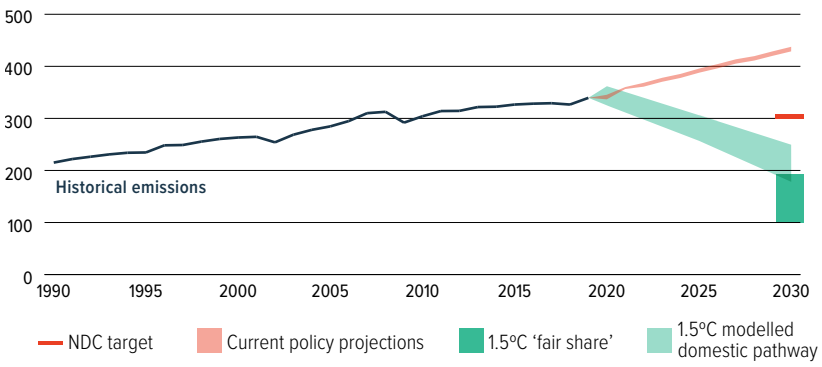
ARGENTINA

Climate Transparency

CLIMATE TRANSPARENCY REPORT: COMPARING G20 CLIMATE ACTION **2022**

NOT ON TRACK FOR A 1.5°C WORLD

1.5°C compatible emissions pathway ($MtCO_2e$/year)[1]



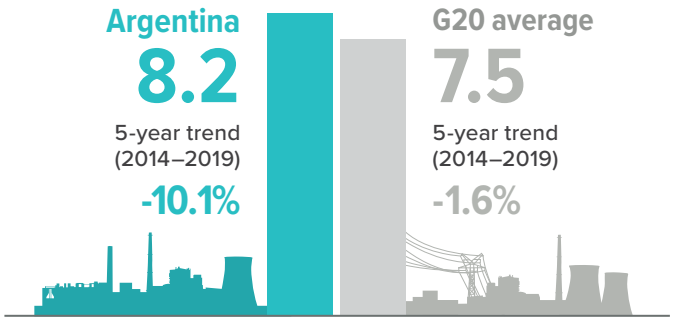
Argentina's NDC target would increase emissions 34% above 1990 levels, or to approximately 316 $MtCO_2e$* (excl. LULUCF). To keep below the 1.5°C temperature limit, analysis by the 1.5°C Pathways Explorer shows that its emissions would need to be around 213 $MtCO_2e$ by 2030, leaving an ambition gap of about 103 $MtCO_2e$. When compared with its 1.5°C 'fair share' contribution, Argentina would need to strengthen its unconditional target. All figures exclude land use emissions.

Climate Action Tracker, 2022a; 2022b; Climate Analytics, 2022; Gütschow et al., 2021

**This target is in AR4 GWP; Argentina expressed its official NDC target in SAR GWP.*

PER CAPITA GREENHOUSE GAS (GHG) EMISSIONS ABOVE G20 AVERAGE

tCO_2e/capita[2] in 2019



Argentina's per capita emissions are 1.1 times the G20 average. Total per capita emissions have decreased by 10% from 2014–2019.

Gütschow et al., 2021; World Bank, 2022

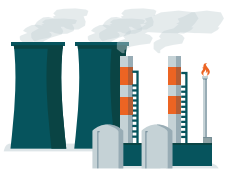
RECENT DEVELOPMENTS

In October 2021, Argentina submitted a second update of its 2030 emissions reduction goal, with an **improvement of 2% in mitigation ambition**.

A long-term strategy has been announced, but not yet submitted to the UNFCCC.

Argentina continues to increase its support for fossil fuel extraction, mainly of oil and gas from Vaca Muerta, exploration of new offshore fields, and major investments in new fossil fuel infrastructure.

KEY OPPORTUNITIES FOR ENHANCING CLIMATE AMBITION



Ending fossil fuel exploration and **fossil fuel infrastructure investments** is a key opportunity to reduce emissions.

Argentina needs to **expand its participatory process** for the development of its long-term low emissions strategy.

Protecting natural ecosystems, like forests and wetlands, can provide excellent opportunities to both mitigate emissions and adapt to climate change.

Contents

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

ADAPTATION Page 3 — MITIGATION Page 5 — FINANCE Page 16

REDUCING EMISSIONS FROM

ENERGY USED:
- in the **power sector** 8
- in the **transport sector** 10
- in the **buildings sector** 12
- in the **industrial sector** 13

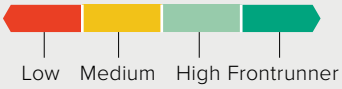
NON-ENERGY USES:
- in **land use** 14
- in **agriculture** 14

Legend

Trends show developments over the past five years for which data are available. A red exclamation mark indicates negative trends from a climate protection perspective.

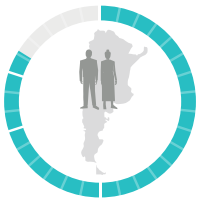
Decarbonisation Ratings[3] assess a country's performance compared to other G20 Members. A high score reflects a relatively good effort from a climate protection perspective but is not necessarily 1.5°C compatible.

Policy Ratings[4] 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



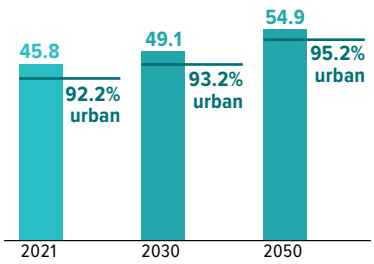
The Human Development Index (HDI) reflects life expectancy, level of education, and per capita income. Argentina ranks very high.

0.84 very high

Data for 2019. UNDP, 2020

Population and urbanisation projections

(in millions)

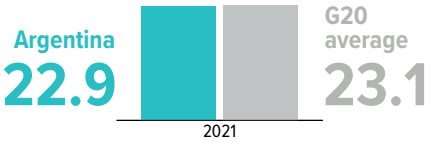


Argentina's population is projected to increase by 20% by 2050 and become more urbanised. This will increase energy demand and emissions from transport and waste if adequate mitigation measures are not implemented.

United Nations, 2018; World Bank, 2022

Gross Domestic Product (GDP) per capita

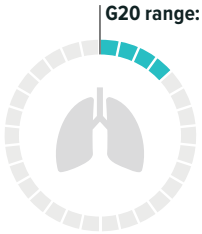
(thousand PPP constant 2015 international $ per person) in 2021



World Bank, 2021

Death rate attributable to ambient air pollution

(death rate per 1,000 population per year, age standardised) in 2019



0.25 per 1,000 people per year

Over 13,800 people die in Argentina every year due to stroke, heart disease, lung cancer and chronic respiratory diseases as a result of outdoor air pollution. This is one of the lower levels in the G20.

Institute for Health Metrics and Evaluation, 2020

A JUST TRANSITION

COVID-19 seriously impacted every sector of Argentina's economy, but there were signs of economic recovery in 2021. Currently, inflation rates are among the highest in Latin America, leading to significantly increased social inequality. As a gradual measure, the government is attempting to keep fossil fuel prices under control. Sectors highly affected by climatic conditions, such as agriculture, would require the implementation of a Just Transition plan to ensure those who are negatively affected are supported.

There has been little progress of Just Transition programmes, roundtables or plans to support people who will be affected by the energy transition. If Argentina stops investing in fossil fuel infrastructure and invests in renewable energy, the transition to renewables would generate more jobs.

