



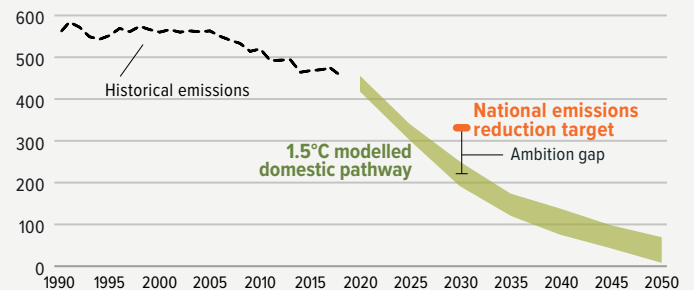
NOT ON TRACK FOR A 1.5°C WORLD

1.5°C

France's national target is to reduce emissions 40% below 1990 levels, or approximately 329 MtCO₂e, by 2030. To keep below the 1.5°C temperature limit, France's 2030 emissions would need to be around 210 MtCO₂e (or 62% below 1990 levels), leaving an ambition gap of around 119 MtCO₂e.

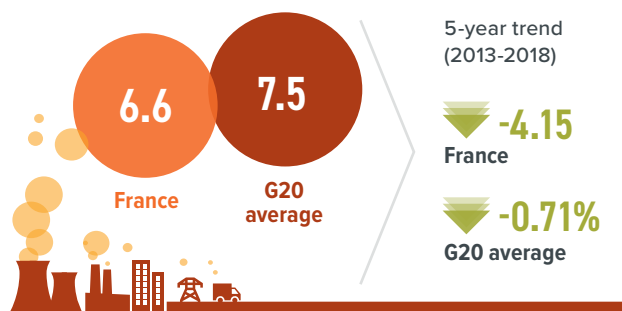
Gütschow et al., 2021; Climate Analytics, 2021

1.5°C compatible emissions pathway (MtCO₂e/year)¹



PER CAPITA GREENHOUSE GAS (GHG) EMISSIONS BELOW G20 AVERAGE

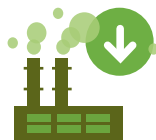
GHG emissions (incl. land use) per capita (tCO₂e/capita)² in 2018



France's per capita emissions (incl. LULUCF) are 0.89 times the G20 average. Total per capita emissions decreased by 4.2% between 2013-2018.

Gütschow et al. 2021; United Nations, 2019

KEY OPPORTUNITIES FOR ENHANCING CLIMATE AMBITION



Commit to a far more ambitious target than the 40% reduction of GHG below 1990 levels currently proposed.



Design the upcoming National Low-Carbon Strategy (Stratégie Nationale Bas-Carbone (SNBC3), sectoral objectives and stimulus packages to **deliver on emissions targets while ensuring a just transition**.



Develop tools to identify and address growing **adaptation needs in synergy with mitigation strategies**.

Haut Conseil pour le Climat, 2021b

RECENT DEVELOPMENTS



The new climate law, passed in 2021, lacks ambition and was rated only 3.3/10 by the "French Citizens' Convention on Climate" and criticised for providing insufficient measures to achieve the already weak target.



Previous carbon budgets were overshoot, and the High Council on Climate (HCC) finds current policies and governance to be insufficient to achieve the current target, let alone the EU objective.



France's highest administrative court, the Council of State, ruled in favour of a French commune, ordering the government to take all necessary measures to meet its current climate objectives before March 2022.

Conseil d'état, 2021; Haut Conseil pour le Climat, 2021; Le Monde, 2021; Republic of France, 2021



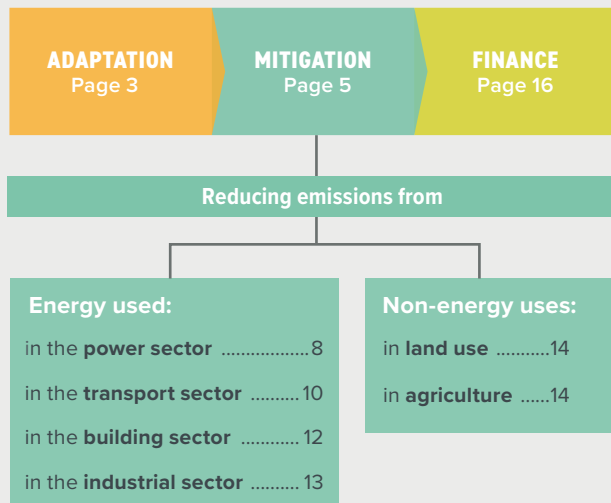
CORONAVIRUS RESPONSE AND RECOVERY

The pandemic resulted in significant emissions reductions in France, with uneven social costs. Green stimulus packages, supported by 61% of the French population, can contribute to durable structural changes. Of this amount, in total, I4CE identifies EUR 30bn of expenditure that is favourable to the climate in 2021, EUR 5.6bn more than in 2020 in the 'France Relance' recovery package. While this is still insufficient to align with the 2050 target, it represents a significant step forward.

Haut Conseil pour le Climat, 2021; Perrier and Vandon, 2021

CONTENTS

We unpack France's progress and highlight key opportunities to enhance climate action across:



LEGEND

Trends show developments over the past five years for which data are available. The colour-coded arrows indicate assessment from a climate protection perspective: Orange is bad, green is good.



Decarbonisation Ratings³ assess a country's performance compared to other G20 countries. A high score reflects a relatively good effort from a climate protection perspective but is not necessarily 1.5°C compatible.

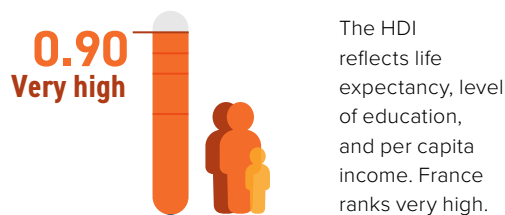


Policy Ratings⁴ evaluate a selection of policies that are essential pre-conditions for the longer-term transformation required to meet the 1.5°C limit.



SOCIO-ECONOMIC CONTEXT

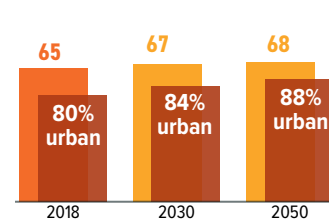
Human Development Index (HDI)



Data for 2019. UNDP, 2020

Population and urbanisation projections

(in millions)

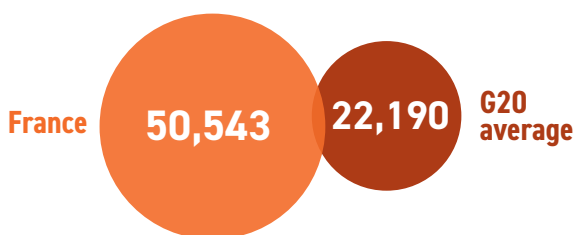


France's population is expected to increase by about 4% by 2050 above 2018 levels, which implies greater emissions reduction challenges. It is a highly urbanised country and most of the population increase is projected to be in urban areas.

United Nations, 2019; United Nations, 2018

Gross Domestic Product (GDP) per capita

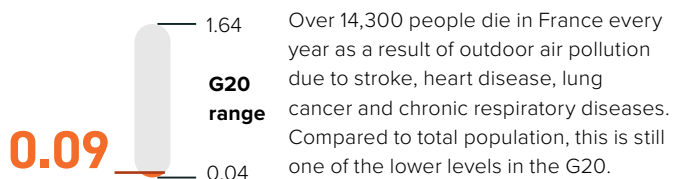
(PPP constant 2015 international \$) in 2019



World Bank, 2021; United Nations, 2019

Death rate attributable to air pollution

Ambient air pollution attributable death rate per 1,000 population per year, age standardised in 2019



Institute for Health Metrics and Evaluation, 2020

This source differs from the source used in last year's profiles and, therefore, the data are not comparable.

A JUST TRANSITION

France has been directly confronted by the question of a just transition through the Yellow Vests protests against an "unfair" fuel tax in 2018. In response, the French Citizens' Convention on Climate was formed to propose climate measures in "a spirit of social justice". While the Climate Law that passed in July 2021 contained some of these measures, it has been criticised for its lack of ambition.

The HCC suggests approaches that look beyond the few indicators of France's current SNBC2 strategy, focusing on employment, education and investment. The HCC suggests reviewing citizen participation in transition-related decisions and tracking the impact of existing policies on wealth distribution. The HCC highlights the need for a just transition to be addressed jointly for mitigation and adaptation strategies.

Haut Conseil pour le Climat, 2021; Légifrance, 2021



ADAPTATION

ADDRESSING AND REDUCING VULNERABILITY TO CLIMATE CHANGE



Increase the ability to adapt to the adverse effects of climate change and foster climate resilience and low-GHG development.



France and its overseas territories are **vulnerable to climate change**, and adaptation actions are needed.



With global warming, France is increasingly **vulnerable to rainfall reduction and severe droughts**.



France is particularly **exposed to climate-related ocean changes**, such as marine flooding and changes in pelagic fish stocks.

