



# Scaling up climate action

Key opportunities for transitioning to a zero emissions society

## EXECUTIVE SUMMARY

CAT Scaling Up Climate Action series

# ARGENTINA

September 2019

## CAT Scaling Up Climate Action series

The Climate Action Tracker (CAT) strives to support enhancing climate action in the context of the Paris Agreement implementation. This analysis contributes to future revisions of mitigation targets, and aims at spurring an increase in climate mitigation actions, to close the gap between current emissions projections and required Paris-compatible pathways.

As part of this, we have been researching the potential for countries to scale up climate action in different focus areas. The analysis in this report is relevant to Parties considering revisions to their Nationally Determined Contributions (NDCs) to be submitted under the Paris Agreement by 2020 or thereafter, and also to their submission of long-term low greenhouse gas development plans, also due by 2020.

The result is our **Scaling Up Climate Action** country series, which identifies options for increased sectoral action that would move a country towards a pathway compatible with the Paris Agreement's long-term temperature limit and estimates the impact of those actions on emissions and other benefits.

The first round of our analysis covers **South Africa**, the **European Union**, **Indonesia**, **Turkey**, **Argentina**, and **Australia**.



The consistent method and similar structure for all six reports allows for country-specific insights, while enabling a cross-country comparison to draw general research findings and lessons learnt on global potentials.

## Executive summary

### Introduction and objectives

Under the Paris Agreement, governments have committed to limiting temperature increase to well below 2°C above pre-industrial levels and pursuing efforts to limit it to 1.5°C. Current efforts are insufficient: aggregate mitigation targets, according to Climate Action Tracker (CAT) estimates, result in global warming of about 3.0°C. Implementation of the targets is falling short: greenhouse gas (GHG) emissions under implemented policies will lead to an estimated warming of around 3.3°C.

To stay below the globally agreed limit, the IPCC Special Report on 1.5°C finds that an increase in effort is required to peak global GHG emissions as soon as possible, reduce CO<sub>2</sub> emissions to net-zero around 2050 and total GHG emissions shortly thereafter.

In recent years, measures to reduce GHG emissions have, in many cases, become more attractive to policy makers and private investors, both because of falling technology costs, as well as increased awareness for other benefits, such as air quality improvements and job creation in low-carbon-oriented sectors.





We no longer live in a world where climate change mitigation is a burden per se, but where it is increasingly becoming the most feasible option when considering all socio-economic aspects. For cost-efficient global mitigation, it will be essential to make those mitigation actions accessible to, and overcome remaining barriers in, all countries.

**This report, the third country assessment in the Climate Action Tracker's Scaling Up Climate Action Series, analyses areas where Argentina could accelerate its climate action. The report illustrates GHG emission reductions from such actions, along with other benefits.**

Our analysis starts with an in-depth review of Argentina's current policy framework and sectoral developments, and compares them with the comprehensive policy packages and the progress of the kind of sector indicators required under Paris-compatible pathways.

It then focuses on three areas we have identified with potential to increase mitigation efforts: electricity supply, land-based passenger and freight transport, and residential buildings. We selected these areas based on their share of GHG emissions and national and local circumstances. The CAT emphasises that other sectors must take similarly ambitious actions to decrease economy-wide emissions in line with the Paris Agreement.

It identifies different options of accelerated climate action in each sector, informed by insights from three different scenario categories: (1) National scenarios, (2) Scenarios applying sectoral best-in-class levels, and (3) 1.5°C Paris Agreement compatible scenarios, the results of which have all been compared to the common baseline of the Current Development Scenario (4).

Scenario categories	Definitions
1  <b>NATIONAL SCENARIOS</b>	Scenarios based on national research and country-specific studies
2  <b>BEST IN CLASS SCENARIOS</b>	Scenarios based on practices implemented by regional or international frontrunners
3  <b>1.5°C PARIS AGREEMENT COMPATIBLE SCENARIOS</b>	Scenarios based on sectoral developments in line with the Paris Agreement's temperature limit.
4  <b>CURRENT DEVELOPMENT SCENARIO</b>	Baseline scenario used for comparison purposes. The scenario is based on the continuation of current trends and policies until 2050.



