



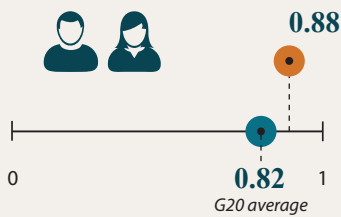
BROWN TO GREEN: G20 TRANSITION TO A LOW CARBON ECONOMY

France

This country profile assesses France's past, present and indications of future performance towards a low-carbon economy by evaluating emissions, decarbonisation, climate policy performance and climate finance. The profile summarises the respective findings from, amongst others, the Climate Change Performance Index (CCPI, operated by Germanwatch and Climate Action Network Europe), the Climate Action Tracker (CAT, operated by Climate Analytics, NewClimate Institute, Ecofys and the Potsdam Institute for Climate Impact Research), and analyses from the Overseas Development Institute (ODI).



Human Development Index



Source: UNDP, data for 2015

Share of global GHG emissions



Source: World Bank Indicators, data for 2012

GHG emissions per capita (tCO₂e/cap)

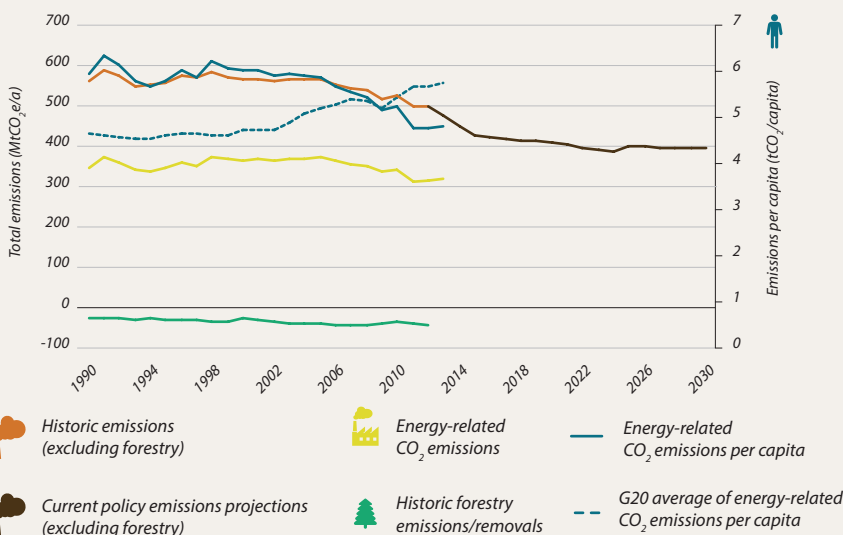
Share of global GDP

GDP per capita



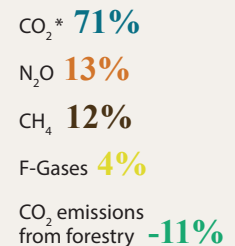
Source: IEA, data for 2013

GREENHOUSE GAS (GHG) EMISSIONS



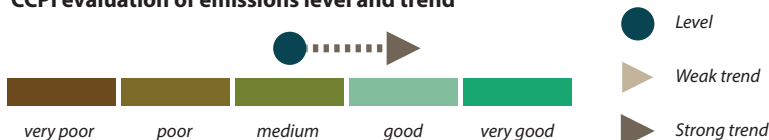
Since 1998, France has seen a gradual decline of greenhouse gas (GHG) emissions and this reduction is expected to continue until 2030. France's energy-related carbon dioxide (CO₂) emissions follow a similar trend. Emissions from land use, land-use change and forestry (LULUCF) remain in the negative range. CO₂ per capita emissions also decreased from 1990-2011, when they reached 4.8 tCO₂, and have stagnated since. The CCPI evaluates France's emissions level as medium compared to the other G20 countries, while a positive trend is visible.