ADAPTATION NEEDS

Climate Risk Index

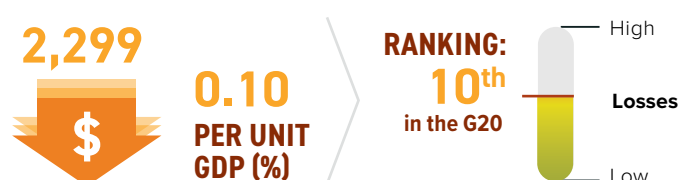
Impacts of extreme weather events in terms of fatalities and economic losses that occurred. All numbers are averages (1999-2018).

Annual weather-related fatalities



Based on Germanwatch, 2019

Annual average losses (US\$ millions PPP)



Based on Germanwatch, 2019

Exposure to future impacts at 1.5°C, 2°C and 3°C

Impact ranking scale:

Very low Low Medium High Very high

			1.5°C	2°C	3°C
WATER	% of area with increase in water scarcity				
	% of time in drought conditions				
HEAT AND HEALTH	Heatwave frequency				
	Days above 35°C				
AGRICULTURE	Maize	Reduction in crop duration			
		Hot spell frequency			
		Reduction in rainfall			
	Wheat	Reduction in crop duration			
		Hot spell frequency			
		Reduction in rainfall			

Water, Heat and Health: own research; Agriculture: Arnell et al., 2019

Note: These indicators are national scale results, weighted by area and based on global data sets. They are designed to allow comparison between regions and countries and, therefore, entail simplifications. They do not reflect local impacts within the country. Please see technical note for further information.



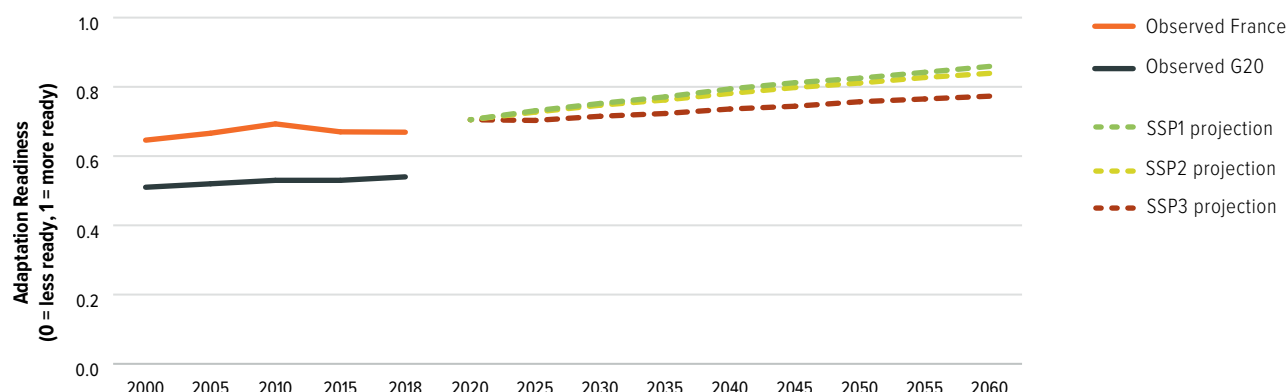
CORONAVIRUS RESPONSE AND RECOVERY

The magnitude of public spending and the possibility of including climate as a condition of spending represents a rare opportunity to increase the role of the public sector in climate adaptation in France.

Adaptation Readiness

The figure shows 2000-2018 observed data from the Notre Dame Global Adaptation Initiative (ND-GAIN) Index overlaid with projected Shared Socioeconomic Pathways (SSPs) from 2020 to 2060.

Notre Dame Global Adaptation Initiative (ND-Gain) Readiness Index



France scored well above the G20 average between 2000 and 2018 and is projected to continue doing so, given its combination of social, economic and governance structures. While adaptation challenges still exist, France is well positioned to adapt if it puts in place measures compatible with SSP1 and SSP2. Other measures, as represented by SSP3, slow its readiness to adapt in the long term.

The readiness component of the Index created by the ND-GAIN encompasses social (social inequality, information and communications technology infrastructure, education and innovation), economic, and governance indicators to assess a country's readiness

to deploy private and public investments in aid of adaptation. The index ranges from 0 (low readiness) to 1 (high readiness).

The overlaid SSPs are qualitative and quantitative representations of a range of projections of future governance and, therefore, of possible adaptation readiness. The three scenarios shown here in dotted lines are described as a sustainable development-compatible scenario (SSP1), a middle-of-the-road (SSP2), and a 'Regional Rivalry' (SSP3) scenario.

Based on Andrijevic et al., 2020; ND-Gain Index, 2021

ADAPTATION POLICIES

National Adaptation Strategies

Document name	Publication year	Fields of action (sectors)												Monitoring & evaluation process	
		Agriculture	Biodiversity	Coastal areas and fishing	Education and research	Energy and industry	Finance and insurance	Forestry	Health	Infrastructure	Tourism	Transport	Urbanism		Water
National Climate Change Adaptation Strategy	2006	<div></div>	<div></div>	<div></div>		<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
National Adaptation Plan 2011-2015	2011	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>			<div></div>	<div></div>	<div></div>	<div></div>	Mid-term evaluation report in 2013
Second National Adaptation Plan 2018-2022 (NAP-2)	2018	<div></div>	<div></div>	<div></div>	<div></div>	<div>*</div>	<div></div>	<div></div>	<div></div>	<div>*</div>	<div></div>	<div>*</div>	<div>*</div>	<div></div>	Continuous monitoring by National Council

Note: In NAP-2, sectors of energy and industry, infrastructure, transport and urbanism are integrated within the other listed sectors, and not as separate items; therefore, their inclusion is recorded as *

Nationally Determined Contribution (NDC): Adaptation

TARGETS

Not mentioned

ACTIONS

Not mentioned

MITIGATION

REDUCING EMISSIONS TO LIMIT GLOBAL TEMPERATURE INCREASE



Hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit to 1.5°C, recognising that this would significantly reduce the risks and impacts of climate change.

EMISSIONS OVERVIEW



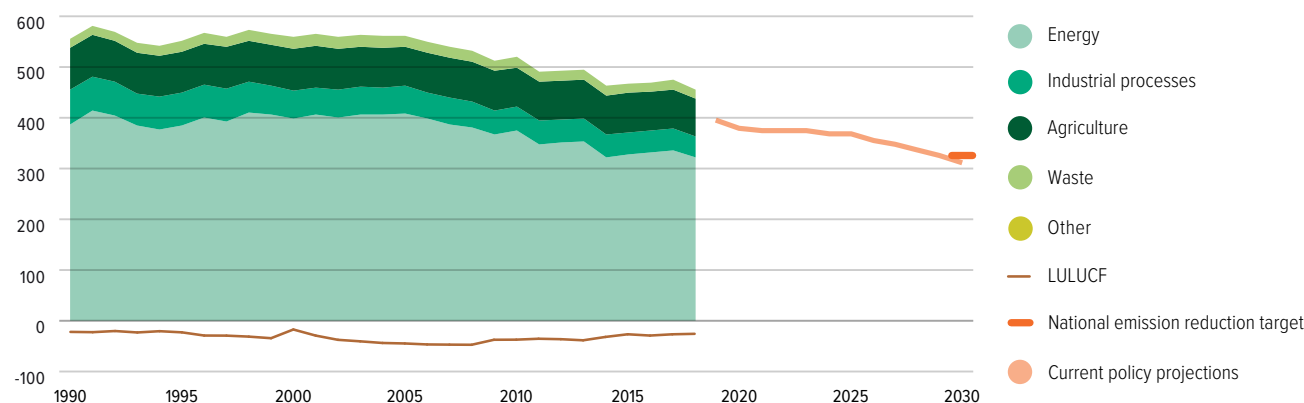
France's GHG emissions have dropped by only 19.6% (1990-2018) and the government's climate targets for 2030 (40% below 1990 levels) and 2050 (net zero emissions) **are not in line with a 1.5°C pathway.**



In 2030, global CO₂ emissions need to be 45% below 2010 levels and reach net zero by 2050. Global energy-related CO₂ emissions must be cut by 40% below 2010 levels by 2030 and reach net zero by 2060.

GHG emissions across sectors and national emissions reduction target (MtCO₂e/year)⁵

Total GHG emissions across sectors (MtCO₂e/year)

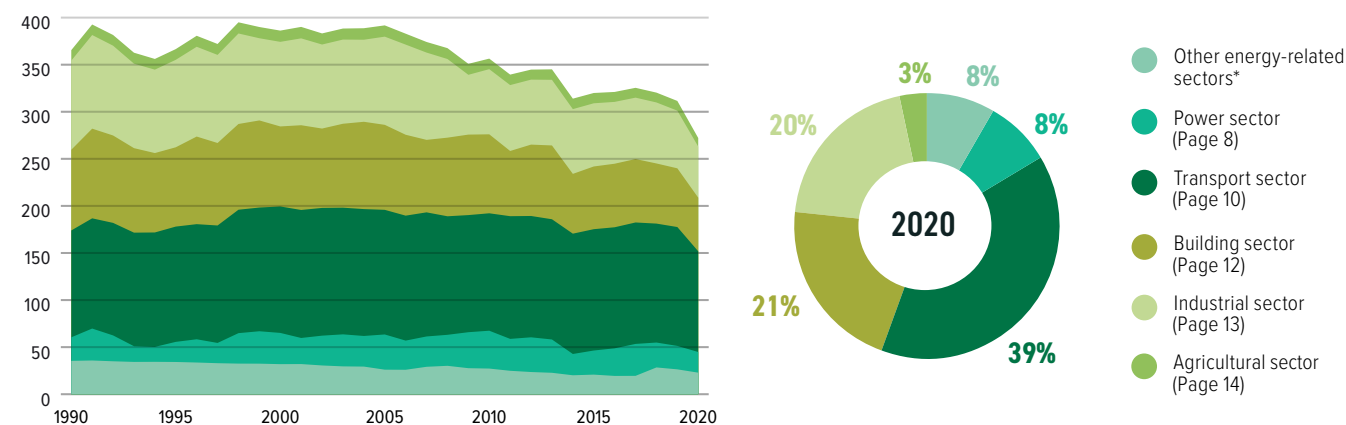


France's emissions (excl. land use) have decreased by 31% between 1990 and 2020. The most recent emissions projections show that under current policies, emissions will continue to decline, reaching a 43% reduction below 1990 by 2030, which is not enough to meet France's 2030 national target of 329MtCO₂e. The development of the service sector and the relocation of carbon-intensive industries outside France contributes to lowering its emissions, even so, exported emissions (which count toward France's emissions) began rebounding from 2015.

