

BROWN TO GREEN:

THE G20 TRANSITION TO A LOW-CARBON ECONOMY 2018



Recent developments: What has happened since the Paris conference? French CO_2 emissions increased in 2017 and are now overshooting the official carbon budget by 6.7%.

In July 2017, the government committed to develop a new long-term strategy aiming at carbon neutrality in 2050. President Emmanuel Macron has called for a European carbon price and wants a carbon price within French jurisdiction of €84/t by 2022, up from the current €44.



This country profile is part of the **Brown to Green 2018** report. The full report and other G20 country profiles can be downloaded at: *http://www.climate-transparency.org/g20-climate-performance/g20report2018*



FRANCE'S EXPOSURE TO CLIMATE IMPACTS⁶

This indicator shows the extent to which human society and its supporting sectors are affected by the future changing climate conditions based on an approximately 2°C scenario. This sectoral exposure will be even higher given that the efforts depicted in current NDCs will lead to an approximately 3°C scenario.





Own composition based on ND-GAIN 2017 (based on data for 2016)



CCPI PERFORMANCE RATING OF GHG EMISSIONS PER CAPITA⁸



France's emissions decreased by 16% between 1990 and 2015. The trend is expected to continue towards 2030. The largest share of emissions stems from the energy sector.

ENERGY-RELATED CO₂ EMISSIONS⁹



The largest driver for overall GHG emissions are CO₂ emissions from energy, which have decreased slightly (-2%, 2012–2017) in France. Unlike other G20 countries, transport is responsible for the largest share of CO₂ emissions in France. DECARBONISATION

ENERGY MIX¹⁰



SHARE OF FOSSIL FUELS AND 'ZERO-CARBON' FUELS IN ENERGY SUPPLY¹¹



PERFORMANCE RATING OF SHARE OF FOSSIL FUELS¹²

FRANCE



Source: own evaluation

Zero-carbon fuels include nuclear, hydropower, new renewables. France has the highest share of zero-carbon fuels in the energy mix (49%) in the G20, mainly from nuclear power.

PERFORMANCE RATING OF SHARE OF ZERO-CARBON TECHNOLOGY¹²



DECARBONISATION

NEW RENEWABLES¹³ 5% Total primary energy supply (TPES) from new renewables (PJ) 600 500 Share of TPES in 2017 400 0.3% 😤 📕 Solar 300 0.9% Wind 200 0.0% Geothermal M 100 4.1% Biomass (excl. traditional biomass in residential) 0 1995 2000 2005 2010 2015 2017 1990

Source: Enerdata 2018

"New renewables" excludes unsustainable renewable sources such as large hydropower. New renewables account for only 5% of energy supply in France, but total supply from new renewables has increased by 52% between 2012 and 2017. The main drivers are biomass and wind energy.

PERFORMANCE RATING OF NEW RENEWABLES¹²

very low low medium high very high Recent developments (2012-2017) Current level (2017)

high very high

FRANCE

Source: own evaluation

medium

low

very low

ENERGY USE PER CAPITA¹⁴



PERFORMANCE RATING OF ENERGY USE PER CAPITA¹²



Energy use per capita in France is well above the G20 average but decreased by 6% between 2012 and 2017.

Source: Enerdata 2018





France's energy sector shows the lowest carbon intensity in the G20, reflecting the low share of fossil fuels. However, recent years show a slight increase.

Source: Enerdata 2018

PERFORMANCE RATING OF CARBON INTENSITY¹²





🖻 CLIMATE POLICY

FRANCE

COMPATIBILITY OF CLIMATE TARGETS WITH THE PARIS AGREEMENT²



France has a national target of reducing GHG emissions by 40% below 1990 levels by 2030 but the government plans to revise its target in 2018. As an EU member state, France did not submit its own NDC under the Paris Agreement but committed to the EU NDC. The CAT rates the EU's NDC "insufficient" as it is not ambitious enough to limit warming to below 2°C, let alone to 1.5°C. Under current policies, the EU is not on track to meet its 2030 target.