Composition of GHG emissions



*CO₂ emissions incl. LULUCF
Source: Annex I countries: UNFCCC (2015); Non-Annex I countries: IEA (2014) and CAT (2015)

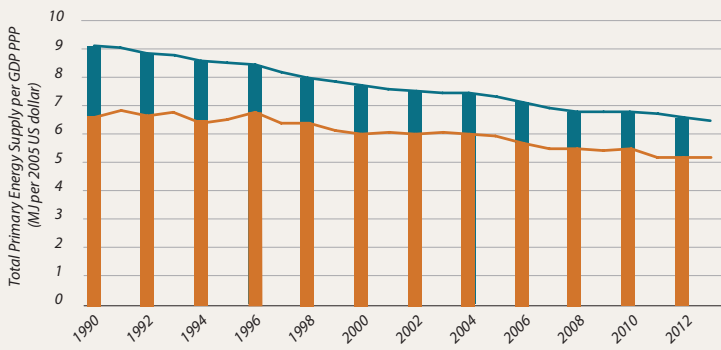
CCPI evaluation of emissions level and trend



Sources: Past energy related emissions from the Climate Change Performance Index (CCPI); past non-energy and future emissions projections from the Climate Action Tracker (CAT). CCPI calculations are primary based on the most recent IEA data; CAT calculations are based on national policies and country communications.

DECARBONISATION

Energy intensity of the economy



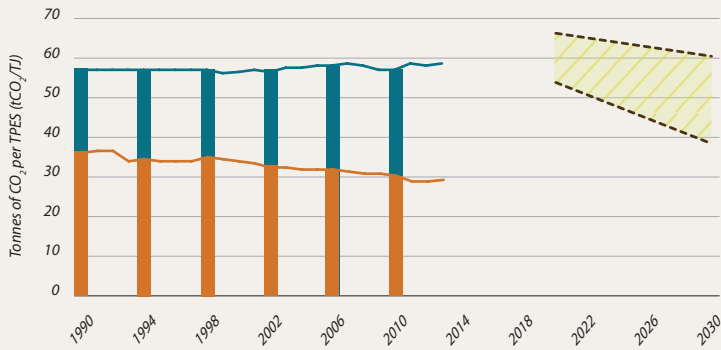
Energy intensity
Average energy intensity in G20

Source: CCPI, 2016

CCPI evaluation of energy intensity of GDP



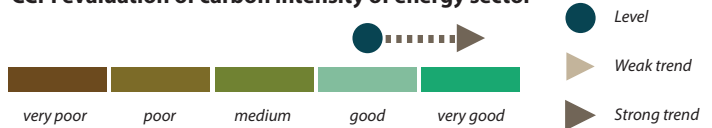
Carbon intensity of the energy sector



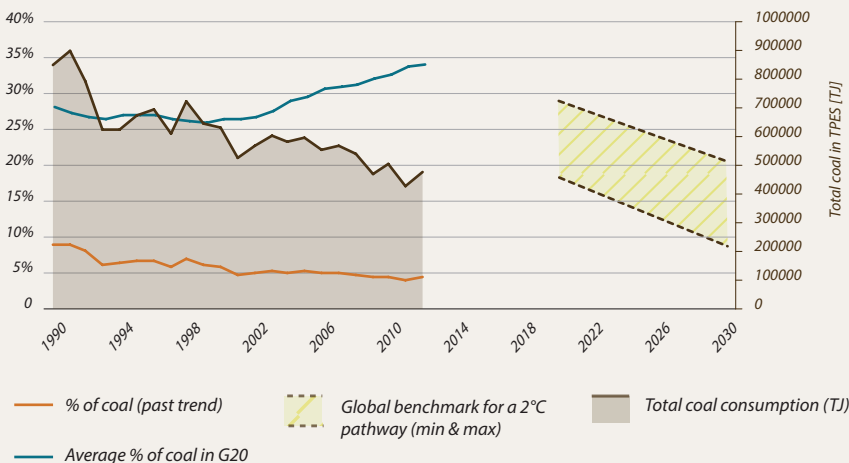
Carbon intensity (past trend)
Average carbon intensity in G20
Global benchmark for a 2°C pathway

Sources: Past: CCPI; future projections: CAT

CCPI evaluation of carbon intensity of energy sector



Share of coal in Total Primary Energy Supply (TPES)