Gütschow et al, 2021

Energy-related CO₂ emissions by sector

Annual CO₂ emissions from fuel combustion (MtCO₂/year)



The largest driver of overall GHG emissions are CO₂ emissions from fuel combustion. After being stable between 2014 and 2019, emissions dropped significantly in 2020 due to the COVID pandemic and the associated recession. As the economy recovers, emissions are expected to rebound. The transport sector – at 39% – is the largest contributor, followed by buildings and industry with 21% and 20%, respectively.

Enerdata, 2021

Due to rounding, some graphs may sum to slightly above or below 100%.

Other energy-related sectors covers energy-related CO₂ emissions from extracting and processing fossil fuels.

ENERGY OVERVIEW



In 2020, fossil fuels made up approximately **47% of France's energy mix, the lowest level in the G20**. This is the result of the large share of nuclear energy (43%). Renewables account for only a small share (9%), with nuclear energy responsible for the remaining share of low-carbon energy sources.

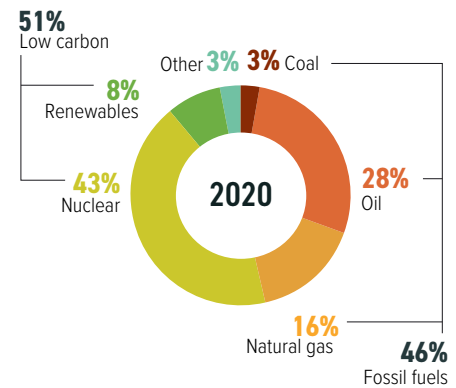
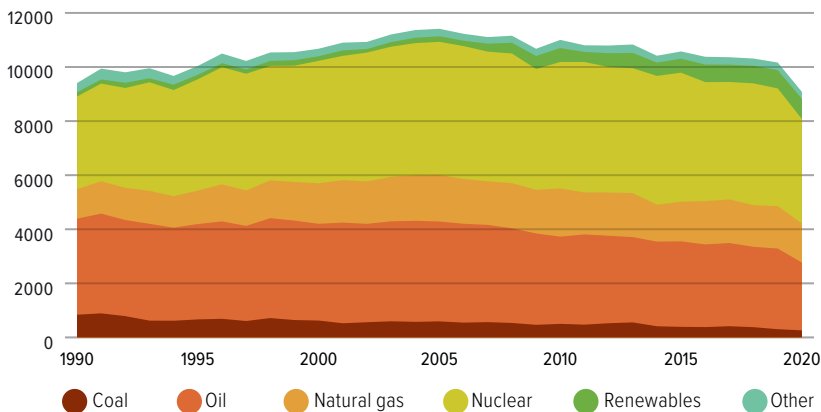


The share of fossil fuels globally needs to fall to 67% of global total primary energy by 2030 and to 33% by 2050 and to substantially lower levels without carbon capture and storage (CCS).

Rogelj et al., 2018

Energy mix

Total primary energy supply (TPES)(PJ)

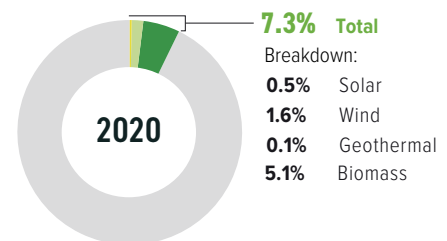
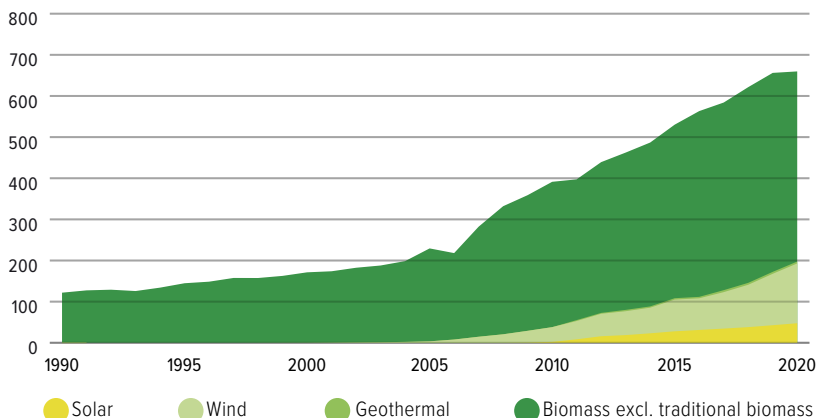


This graph shows the fuel mix for all energy supply, including energy used not only for electricity generation, heating, and cooking, but also for transport fuels. Fossil fuels (oil, coal, and gas) make up 46% of France's energy mix, lower than the G20 average of 81% in 2020. Additional electricity production may be needed to decarbonise transport and reduce oil consumption. The falling costs of renewable energy offer a flexible and clean alternative to nuclear to increase electricity production and replace electricity production from gas.

Enerdata, 2021 Due to rounding, some graphs may sum to slightly above or below 100%

Solar, wind, geothermal, and biomass development

TPES from solar, wind, geothermal and biomass (PJ)



Solar, wind, geothermal and biomass account for 7.3% of France's energy supply – the G20 average is 7.1%. The share in total energy supply has increased by around 45% in the last five years in France (2015-2020).

Enerdata, 2021 Due to rounding, some graphs may sum to slightly above or below 100%

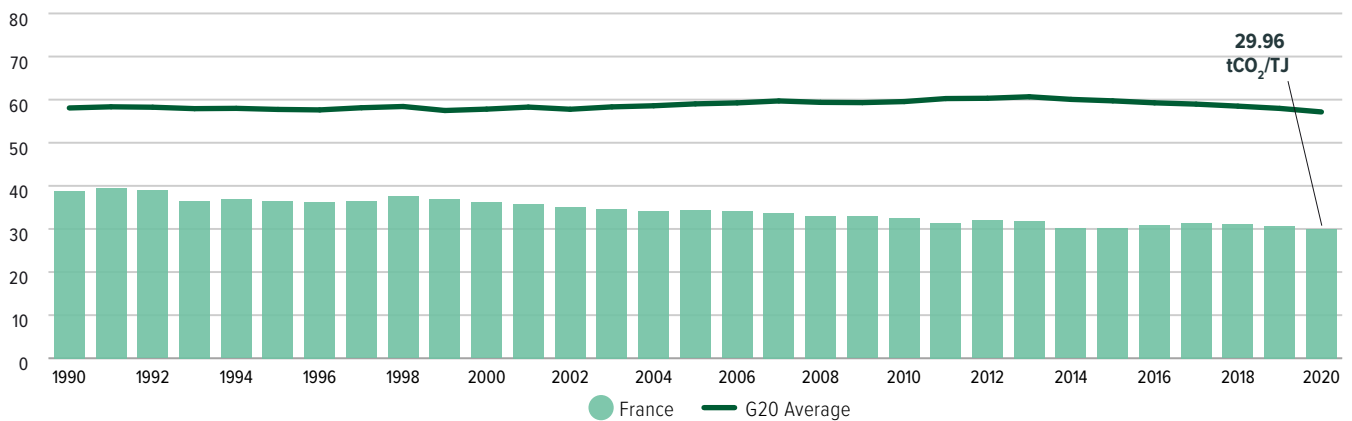
Note: Large hydropower and solid fuel biomass in residential use are not reflected due to their negative environmental and social impacts.

Decarbonisation rating: Renewable energy share of TPES compared to other G20 countries



Carbon intensity of the energy sector

Tonnes of CO₂ per unit of TPES (tCO₂/TJ)

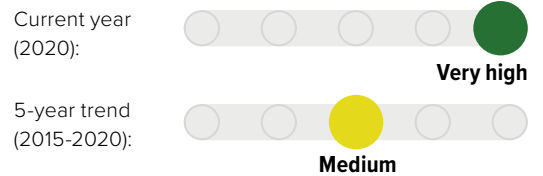


Carbon intensity is a measure of how much CO₂ is emitted per unit of energy supply.

France's emissions intensity is very low, which means that it emits a small amount of GHG per unit of energy supplied. This intensity is nearly half that of the G20 average, even though the difference has reduced over the past five years, when France's improvement was limited to 1.26% compared to the 4.10% of the G20 average.