CLIMATE ACTION TRACKER (CAT) EVALUATION OF NDC²



NATIONALLY DETERMINED CONTRIBUTION (NDC)

The table presents the NDC of the European Union that includes contributions from all member states.

MITIGATION					
Targets	Overall targets At least 40% domestic GHG emissions reduction compared to 1990 by 2030				
	Coverage 100% of emissions covered (all sectors and gases)				
Actions	Not mentioned				

ADAPTATION				
Targets	Not mentioned			
Actions	Not mentioned			

FINANCE	
Conditio- nality	Not applicable
Investment needs	Not specified
Actions	Not mentioned
International market mechanisms	No contribution from international credits for the achievement of the target

Source: own compilation based on UNFCCC 2018





POLICY EVALUATION¹⁷

The ratings evaluate a selection of policies that are essential pre-conditions for the longer-term transformation required to meet the 1.5°C limit. They do not represent a complete picture of what is necessary.

to meet the 1.5°C limit. They do not represent a complete picture of what is necessary.	nost important measures based on share of emissions and political relevance			
	low	medium	high	frontrunner
GHG emissions target for 2050 or beyond				
Long-term low emissions development strategy				

Legend:

low No action

Coal phase-out

high Significant action and a long-term vision

medium Some action

In its long-term strategy, France aims to cut GHG emissions by 75% by 2050 compared to 1990, and includes sectoral targets and interim targets. France is currently developing a new long-term

strategy aiming at carbon neutrality by 2050 that is supposed to be adopted in 2019.

frontrunner Significant action, and a long-term vision that is compatible with 1.5°C

FRANCE

frontrunner

POWER

ļ	Renewable energy in power sector				
		low	medium	high	frontrunner

France strives towards 32% renewable energy in 2030 (100% renewables by 2050 are 1.5°C compatible). In 2018, the French government presented a ten-point plan to accelerate new wind projects and double its wind power capacity within five years.

In January 2018, Macron announced that France will shut down all coal plants by 2021, two years earlier than planned. The revised multiannual energy plan covering 2018–2023 and 2024–2028 may provide a detailed phase-out plan.

medium

high

low



In 2017, the government announced an end to the sale of petrol and diesel cars by 2040 (2025/30 would be 1.5°C compatible). A national scheme taxes the purchase of emission-intensive vehicles to finance subsidies for the purchase of electric and low-emissions cars. To quintuple the number of electric cars within the next three years, the French government announced in 2018 to continue its subsidies and to extend the battery charging infrastructure. France presents a 1.5°C compatible policy in the building sector by making the construction of low-consumption buildings the norm by 2012 and the construction of energy-plus houses the norm by 2020. In 2018, the government reaffirmed its target to renovate 500,000 homes every year to make them energy efficient.



France's forest law (No.2014-1170) offers guarantees for sustainable forestry management, however a national zero deforestation target is not in place.

no target for new installations in emission-intensive sectors to be low-carbon.

France supports energy efficiency in industrial production but has

Source: own evaluation

🖻 CLIMATE POLICY

CCPI EXPERTS' POLICY EVALUATION¹⁸

Experts rate France's performance in climate policy at the national level as medium. They praise France for developing its long-term carbon strategy but criticise its failure to implement policies on the national level, adding that targets for 2030 are not ambitious enough. France is one of three G20 countries with a "very high" rating for its international climate policy performance. Experts acknowledge the country's leading role in international negotiations.



JUST TRANSITION¹⁹

"Just transition" emerged in French political discourse following President Macron's election in 2017, with the formation of the Ministry of Ecological and Inclusive Transition. Government action so far has focused on supporting local projects that reduce fossil fuel use and foster low-carbon alternatives.

France's Climate Plan prioritises closing the four remaining coal power plants by 2022. National coal and shipping unions have expressed opposition to this deadline. The plan calls for a "managed transition", emphasising the need to support affected workers in the short and medium term. Subsequently, the draft finance bill for 2019 plans to create a ten-year compensation fund

to make up for the loss of revenue for local authorities caused by the closures. Meanwhile, similar local support schemes have already been agreed with nine other regions, which support local mitigation projects or green start-ups, rather than wholesale industrial restructuring.



