



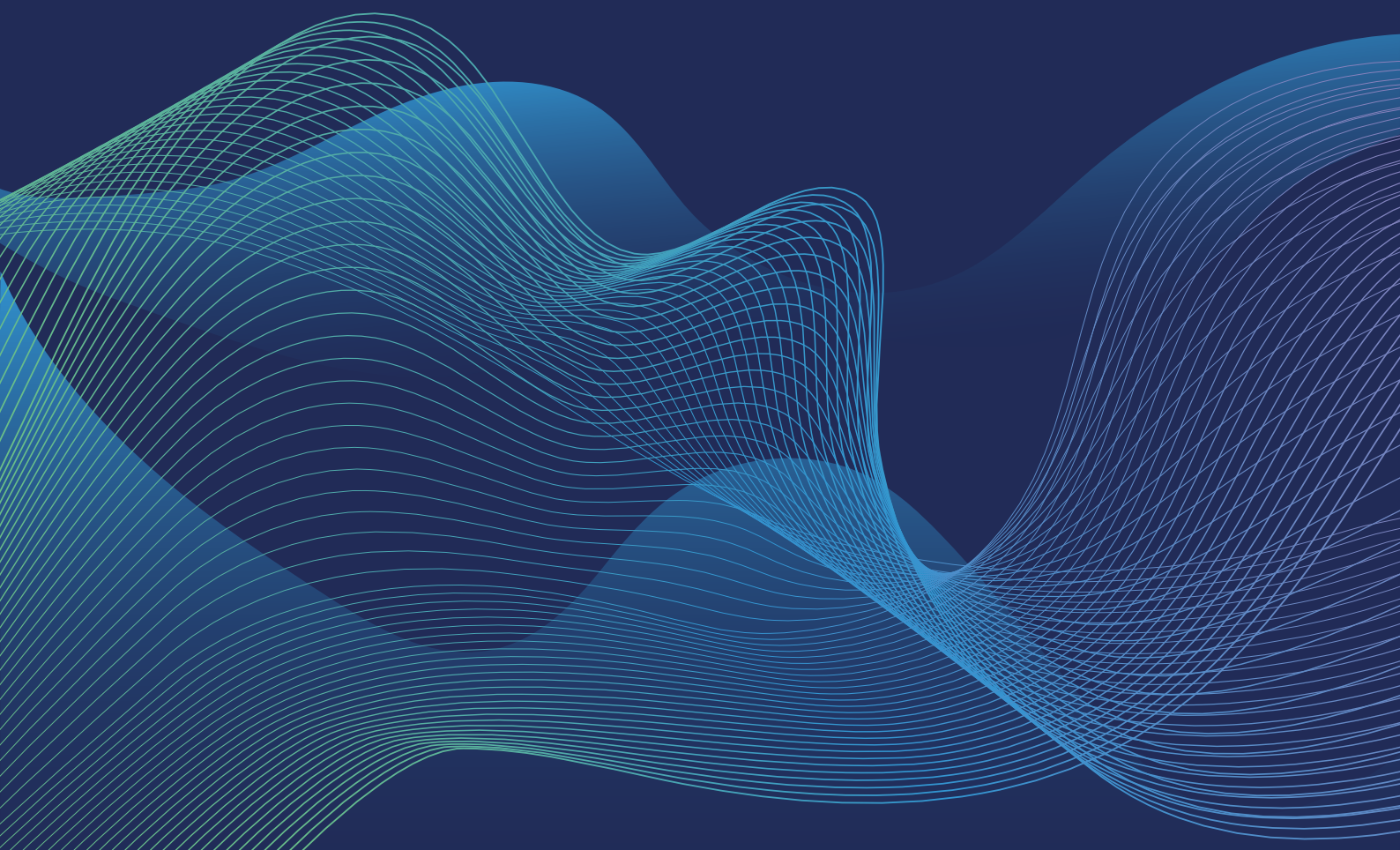
**Global Electricity
Review 2021**
G20 Profile

EMBER
COAL TO CLEAN ENERGY POLICY

ARGENTINA

Argentina's electricity transition
yields promising results, but risks
halting just as it begun