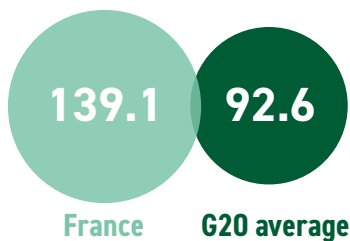
Enerdata, 2021

Decarbonisation rating: carbon intensity of the energy sector compared to other G20 countries

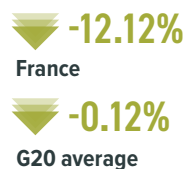


Energy supply per capita

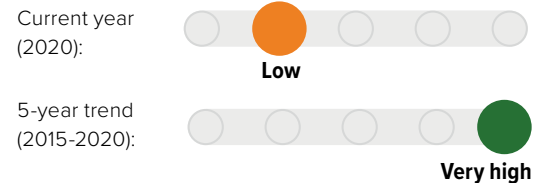
TPES per capita (GJ/capita) in 2020



TPES per capita (GJ/capita): 5-year trend (2015-2020)



Decarbonisation rating: energy supply per capita compared to other G20 countries



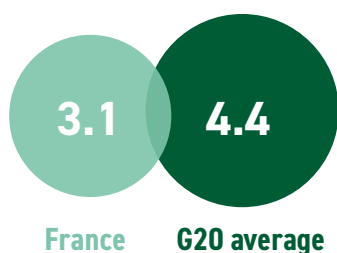
The level of energy use per capita is closely related to economic development, climatic conditions and the price of energy.

Energy use per capita in France is, at 139 GJ/capita in 2020, well above the G20 average, but decreased faster at 12% between 2015 and 2020, in contrast to the decreasing G20 average of -0.12%.

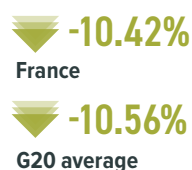
Enerdata, 2021; United Nations, 2019

Energy intensity of the economy

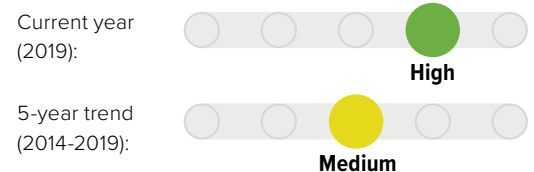
(TJ/million US\$2015 GDP) in 2019



Energy intensity of the economy: 5-year trend (2014-2019)



Decarbonisation rating: energy intensity compared to other G20 countries

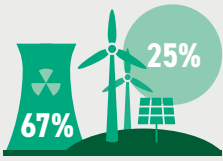


This indicator quantifies how much energy is used for each unit of GDP. This is closely related to the level of industrialisation, efficiency achievements, climatic conditions or geography. France's energy intensity is lower than the G20 average and has been decreasing at a similar speed of 10% (2015-2020) compared to the G20.

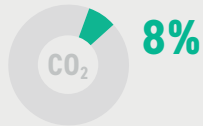
Enerdata, 2021; World Bank, 2021

POWER SECTOR

Emissions from energy used to make electricity and heat



In 2020, France produced 67% of its electricity from nuclear energy, 25% from renewables and only 1% of its electricity from coal. France's plan to close the last four coal power plants by 2022 was revised to keep one power plant running at 10% capacity until 2024.



Share of energy-related CO₂ emissions from electricity and heat production in 2020.

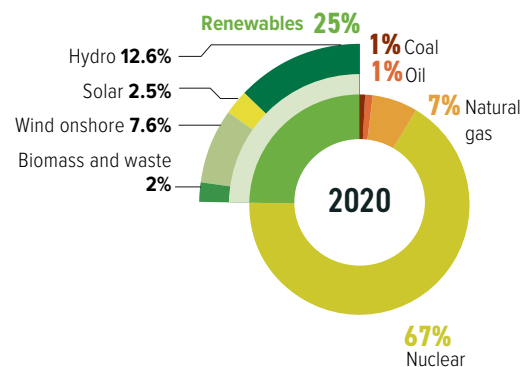
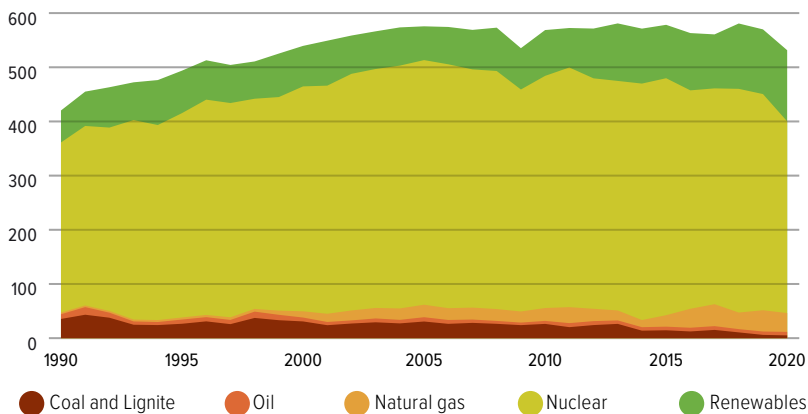


Worldwide, coal use for power generation needs to peak by 2020, and between 2030 and 2040, all the regions of the world need to phase out coal-fired power generation. By 2040, the share of renewable energy in electricity generation has to be increased to at least 75%, and the share of unabated coal reduced to zero.

Rogelj et al., 2018; Climate Action Tracker, 2020b

Electricity generation mix

Gross power generation (TWh)



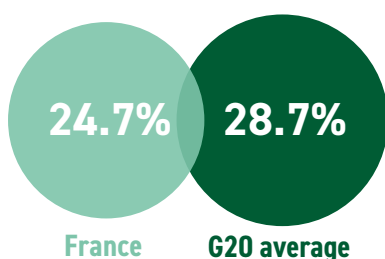
This graph shows the fuel mix for all of France's energy supply, including energy used not only for electricity generation, heating, and cooking, but also for transport fuels.

France generated **9% of its electricity from fossil fuels and 25% from renewables in 2020**. The share of renewables in France's power sector remained a stable proportion of the mix until 2012, but has since increased. Nuclear energy remains the most prominent power source at 67%. The shares of coal and oil have decreased further from their initial low levels and now, combined, account for only 2% of the electricity mix. Natural gas has seen a slight decrease to 7% of the electricity mix in the past year.

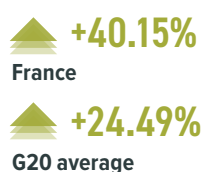
Enerdata, 2021 Due to rounding, some graphs may sum to slightly above or below 100%

Share of renewables in power generation

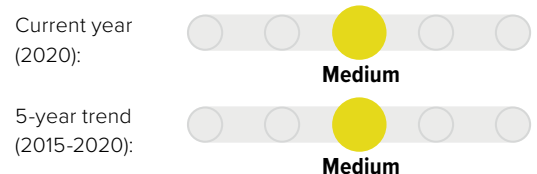
(incl. large hydro) in 2020



Share of renewables in power generation:
5-year trend (2015-2020)



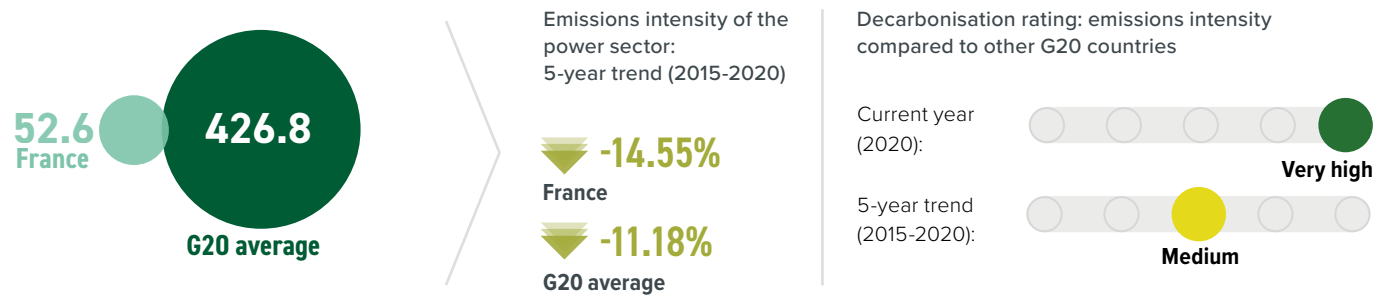
Decarbonisation rating: share of renewables compared to other G20 countries



Enerdata, 2021

Emissions intensity of the power sector

(gCO₂/kWh) in 2020



For each kilowatt hour of electricity, 52.6 g of CO₂ are emitted in France. Emissions intensity has only dropped marginally because the use of fossil fuels for power generation is very low. This is mainly driven by the high share of nuclear (67% in 2020) and low share of fossil fuels (8.7%) in the power mix. While France does have a national target of raising the share of electricity from renewables from 25% in 2020 to 40% by 2030, **there is no clear trajectory for renewables post-2030.**

Enerdata, 2021

POLICY ASSESSMENT

Renewable energy in the power sector

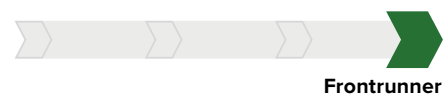


The share of renewables in the power sector has been increasing steadily, accounting for a quarter (25%) of the power mix by 2020. This energy was coming mainly from hydro (12.6%) and onshore wind (8%), which has seen a steady increase in the past four years. Solar energy contributed less than 3% of electricity generation. France is only starting to develop offshore wind, with the first major wind farm with an installed capacity of 480 MW expected to go online in 2022. France is striving to reach 33% renewables in final energy consumption by 2030, including 40% of electricity from renewables, but does not have a long-term renewable energy deployment strategy.