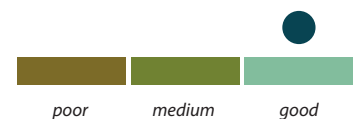


Source: CAT



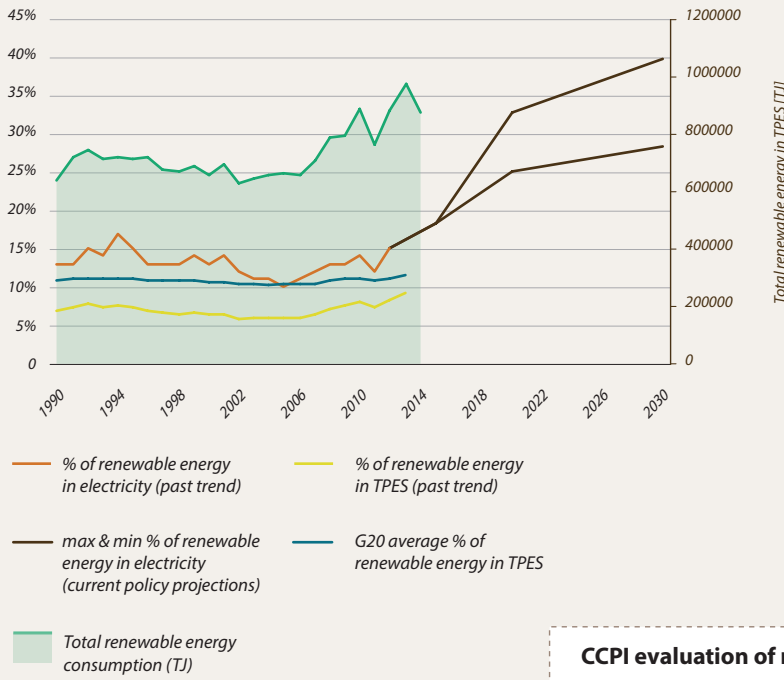
As France mainly relies on nuclear power, the share of coal in its total primary energy supply is relatively low. Contrary to the G20 average, France's share of coal has steadily decrease over the past decades. In 2012, coal accounted for 5% of the country's primary energy supply, whereas the G20 average for the same year was 34%.

Evaluation of coal share in TPES



Source: own evaluation

Renewable energy in TPES and electricity sector



France's renewable energy sector is dominated by hydro power, although the supply of other renewable energy sources (e.g. wind, solar) has grown in the last decade. The country's share of renewables in electricity varied slightly over the last ten years, reaching 15% in 2012. It is expected that France will further increase the share of renewables in its electricity sector, in the range of 29 to 40%. The share of renewable energy in the total primary energy supply has also increased slowly over the last decade, but remains below the G20 average. The CCPI rates France's renewables level is as medium, with a positive trend.