Keesler et al., 2020; Molinas, 2022

ADAPTATION

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

In 2021, Argentina experienced **severe heatwaves**, which impacted on health, crops, and increased energy demand from consumers.

Increases in the **frequency of heavy precipitation events** are projected.

With longer dry periods during winter and spring, conditions become more favourable for **forest, rural and grassland fires** as well as increased **stress on livestock and different productive sectors**.

ADAPTATION NEEDS

Impacts of a changing climate

Exposure to warming

0.6°C
Higher

Between 2017 to 2021, the average summer temperatures experienced by people in Argentina were 0.6°C higher than the 1986–2005 average global mean temperature increase of 0.3°C.

Changes in the ability to work due to exposure to excessive heat

93m **Labour hours lost**
65% **increase**

In 2021, heat exposure in Argentina led to the loss of 93 million potential labour hours, a 65% increase from 1990–1999.

Loss of earnings from heat-related labour capacity reduction

603m **Loss in labour capacity (USD)**
0.13% **of GDP**

Extreme heat can make it unbearable or even dangerous to work in a range of economically important sectors. The potential income loss in 2021 – in the service industry, manufacturing, agriculture, and construction sectors – from labour capacity reduction due to extreme heat was USD 603m in 2021 in Argentina, or 0.13% of its GDP.

Romanello et al., 2022; World Meteorological Organization, 2022

Exposure to future impacts at 1.5°C warming and higher

Different levels of global warming are projected to have a wide range of impacts of varying severity across the world. The percentages at 1.5°C are calculated as an increase/decrease from the reference period of 1986–2006. Using the projected impacts at 1.5°C of warming as a reference, we compare impacts that may occur at higher levels of warming.

Climatic	**At 2°C**	**At 2.5°C**	**At 3°C**
Local **precipitation**: -1.9% at 1.5°C warming	0.6 times	1.3 times	0.8 times
Local **snowfall**: -30% at 1.5°C warming	1.5 times	1.7 times	2 times

Precipitation is projected to decrease by 1.9% if global temperature rises by up to 1.5°C. Under a 2.5°C warming scenario, the decrease is projected to be magnified by 1.3 times the change projected at 1.5°C of warming. At warming of up to 3°C, however, the magnification is expected to be less intense than at 2.5°C – these kinds of swings make it difficult for authorities to plan and implement appropriate responses. Local snowfall is expected to decrease under a 1.5°C scenario by 30% from the 1986–2006 average snowfall. At 3°C of warming, snowfall is expected to drop twice as much as under a 1.5°C scenario.

Fresh water	**At 2°C**	**At 2.5°C**	**At 3°C**
Surface run-off: +2.2% at 1.5°C warming	3.5 times	3.4 times	4.7 times
River discharge: -1.2% at 1.5°C warming	1.8 times	0.8 times	2.1 times
Total **soil moisture content:** -1.9% at 1.5°C warming	0.9 times	1.4 times	1.4 times

At 1.5°C warming, the percentage of surface run-off is projected to increase by 2.2% from the baseline period of 1986–2006, and would be magnified just under 5 times at 3°C of warming. In contrast, both river discharge and total soil moisture are projected to decline by 1.2% and 1.9% respectively from the 1986–2006 average. While the decline of soil moisture is projected to be fairly consistent, the effects of different temperature increases would reduce river discharge in a more unpredictable manner, making planning all the more challenging.

Hazards	At 2°C	At 2.5°C	At 3°C
Number of people annually exposed to **heatwaves:** 1,148,217 at 1.5°C warming	1.8 times	2.2 times	2.8 times
Number of people annually exposed to **crop failures**: 1,099 at 1.5°C warming	1.3 times	2.1 times	4.7 times
Number of people annually exposed to **wildfires:** 910,770 at 1.5°C warming	1.3 times	1.7 times	1.7 times

At 1.5°C of warming, heatwaves are projected to affect over a million more people annually than were affected over the 1985–2006 reference period, and up to 3 times that number at 3°C of warming. The number of people annually exposed to crop failures is expected to be 2.1 and 4.7 times greater if warming increases 2.5°C and 3° C scenarios. Exposure to wildfires will increase to over 90,000 people at 1.5°C warming, and would be 1.7 times greater under a 3°C scenario.

Economic	At 2°C	At 2.5°C	At 3°C
Annual expected damage from **river flood:** +29.6% at 1.5°C warming	2 times	2.2 times	1.4 times
Labour productivity due to heat stress: -2.2% at 1.5°C warming	1.5 times	2.2 times	2.7 times

The annual expected damage from river flooding at 3°C is 1.4 times what the damage would be under a 1.5°C scenario; the damage projected at 1.5°C warming is almost 30% above the baseline period of 1986–2006. Projected damages could peak at 2.2 times the damage at 1.5°C before becoming less severe. Labour productivity is projected to decline 2.2% from the 1986–2006 average, should temperatures warm by up to 1.5°C, and this decrease would be 2.7 times larger at 3°C of warming.

For further assessments of impacts under different warming scenarios, and a detailed explanation of the methodology, go to https://climate-impact-explorer.climateanalytics.org

Climate Analytics, 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	
First National Adaptation communication	2020	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	Under development. To be included in the National Adaptation and Mitigation plan

Nationally Determined Contribution (NDC): Adaptation

TARGETS

None mentioned

ACTIONS

35 adaptation measures in the following prioritised sectors:

- Agriculture and livestock
- Industry
- Tourism
- Health
- Transport and infrastructure
- Energy
- Biodiversity and ecosystems

MITIGATION

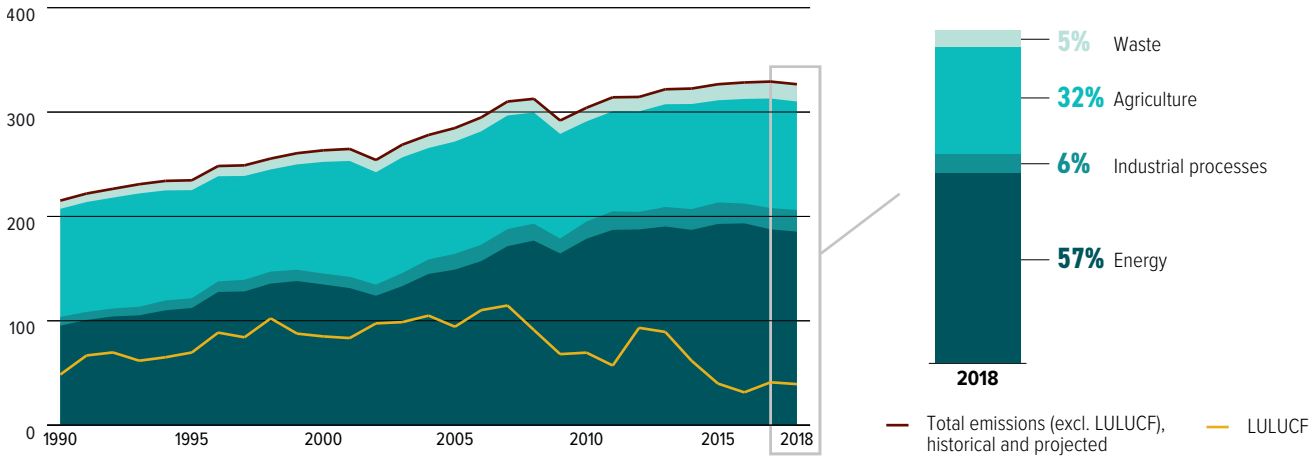
Paris Agreement: Hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit to 1.5°C, recognising that this would significantly reduce the risks and impacts of climate change.