March 2021



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Published date

March 2021

**About Ember's
Global Electricity
Review**

This annual report analyses electricity data from every country in the world to give the first accurate view of the global electricity transition in 2020. It aggregates generation data by fuel by country from 2000. 68 countries comprising 90% of world electricity generation have full-year data to 2020 and have formed the basis of an estimate for changes in worldwide generation. All remaining countries have full data as far as 2019. G20 countries, which comprise 84% of world electricity generation, each have a separate in-depth country analysis. All the data can be viewed and downloaded freely from Ember's website.

www.ember-climate.org/global-electricity-review-2021

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Document design & layout by Designers For Climate

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ARGENTINA

Argentina's electricity transition yields promising results, but risks halting just as it begun

Wind and solar generation accelerates, but renewables expansion has stalled since 2018

"Argentina has seen how the electricity transition away from fossil fuels can happen with promising results. But it was late to the start. Will Argentina be able to keep the growth in clean generation so that fossil generation continues to fall? Moving away from fossil fuels will be a massive challenge that will require a strong commitment over the coming decade."

Peter Tunbridge

Junior Data Analyst, Ember

Key findings

1 Wind and solar have increased from 0% to 8% of electricity production since 2015

This is the fourth highest growth rate in the G20 since 2015, narrowly outpacing both Mexico and Brazil, where wind and solar have increased their share of electricity by 7% in both countries. Most of Argentina's growth came from wind generation since 2018. In 2020 alone, wind generation rose 88% year-on-year to 9.4 TWh.

2 Argentina's share of wind and solar (8%) is still below the global average of 9.4%, and is unlikely to increase in coming years

It's also less than both Mexico and Brazil, which generated 9.6% and 10.6% respectively of their electricity from wind and solar in 2020. Argentina has not held any renewables generation tenders since 2018, making further increase in wind and solar's market share unlikely unless the issues blocking renewables development are addressed.

3 Oil generation has plummeted since 2015, from 17% to 3% of Argentina's electricity

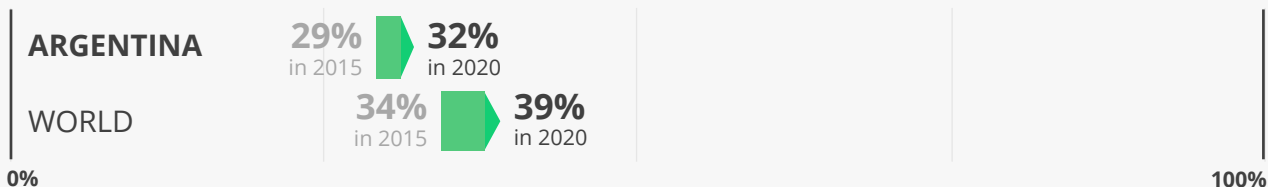
As oil generation fell by 20 TWh, wind and solar replaced about half of that fall, gaining 10 TWh over the same period. However, the rest was replaced by mostly gas.

4 Two-thirds of Argentina's electricity still comes from fossil fuels

The majority of this comes from gas. This means Argentina has the second highest percentage share of gas generation in the G20.