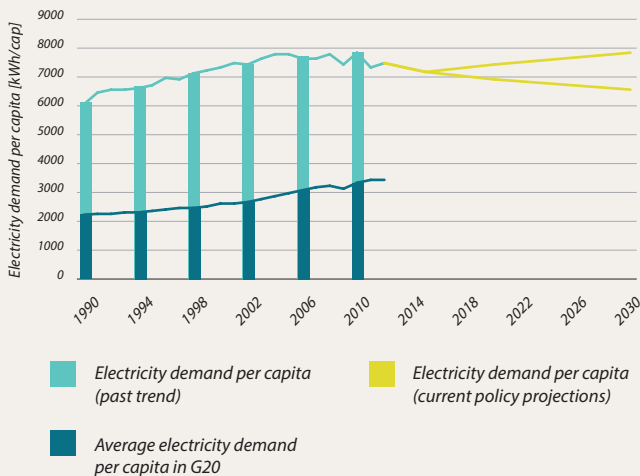
Sources: CCPI and CAT

CCPI evaluation of renewable share in TPES



Electricity demand per capita

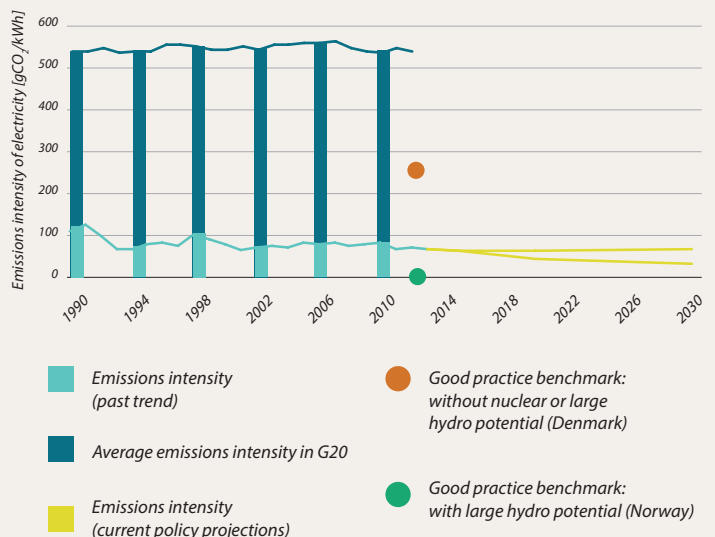
France's electricity demand per capita increased considerably over the ten years to 2004. Since then it has remained relatively stable, but twice as high as the G20 average. In recent years, a slight downturn has been observed. Future projections are unclear on whether France will reduce or expand its electricity demand per capita.



Source: CAT, 2015

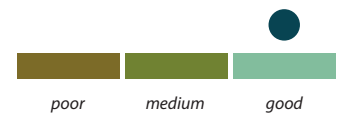
Emissions intensity of the electricity sector

France's electricity emissions intensity is very low, only 12% of the G20 average. Future projections show this level will remain relatively constant over the next years.



Source: CAT, 2015

Evaluation of the electricity emission intensity



Source: own evaluation

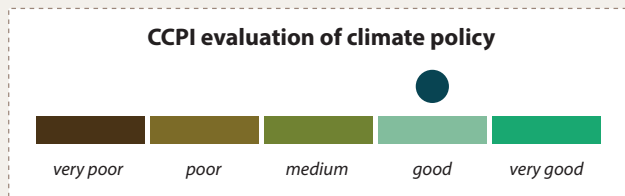
CLIMATE POLICY PERFORMANCE

Checklist of the climate policy framework

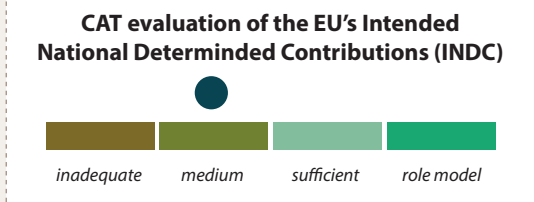
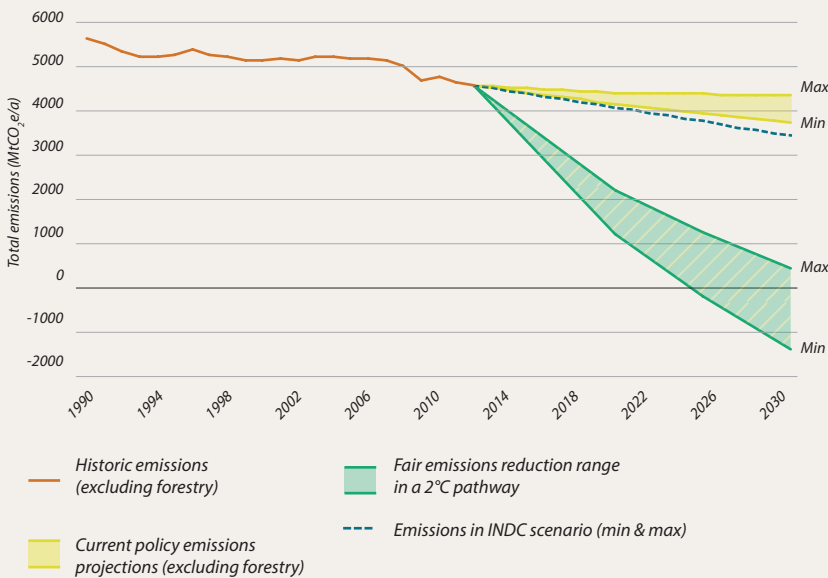
Low emissions development plan for 2050*	✗
2050 GHG emissions target	✓
Building codes, standards and incentives for low-emissions options	✓
Support scheme for renewables in the power sector	✓
Emissions performance standards for cars	✓
Emissions Trading Scheme (ETS)	✓
Carbon tax	✓

