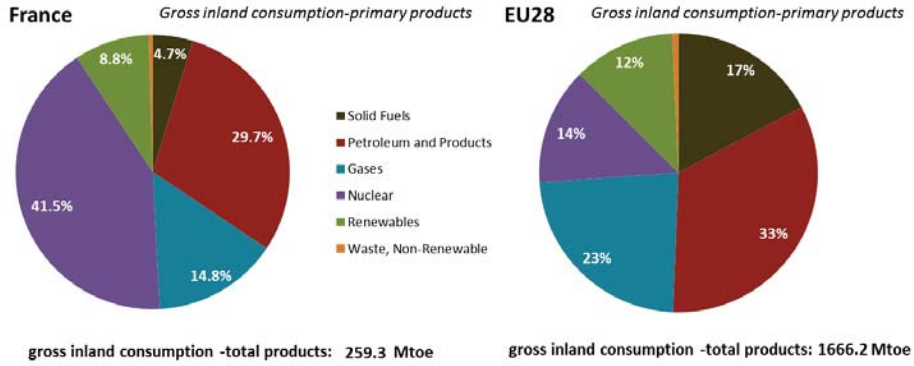
Source: EUROSTAT
Note: Current account balance for EU28 from European Commission (AMECO)

1. Energy Security, solidarity and trust

ENERGY MIX

The energy mix of France has a much lower share of fossil fuels and a much higher share of nuclear energy than the EU average. Compared to 1995, the share of gas in gross final consumption increased (from 12% to 15% of the energy mix), while the share of solid fuels decreased (by 3 percentage points). Overall, there have been no major changes in the use of energy carriers over this period.

Gross inland energy consumption in 2013

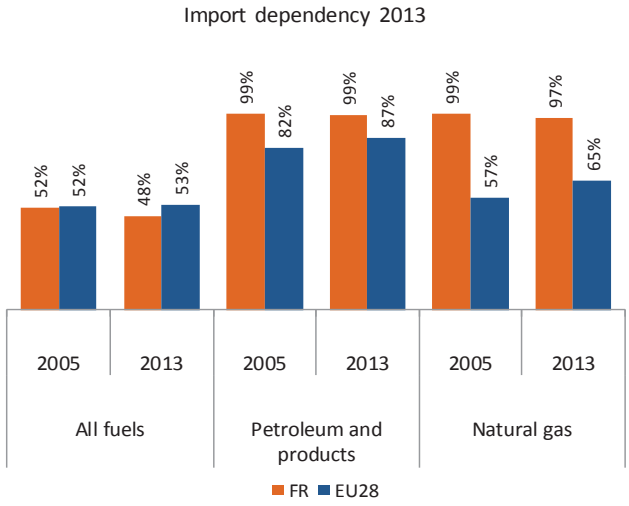


Source: EUROPEAN COMMISSION, based on EUROSTAT

IMPORT DEPENDENCY

Energy import dependency in France is in line with EU28. Since 2005, energy import dependency has remained stable in France. France's overall import dependency is in line with EU average, although France is highly dependent for petroleum and gas products, with dependency reaching 100% in 2013.

Regarding gas, import sources are well diversified[1], based on good capacity levels at entry points, LNG terminals and storages. Overall, the country supplier concentration index is one of the lowest in the EU.



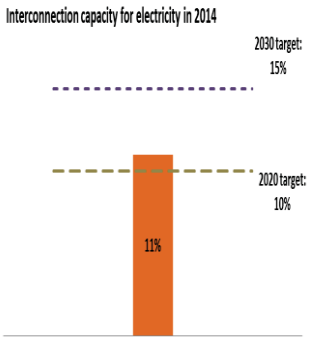
Top non-EU gas suppliers in 2013 (% in total imports)

France			European Union		
country		[%]	country		[%]
Norway		43.4	Russia		39.0
Russia		21.5	Norway		29.5
Algeria		12.1	Algeria		9.7
Qatar		3.6	Qatar		6.7

Source: EUROPEAN COMMISSION, based on EUROSTAT

2. A fully-integrated internal energy market

INTERCONNECTIONS



Source: EUROPEAN COMMISSION 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"