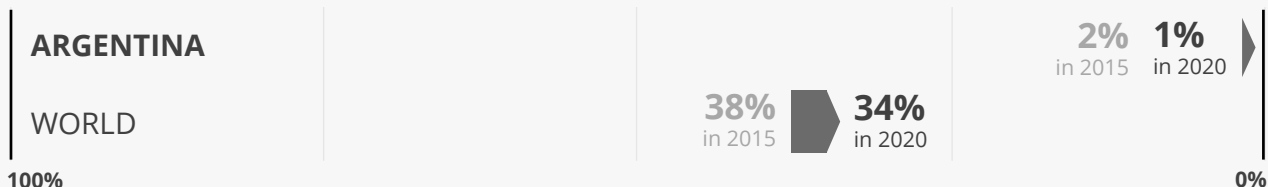
Progress to 100% clean electricity

Percentage of all renewables & nuclear in total generation



Progress on phasing out coal

Percentage of coal in total generation

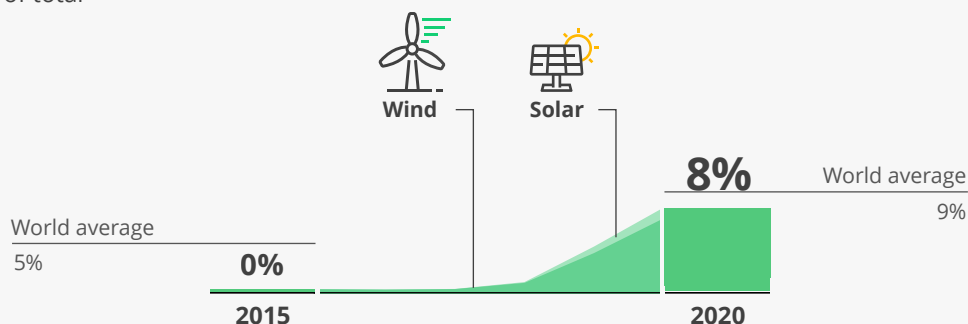


Argentina's electricity transition in the spotlight: 2015-2020

Wind catching up with global average

Wind & solar in electricity mix

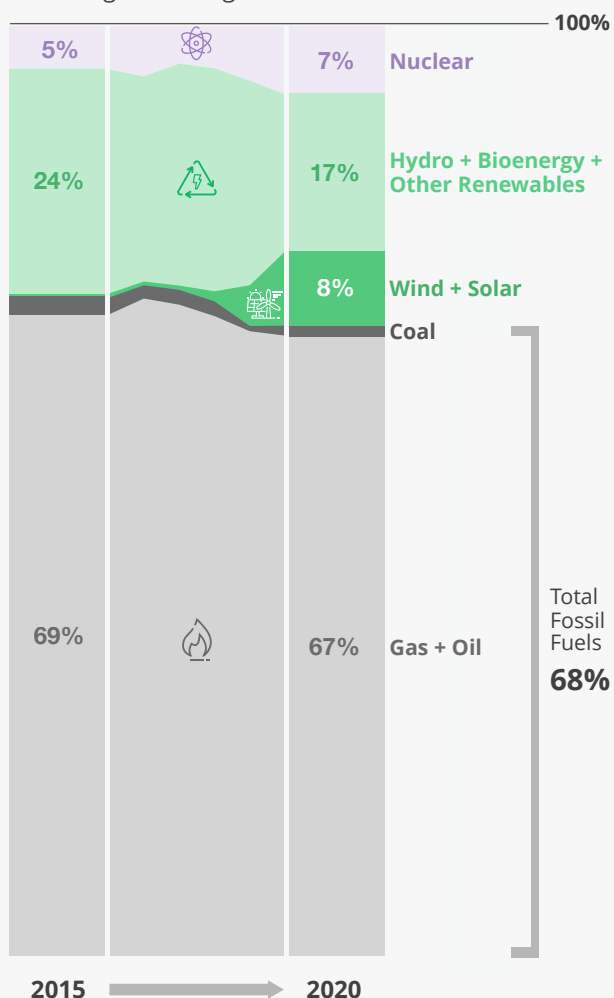
Percentage of total generation



Fossil still 68% of Argentina's electricity

Electricity mix

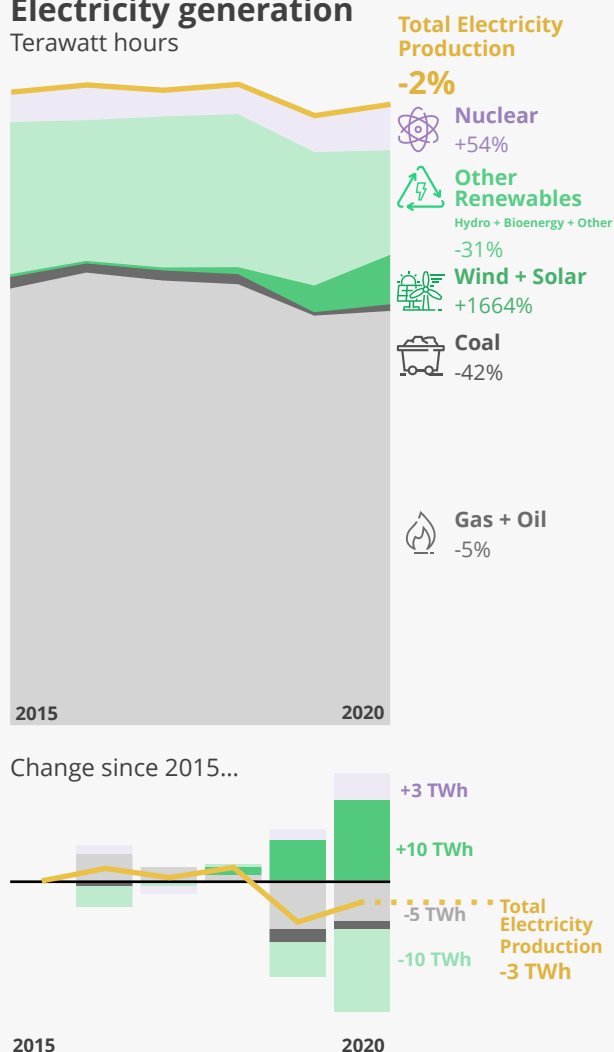
Percentage of total generation



Electricity demand hit hard since 2018

Electricity generation

Terawatt hours



Over the past 5 years, strong growth in wind and solar generation has helped replace fossil fuels in Argentina. Additionally, poor hydro conditions in [2019](#) and [2020](#) prevented fossil fuels from falling even further.

Electricity generation from oil has plummeted in the past 5 years. From 2015-2018, falling oil was replaced by gas. But from 2018 to 2020, wind and solar replaced oil and gas as