EMISSIONS OVERVIEW

The total greenhouse gas emissions (excl. LULUCF) have increased 52% from 1990 to 2018.
The methane emissions (excl. LULUCF) have increased 8.3%.

GHG emissions across sectors[5]

Total sectoral GHG emissions ($MtCO_2e$/year)

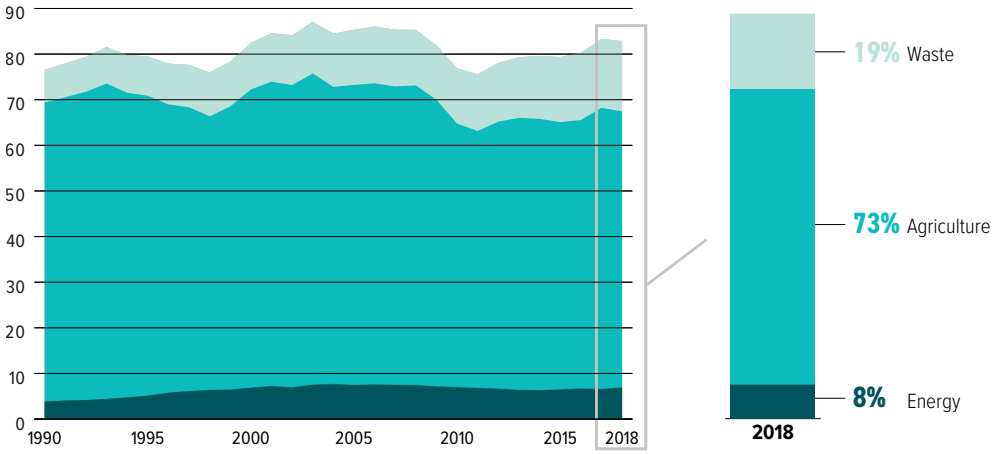


Argentina's GHG emissions (excl. LULUCF) increased by 52% between 1990 and 2018 to 326.6 $MtCO_2e$/yr. Historical emissions have increased steadily for the energy and agriculture sectors. The majority of emissions come from the energy and agriculture sectors. A decrease in emissions was observed in 2009 due to the economic crisis, and again in 2020, because of responses to the COVID-19 pandemic.

MAyDS, 2021a

Methane emissions by sector

Total CH_4 emissions ($MtCO_2e$/year)



Argentina signed the Global Methane Pledge at COP26 in November 2021.

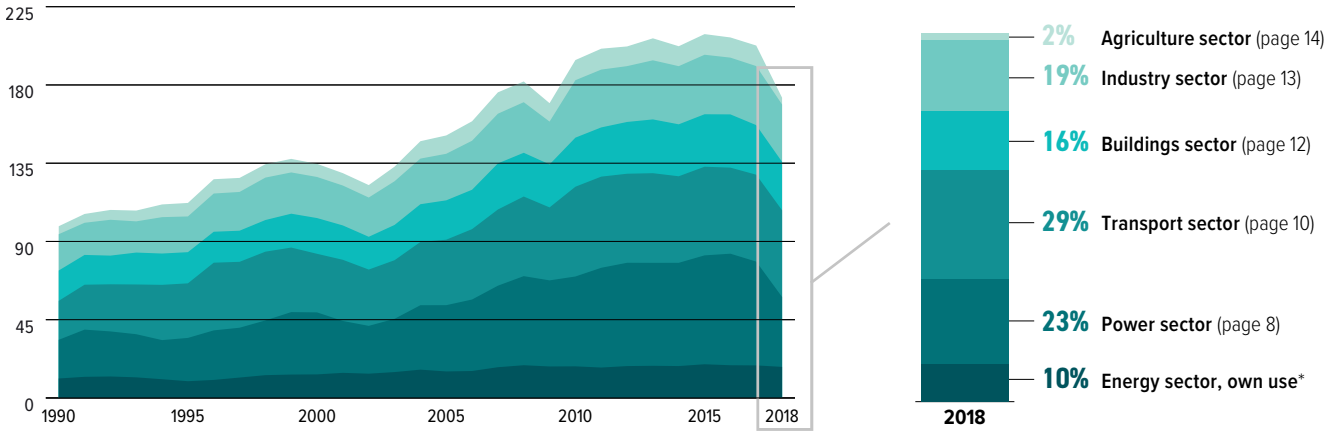
Participating countries pledged to undertake voluntary actions to contribute to a collective reduction of global methane emissions by at least 30% from 2020 levels by 2030. Further scrutiny of plans and implementation will be required.

Methane is a potent, though short-lived, greenhouse gas, accounting for an estimated third of global warming. Argentina's methane emissions (excl. LULUCF) increased by 8% between 1990 and 2018 from 76.5 to 82.9 $MtCO_2e$/yr. The majority of Argentina's methane emissions came from the agriculture sector, followed by waste and energy in 2018. Ruminant enteric fermentation is the main cause; the slight decline of agricultural methane emissions can be attributed to changes in livestock herds and fertiliser use. The waste sector's doubling of emissions (1990–2018) is related to population expansion and the lack of adequate mitigation measures.

Climate and Clean Air Coalition, 2021; MAyDS. 2021a

Energy-related CO_2 emissions by sector

Annual CO_2 emissions ($MtCO_2$/year)



The largest driver of overall greenhouse gas emissions are CO_2 emissions from fuel combustion. In Argentina, emissions have been decreasing since 2015. In 2018, transport was the largest contributor, generating 29% of GHG emissions, followed by power generation and industry sectors with 23% and 19%, respectively.

MAyDS, 2021a

**Includes energy-related CO_2 emissions from extracting and processing fossil fuels.*

ENERGY OVERVIEW

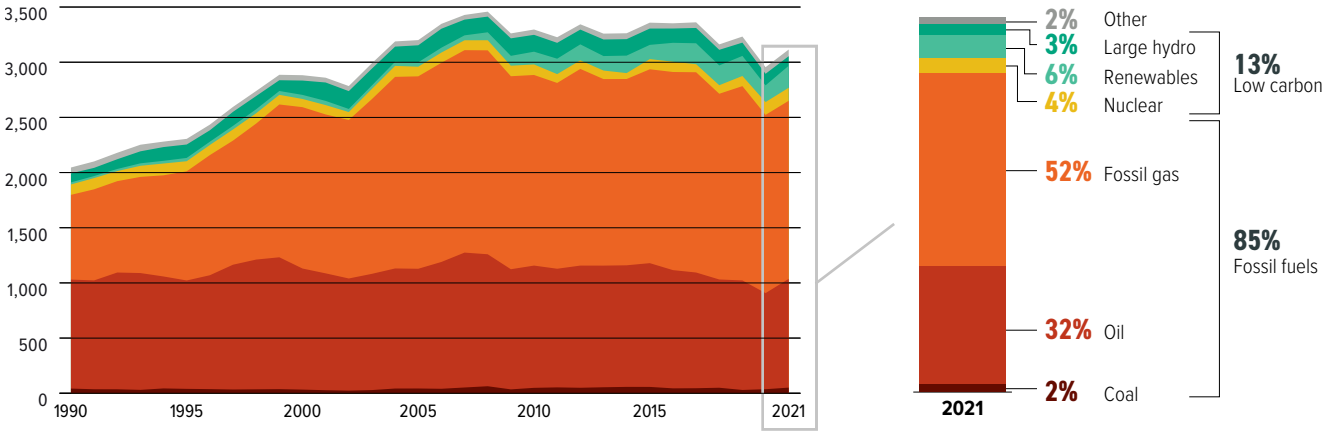
Fossil gas continues to be the main fuel in Argentina's energy mix, with a 52% share. While there has been a small increase in renewable energy in the energy mix, infrastructure investment and subsidies to fossil fuel producers continue.