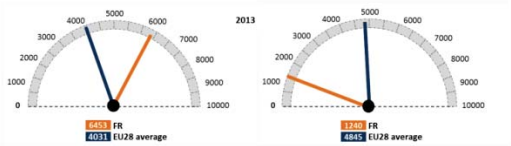
The interconnection capacity for electricity was of 11% in 2014 for France. If new PCIs are adopted, a level of 15% by 2030 could be achieved. The submarine electricity interconnection between France and Spain in the Biscay Gulf is one of the key security of supply infrastructure projects listed in the EU Energy Security Strategy (EESS). A feasibility study is on-going in order to assess the technical and financial aspects of its implementation.

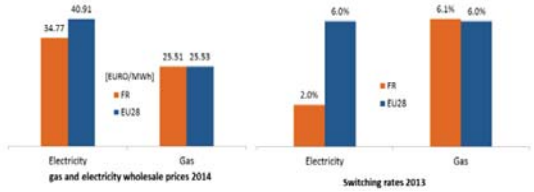
For gas, France has 6 interconnection points, 1 entry point from Norway and 3 LNG terminals. A new LNG terminal (in Dunkirk) will be commissioned at the end of 2015, which will allow the creation of a new interconnection point with Belgium. The interconnection capacity with Spain will reach 7bcm/y in both directions by end of 2015. The Eastern Axis FR-ES gas interconnection point between the Iberian Peninsula and France at Le Perthuis (MidCat) is also a key security of supply infrastructure project listed in the EESS. Another PCI, ensuring the reinforcement of the French gas network from South to North on the Bourgogne pipeline, is highly important and has a positive impact on the security of supply on the North-South interconnection in Western Europe. The creation of a single French gas hub by 2018 is an important step forward for the market integration.

[1] 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

Wholesale market concentration index for electricity(left, 2014) and gas (right, 2013). (Herfindahl index – a 10000 value corresponds to a monopoly)





Sources:ESTAT and EUROPEAN COMMISSION Calculations

Sources: EUROPEAN COMMISSION based on ESTAT, CEER and Platts Power Vision

The power generation market is highly concentrated. Regulated tariffs still represent the largest share of the market for small consumers; they will be phased out by the end of 2015 for big and medium-sized customers France would benefit from further reducing the concentration of the wholesale electricity market which remains one of the most concentrated in the EU. At retail level, market concentration remains high in particular for electricity (at the end of 2014, 9% of electricity consumers and 17% of gas consumers were served by alternative suppliers[2]).

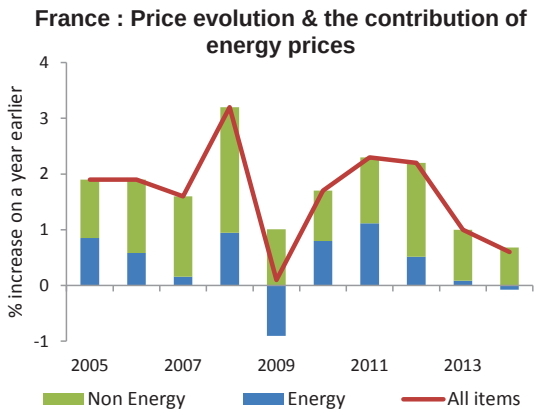
Wholesale electricity prices are below the EU average while wholesale gas prices are at the EU average. Domestic retail prices for electricity are below the EU average, while retail prices for gas are slightly above the EU average.[3]

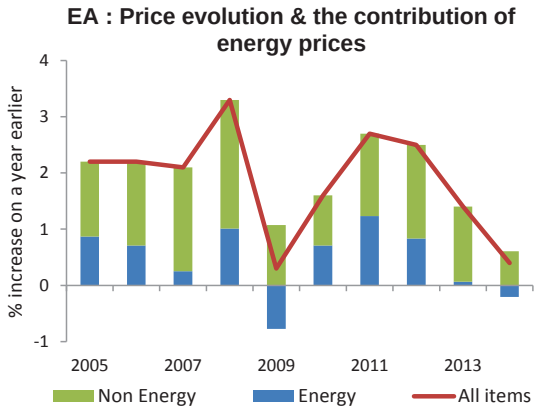
The switching rates for electricity consumers are rather low, while higher for gas. French consumers rate the performance of their retail electricity and gas markets well above the EU average, which corresponds to 4th place in the EU ranking for electricity and to 7th place for gas.