FRANCE



FINANCING THE TRANSITION

FRANCE

FINANCIAL POLICIES AND REGULATIONS

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Through policy and regulation governments can overcome challenges to mobilising green finance, including: real and perceived risks, insufficient returns on investment, capacity and information gaps.

APPROACHES TO IMPLEMENTING THE RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)²⁰

This indicator establishes the degree of government engagement with the recommendations of the G20 Financial Stability Board's Task Force on Climate-Related Financial Disclosure.



France is the only G20 country to have TCFD encoded into law. The 2015 Energy Transition Law mandates climate disclosure for institutional investors (both on financial risks and measures to tackle them). In 2017, the Autorité de Contrôle Prudentiel et de Résolution backed by President Macron, jointly established the Central Banks and Supervisors Network for Greening the Financial System to progress this agenda.

FISCAL POLICY LEVERS

Fiscal policy levers raise public revenues and direct public resources. Critically, they can shift investment decisions and consumer behaviour towards low-carbon, climate-resilient activities by reflecting externalities in prices.

FOSSIL FUEL SUBSIDIES

In 2016, France provided US\$5.8bn in fossil fuel subsidies (from US\$2.8bn in 2007). Between 2007 and 2016, subsidies were lower (US\$0.002) than the G20 average (US\$0.003) per unit of GDP. Subsidies were provided through direct budget support and tax exemptions, targeting consumption (94%). The largest subsidy is the reduced excise tax on the use of diesel fuel in the farming, forestry and construction sectors (US\$1.9bn in 2016).



CARBON REVENUES

France's 2014 national carbon tax generated US\$5.9bn in 2017. It covers 35% of domestic emissions, priced at US\$55/tCO₂. Under the EU Emissions Trading Scheme, a further US\$0.4bn was generated in France alone. It is also exploring a joint carbon pricing scheme with Germany. From 2012 to 2017, France's carbon revenues were higher (US\$0.0009) than the G20 average (US\$0.0005) per unit of GDP.





Estimates only available from 2012 Source: I4CE 2018

FINANCING THE TRANSITION

FRANCE

PUBLIC FINANCE

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Governments steer investments through their public finance institutions including via development banks, both at home and overseas, and green investment banks. Developed G20 countries also have an obligation to provide finance to developing countries and public sources are a key aspect of these obligations under the UNFCCC.

NATIONAL AND INTERNATIONAL PUBLIC FINANCE IN THE POWER SECTOR²¹

From 2013 to 2015, France's public finance institutions spent an annual average of US\$0.6bn brown, US\$0.9bn green and US\$0.9bn grey financing in the power sector, domestically and internationally. The largest transactions were a loan guarantee (US\$288m) for the Nghi Son refinery and petrochemical complex in Vietnam, and the lchthys natural gas extraction project loan guarantee (US\$236m) in Australia.

coal, oil and gas projects **brown** (and associated infrastructure)

large-scale hydropower, biofuels, biomass, nuclear, incineration, transmission, distribution, storage, energy efficiency, other general electricity support

> renewable energy projects **green** (excluding grey financing)





Proportion of total public finance

PROVISION OF INTERNATIONAL PUBLIC SUPPORT

France is the second largest G20 contributor of climate finance through bilateral channels. A significant proportion of its climate finance is delivered through the French Development Agency. It is the fifth largest contributor to the multilateral climate funds. France's spending is, however, less concessional than other donors, making use of concessional loans rather than grants. Funds remain biased towards mitigation. While France may channel international public finance towards climate change via multilateral development banks, this has not been included in this report.