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.

Rogelj et al., 2018

Energy mix

Total primary energy supply (PJ)

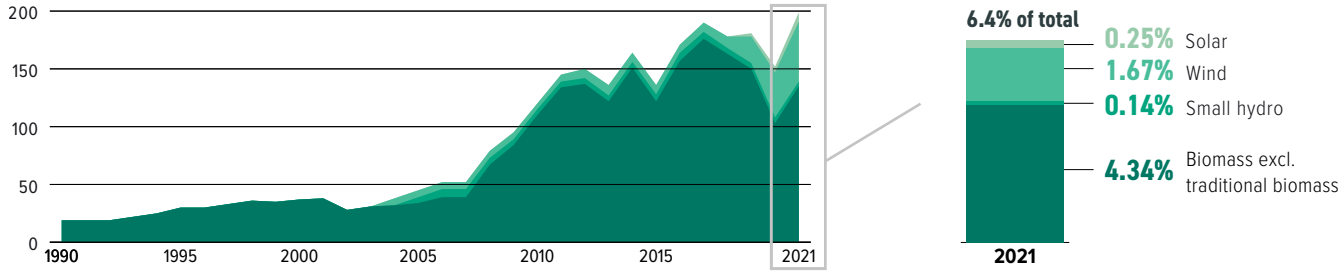


This graph shows the fuel mix for all energy supply, including energy used not only for electricity generation, heating and cooking, but also for transport fuels. Fossil fuels (oil, coal, and gas) make up 85% of the Argentina energy mix, which is higher than the G20 average. Since 2015, energy supply has been in decline. Renewable energy has increased steadily since 1990 to 6.4% in 2021. Large hydro power (over 50 MW) is not included in the calculation of renewable energy due to its negative social and environmental effects.

Balance Energético Nacio, 2021

Solar, wind, geothermal and biomass development

As a share of total primary energy supply (TPES) (PJ)



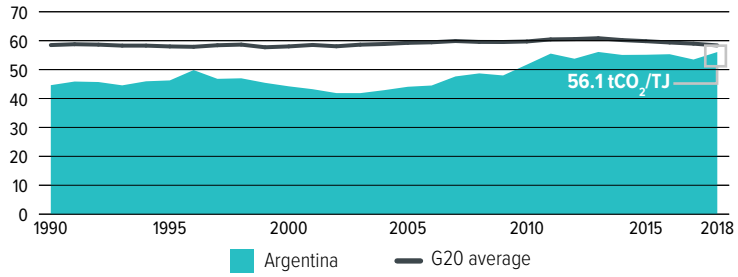
Solar, wind, geothermal and biomass excluding traditional biomass account for 6.4% of Argentina's energy supply, which is lower than the G20 average of 7.5%. The share in total energy supply has increased by around 25% in the last 5 years in Argentina (2016–2021), with wind being the fastest growing source. Biomass (for electricity and heat) makes up the largest share.

Balance Energético Nacio, 2021; CAMMESA, 2021; Enerdata, 2022

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

Carbon intensity of the energy sector

Tonnes of CO_2 per unit of TPES (tCO_2/TJ)

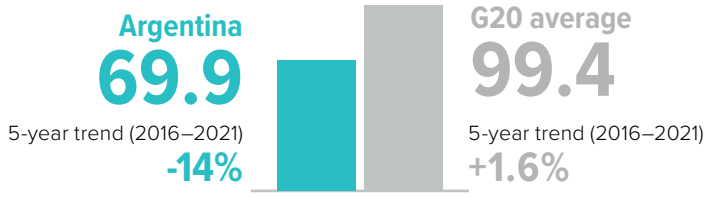


Carbon intensity is a measure of how much CO_2 is emitted per unit of energy supply. Carbon intensity has remained almost constant in Argentina between 2011–2016, and was approximately 56 tCO_2 in 2018, reflecting the continuously high share of fossil fuels in the energy mix.

Balance Energético Nacio, 2021; Enerdata, 2022

Energy supply per capita

TPES per capita (GJ/capita) in 2021

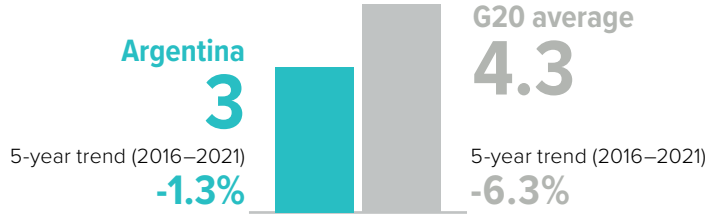


The level of energy supply per capita is closely related to economic development, climatic conditions and the price of energy. In 2021, energy supply per capita in Argentina was 69.86 GJ, below the G20 average of 99.4 GJ, and supply has decreased significantly faster between 2016 and 2021 (14% decrease) compared to the G20 average, which has increased by 1.65% over the same period.

Enerdata, 2022; World Bank, 2022

Energy intensity of the economy

(TJ/million US$2015 GDP) in 2021



This indicator quantifies how much energy is used for each unit of GDP. This is closely related to the level of decarbonisation, efficiency achievements, climatic conditions or geography. Argentina's energy intensity is lower than the G20 average and has been decreasing at a slower speed, falling 1.3% between 2016–2021 as compared to the G20, which fell 6.3% over the same period.

Balance Energético Nacio, 2021; Enerdata, 2022; World Bank, 2022

POWER SECTOR

Emissions from energy used to make electricity and heat

Argentina produced 54% of its electricity from fossil gas and only 1.2% from coal in 2021. Renewables produced 12.3% (including solar, wind, biomass and small hydro under 50 MW) of power generated; the remainder was generated by large hydro (over 50 MW), which is not classified as 'renewables' in Argentina, owing to its negative social and environmental impacts.

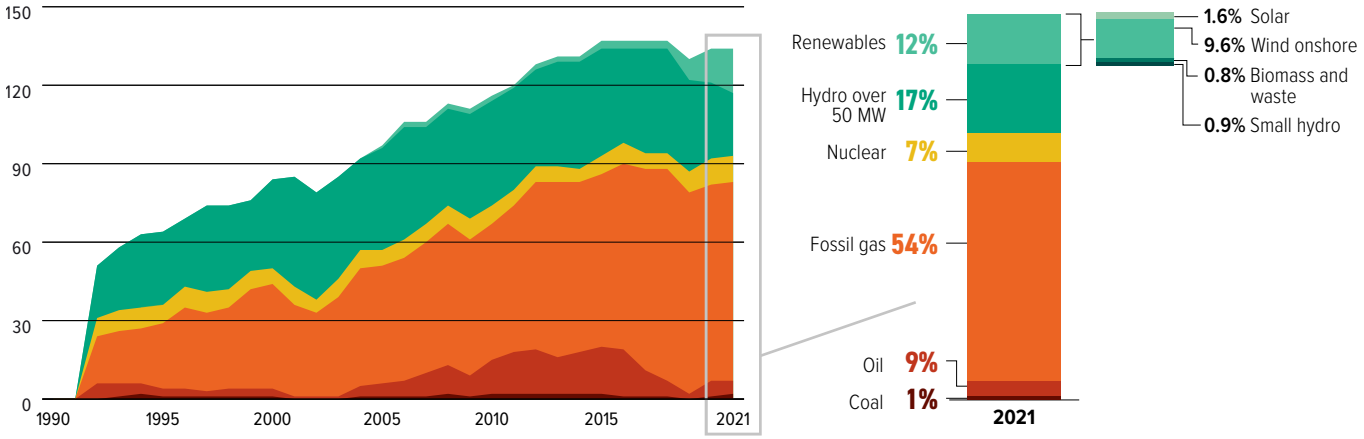
Power generation's share of energy-related CO_2 emissions in 2021: **24%** Direct

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.