demand fell. Despite wind and solar growth, gas is still the dominant fuel in the mix, and fossil fuels were still responsible for 68% of Argentina's electricity in 2020.

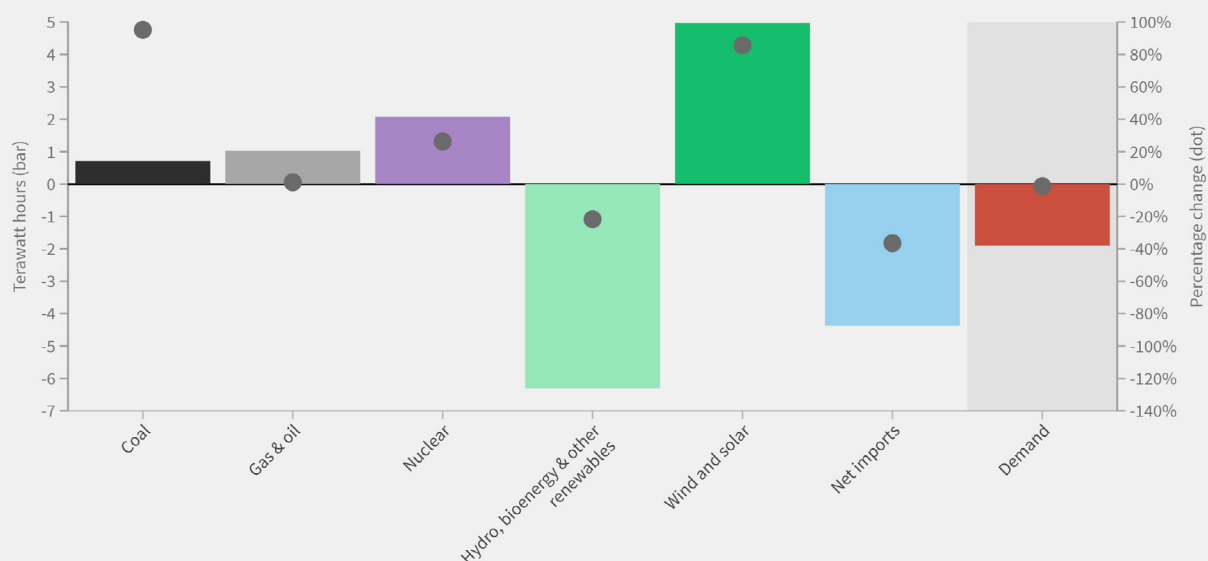
Wind and solar grew from near zero to 8% of Argentina's electricity generation in the last five years. The speed of deployment also accelerated, with record [capacity additions](#) for both wind (+1.0 GW) and solar (+0.3 GW) in 2020. Consequently, wind and solar are driving the growth in renewables, as bioenergy stalled due to challenges in prices at the tenders, and hydro fell in recent years due to poor weather conditions. The strong growth in wind and solar over the past 3 years was due to the completion of generation tenders held between 2016-2018. There have been [no new generation contracts for the renewables sector since 2018](#), so capacity growth is set to stall just after the shift to renewables was gathering pace. The lack of transmission capacity and ongoing economic recession are key factors blocking the expansion of wind and solar in Argentina.