## KEY FINDINGS

- ⇒ Scaling up climate action in Argentina's electricity supply, its residential buildings sector, and land-based passenger and freight transport can reduce greenhouse gas emissions by up to 94% below 2014 levels in these areas by 2050. Together, these sectors account for around 40% of Argentina's 2014 emissions.
- ⇒ Actions in these areas alone would reduce economy-wide emissions by 7% below 2014 levels by 2050, equivalent to 38% below a Current Development Scenario by 2050. However, while the three focus areas will almost fully decarbonise under a Paris Agreement-compatible scenario, Argentina will still need to take additional action in other sectors such as agriculture and land-use sectors in order to decrease economy-wide emissions by mid-century in line with the Paris Agreement's temperature limit.
- ⇒ Research from Argentinian researchers and other stakeholders indicates that large-scale expansion of renewable energy could reduce GHG emissions from electricity generation by up to 80% below 2014 emissions levels by 2040. Some of these scenarios explicitly consider Paris Agreement aligned sector developments in the Argentinian context.
- ⇒ A fully decarbonised electricity sector is critical for enabling low-carbon electrification trends in land-based passenger and freight transport as well as residential housing to get in line with the Paris Agreement temperature limit. Given its rich natural endowment of renewable resources and ambitious 2025 renewable expansion targets, if it strengthens policy efforts to ensure it achieves these targets, Argentina could become a global frontrunner in achieving a successful energy transition.
- ⇒ There is huge potential to accelerate climate action by decarbonising key energy demand sectors such as land-based passenger and freight transport and residential housing, for example by shifting modes of transport and increasing electric and zero-emission mobility. Under our Paris Agreement-compatible scenario, those sectors' emissions decrease by 94% below 2014 and by 88% below 2014, respectively, by mid-century. This would foster benefits for sustainable development goals by reducing pollution and promoting modern housing.
- ⇒ Transitioning towards a low-carbon, renewables-based electricity supply by 2030 is likely to support more domestic employment opportunities in Argentina compared to the Current Development Scenario, where the majority of capacity additions are fuelled by natural gas. This energy transition provides jobs in technologies and sectors that are more likely to form the core of future electricity supply, both in Argentina and globally.
- ⇒ If Argentina, building on already ongoing activities, considerably ratcheted up its 2030 target and scaled up action to be consistent with the Paris Agreement, it will achieve a wide range of benefits, such as low-carbon-oriented employment generation and support of sustainable development goals by reducing the adverse pollution effects and promotion of modern housing facilities.
- ⇒ The CAT sees significant risks in Argentina's planned development of large-scale gas extraction and export infrastructure. Those investments could cause a lock-in in high-emissive energy supply. Heavy reliance and infrastructure investments in natural gas may also hamper decarbonisation efforts in demand sectors such as transport and buildings.

## Sector transitions towards zero-carbon

**In Argentina, there is vast potential to scale up climate action, especially in the three main focus areas of this study. Increasing climate action now would initiate technically feasible sectoral transitions towards a zero-emissions society while directly benefitting Argentina's sustainable development agenda.**

Our findings confirm that decarbonisation efforts consistent with the Paris Agreement temperature goal for the selected sectors in Argentina are beneficial and can build on ongoing efforts. They would significantly reduce GHG emissions and foster co-benefits such as low-carbon-oriented employment generation, support sustainable development goals by reducing the adverse pollution effects of conventional modes of transport and electricity generation, and promote modern housing facilities.



## Electricity supply

**Scaling up climate action in the Argentinian electricity supply sector can trigger emission reductions for all scenario below a Current Development Scenario by 2050.** Our findings highlight that under most of the ambitious scenarios proposed by Argentinian institutions and stakeholders, GHG emissions for electricity generation in Argentina could be reduced by up to 87% below the Current Development Scenario by 2040. These findings emphasise the vast opportunities to initiate a transition towards a zero-carbon electricity supply sector in Argentina.

**These ambitious scenarios developed by national institutions and stakeholders would be in line with a 1.5°C Paris Agreement compatible pathway to 2040.** Our analysis shows that Argentina can become an international frontrunner in ambitious energy transitions if it scales up domestic climate action in line with scenarios developed by national research and stakeholder institutions. However, in order to follow such pathways, Argentina would still need to take further action beyond currently implemented policies and targets to fully decarbonise its electricity supply sector by 2050 (Climate Analytics, 2019).

**Scaling up climate action in the electricity supply sector through a sustained development of renewable energy technologies would generate significant socio-economic benefits and directly enable Argentina to progress towards national sustainable developments goals (SDG).** Such benefits include access to affordable, reliable, sustainable and modern energy for all (SDG 7) or making cities and human settlements inclusive, safe, resilient and sustainable (SDG 11).