According to the provisional data, the proportion of renewable energies as a percentage of France's gross final energy consumption will be 19.1% in 2020, below France's 2020 target of 23% renewable energy as a proportion of gross final energy consumption.

Government of France, 2021

Coal phase-out in the power sector



France's energy and climate bill sets an emissions cap (550g CO₂/kWh) for existing fossil-fuel-based power plants and provides the basis for shutting down France's remaining four coal-fired power plants by 2022. However, in July 2021, the government announced that one power plant, which was aimed at being converted to biomass-based generation, will continue to be exploited until "at least" 2024 at 10% capacity to "answer to peak demands in winter". For each kilowatt hour of electricity, 53gCO₂ are emitted in France (up from 49gCO₂ last year). Despite an increase in 2020, this is still very low compared to the G20 average, and has fallen significantly since 2015 (-14.55%, 2015-2020).

Government of France, 2021; Le Monde, 2021

CORONAVIRUS RESPONSE AND RECOVERY

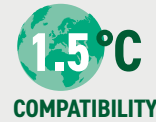
The economic safety-net implemented by the government has resulted in greatly increased individual savings for the middle-class and wealthy segments of the population. This increased savings offers an opportunity to fund, along with governmental subsidies, this population to renovate their housing, switch to electric cars or bicycles, and increase the organic food market. The savings accumulated during the pandemic and the need for greater comfort and housing surface can also result in a rebound of emissions.

TRANSPORT SECTOR

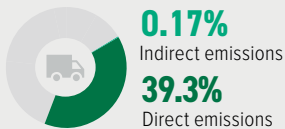
Emissions from energy used to transport goods and people



Transport contributes the most GHG emissions (31% in 2019), and emissions continue to rise. In 2018 almost 85% of passenger transport and 90% of freight transport was by road. Both sectors are still dominated by fossil fuels, and electric vehicles (EVs) made up only 11.3% of car sales in 2020. While still low, this constitutes a four-fold increase from the 2.8% of 2019.



The share of low-carbon fuels in the transport fuel mix globally must increase to between 40% and 60% by 2040 and 70% to 95% by 2050.

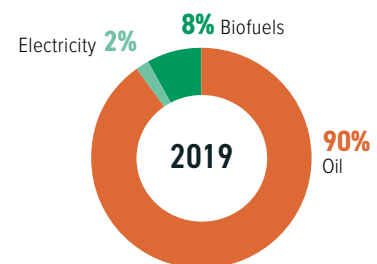
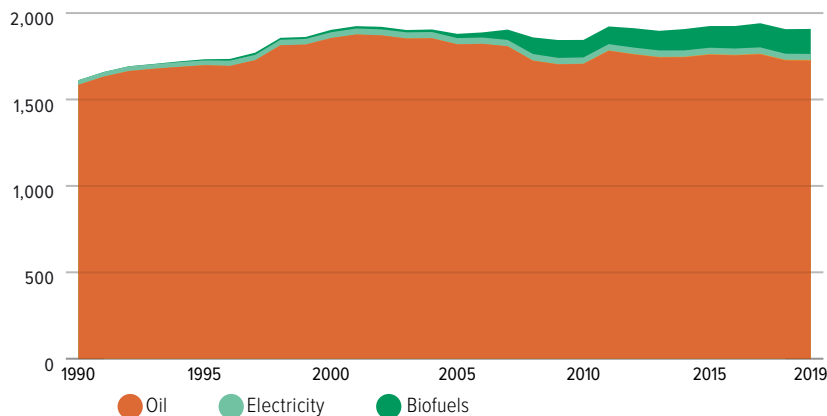


Share of transport in energy-related CO₂ emissions

Rogelj et al., 2018; Climate Action Tracker, 2020b

Transport energy mix

Final energy consumption of transport by source (PJ/year)

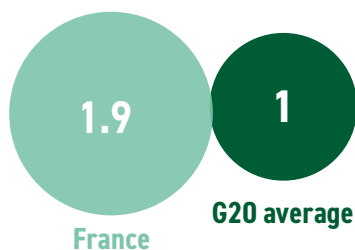


Electricity and biofuels make up 10% of the energy mix in transport.

Enerdata, 2021 Due to rounding, some graphs may sum to slightly above or below 100%

Transport emissions per capita

excl. aviation (tCO₂/capita) in 2020



Transport emissions:
5-year trend (2015-2020)

France -3.04%

G20 average -4.3%

Decarbonisation rating: transport emissions
compared to other G20 countries

Current year
(2020):



5-year trend
(2015-2020):

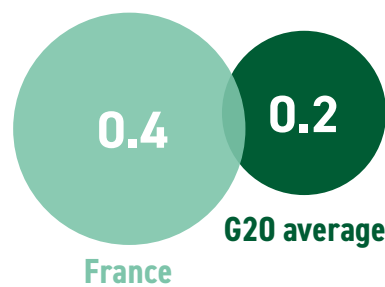


Reductions in transport emissions per capita in 2020, and concomitant changes in the 5-year trends and decarbonisation ratings, reflect widespread economic slowdowns and transport restrictions imposed in response to the COVID-19 pandemic. For a discussion of broader trends in the G20 and the rebound of transport emissions in 2021, please see the Highlights Report at www.climate-transparency.org

Enerdata, 2021; United Nations, 2019

Aviation emissions per capita⁶

(tCO₂/capita) in 2018



Aviation emissions:
5-year trend (2013-2018)

France: +4.12%

G20 average: +21.25%

G20 average

Decarbonisation rating: aviation emissions
compared to other G20 countries

Current year
(2018):



5-year trend
(2013-2018):



Enerdata, 2021; International Energy Agency, 2020; United Nations, 2019

Motorisation rate

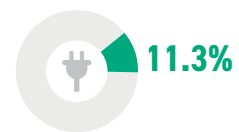


511 VEHICLES
per 1,000 inhabitants in
2019 in France*

Enerdata, 2021

Market share of electric vehicles in new car sales (%)

The share of EVs in new car sales in 2020 was 11.3%.



IEA, 2021

Passenger transport

(modal split in % of passenger-km) in 2018*



Enerdata, 2021

*Owing to the variety of sources and data years available, these data are not comparable across G20 countries

Freight transport

(modal split in % of tonne-km) in 2018*



Freight transport by air, pipelines and waterways are excluded due to lack of data.

Enerdata, 2021

POLICY ASSESSMENT

Phase out fossil fuel cars



Emissions from new cars has increased, reaching an average of 112 gCO₂/km by mid-2019, due mainly to increasing share of SUVs, before dropping to 98.1 gCO₂/km in 2020. This is far from the EU target for 2021 (95 CO₂/km). The 2019 mobility law bans the sale of fossil fuel cars from 2040, later than the European Commission-proposed phase-out of internal combustion engines (ICEs) by 2035. The law reinforces the existing bonus-malus scheme that taxes the purchase of emissions-intensive vehicles to finance subsidies for the purchase of EVs and low-emissions cars.

France's COVID-19 recovery plan, announced in June 2020, widened eligibility for an incentive to scrap ICEs; however, it also included state-guaranteed loans up to EUR 295m to the automotive industry, with no conditionality of decarbonisation.

Ademe, 2021; European Commission, 2021; Wapplerhorst, 2020

Phase out fossil fuel heavy-duty vehicles



Emissions from heavy-duty vehicles (HDVs) decreased in 2019 by 0.5 MtCO₂e. According to 2019 EU legislation, manufacturers will be required to cut CO₂ emissions from new trucks on average by 15% from 2025 and by 30% from 2030 (from 2019 levels) or face a financial penalty for their emissions surplus. A minimum of 2% of annual sales in 2025 needs to be of zero- or low-emission HDVs. France still allows tax rebates on fossil fuel consumption for road carriers.

European Parliament and the Council of the European Union, 2019; Haut Conseil pour le Climat, 2021b

Modal shift in (ground) transport



The 2020 bicycle plan aims to increase the number of passenger trips by bike to 9% by 2024 and to increase the budget dedicated to bike mobility to EUR 60m.

France's recovery package includes EUR 4.7bn to develop rail transport, but earmarks only EUR 200m specifically to develop the network, the rest going to the upkeep or modernisation of existing lines. The industry estimates EUR 15bn is needed to double its modal share by 2030.

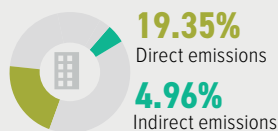
Haut Conseil pour le Climat, 2021

BUILDING SECTOR

Emissions from energy used to build, heat and cool buildings



France's buildings account for 19.35% of direct CO₂ emissions and 4.96% of indirect CO₂ emissions. Per capita emissions from the building sector were **0.79 times the G20 average**.



Share of buildings in energy-related CO₂ emissions. Building emissions occur directly (burning fuels for heating, cooking, etc) and indirectly (grid-electricity for air conditioning, appliances, etc.)