A formal decision to proceed with the roll-out of smart-meters has been taken for both the electricity and natural gas sector, after the cost-benefit analysis returned a positive outcome.

CONTRIBUTION OF ENERGY TO CONSUMER PRICE EVOLUTION

Consumer price inflation has decreased fourfold in France since 2011 (from 2.3% to 0.6% in 2014) in line with the downward trend registered in the Euro area as a whole. Energy products have contributed significantly to this dynamics, notably in 2014 through the sharp drop in oil prices.



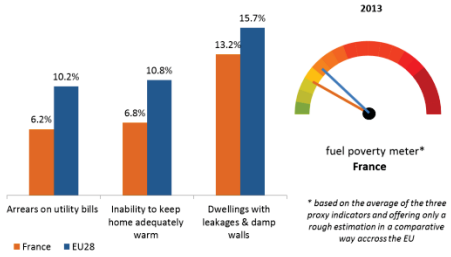


Source: DG ECFIN based on Eurostat

[2] Observatoire des marchés de détail du 4eme trimestre 2014, CRE, http://www.cre.fr/media/fichiers/marches/consulter-l-observatoire-des-marches-de-detail-du-4eme-trimestre-2014

[3] Source:Eurostat (http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_price_statistics)

VULNERABLE CONSUMERS



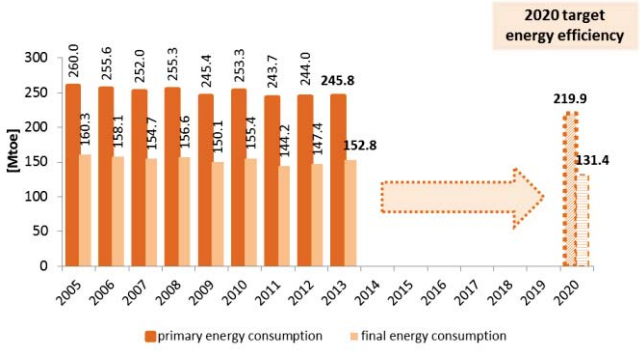
Source: EUROPEAN COMMISSION, based on on EUROSTAT SILC survey

Based on a EUROSTAT survey on income and living conditions in households, three proxy indicators are used to assess fuel poverty. They indicate that the problem is not as relevant in France as in the EU on average.

Special tariffs are reserved for households with an income below or equal to a threshold of entitlement to supplementary universal health cover. These tariffs are available for both electricity and natural gas consumers. Special programs are also in place to help vulnerable consumers to reduce their energy consumption, such as "habiter mieux" managed by ANAH (national agency for housing improvement).

3. Energy Efficiency and moderation of energy demand

ENERGY EFFICIENCY TARGET 2020
(219.9 Mtoe primary energy and 131.4 Mtoe final energy)



Source: EUROPEAN COMMISSION, based on EUROSTAT and on national energy efficiency targets as declared by the MS under the Energy Efficiency Directive

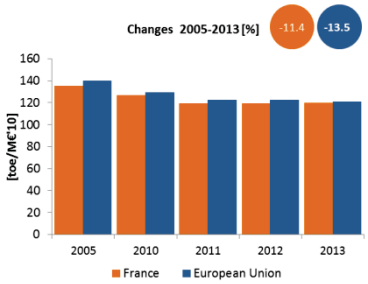
France's 2020 energy efficiency indicative target is 219.9 Mtoe expressed in primary energy consumption (excluding non-energy demand) and 131.4 Mtoe expressed in final energy consumption.