* Understood as decarbonisation plans and not specifically as the plans called for in the Paris Agreement

Source: Climate Policy Database, 2016



Compatibility of national climate targets (INDCs) with a 2°C scenario

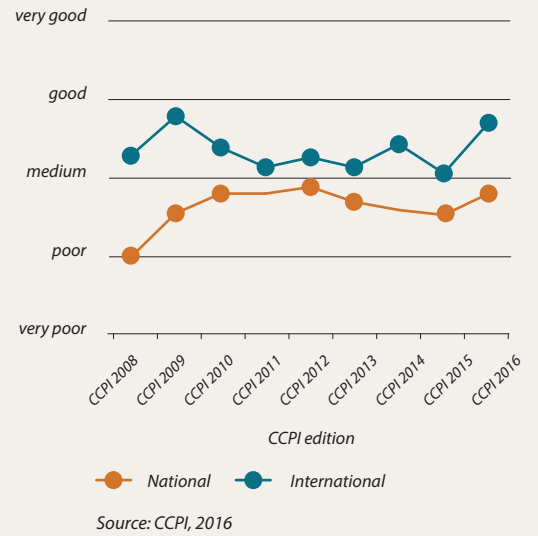


Source: CAT, 2015

Climate policy evaluation by experts

In the preparation for taking over the COP presidency, France pursued a proactive role in international climate negotiations, and later, led COP21 in Paris to success and the global community to a new climate treaty. National climate experts valued this effort and France improved its policy ranking in the latest CCPI edition, both at the international and the national level.

The CCPI evaluates a country's performance in national and international climate policy through feedback from national energy and climate experts.



Source: CCPI, 2016

As an EU member state, France did not submit its own Intended Nationally Determined Contribution (INDC) or emissions reduction target for COP21.

Under its INDC, on 6 March 2015 the EU proposed a binding, economy-wide target to cut domestic greenhouse gas emissions by at least 40% below 1990 levels in 2030. No individual EU member state has its own INDC.

The Climate Action Tracker (CAT) rates the EU emissions target as "medium", meaning the INDC is inconsistent with limiting warming below 2°C. It would require other countries to make a comparably greater effort, and much deeper emissions reductions.

The overall level of GHG emissions reductions proposed in the EU28 INDC does not fall within the range of approaches for fair and equitable emission reductions. Current policies are projected to reduce domestic emissions by 23–35% below 1990 levels in 2030, and do not put the EU on a trajectory towards meeting either its 2030 or 2050 targets. The EU's Emissions Trading Scheme is an important instrument to achieve its 2020 and 2030 targets. However, an accumulated surplus of emissions allowances could dilute the 40% GHG target by 7% in 2030. It is therefore important that the EU creates a robust market reserve for eliminating that surplus, to keep in line with the 40% GHG target.

FINANCING THE TRANSITION

Investment attractiveness



Allianz Energy and Climate Monitor

HIGH

RECAI* (E&Y index)
Category (own assessment)

MEDIUM

Trend**



*Adapted from RECAI and re-classified in 3 categories (low, medium, high) for comparison purposes with Allianz Monitor.