Between 2015 and 2020, Argentina's total fossil fuel generation only fell by 3%. Despite this, there were large changes in individual fuels. Oil in particular fell by 85% since 2015, but was largely replaced by gas. Gas supplied 64% of Argentina's electricity in 2020, up from 51% in 2015. [Gas capacity](#) has also been increasing, with 5.5 GW of new plants coming online since 2015. Despite being the dominant fuel in the mix, gas growth has slowed in recent years, and generation has actually fallen since 2018 as demand fell. Electricity demand has remained mostly constant for the past five years, but it fell 4.4% in 2019 due to an [ongoing economic recession](#), and dropped even lower in 2020. This puts Argentina's demand per capita slightly below the world average.

What happened in 2020?

Argentina - Electricity changes in 2020 by source

Year-on-year change



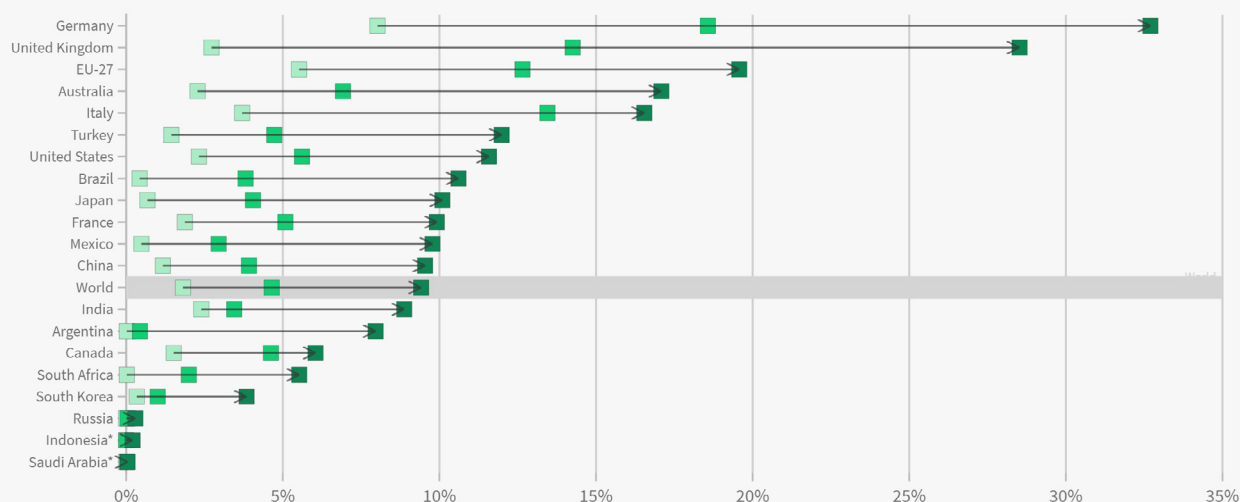
Demand fell by 1.3% (-1.9 TWh) year-on-year in 2020, driven by two main factors: reduced domestic electricity demand due to Covid-19 restrictions, and a large increase in electricity exports to Brazil, causing net imports to fall 4.3 TWh. Wind and solar grew by 86% (+5.0 TWh) in 2020, with the majority coming from wind (+4.4 TWh). 2020 was a poor year for hydro generation, resulting in a 24% fall (-6.5 TWh) and the lowest annual generation since 1992. This caused gas and coal generation to increase slightly, to fill this gap. If not for these unfavourable hydro conditions, growth in wind and solar would have likely caused fossil fuel generation to fall.