France has a solid energy efficiency policy framework which is now complemented by the law on energy transition adopted on 22 July. However, without additional efforts and an accelerated implementation of its policy, France could fail to further decrease its current primary energy consumption (245.8 Mtoe in 2013) and reach its indicative targets by 2020, especially if the economy continues to grow.

ENERGY INTENSITY

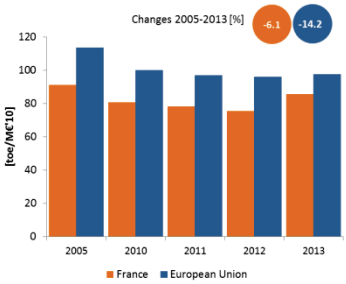
Primary energy intensity in France has decreased since 2005, in line with EU average, and remains below EU average level. A lower energy intensity reduction is recorded in the industrial sector, below the average energy intensity reduction in the EU28.

Primary energy intensity of the economy



Source: EUROPEAN COMMISSION based on EUROSTAT and EUROPEAN COMMISSION/AMECO

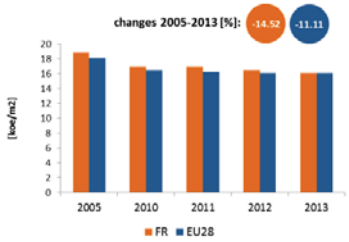
Final energy intensity in industry



Source: EUROPEAN COMMISSION based on EUROSTAT and EUROPEAN COMMISSION/AMECO

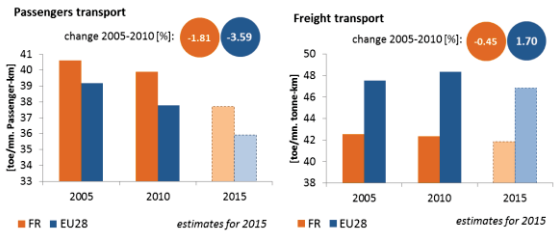
Specific energy consumption by households is around EU average and decreased at a similar pace than the EU average. The specific energy intensity of passengers cars decreased slightly since 2005, which reflects an improving performance of new cars. The specific energy intensity for freight transport remained stable, well below EU average. With 114 g CO2/100 km, the new cars purchased in France are among the most efficient in the EU.

Final energy consumption per m2 in residential sector, climate corrected



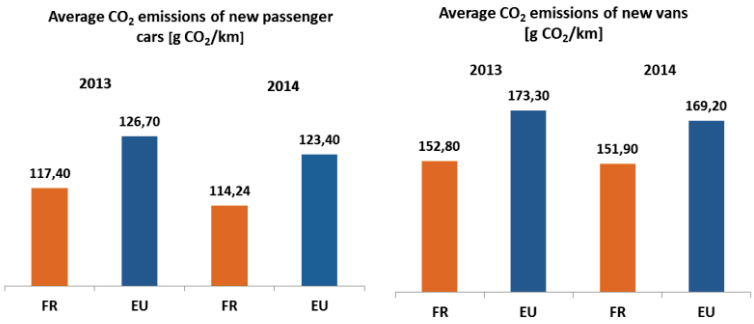
Source: EUROPEAN COMMISSION based on Odyssee database

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 CO2 emission reduction targets for new cars and vans. By 2021, the fleet average to be achieved by all new cars is 95 grams of CO2 per kilometre. For new vans, the fleet average is set at 147 g/km by 2020.

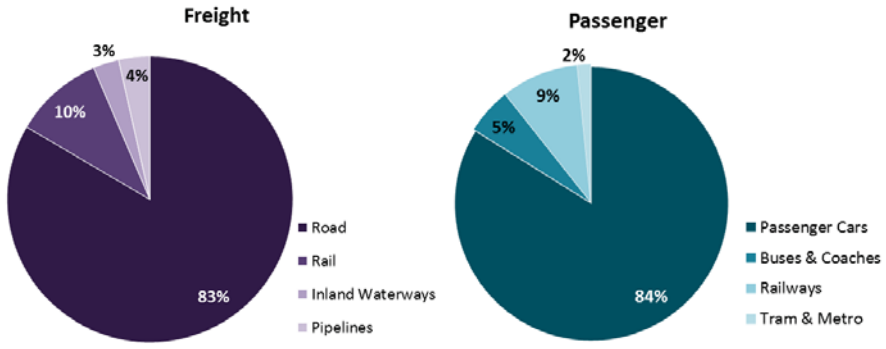


Source: European Environmental Agency. 2014 values are provisional. 2013 EU average refers to EU-27.