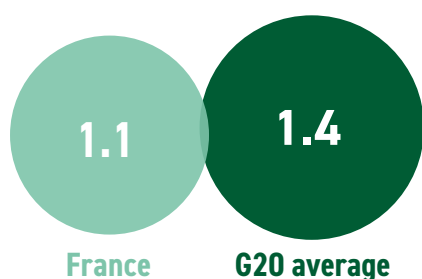
COMPATIBILITY

By 2040, global emissions from buildings need to be reduced by 90% from 2015 levels, and be 95-100% below 2015 levels by 2050, mostly through increased efficiency, reduced energy demand, and electrification in conjunction with complete decarbonisation of the power sector.

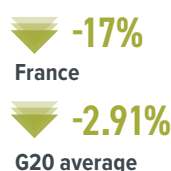
Rogelj et al., 2018; Climate Action Tracker, 2020b

Building emissions per capita

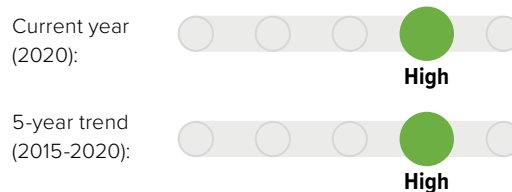
(incl. indirect emissions) (tCO₂/capita) in 2020



Building emissions intensity:
5-year trend (2015-2020)



Decarbonisation rating: building emissions compared to other G20 countries

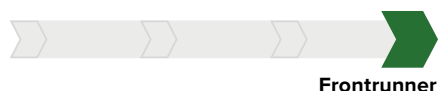


Building-related emissions per capita are about 0.79 times the G20 average in 2020. This reflects the high level of electrification of the building sector with low-carbon electricity. France has managed to decrease the level by 17% (2015-2020), significantly faster than the G20 average decrease of just under 3%.

Enerdata, 2021; United Nations, 2019

POLICY ASSESSMENT

Near zero energy new buildings



Frontrunner

France aims to reduce emissions in the building sector by 49% between 2015 and 2030, and 100% by 2050. France has a 1.5°C compatible policy in the building sector, which has made the construction of low-consumption buildings the norm since 2012 and will ensure that construction of energy-plus homes is the norm by 2021.

Ministry of Ecological and Solidarity Transition, 2020

Renovation of existing buildings



Medium

A mandatory building code for renovations is in place. France's 2020 National Low-Carbon Strategy (SNBC2) plans for 500,000 thermal renovations annually between 2015-2030 and 700,000 for 2030-2050. However, the building sector has missed its indicative first carbon budget share by 14%, and current renovations are insufficient. France's recovery package plans EUR 6.7bn over 2021-2022 for energy efficiency in buildings, but this also includes security and accessibility. The national strategy (only aiming at 40% reduction of total emissions over 1990-2030) requires EUR 24bn annually for building energy renovation when only EUR 15bn is spent annually. Most energy renovations are also based on a set of individual improvements rather than 'global renovations'.

Haut Conseil pour le Climat, 2021

INDUSTRY SECTOR

Emissions from energy use in industry



Industry makes up 20% of direct emissions and 2.2% of indirect electricity-related CO₂ emissions in France. Through its COVID-19 recovery package, France is mobilising EUR 1.2bn to decarbonise its industry, including through increased energy efficiency.



Industrial emissions need to be reduced by 65-90% from 2010 levels by 2050.

Rogelj et al., 2018



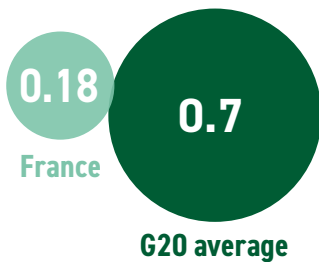
19.97%
Direct emissions

2.16%
Indirect emissions

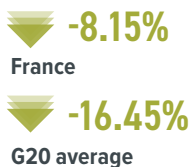
Share of industry in energy-related CO₂ emissions.

Industry emissions intensity⁷

(tCO₂e/USD2015 GVA) in 2017



Industry emissions intensity:
5-year trend (2012-2017)



Decarbonisation rating: industry emissions intensity compared to other G20 countries

Current year (2017):



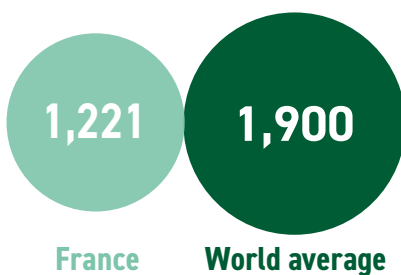
5-year trend (2012-2017):



Enerdata, 2021; World Bank, 2021

Carbon intensity of steel production⁸

(kgCO₂/tonne product) in 2016



Steel production and steelmaking are significant GHG emissions sources, and challenging to decarbonise.

World Steel Association, 2018; Climate Action Tracker, 2019

POLICY ASSESSMENT

Energy efficiency



France's new low-carbon strategy (SNBC 2) aims at reducing emissions from industry by 35% below 2015 levels by 2030, and 81% by 2050. 84% of industry emissions in France are covered by the EU emissions trading scheme (ETS). The objective is to completely decarbonise 70% of industry energy consumption. Additional mandatory energy efficiency measures include financial incentives and regulations, such as the efficient use of energy in installations for energy, metals, minerals, and the chemical and waste management industry. However, in 2021, the HCC found that current mitigation policies are only partially aligned with the strategy towards reducing national emissions by 40% by 2030 and its objectives to develop new low-carbon technologies in the industry sector.

Haut Conseil pour le Climat, 2021; Ministry of Ecological and Solidarity Transition, 2020

LAND USE SECTOR

Emissions from changes in the use of the land



To stay within the 1.5°C limit, France needs to make the land use and forest sector a net sink of emissions, e.g. by discontinuing the degradation of peatlands and use of moor soils, converting cropland into wetlands, and by creating new forests.



Global deforestation needs to be halted and changed to net CO₂ removals by around 2030.

Rogelj et al., 2018

Annual forest expansion, deforestation and net change

Forest area change in 1,000 ha/year

Afforestation data are not available but the Forest Resource Assessment estimates that afforestation is marginal in the expansion of forests which is mainly expanding naturally.

Global Forest Resources Assessment, 2020

Note: There is a change of source and methodology for measuring this indicator from last year's profiles, which means the two years may not be directly comparable.

POLICY ASSESSMENT

Target for net zero deforestation



France's national strategy considers increasing forestry carbon sinks by 87% compared to the trend scenario (with around -60 MtCO₂e, compared to -30 MtCO₂e). France's forest law from 2014 guarantees sustainable forestry management, and its National Strategy to Combat Imported Deforestation (November 2018) aims to put an end to deforestation caused by importation of unsustainable forest and agricultural products by 2030.

Ministry of Ecological and Solidarity Transition, 2020

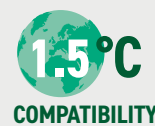
AGRICULTURE SECTOR

Emissions from agriculture



France's agricultural emissions are mainly from digestive processes (mainly cattle) and livestock manure. France's agricultural emissions shrank over the past decade while neighbouring countries' emissions are stable or slowly increasing.

A 1.5°C 'fair-share' compatible pathway requires behavioural and dietary shifts and less fertiliser use.

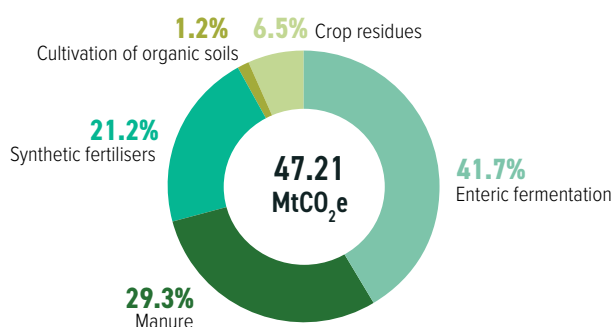


Methane emissions (mainly enteric fermentation) need to decline to 10% by 2030 and by 35% by 2050 (from 2010 levels). Nitrous oxide emissions (mainly from fertilisers and manure) need to be reduced by 10% by 2030 and by 20% by 2050 (from 2010 levels).

Rogelj et al., 2018

Emissions from agriculture (excluding energy)

Emissions from the agriculture sector in 2018



In France, the largest sources of GHG emissions in the agriculture sector are enteric fermentation (42%), manure (29%) and synthetic fertilisers (21%). Dietary changes and efficient use of fertilisers as well as reductions in food waste could help reduce emissions from this sector. France is also the initiator of the 49er1000 initiative, which seeks to increase carbon stocks in soils through the adoption of more supportive agricultural practices.

FAO, 2021

Due to rounding, some graphs may sum to slightly above or below 100%

MITIGATION: TARGETS AND AMBITION

WARMING OF

2.4°C

The combined mitigation effect of Nationally Determined Contributions (NDCs) assessed by April 2021 is **not sufficient and will lead to a warming of 2.4°C by the end of the century**. This highlights the urgent need for all countries to submit more ambitious targets by COP26, as they agreed to do in 2015, and to **urgently strengthen their climate action to align to the Paris Agreement's temperature goal**.

Climate Action Tracker, 2021a

AMBITION: 2030 TARGETS

Nationally Determined Contribution (NDC): Mitigation

TARGETS

France contributes to the EU-wide target of reducing net GHG emissions by “at least 55%” below 1990 levels by 2030.