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

Electricity generation mix

Gross power generation (TWh)

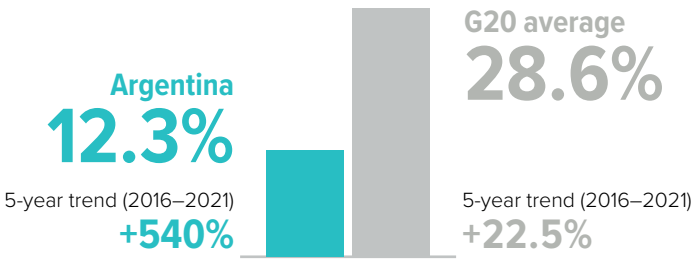


Argentina generated 64% of its electricity from fossil fuels in 2021. Fossil gas used in thermal power plants is the main source. The share of renewable energy – defined in Argentina as hydropower under 50 MW; wind; solar, biomass and waste – in the power sector has been increasing steadily, accounting for approximately 12.3% of the power mix in 2021.

CAMMESA, 2021

Share of renewables in power generation

(Excluding large hydro) in 2021

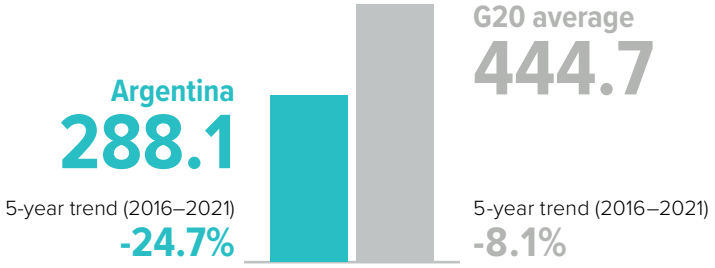


A rapid expansion of onshore wind capacity between 2015 and 2020 has seen a huge jump in the share of renewables in power generation. Large hydro (over 50 MW) is not included.

CAMMESA, 2021; Enerdata, 2022

Emissions intensity of the power sector

(gCO_2/kWh) in 2021

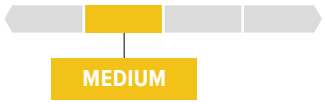


For each kilowatt hour of electricity, 288g of CO_2 is emitted in Argentina, which is lower than the G20 average. Emissions intensity has dropped 24% since 2016, compared with the G20 reduction of 8%.

Enerdata, 2022

POLICY ASSESSMENT

Renewable energy in the power sector



Argentina has had an electricity supply programme from renewable energy sources (RenovAr) since 2016 that seeks to encourage investment. By law, Argentina is committed to generating at least 20% of its electricity from renewable sources by the end of 2025. In 2021, renewables met an average of 12.3% of total demand, up from 2% in 2020.

Argentina has high growth potential in photovoltaic and wind energy, which could be used to generate electricity.

CAMMESA, 2021; Ministerio de Minas y Energia, 2016; Panadeiros, 2020

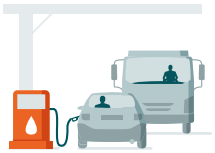
Coal phase-out in the power sector

Argentina does not yet have a plan nor incentives to phase out coal. Although coal represents a very small portion of the national energy mix, there are policies that promote the exploration and exploitation of the reserves in the area of the Rio Turbio mine.

Ministerio de Economiá, 2021b

TRANSPORT SECTOR

Emissions from energy used to transport goods and people



Emissions from transport are still on the rise – 80% of passenger transport and 93% of freight was moved by road in 2017. Both sectors are still dominated by fossil fuels, with electric vehicle (EV) sales only around 1% of total sales.

Transport's share of energy-related CO_2 emissions in 2021:

28.9% Direct **0.1%** Indirect

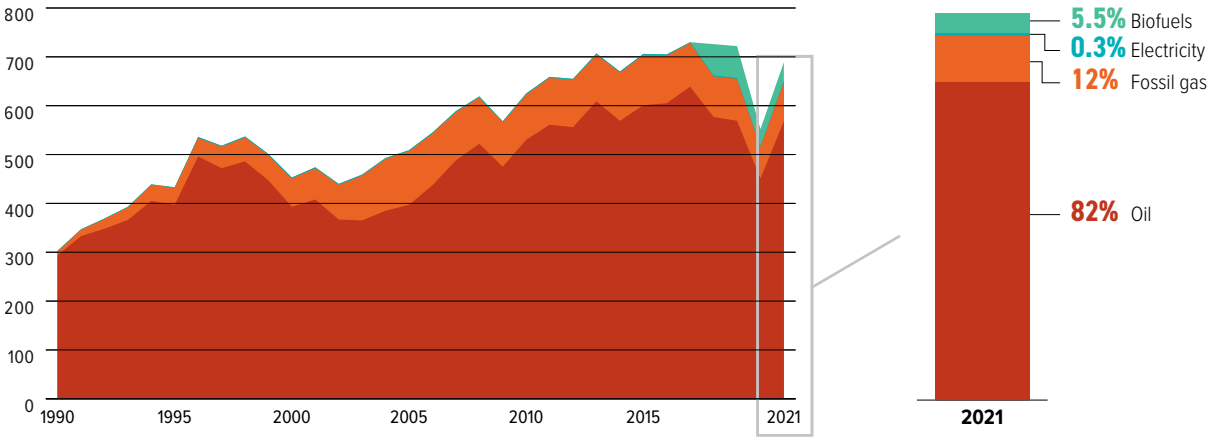
Balance Energético Nacional, 2021

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

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

Transport energy mix

Final energy consumption by source (PJ/year)

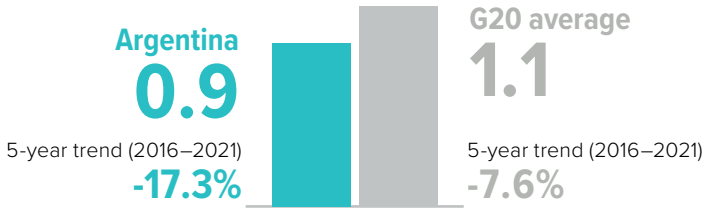


Electricity and biofuels make up slightly less than 6% of the energy mix in transport.