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 82% by private car, 9% by buses and coaches, 7% by railways and 2% by tram and metro.

[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.

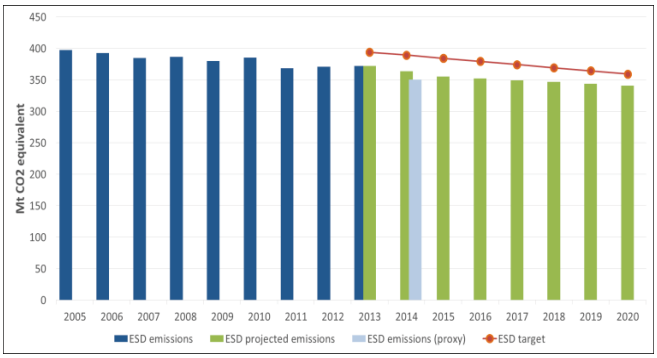
Modal shares France



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 (-14% by 2020 as compared to 2005 in the non-ETS sector)



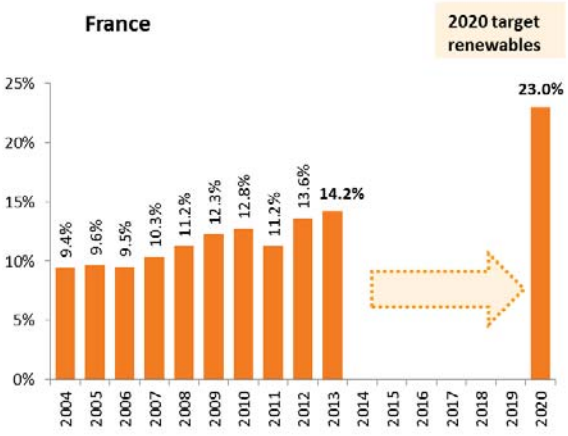
Source: EUROPEAN COMMISSION based on EEA. Based on preliminary inventory data.

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

In 2014 emissions in France decreased by approximately 16% as compared to 2005. (based on 2014 approximated data)
According to its 2015 projections, France is on track to reach its greenhouse gas emission reduction target for 2020, with a gap of less than 5% as compared to 2005.

Non-ETS Emissions (vs. 2005)	Projections/proxy	target
Projections with existing measures 2020	-18%	-14%
Proxy 2014	-16%	-7%

RENEWABLE ENERGY SHARE TARGET 2020 (23%)



Source: EUROPEAN COMMISSION based on EUROSTAT

With a renewable energy share of 14,24% in 2013, France could reach its 2020 renewable energy target of 23% renewable energy share in gross final consumption, provided it better reaps its renewable energy potential.
As regards the share of renewable energy in the transport sector, France is currently at a level of 7,22% (almost up to the level foreseen in its Action Plan for 2013, i.e. 7,5%).

GREENHOUSE GAS EMISSION INDICATORS

- The carbon intensity of the economy in France is among the lowest in Europe and emissions per capita are lower than the EU average (effect of high nuclear share).
- In 2012 the share of GHG emissions of the power industry are significantly lower than the EU average.
- In 2014 the revenues from the auctioning of ETS allowances amounted to EUR 215.3 million, which are all planned to support the retrofitting of houses or apartments owned by low-income people ("Habiter mieux" program of the national agency ANAH)..