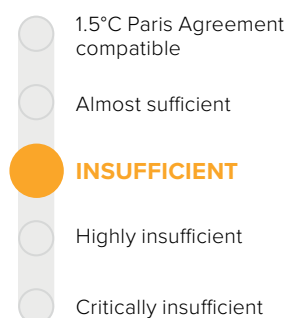
In June 2021 France adopted a national emissions reduction target of 40% below 1990 levels by 2030.

ACTIONS

As an EU member state, France is committed to contributing to the EU's NDC.

Climate Action Tracker (CAT) evaluation of targets and actions

EU'S OVERALL RATING



This CAT evaluation is a **new, overall rating**, that combines the several, separately rated elements, of policies and actions, domestic and internationally supported targets, ‘fair-share target’ and the country's contribution to climate finance. As France is an EU member state, the EU's NDC has been rated by the CAT. The ‘Insufficient’ rating indicates that the EU's climate policies and commitments need substantial improvements to be consistent with the Paris Agreement's 1.5°C temperature limit.

The EU's 2030 emissions reduction target and its policies and actions are consistent with 2°C of warming when compared to modelled domestic pathways. The EU is also not meeting its ‘fair-share’ contributions to climate action. To improve its rating, the EU should strengthen its emissions reduction target to at least 62% below 1990 levels, adopt policies necessary to reach this goal, and significantly increase its support for climate action in developing and least developed countries. For the full assessment of the country's target and actions, and the explication of the methodology see www.climateactiontracker.org

Climate Action Tracker, 2021

Note: ‘fair-share’ ratings for EU member states are not provided due to the intricacies and inter-linkages of the EU's internal burden sharing system.

TRANSPARENCY: FACILITATING AMBITION

Countries are expected to communicate their NDCs in a clear and transparent manner in order to ensure accountability and comparability. The NDC Transparency Check has been developed in response to Paris Agreement decision 1/CP.21 and the Annex to decision 4/CMA.1, which sets out the “information to facilitate clarity, transparency and understanding” as crucial elements of NDCs.

NDC Transparency Check recommendations

The EU submitted its NDC to the UNFCCC in 2016 and updated it on 29 December 2020. A comparison of the 2016 and 2020 NDCs reveals some additional information has been provided, and that the EU recognises that the business-as-usual scenario should include significantly higher emissions reductions in comparison to its previous commitments from 1990 and 2016.

There is still room to improve comparability, transparency, and understanding in the EU's future NDCs by:

- Explicitly detailing the circumstances under which the EU will update the values of the reference indicators and the information on sources.
- Outlining how the EU plans to implement and account for its NDC target(s).
- Presenting mitigation potential assessments to sustain the EU's assertion that the recent NDC's target is more ambitious than the targets in the previous NDC.

For more visit www.climate-transparency.org/ndc-transparency-check

AMBITION: LONG-TERM STRATEGIES

The Paris Agreement invites countries to communicate mid-century, long-term, and low-GHG emissions development strategies by 2020. Long-term strategies are an essential component of the transition toward net zero emissions and climate-resilient economies.

Status	Submitted to UNFCCC, last update in 2021
Interim steps	-40% by 2030
Sectoral targets	Yes
Net zero target	Yes
Net zero year	100% reduction from 1990 levels target

FINANCE

MAKING FINANCE FLOWS CONSISTENT WITH CLIMATE GOALS



Make finance flows consistent with a pathway towards low-GHG emissions and climate-resilient development.



Between 2018 and 2019, France provided an **average of USD 290m per year in public finance for the oil and gas sector**. The biggest share of support was provided by the French DFI, Proparco. No finance was identified for coal or coal-fired power production between 2018 and 2019 by any French public finance institution.



Investment in green energy and infrastructure needs to outweigh fossil fuel investments by 2025.

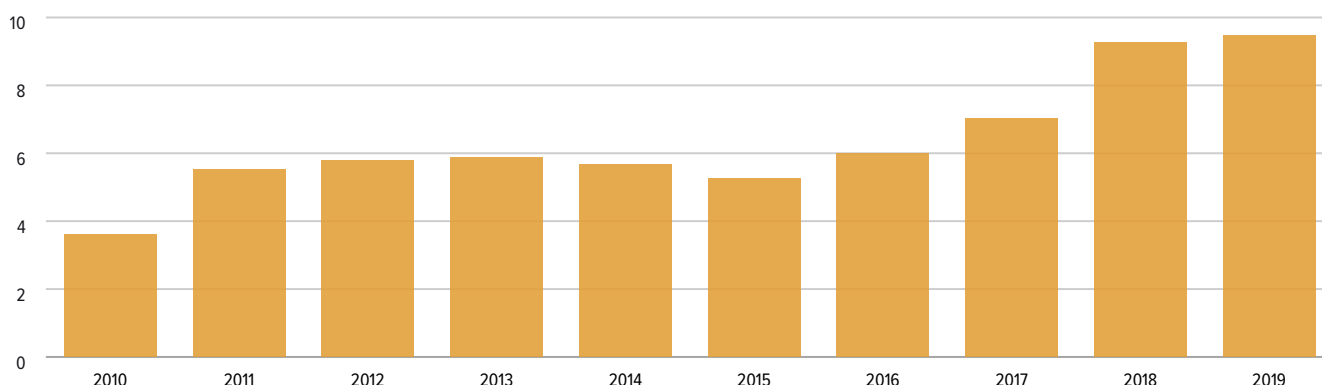
Rogelj et al., 2018

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 the price.

Fossil fuel subsidies

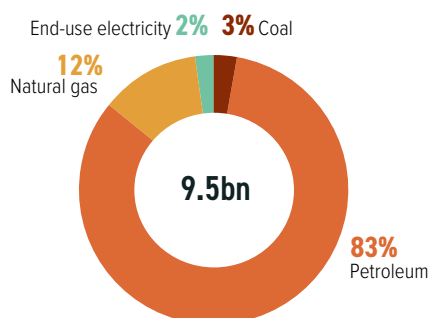
(USD billions)



OECD-IEA Fossil Fuel Support database, 2020

Fossil fuel subsidies by fuel type

USD in 2019



Over the past decade (2010-2019), France's fossil fuel subsidies have progressively increased, reaching a value of USD 9.5bn in 2019. Over this period, most of the subsidies were directed to support the production and consumption of petroleum.

Comparable data is not available yet for 2020. However, according to the Energy Policy Tracker data, during 2020 France pledged at least USD 23.1bn to fossil fuel energy as part of its energy-related funding commitments and COVID-19 economic response. Of this, USD 5.7bn and USD 8bn were directed to the bailouts of the car manufacturer Renault and the national airline Air France, respectively; both bailouts had some very loose environmental conditions attached. A further USD 7.4bn was committed to the Aeronautic sector support plan, with no green strings attached.

Energy Policy Tracker, 2021; OECD-IEA Fossil Fuel Support database, 2020
Due to rounding, some graphs may sum to slightly above or below 100%



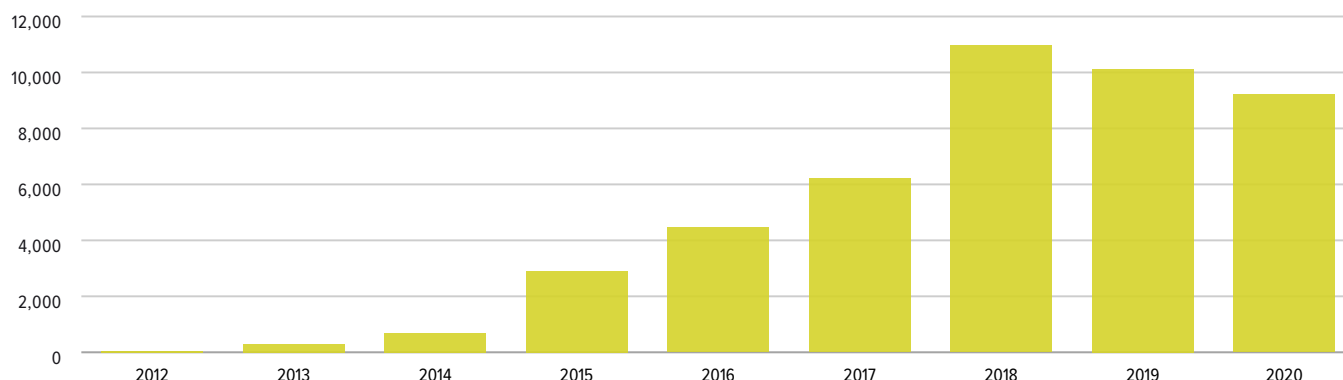
CORONAVIRUS RESPONSE AND RECOVERY

France's recovery package support to the aviation and automobile industries did not provide climate-related conditionalities. The share of climate-related finance nearly doubled over the past 10 years, but remains low at EUR 30bn annually, 1.3% of France's GDP. Of this amount, the HCC has assessed plans for expenditure of EUR 28bn as support for mitigation measures, mostly focusing on buildings renovation, mobility and low-carbon energy production. It is as yet unclear whether the remainder will have a positive impact on climate measures. An analysis by the Institute for Climate Economics identified an additional EUR 5.6bn dedicated to climate-related measures as part of the France Package for the year 2021. While this is still insufficient to align with the 2050 target, it represents a significant step forward.