Source: Country reporting to the UNFCCC

ANNEX

For more detail on sources and methodologies, please refer to the Technical Note at: https://www.climate-transparency.org/wp-content/uploads/2018/11/Technical-Note_data-sources-and-methodology.pdf

- The 2030 projections of the future development of greenhouse gas (GHG) emissions under current policies are based on the Climate Action Tracker (CAT) estimates.
- 2) The CAT is an independent scientific analysis that tracks progress towards the globally agreed aim of holding warming to well below 2°C, and pursuing efforts to limit warming to 1.5°C. The CAT "Effort Sharing" assessment methodology applies state-of-the-art scientific literature on how to compare the fairness of government efforts and (Intended) Nationally Determined Contribution ((I) NDC) proposals against the level and timing of emission reductions consistent with the Paris Agreement. The assessment of the temperature implications of a country's NDC is based on the assumption that all other governments would follow a similar level of ambition.
- 3) This assessment is based on the policy evaluation on page 9 of this Country Profile.
- 4) Gross Domestic Product (GDP) per capita is calculated by dividing GDP with mid-year population figures. GDP is the value of all final goods and services produced within a country in a given year. Here GDP figures at purchasing power parity (PPP) are used. Data for 2017.
- 5) The Human Development Index (HDI) is a composite index published by the United Nations Development Programme (UNDP). It is a summary measure of average achievement in key dimensions of human development. A country scores higher when the lifespan is higher, the education level is higher, and GDP per capita is higher.
- 6) The ND-GAIN index summarises a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. This report looks only at the exposure indicators as part of the vulnerability component of the ND-GAIN index for six sectors. It displays the exposure scores provided by the ND-GAIN on a scale from low (score: 0) to high (score: 1).
- 7) The indicator covers all Kyoto gases showing historic emissions in each of the IPCC source categories (energy, industrial processes, agriculture, etc.). Emissions projections (excl. forestry) under a current policy scenario until 2030 are taken from the Climate Action Tracker and scaled to the historical emissions from PRIMAP (see Brown to Green Report 2018 Technical Note).

- 8) The ratings on GHG emissions are taken from the Climate Change Performance Index (CCPI) 2018. The rating of "current level compared to a well below 2°C pathway" is based on a global scenario of GHG neutrality in the second half of the century and a common but differentiated convergence approach.
- 9) CO₂ emissions cover only the emissions from fossil fuels combustion (coal, oil and gas) by sector. They are calculated according to the UNFCCC methodology (in line with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories).
- 10) Total primary energy supply data displayed in this Country Profile does not include non-energy use values. Solid fuel biomass in residential use has negative environmental and social impacts and is shown in the category "other".
- 11) Zero-carbon fuels include nuclear, hydropower and new renewables (non-residential biomass, geothermal, wind, solar).
- 12) Climate Transparency ratings assess the relative performance across the G20. A high scoring reflects a good effort from a climate protection perspective but is not necessarily 1.5°C compatible.
- 13) New renewables include non-residential biomass, geothermal, wind and solar energy. Hydropower and solid fuel biomass in residential use are excluded due to their negative environmental and social impacts.
- 14) Total primary energy supply (TPES) per capita displays the historical, current and projected energy supply in relation to a country's population. Alongside the intensity indicators (TPES/GDP and CO₂/TPES), TPES per capita gives an indication on the energy efficiency of a country's economy. In line with a well-below 2°C limit, TPES per capita should not grow above current global average levels. This means that developing countries are still allowed to expand their energy use to the current global average, while developed countries have to simultaneously reduce it to that same number.
- 15) TPES per GDP describes the energy intensity of a country's economy. This indicator illustrates the efficiency of energy usage by calculating the energy needed to produce one unit of GDP. Here GDP figures at PPP are used. A decrease in this indicator can mean an increase in efficiency but also reflects structural economic changes.
- 16) The carbon intensity of a country's energy sector describes the CO₂ emissions per unit of total primary energy supply and gives an indication of the share of fossil fuels in the energy supply.