Largest Sectors of GHG Emissions in 2012 (*)	France	EU Average
Energy/power industry	12%	33%
Transport	27%	20%
Industry	20%	19%
Agriculture (incl. forestry & fishery)	20%	12%
Residential & Commercial	18%	13%
Waste & others	3%	3%

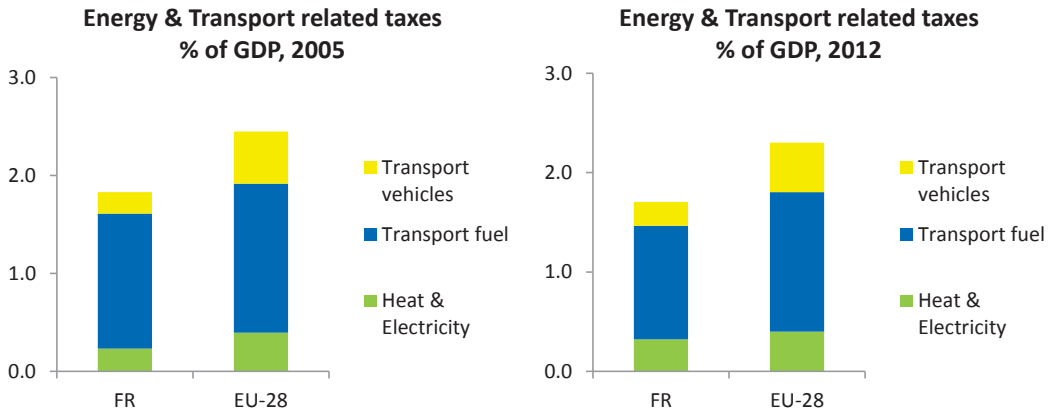
(*)Sectoral breakdown for 2013 data not available.

GHG Emissions	France	EU
EU ETS auctioning revenues in 2014(EUR millions)	215.3	3205
Share of ETS emissions in 2013	24%	42%
GHG emissions/capita in 2013 (tCO_2equivalent)	7.5	8.5
Carbon intensity of economy in 2013 (tCO_2equivalent/EUR millions)	240	328

Source: EUROPEAN COMMISSION based on EEA

ENERGY & TRANSPORT TAXATION

Energy and transport related taxes as a share of GDP are lower in France than in the EU as a whole. This difference is quite pronounced when it comes to taxation of transport vehicles, and electricity and heating fuels. The overall tax burden in 2012 had slightly decreased compared to the 2005 level (from 1.8% of GDP in 2005 to 1.7% of GDP in 2012). This was mainly due to a decrease in taxation of transport fuel and to a parallel increase in taxation of electricity and heating fuels, both expressed in percent of GDP. A carbon tax ("contribution climat énergie") recently came into force. It is applied on the fossil fuels and reflects the carbon content of fossil energy. Exemptions apply to ETS installations as well as certain industrial installations not subject to the ETS, road and waterway freight transport operators, public passenger transport operators and taxis and the agriculture and fishery sectors.

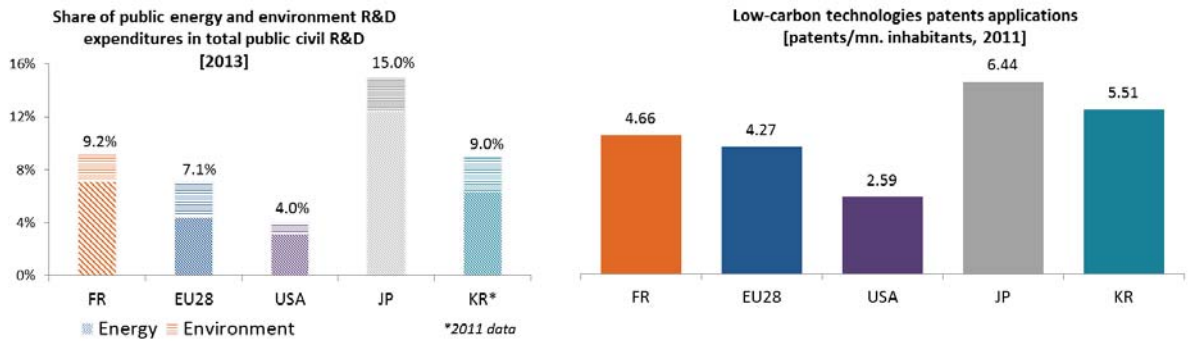


Source: Eurostat

5. Research, innovation and competitiveness

RESEARCH AND INNOVATION

France is above the EU average, the US and South Korea in terms of public support share allocated to research and innovation in the field of energy and environment. In terms of intensity of low-carbon technologies patents, France performs better than the EU average and the US, but lags behind other worldwide partners.