**Taken from RECAI issue of May 2016

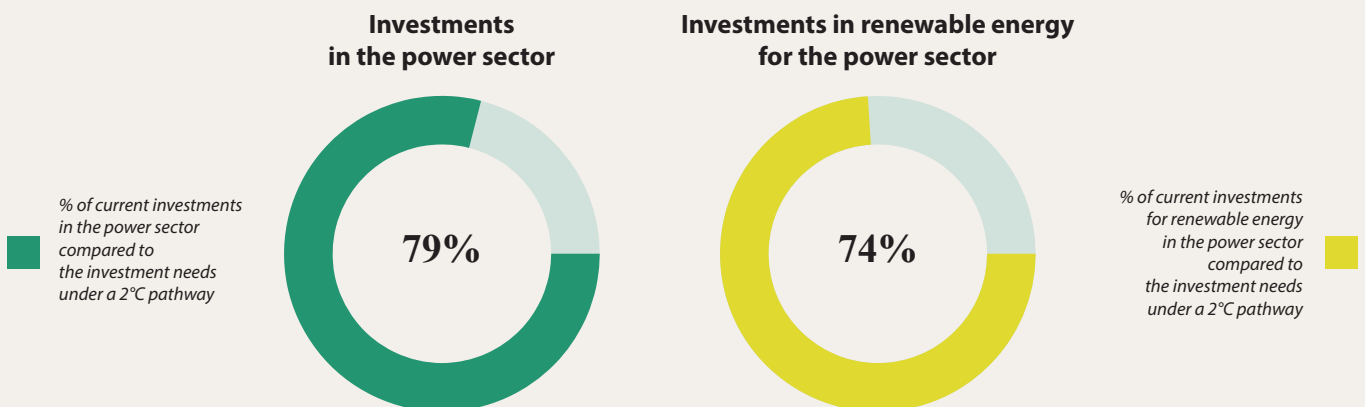
Climate Transparency rates France's investment attractiveness as medium to high, due to good performance in most parameters, including policy support and stable macroeconomic indicators, which lower investment risks. However, France hesitates on a transition to a low-carbon economy that is not based on nuclear power; leading to a medium performance on the uptake of solar and wind energy, green investments and associated value chains.

Sources: Allianz Energy and Climate Monitor and RECAI reports

The Allianz Energy & Climate Monitor ranks G20 member states on their relative fitness as potential investment destinations for building low-carbon electricity infrastructure. The investment attractiveness of a country is assessed through four categories: Policy adequacy, Policy reliability of sustained support, Market absorption capacity and the National investment conditions. The Renewable Energy Country Attractiveness Index (RECAI) produces score and rankings for countries' attractiveness based on Macro drivers, Energy market drivers and Technology-specific drivers which together compress a set of 5 drivers, 16 parameters and over 50 datasets.

Historical investments in renewable energy and investment gap

This section shows France's current investments in the overall power sector (including distribution and transmission) as well as in renewable energy expressed as the share of the total annual investments needed to be in line with a 2°C compatible trajectory.



Source: Adapted from WEIO, 2014⁽¹⁾

⁽¹⁾ WEIO (2014) compares annual average investments from 2000 to 2013 with average annual investments needed from 2015 to 2030 under a 2°C scenario

Carbon pricing mechanisms

Emissions Trading Schemes (ETS)

An ETS caps the total level of GHG emissions and allows industries to trade allowances based on their marginal abatement cost. By creating a supply and demand for allowances, an ETS establishes a market price for GHG emissions.

Carbon Tax

A Carbon tax directly sets a price on carbon by defining a tax rate on GHG emissions or – more commonly – on the carbon content of fossil fuels. Unlike an ETS, a carbon tax is a price-based instrument that pre-defines the carbon price, but not the emissions reduction outcome of a carbon tax.

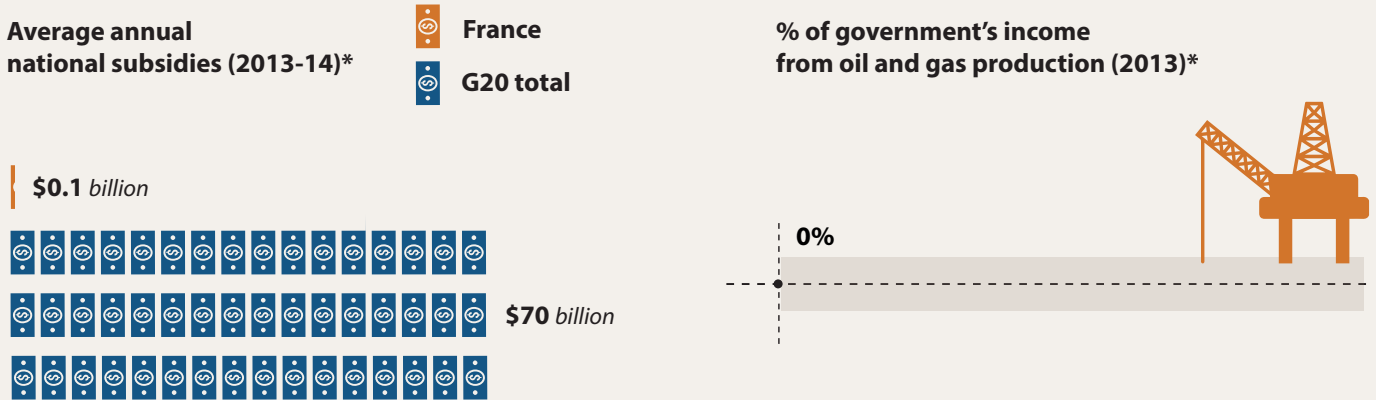
The carbon tax in France, introduced in 2014, covers 35% of the country's GHG emissions and puts a price on the use of fossil fuels in sectors that are not covered by the EU-ETS, such as residential, service and transport sectors. The government also plans to set a carbon price floor, which would require the power sector to pay a tax of about €30 (USD 33.95) per tonne. Similar to the UK, the carbon price floor in France is designed to supplement the EU-ETS and strengthen the carbon price.