ANNEX (continued)

- 17) The selection of policies rated and the assessment of 1.5°C compatibility are informed by the Paris Agreement and the Climate Action Tracker (2016): "The ten most important short-term steps to limit warming to 1.5°C". The table below displays the criteria used to assess a country's policy performance. See the Brown to Green Report 2018 Technical Note for the sources used for this assessment.
- 18) The CCPI evaluates a country's performance in national climate policy, as well as international climate diplomacy through feedback from national experts from non-governmental organisations to a standardised questionnaire.
- 19) See the Brown to Green 2018 Technical Note for the sources used for this assessment.
- 20) The University of Cambridge Institute for Sustainability Leadership (CISL) in early 2018 reviewed the progress made by the national regulatory agencies of G20 members in making the Task Force on Climate-related Financial Disclosures (TCFD) recommendations relevant to their national contexts. See the Brown to Green Report 2018 Technical Note for more information on the assessment.



- 21) This data includes bilateral public finance institutions such as national development banks and other development finance institutions, overseas aid agencies, export credit agencies, as well as key multilateral development banks. The analysis omits most finance delivered through financial intermediaries and significant volumes of multilateral development bank (MDB) development policy finance (due to a lack of clarity on power finance volumes). Given a lack of transparency, other important multilateral institutions in which G20 governments participate are not covered. See the Brown to Green Report 2018 Technical Note for further details.
- 22) Finance delivered through multilateral climate funds comes from Climate Funds Update, a joint ODI/Heinrich Boell Foundation database that tracks spending through major multilateral climate funds. See the Brown to Green Report 2018 Technical Note for multilateral climate funds included and method to attribute approved amounts to countries.
- 23) Bilateral finance commitments are sourced from Biennial Party reporting to the UNFCCC. Financial instrument reporting is sourced from the OECD-DAC; refer to the Brown to Green Report 2018 Technical Note for more detail. Figures represent commitments of Official Development Assistance (ODA) funds to projects or programmes, as opposed to actual disbursements.

On endnote 17)	Criteria description						
	Low	😑 Medium	🗕 High	Frontrunner			
GHG emissions target for 2050 or beyond	No emissions reduction target for 2050 or beyond	Existing emissions reduction target for 2050 or beyond	Existing emissions reduction target for 2050 or beyond and clear interim steps	Emissions reduction target to bring GHG emissions to at least net zero by 2050			
Long-term low emissions development strategy	No long-term low emissions strategy	Existing long-term low emissions strategy	Long-term low emissions strategy includes interim steps and/or sectoral targets	Long-term low emissions strategy towards full decarbonisation in the second half of the century; includes interim steps and/ or sectoral targets, plus institutions and measures in place to implement and/or regularly review the strategy			
Renewable energy in power sector	Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), average 0-25	Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), average 26-60	Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), average 61-100	Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), 61-100 plus 100% renewables in the power sector by 2050 in place			
Coal phase-out	No consideration or policy in place for phasing out coal	Significant action to reduce coal use implemented or coal phase-out under consideration	Coal phase-out decided and under implementation	Coal phase-out date compatible with 1.5°C			
Phase-out of fossil fuel light duty vehicles (LDVs)	No policy or emissions performance standards for LDVs in place	Energy/emissions performance standards or support for efficient LDVs	National target to phase out fossil fuel LDVs in place	Ban on new fossil-based LDVs by 2025/30			
Near zero-energy new buildings	No policy or low emissions building codes and standards in place	Building codes, standards or fiscal/financial incentives for low emissions options in place	National strategy for near zero-energy buildings (at least for all new buildings)	National strategy for near zero-energy buildings by 2020/25 (at least for all new buildings)			
Low-carbon new industry installations	No policy or support for energy efficiency in industrial production in place	Support for energy efficiency in industrial production (covering at least two of the country's sub-sectors (e.g. cement and steel production))	Target for new installations in emissions-intensive sectors to be low-carbon	Target for new installations in emissions-intensive sectors to be low-carbon after 2020, maximising efficiency			
Net zero deforestation	No policy or incentive to reduce deforestation in place	Incentives to reduce deforestation or support schemes for afforestation / reforestation in place	National target for reaching zero deforestation	National target for reaching zero deforestation by 2020s or for increasing forest coverage			

CLIMATE TRANSPARENCY



http://www.climate-transparency.org/g20-climate-performance/g20report2018