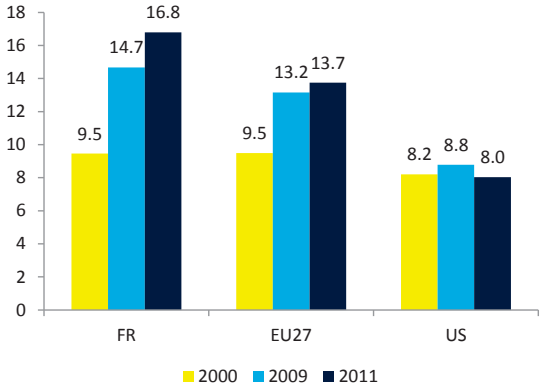
Source: EUROPEAN COMMISSION based on EUROSTAT

COMPETITIVENESS

The real unit energy costs[5] have increased and are higher in France than in the EU or in the US. It reflects both the specificity of the French industry mix, and the fact that real energy prices have increased in France over the past ten years (as has the EU average), while the energy intensity[6] of France's manufacturing sector has seen a slight improvement. The energy intensity is in line with the EU average and lower than in the US.

Regarding electricity and gas prices paid by industrial customers, it can be noted that France stands below EU average. There is also quite a high discrepancy between the minimum and maximum prices paid by industrial customers, which depend on their consumption level.

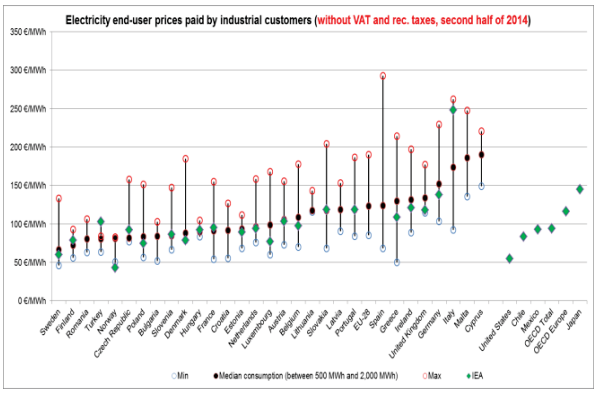
Real unit energy costs (% of value added)

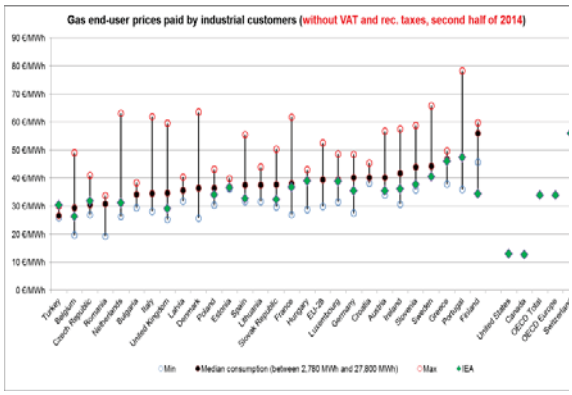


Source: EUROPEAN COMMISSION

[5] This indicator measures the amount of money spent on energy sources needed to obtain one unit of value added. The methodological approach used to develop this indicator is available here: http://ec.europa.eu/economy_finance/publications/european_economy/2014/pdf/ee1_en.pdf.

[6] The energy intensity presented here is derived from Use Tables of WIOD, see "Energy Economic Developments in Europe SWD(2014)19".