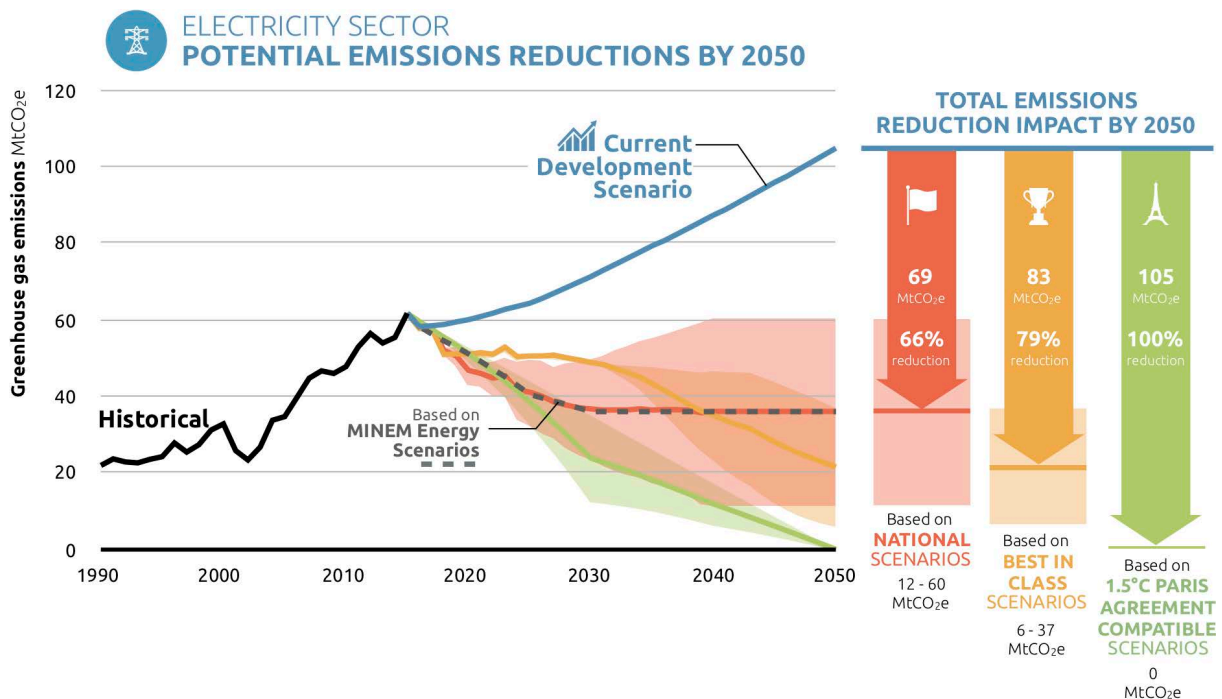


Figure 1: Overview of sectoral emission pathways under current policies and different levels of accelerated climate action in the Argentinian electricity supply. The forecasted electricity demand considers accelerated climate action in the Argentinian residential buildings sector, along with the land-based passenger and freight transport sector. The CAT PROSPECTS Argentina scenario evaluation tool has estimated all historical emission calculations and sectoral projections towards 2050. For this reason, historical emission levels might differ from the latest inventory data.



## Land-based passenger and freight transport



The recent upward trends of GHG emissions from the transport sector in Argentina highlights the need to accelerate action to fully decarbonise this sector by mid-century to be compatible with the Paris Agreement. Our analysis on accelerating climate action in the transport sector focuses on land-based passenger and freight transport, with a particular emphasis on the impact of transitioning towards zero-emission cars, buses and trucks.

**The Paris Agreement-compatible sectoral trajectories almost fully decarbonise Argentina's passenger and freight transport sector on land by 2050.** This requires a substantial modal shift for passenger and freight transport, introducing zero-emission vehicles, buses, and trucks, and a tightening of CO<sub>2</sub> fuel economy standards for new personal vehicles. It would fully decarbonise Argentina's passenger and freight transport sector by mid-century - and would also require the electricity supply sector to be fully decarbonised by 2050 in line with the Paris Agreement temperature goal. The electrification of transport and a modal shift away from fossil-based vehicles reduces adverse effects of air and noise pollution and their harmful effects on health. This directly promotes provision of healthy lives and well-being for all ages (SDG 3).

**Implementing policy actions proposed by national researchers and other national stakeholders for the transport sector stabilises emissions from land-based passenger and freight transport at 2015 emissions levels by 2030, followed by a decrease in average emission levels by 2050.** Suggested measures include an uptake of electric mobility to achieve a 60% share of electric vehicles in the total car fleet by 2040, and the bus fleet being fully electric (Beljansky, Katz, Alberio, & Barbarán, 2018). While such actions constitute an important starting point to initiate the transition towards low-carbon transport, Argentina will still need to take on more ambitious policy measures to reverse emissions trends and embark on a Paris Agreement-compatible trajectory.