Argentina's transition in comparison with G20 countries

Argentina's wind and solar growth beats Mexico and Brazil in the past 5 years

Wind and solar as % share of electricity production for G20 countries

Year 2010 2015 2020

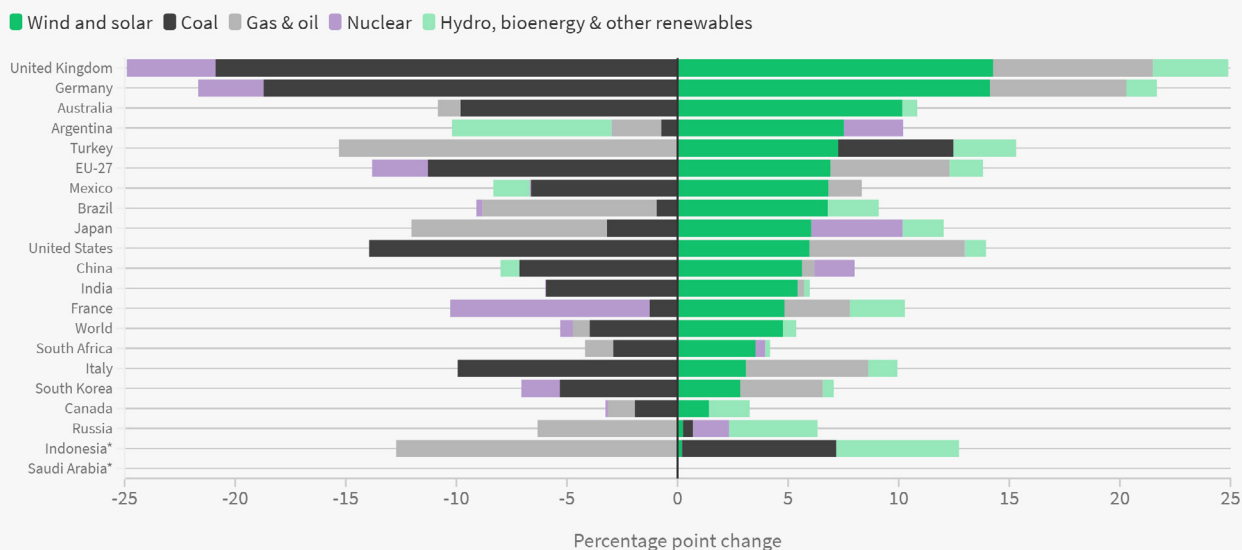


*For Indonesia and Saudi Arabia, 2019 is used as no 2020 data exists
Ember's Global Electricity Review, March 2021.

Argentina's wind and solar share has grown rapidly since 2015, from a low base of just 0.4%. It has the fourth highest percentage share increase in the G20 since 2015, narrowly outpacing both Mexico and Brazil. Despite the rapid growth of Argentina's wind and solar market share, it is still below that of Mexico, Brazil and the world average.

Wind is powering Argentina's electricity transition

Change in electricity market share between 2015 and 2020, for G20 countries

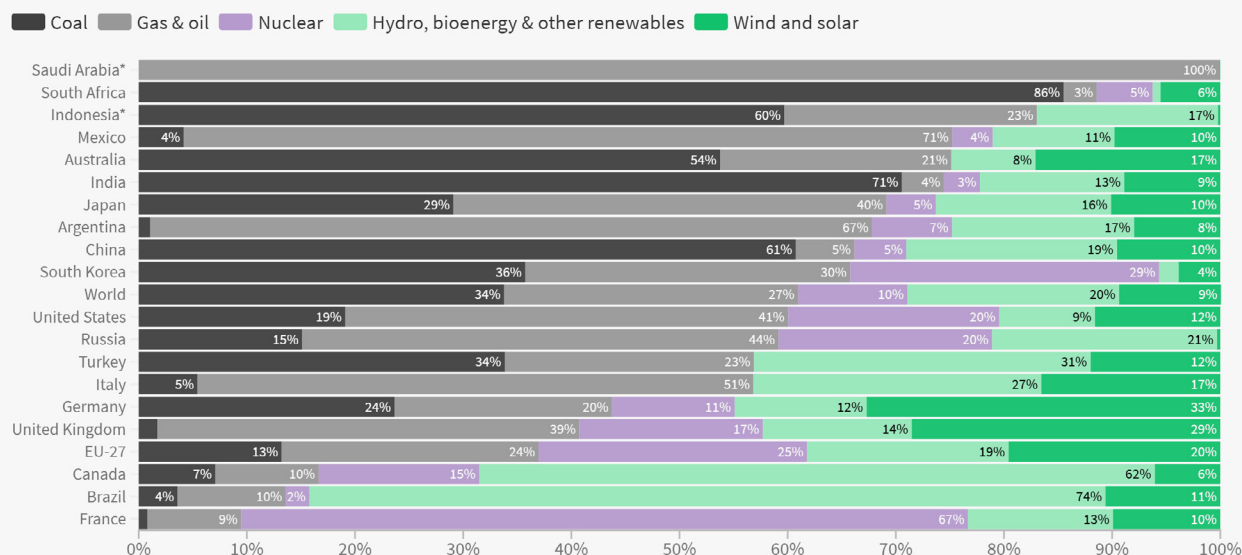


*For Indonesia and Saudi Arabia, 2019 is used as no 2020 data exists.
Ember's Global Electricity Review, March 2021.

Argentina is fourth in the G20 for growth in wind and solar market share, but has the second lowest fall in fossil generation. This was due to poor hydro conditions resulting in a temporary drop in generation that prevented a further reduction of fossil generation.