Balance Energético Nacional, 2021

Transport emissions per capita

(excl. aviation) (tCO_2/capita) in 2021

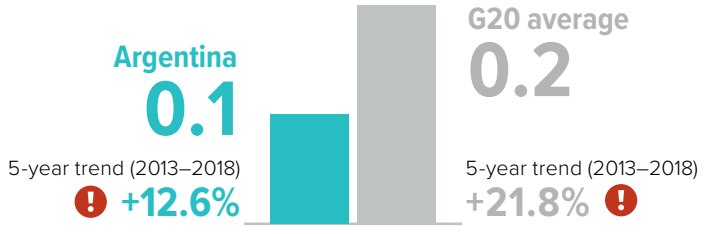


Per capita emissions in 2021 and the 5-year trend have been impacted by COVID-19 pandemic response measures and resulting economic slowdowns. For a discussion of broader trends in the G20 and the rebound of transport emissions in 2022, please see the Highlights Report at www.climate-transparency.org

Enerdata, 2022; World Bank, 2022

Aviation emissions per capita[6]

(tCO_2/capita) in 2018



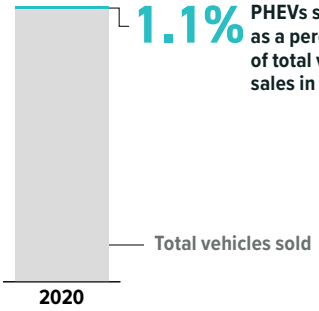
Enerdata, 2022; IEA, 2021; World Bank, 2022

Motorisation rate

237
vehicles per 1,000 inhabitants in 2019

Enerdata, 2022

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



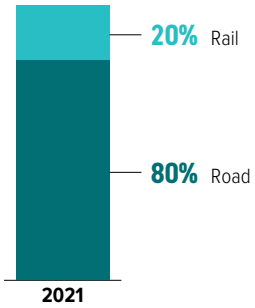
Battery-Electric Vehicles (BEVS) have greater emissions mitigation potential when they are powered by electricity produced by renewables because they have no internal combustion engine (ICE), whereas plug-in hybrids (PHEVs) still produce emissions when using the ICE.

ADEFA, 2020

**These data are not necessarily comparable with data from other G20 Members.*

Modal split passenger transport

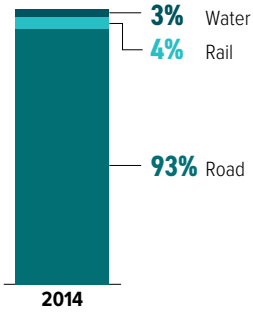
(% of passenger-km): road, rail and air



Enerdata, 2022

Modal split freight transport*

(% of tonne-km): road, rail

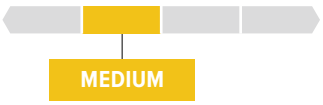


MAyDS, 2017

**These data are not necessarily comparable with data from other G20 Members.*

POLICY ASSESSMENT

Phase out fossil fuel cars

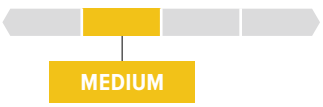


Argentina has not yet set national targets for phasing out fossil fuel light-duty vehicles (LDVs). Law 27640, passed in August 2021, however, did set minimum requirements for the content of nationally produced bioethanol to be included in transport fuels, with a minimum of 5% biodiesel in diesel fuels and a minimum of 12% bioethanol in gasoline.

A June 2022 draft Law for the Promotion of Sustainable Mobility, presented by the government, is being discussed. The bill promotes incentives and 20-year objectives to promote the use of technologies with a lower emissions intensity for mobility in Argentina.

Congreso de la Nacion Argentina, 2021

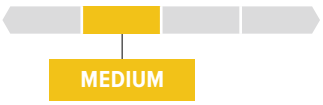
Phase out fossil fuel heavy-duty vehicles



Similar to its approach to LDVs, Argentina has not set any date to phase out fossil fuel heavy-duty vehicles (HDVs). Under Law 27640, it has, however, set emissions performance standards and established a scheme to support the use of mixing biofuels and diesel in order to lower emissions from HDVs.

Congreso de la Nacion Argentina, 2021

Modal shift in (ground) transport

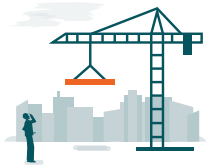


There is no longer-term strategy for decarbonisation of the transport sector. Argentina has some policies that promote sustainable mobility. Resolution N°266/2022, passed by the Ministry of Transport, creates the integrated non-motorised mobility programme, which seeks to discourage car use and promote more efficient public transport.

Ministerio de Transporte, 2022

BUILDINGS SECTOR

Emissions from energy used to build, heat and cool buildings



Together, direct and indirect emissions from the buildings sector in Argentina accounted for 17% of total energy-related CO_2 emissions in 2018. Policies have been formulated to encourage the reduction of consumption of electricity and fuels in the residential, commercial, public and industrial sectors, but there are no mandatory retrofitting or energy efficiency standards for existing buildings.

Buildings sector's share of energy-related CO_2 emissions in 2018:

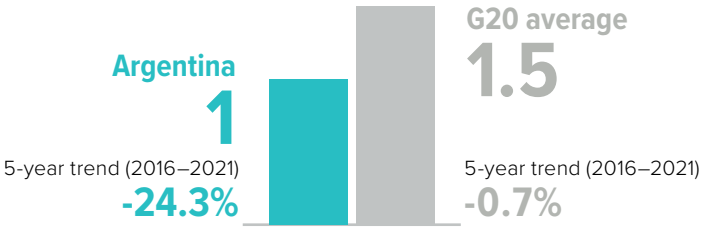
12% Direct **5%** Indirect

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.

Climate Action Tracker, 2020; Rogelj et al, 2018

Buildings sector emissions per capita

incl. indirect emissions (tCO_2/capita) in 2021

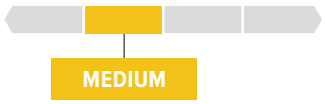


Buildings emissions occur directly (burning fuels for heating, cooking, etc) and indirectly (from grid-electricity for air conditioning, appliances, etc.) Buildings-related emissions per capita in Argentina were, in 2021, slightly less than the G20 average. Argentina has also managed to reduce its buildings emissions per capita by 24.3% (2016–2021), faster than the G20 average decrease of 0.7%.

Enerdata, 2022; World Bank, 2022

POLICY ASSESSMENT

Near zero energy new buildings



Argentina has enacted several policies geared toward improving the efficiency of new social housing projects, including mandatory energy efficiency standards and heating/cooling support schemes for these types of housing projects. However, these standards and incentives do not yet extend to all types of housing. There is also no mention of incentivising nor implementing near zero energy building standards in in this sector.

International Energy Agency, 2019; New Climate Institute, 2020; Secretaría de Ambiente y Desarrollo Sustentable, 2018

Renovation of existing buildings

No policies yet exist regarding mandatory retrofitting or energy efficiency standards for existing buildings.

INDUSTRY SECTOR

Emissions from energy use in industry

In 2018, direct and indirect emissions from the industry sector in Argentina made up 15% of energy-related CO_2 emissions. Despite the launch of the Plan de Desarrollo Productivo Verde (DPE) in July 2021, no policies to improve energy efficiency or decarbonise the sector, have yet been implemented.