Sources: World Bank and Ecofys, 2016; other national sources

Fossil fuel subsidies

France offers few subsidies for fossil fuel exploration and production since it has limited conventional fossil fuel reserves. Despite having vast shale gas reserves, France banned fracking in 2011. Since 2010, it phased out tax deductions for fossil fuel exploration and VAT exemptions for offshore oil and gas drilling equipment. Excise tax exemption is provided to natural gas, and fuels used in refining and electricity production. The government funds the French Institute of Petroleum, which conducts research to expand fossil fuel reserves. Additionally, there are local tax exemptions for exploration and mines.

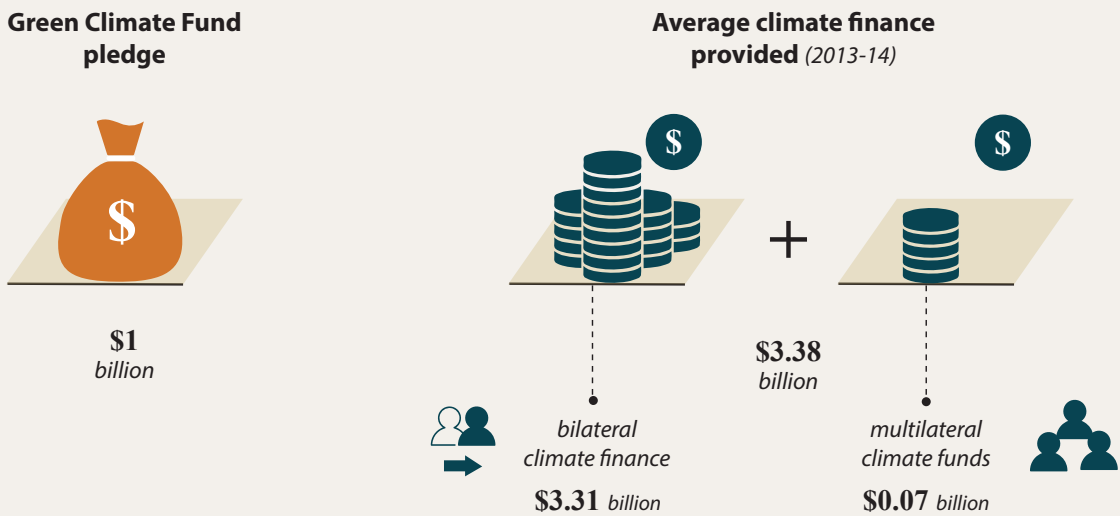


Source: ODI, 2015

*The indicators above refer only to subsidies for fossil fuel production, and include direct spending (e.g. government budget expenditure on infrastructure that specifically benefits fossil fuels), tax expenditure (e.g. tax deductions for investment in drilling and mining equipment) and other support mechanisms (e.g. capacity mechanisms).

Public climate finance

France is the G20's second largest contributor of climate finance, both in absolute terms and relative to GDP. A significant proportion of its climate finance is delivered through the French Development Agency (AFD). It has also made the second largest GCF pledge relative to GDP, and supported high level political discussion on options to meet climate finance commitments in the lead up to COP21. France's contribution includes export credits to support French companies to invest in developing countries.



Source: ODI, 2016