Haut Conseil pour le Climat, 2021; Perrier and Vandon, 2021

Carbon pricing and revenue

(USD millions)



France's 2014 national carbon tax generated USD 8.3bn in 2020. It covers 35% of domestic emissions and is priced at USD 54/tCO₂e. Agriculture, taxis and trucks, and the construction sector are fully or partially exempted from the carbon tax in order to protect their competitiveness. Since its introduction in 2014, the French carbon tax has increased six-fold; however, further planned increases of the tax rate have been put on hold following large scale protests in 2018. Under the EU ETS, a further USD 877m was generated in France alone in 2020.

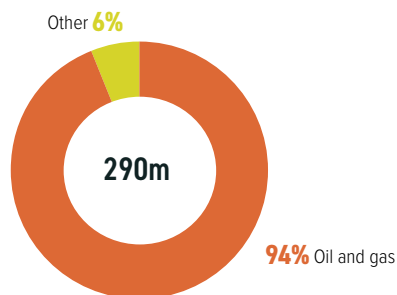
I4CE, 2021; Energy Policy Tracker, 2021

PUBLIC FINANCE

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.

Public finance for fossil fuels

USD, per annum (2018-19 average)



Between 2018 and 2019, France provided an average of USD 290m per year in public finance for the oil and gas sector. The biggest share of support was provided by the French DFI, Proparco. No finance was identified for coal or coal-fired power production between 2018 and 2019 by any French public finance institutions.

France published its first "Green Budget", in September 2020 as an annex to the draft Finance Bill for 2021.

Oil Change International, 2020; Lelong and Wendling, 2020

Due to rounding, some graphs may sum to slightly above or below 100%

Provision of international public support

USD millions, annual average 2017 and 2018

Bilateral, regional and other channels

Annual average contribution:

4,773.37

Multilateral climate finance contributions

Annual average contribution:

691.15

Core / General Contributions

Annual average contribution:

1,103.05

France is the G20's third largest contributor of climate finance through bilateral channels in both absolute terms and relative to GDP. The French Development Agency (AFD) is highly active in France's bilateral climate finance flows, and funding remains biased towards mitigation. It is overall the third largest contributor to the multilateral climate funds in absolute terms, rising to first, relative to GDP.

Both bilateral flows and those to the multilateral climate funds have increased in the 2017-18 period. France doubled its contribution to the Green Climate Fund for its first replenishment (EUR 1.5bn), and in early 2021 committed 30% of France's climate funding by 2030 to nature-based solutions. It has not announced any quantitative targets for the future, however, only noting ongoing commitments to multilateral climate change funds until 2022.

FINANCIAL POLICY AND REGULATION

Financial policy and regulation

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.



The French government has been actively taking multiple steps to ensure a greener financial system. The French Prudential Supervision and Resolution Authority (Autorité de Contrôle Prudentiel et de Résolution, ACPR), which monitors the

activities of banks and insurance companies in France, published a document on the governance and management of climate-related risks by French banking institutions. The document outlines good practices on climate change-associated risks under France's 2015 law on energy transition for green growth and pushes for incorporating metrics on both physical and transition risks along with qualitative measures into banking institutions' risk management framework associated with climate change.

In May 2020, the ACPR also launched a climate pilot exercise to assess the physical and transitions risks to which the French banking and insurance companies will be exposed by 2050. The first assessment report covering nine banks and 12 insurance groups was published in May 2021 revealing an overall "moderate" level of exposure.

In April 2021, the Central Bank of France established a Climate Change Centre. The Centre will report to the Financial Stability Directorate and will work in tandem with the Directorate General Financial Stability and Operations (DGSO) and the ACPR.

In January 2021, the Central Bank of France announced a new Responsible Investments Policy. The policy will foresee a definitive exit from coal in 2024, withdrawal from non-conventional hydrocarbons from 2021, and voting policy against new fossil fuel projects.

ACPR, 2020a, 2021; Banque de France, 2021





Nationally Determined Contribution (NDC): Finance

Conditionality	
Investment needs	Not applicable
Actions	As an EU member state, France is committed to contributing to the EU's NDC
International market mechanisms	

ENDNOTES

Where referenced, “Enerdata, 2021” refers to data provided in July 2021. For more detail on the sources and methodologies behind the calculation of the indicators displayed, please download the Technical Note at: www.climate-transparency.org/g20-climate-performance/g20report2021

- 1 The ‘1.5°C compatible pathway’ is derived from global cost-effective pathways assessed by the IPCC’s SR15, selected based on sustainability criteria, and defined by the 5th-50th percentiles of the distributions of such pathways achieving the long-term temperature goal of the Paris Agreement. Negative emissions from the land sector and novel negative emissions technologies are not included in the assessed models, which consider one primary negative emission technology (BECCS). In addition to domestic 1.5°C compatible emissions pathways, the ‘fair share’ emissions reduction range would almost always require a developed country to provide enough support through climate finance, or other means of implementation, to bring the total emissions reduction contribution of that country down to the required ‘fair share’ level.
- 2 ‘Land use’ emissions is used here to refer to land use, land use change and forestry (LULUCF). The Climate Action Tracker (CAT) derives historical LULUCF emissions from the UNFCCC Common Reporting Format (CRF) reporting tables data converted to the categories from the IPCC 1996 guidelines, in particular separating Agriculture from LULUCF, which under the new IPCC 2006 Guidelines is integrated into Agriculture, Forestry, and Other Land Use (AFOLU).
- 3 The Decarbonisation Ratings assess the current year and average of the most recent five years (where available) to take account of the different starting points of different G20 countries.
- 4 The selection of policies rated and the assessment of 1.5°C compatibility are primarily informed by the Paris Agreement and the IPCC’s 2018 SR15. The table below displays the criteria used to assess a country’s policy performance.
- 5 The 1.5°C ‘fair-share’ ranges for 2030 are drawn from the CAT, which compiles a wide range of perspectives on what is considered fair, including considerations such as responsibility, capability, and equality. Countries with 1.5°C ‘fair-share’ ranges reaching below zero, are expected to achieve such strong reductions by domestic emissions reductions, supplemented by contributions to global emissions reduction efforts via, for example, international finance. On a global scale, negative emissions technologies are expected to play a role from the 2030s onwards, compensating for remaining positive emissions. In order to maintain comparability across all countries, this report harmonises all data with PRIMAP, 2021 dataset to 2018. However, note that Common Reporting Format (CRF) data is available for countries which have recently updated GHG inventories. Where countries submitted updated NDC targets before August 2021, these have been analysed and included.
- 6 This indicator adds up emissions from domestic aviation and international aviation bunkers in the respective country. In this Country Profile, however, only a radiative forcing factor of 1 is assumed.
- 7 This indicator includes only direct energy-related emissions and process emissions (Scope 1) but not indirect emissions from electricity.
- 8 This indicator includes emissions from electricity (Scope 2) as well as direct energy-related emissions and process emissions (Scope 1).

On endnote 4.	 Low	 Medium	 High	 Frontrunner
Renewable energy in power sector	No policies to increase the share of renewables	Some policies	Policies and longer-term strategy/ target to significantly increase the share of renewables	Short-term policies + long-term strategy for 100% renewables in the power sector by 2050 in place
Coal phase-out in power sector	No targets and policies in place for reducing coal	Some policies	Policies + coal phase-out decided	Policies + coal phase-out date before 2030 (OECD and EU28) or 2040 (rest of the world)
Phase out fossil fuel cars	No policies for reducing emissions from light-duty vehicles	Some policies (e.g. energy/emissions performance standards or bonus/ malus support)	Policies + national target to phase out fossil fuel light-duty vehicles	Policies + ban on new fossil fuel-based light-duty vehicles by 2035 worldwide
Phase out fossil fuel heavy-duty vehicles	No policies	Some policies (e.g. energy/emissions performance standards or support)	Policies + strategy to reduce absolute emissions from freight transport	Policies + innovation strategy to phase out emissions from freight transport by 2050
Modal shift in (ground) transport	No policies	Some policies (e.g. support programmes to shift to rail or non-motorised transport)	Policies + longer-term strategy	Policies + longer-term strategy consistent with 1.5°C pathway
Near zero energy new buildings	No policies	Some policies (e.g. building codes, standards or fiscal/financial incentives for low-emissions options)	Policies + national strategy for near zero energy new buildings	Policies + national strategy for all new buildings to be near zero energy by 2020 (OECD countries) or 2025 (non-OECD countries)
Energy efficiency in industry	No policies	Mandatory energy efficiency policies cover more than 26-50% of industrial energy use	Mandatory energy efficiency policies cover 51-100% of industrial energy use	Policies + strategy to reduce industrial emissions by 75-90% from 2010 levels by 2050
Retrofitting existing buildings	No policies	Some policies (e.g. building codes, standards or fiscal/financial incentives for low-emissions options)	Policies + retrofitting strategy	Policies + strategy to achieve deep renovation rates of 5% annually (OECD) or 3% (non-OECD) by 2020
Net zero deforestation	No policies or incentives to reduce deforestation in place	Some policies (e.g. incentives to reduce deforestation or support schemes for afforestation/ reforestation in place)	Policies + national target for reaching net zero deforestation	Policies + national target for reaching zero deforestation by 2020s or for increasing forest coverage

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