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

Rogelj et al., 2018

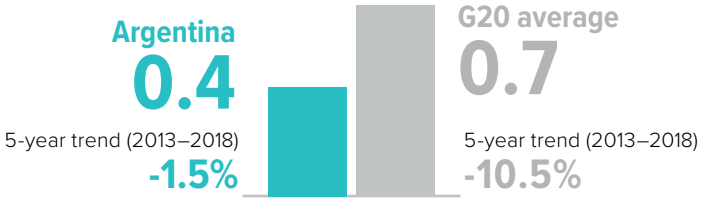
Industry sector's share of energy-related CO_2 emissions in 2018:

14.3% Direct **0.7%** Indirect

MAyDS, 2021a

Industry emissions intensity[7]

(kgCO_2e/USD2015 GVA) in 2018



Industry sector emissions are primarily from steel, cement and concrete production, and the chemicals sub-sector (producing everything from plastics to pharmaceuticals and fertilisers). Smaller contributions are from so-called 'light' manufacturing and industry, smelting and processing of non-ferrous metals (like aluminium, copper and zinc), and pulp and paper production.

Enerdata, 2021; World Bank, 2022

Carbon intensity of steel production[8]

(kgCO_2/tonne product) in 2019

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

Enerdata, 2022; World Steel Association, 2021

POLICY ASSESSMENT

Energy efficiency

The industrial sector is Argentina's third largest energy consumer and has the potential for increased efficiency through actions to improve energy performance; however, it does not yet have a regulatory framework.

In July 2021, however, then Productive Development Minister, Matías Kulfas, launched the DPE, or the Green Productive Development Plan, with a four-pronged approach which includes energy efficiency measures. The USD 100m plan aims to increase job creation, productivity and exports by pursing sustainable mobility; the production of green hydrogen; 'greening' industries like steel, copper and paper; developing national plans to create sustainable mining, a more circular economy, and support for SMEs as well as promoting more sustainable construction. At the time of writing (September 2022) there is no further information on how this is being – or will be – implemented practically.

GFA Consulting et al., 2021; Ministerio de Desarrollo Productivo, 2021

LAND USE SECTOR

Emissions from land use change and forestry

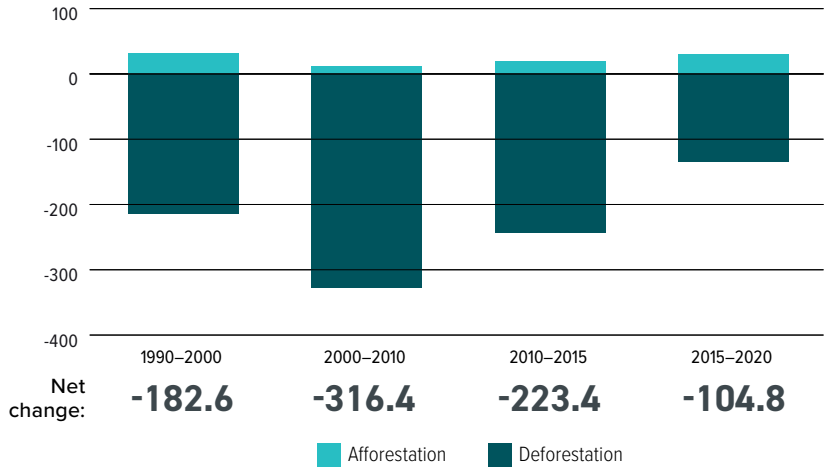
Global deforestation needs to be halted and changed to net CO_2 removals by around 2030.

Rogelj et al., 2018

To stay within the 1.5°C limit, Argentina needs to make the land use and forestry sector a net sink of emissions. The main driver of deforestation in Argentina continues to be agriculture.

Annual forest expansion, deforestation and net change

Forest area change in 1,000 ha/year

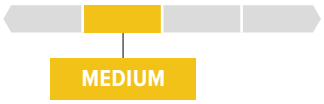


Between 2015–2020, Argentina's net loss of 104.8 kha of forest area per year was mainly due to agriculture expansion.

Global Forest Assessment, 2020

POLICY ASSESSMENT

Target for net zero deforestation



Argentina has public policies that protect and manage forests, including Law N°26,331, which establishes the Minimum Environmental Protection Requirements for the enrichment, restoration, conservation, use and sustainable management of native forests and the environmental services they provide. It is also a REDD+ country with a forest strategy, a forest monitoring system, and a safeguards scheme. As a result, the country obtained payment for avoided emissions in the period 2014–2016. However, forest law enforcement and deforestation monitoring systems need to be improved to reduce deforestation levels and enhance sinks.

MAyDS, 2021b

AGRICULTURE SECTOR

Emissions from agriculture

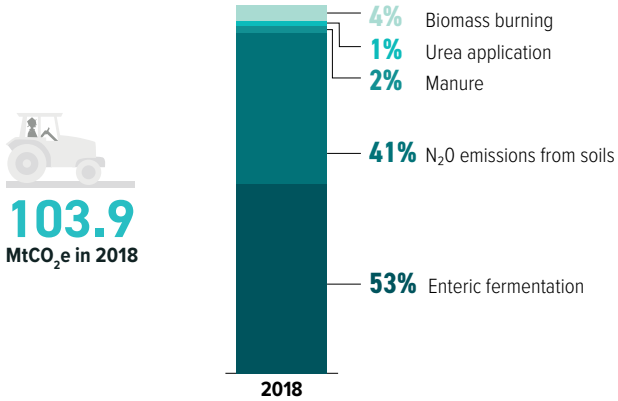
Methane emissions need to decline by 10% by 2030 and by 35% by 2050 (from 2010 levels). Nitrous oxide emissions (mainly from fertilisers and manure) need to be reduced by 10% by 2030 and by 20% by 2050 (from 2010 levels).

Rogelj et al., 2018

Argentina's agricultural emissions are primarily from enteric fermentation, or the digestive processes of livestock (mainly cattle) and livestock manure. A 1.5°C compatible pathway requires less fertiliser use and a shift towards more sustainable diets.

Emissions from agriculture

excluding energy emissions, in 2018



In 2018 in Argentina, the largest sources of GHG emissions in the agriculture sector were the digestive processes of livestock (mostly cattle) (53%) and nitrous oxide (N_2O) emissions from soils (42%) – predominantly attributable to the use of synthetic fertilisers and manure. Adapting animal feed, improving manure handling and storage, and the reduction or more efficient use of fertilisers, as well as reductions in food waste, could help reduce emissions from this sector.

MAyDS, 2021a

MITIGATION: TARGETS AND AMBITION

The science from the IPCC on the risks of exceeding 1.5°C warming is clear. The UN science body has projected that to keep the 1.5°C goal alive, the world needs to roughly halve emissions by 2030.

However, despite the Glasgow Climate Pact (1/CMA.3) agreement to "revisit and strengthen" 2030 targets this year, progress on more ambitious targets has stalled. Without far more ambitious government action, the world is heading to a warming of **2.4°C with the current 2030 targets** and even higher warming of **2.7°C with current policies**.

Climate Action Tracker, 2021a, 2022c; IPCC, 2022; UNFCCC, 2021

AMBITION: 2030 TARGETS

Nationally Determined Contribution: Mitigation

TARGETS

The updated NDC, submitted to the UNFCCC in November 2021, and expressed in SAR GWP, is to not exceed the net emission of 349 $MtCO_2e$ (incl. LULUCF) in 2030. As calculated in AR4 GWP, this target is 316 $MtCO_2e$ (excl. LULUCF).

ACTIONS

Not mentioned

Climate Action Tracker (CAT) evaluation of targets and actions

Critically insufficient	**Highly insufficient**	Insufficient	Almost sufficient	1.5°C Paris Agreement compatible

This CAT evaluation is a new, overall rating, combining several, separately rated elements: policies and actions, targets and a country's contribution to climate finance (when relevant). The CAT rates Argentina's climate targets and policies together as "highly insufficient".