Argentina has the 8th highest fossil fuel share in G20

Electricity production mix in 2020, for G20 countries



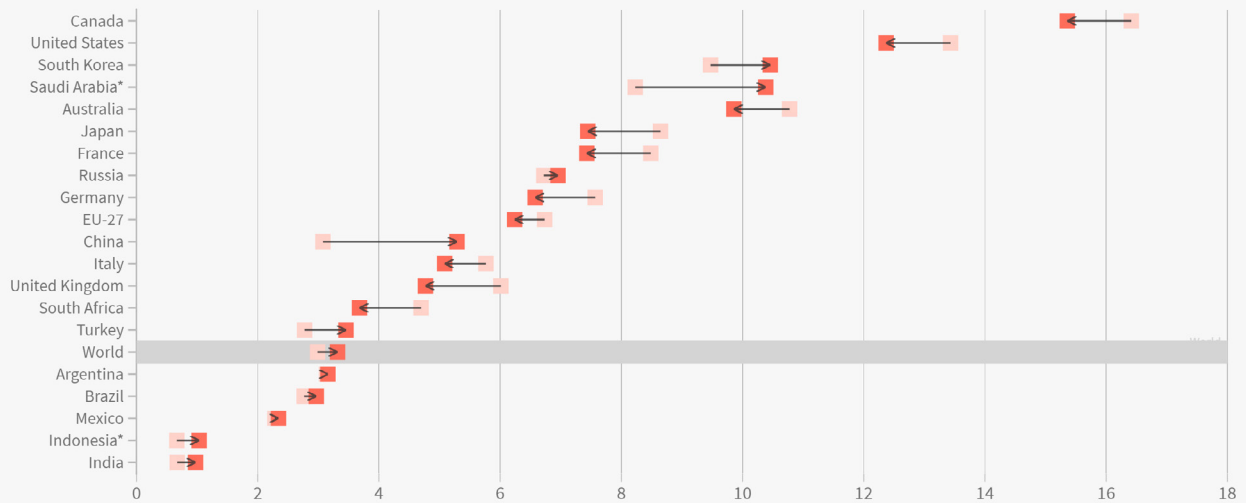
*For Indonesia and Saudi Arabia, 2019 is used as no 2020 data exists.
Ember's Global Electricity Review, March 2021.

Despite recent growth of wind and solar, Argentina's share of fossil fuels ranks it in the midfield of the G20. It has the second highest share of gas at almost triple the world average. The focus of the electricity transition going forward will have to be on reducing the share of gas through continued deployment of clean energy technologies, such as wind and solar.

Argentina's electricity demand per capita in 2020 was unchanged since 2010

Electricity demand per capita (Megawatt hours), for G20 countries

Year 2010 2020



For Indonesia and Saudi Arabia, 2019 is used as no 2020 data exists. • Population sourced from United Nations. Ember's Global Electricity Review, March 2021.

Argentina's electricity demand per capita remained almost unchanged over the past decade, and is now below the world average. Argentina's demand per capita remains higher than Brazil and Mexico.

Concluding remarks

Argentina's electricity transition has proven to be achievable. Despite a slow start, wind and solar power are now leading the charge for renewables. Both RenovAR and Mercado a Término de Energía Eléctrica de Fuente Renovable (MATER) schemes were key policy instruments in the rapid scale up of wind and solar capacity from 2015 to 2020, but since 2018 there have been no new announcements or contracts for the renewable energy sector.

The lack of action since 2018 means despite considerable technology cost reductions, the future of renewables growth in Argentina remains uncertain. A combination of [macro-economic factors](#), [limited transmission capacity and the abundance of natural gas resources](#) puts Argentina at risk of slowing its electricity transition just as it was gathering pace.

Maintaining the current growth in wind and solar power is critical if Argentina wants to meet both its 2025 renewable electricity target (20% share of renewables, excluding large hydro), and its latest [NDC emissions reduction target](#).

Two questions remain: Firstly, can Argentina maintain its current growth rate in wind and solar? And secondly, how fast will Argentina's electricity demand rise as it eases Covid-19 restrictions? The answers to these questions will determine whether or not Argentina can replace its gas generation with clean power.

More information about the Global Electricity Review 2021

Global Electricity Review 2021

www.ember-climate.org/global-electricity-review-2021

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