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

- The Energy Transition Law, published in August 2015, foresees the establishment of a low-carbon development strategy as well as 5-year 'Carbon budgets' until 2030.
- With its Energy Transition Law, France is establishing a post 2020 strategy, covering both medium and long term.
- The French low-carbon development strategy aims at reducing GHG emissions by 40% by 2030 and by 75% by 2050 (compared to 1990 levels).
- The Energy Transition Law also aims at reducing final energy consumption by 20% by 2030, and by 50% by 2050, compared to 2012 levels. It also aims at reducing the consumption of fossil fuels by 30% by 2030.The share of nuclear in power generation should decrease from 75% to 50% by 2025.
- The Energy Transition Law further envisages an increase in the share of renewable energy to 23% by 2020 and to 32% in 2030.

NATIONAL TARGETS, especially for 2030

Objective, 2030-2050	Y/N	2030/2050 target
GHG reduction	Yes for 2050 Yes for 2030	Emissions to be reduced by 75% by 2050 Emissions to be reduced by 40% by 2030
Renewable energy share	Yes for 2030	32% renewable energy by 2030.
Energy Efficiency / savings	Yes (for 2030 and 2050)	The Energy Transition Law foresees to reduce France's final energy consumption by 20% by 2030, and by 50% by 2050, compared to 2012 levels.

7. Regional cooperation

Regional cooperation on infrastructure development is necessary to optimise the identification of regional infrastructure priorities and to coordinate cross-border investments. France is already member of three Regional Groups which have been established under the TEN-E Regulation: North-South Gas interconnections in Western Europe, North- South electricity interconnection in Western Europe and the Southern Gas Corridor.

France is also a part of the recently set-up High Level Group on the interconnection of South West Europe which aims at tackling the existing interconnection issues both for electricity and gas through the adoption of an Action Plan..

France is a member of the Pentalateral Energy Forum. It was created in 2005 by Energy Ministers from Benelux, Germany and France in order to promote collaboration on cross-border exchange of electricity. It is an inter-governmental initiative, assisted by an independent secretariat, whose mission consists of improving control of the cross-border network and harmonising allocation methods using information exchange between regulators and network managers in participating countries. France is also a member of the Noerthern Seas Cooperation on Offshore Grids initiative and participates in the German-led round-table on market developments.

8. Cohesion policy contribution

The EU Cohesion policy provides important investment possibilities to implement energy policy objectives in France 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, including the macro-regional strategy for the Alpine Region in which France takes part.

Internal Energy Market: Over 2014-2020, EU Cohesion Policy will invest some EUR 30 million in smart electricity distribution grids in France. These investments are expected to contribute to around 11 500 additional users connected to smart grids.

Energy efficiency: Over 2014-2020, EU Cohesion Policy will invest some EUR 775 million in energy efficiency improvements in public and residential buildings and in enterprises, as well as in high-efficiency cogeneration and district heating in France. A further estimated EUR 810 million will be invested in supporting the move towards an energy-efficient, decarbonised transport sector. These investments are expected to contribute to around 143 000 households with improved energy consumption classification and a decrease of around 83 197 000 kWh per year of decreased primary energy consumption of public buildings, as well as to around 50 km of reconstructed or upgraded railway lines and 600 km of new or improved inland waterways.

Decarbonisation: Overall, the EU Cohesion Policy investments in France over 2014-2020 are expected to contribute to an estimated annual decrease of GHG of around 1 067 000 tonnes of CO2eq. Over 2014-2020, EU Cohesion Policy will invest some EUR 423 million in renewable energy in France. These investments are expected to contribute to around 750 MW of additional capacity of renewable energy production.

Research, Innovation and Competitiveness: Over 2014-2020, EU Cohesion Policy will invest significantly in R&I and in SME competitiveness in France. This will be based on the regional strategies for smart specialisation. For France, many regional strategies include indeed a focus on energy, mobility and transport. Furthermore, the areas of specialisation in the fields of materials, mechanics and chemistry as well as the "factory of the future" cover eco-innovation issues. Finally, many smart specialisation areas chosen by the French regions (building, mobility, energy, agribusiness,…) are strongly characterised by their sustainability. At this stage, at least EUR 137 million is foreseen for investments in R&I and adoption of low-carbon technologies in France, but this might increase further in line with the evolving content of the smart specialisation strategies.