The CAT rates Argentina's 2030 climate target "insufficient" when compared to modelled domestic emissions pathways, and "highly insufficient" when compared with its 'fair share' contribution to climate action. Argentina's policies and actions are also rated as "insufficient" as they lead to rising, rather than falling, emissions. Overall, Argentina's climate targets and policies are not stringent enough to limit warming to 1.5°C and need substantial improvement.

This CAT analysis was updated in September 2022.
For the full assessment of the country's targets and actions, and the explication of the methodology, see www.climateactiontracker.org

Climate Action Tracker, 2022a

AMBITION: LONG-TERM STRATEGIES

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

Status	Announced, not yet submitted to UNFCCC
Net zero target	Net zero CO_2 emissions by 2050
Interim steps	Not yet published
Sectoral targets	No

FINANCE

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

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

Rogelj et al., 2018

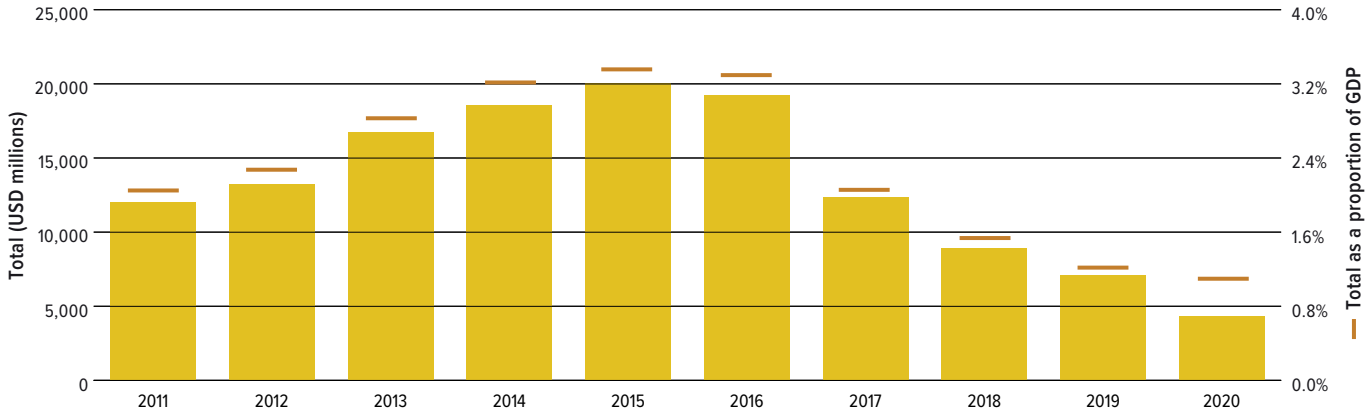
In 2020, Argentina spent just over USD 4bn on fossil fuel subsidies: 2% of public spending in 2020. Argentina introduced a carbon tax in 2018 for liquid fuels but does not tax the fossil fuel most used in the country, fossil gas.

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 relative to national budgets

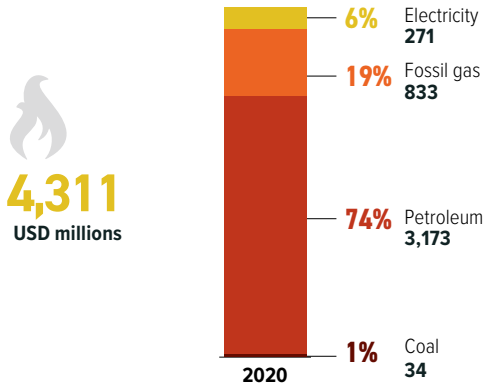
(USD millions)



OECD-IEA Fossil Fuel Support Database, 2022

Fossil fuel subsidies by fuel type

(USD millions) in 2020



Argentina's subsidies to fossil fuel production and consumption have steadily declined from a peak of USD 20bn in 2015 to reach USD 4.3bn in 2020. Fossil fuel subsidies in Argentina made up 2% of public spending in 2020.

The largest single subsidy measure in 2020 went to diesel fuel users, rapidly increasing in recent years through a lower tax rate on diesel compared to motor gasoline. Other significant subsidy measures included support for operating costs and the purchase of liquid fuel for power generation. In 2020 there was a decline in these latter subsidies due to lower demand and increased use of domestic fossil gas.

The Argentinian government has provided at least USD 1.36bn of support to fossil fuels since the COVID-19 pandemic. This included an extraordinary tax on the wealthiest Argentinians in 2020, which amounted to a revenue of USD 1bn, 25% of which was earmarked for gas exploration and extraction.

The ongoing energy – and particularly fossil gas – crisis in Europe may drive increased government support for the development of the Vaca Muerta gas fields in 2022, although this will mature too late to affect the short-term crisis.

Energy Policy Tracker, 2022; Stott, 2022

Carbon pricing and revenue

Argentina implemented a carbon tax in 2018. The tax covers most liquid fuels, except for the fossil fuel most used in the country: fossil gas. The carbon tax is, therefore, estimated to cover only 20% of the country's emissions. Established and fixed in Argentinean pesos equivalent to USD 10/tCO_2e at the moment of the carbon tax approval, currency depreciation means that in 2021 the carbon tax rate was equivalent to USD 6.47/ tCO_2e, generating USD 260m revenue.

OECD, 2019; I4CE, 2022

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.

Argentina has only recently started taking steps toward greening its financial system. The Technical Roundtable on Sustainable Finance, convened in April 2021, led to a joint statement in September by the Ministry of Economy, the Banco Central de la Republica Argentina, the National Securities Commission and the Superintendent of Insurance of Argentina, aiming to promote the development of sustainable finance in the country. This will support the future development of environmental, social and governance (ESG) capabilities across corporations and financial institutions, and the assessment of systemic risks to financial stability.

Ministerio de Economía, 2021a

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 Members also have an obligation to provide finance to developing countries, and public sources are a key aspect of these obligations under the UNFCCC.

In 2018, Argentina provided USD 79m in public finance for the Arroyo Seco and Timbúes power plants through its DFI Banco de Inversión y Comercio Exterior (BICE). There was no evidence of public finance for fossil fuels in 2019 or 2020 from public credit institutions.

Oil Change International, 2022

Provision of international public support

Argentina is not listed in Annex II of the UNFCCC and is not formally obliged to provide climate finance and therefore, while it may channel international public finance towards climate change via multilateral and other development banks, it has not been included in this report.

Endnotes

For more detail about sources and methodologies, please download the CTR Technical Note at: www.climate-transparency.org/g20-climate-performance/g20report2022

Where referenced, "Enerdata, 2022" refers to data provided in July 2022 and, due to rounding, graphs may sum to slightly above or below 100%.

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) data tables, converted to the categories from the IPCC 1996 guidelines, in particular separating Agriculture from LULUCF, which under the 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 5 years (where available) to take account of the different starting points of different G20 Members.

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 Policy Assessment Criteria table below displays the criteria used to assess a country's policy performance.

5 In order to maintain comparability across all countries, this report harmonises all data with PRIMAP 2021 dataset to 2018. However, note that CRF data is available for countries which have recently updated GHG inventories.

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).

Policy Assessment Criteria

	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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For more information on this country profile, please contact:

Fundación Ambiente y Recursos Naturales – Jazmín Rocco Predassi, jrpredassi@farn.org.ar