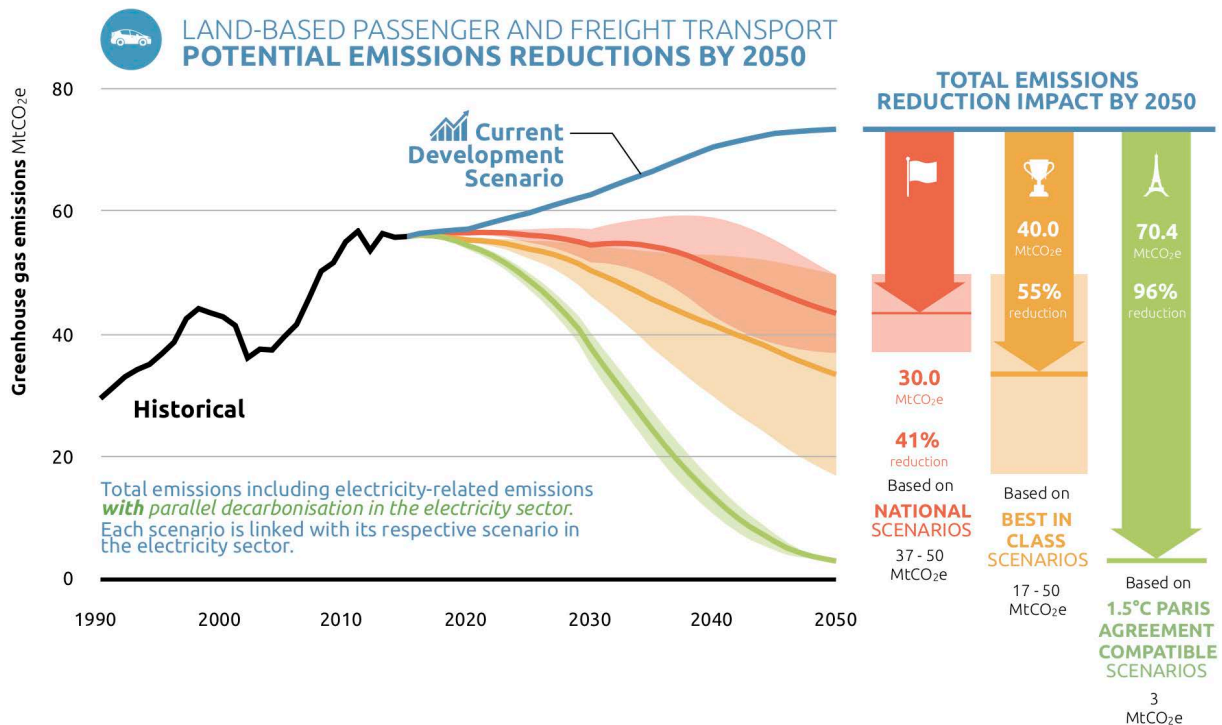


Figure 2: Overview of sectoral emission pathways under current policies and different levels of accelerated climate action in the land-based passenger and freight transport. Data includes electricity related emissions. The CAT PROSPECTS Argentina scenario evaluation tool has estimated all historical emission calculations and sectoral projections towards 2050. For this reason, historical emission levels might differ from the latest inventory data.



## Residential buildings

**Energy efficiency gains through tightened building codes, increased rates of thermal retrofits, electrification of water/space heating, and more efficient appliances can almost fully decarbonise the Argentinian residential buildings sector by mid-century.** These efforts again critically depend on the electricity supply sector decarbonising in line with the Paris Agreement temperature goal. This residential building sector transition entails key opportunities to advance socially just housing, while generating local employment and attenuating the adverse health effects of inappropriate housing.

Even without any further climate action in the electricity supply sector beyond current levels, the abovementioned policies in Argentina's residential buildings sector could still reduce emissions by up to 31% below today's levels by 2050.

**Measures in the residential buildings sector proposed by national researchers and other national stakeholders can already drive ambitious mitigation.** Such proposed measures include increasing the thermal retrofit rates of existing buildings by 2% annually, with a 50% energy efficiency improvement by 2020 (Beljansky et al., 2018); or a 90% market share of heat pumps of all heating appliance being sold by 2030 as specified in the National Action Plan on Energy and Climate Change (MAyDS & MINEM, 2017). Such measures closely align with action international frontrunner countries are implementing, and would bring Argentina close to a low-carbon transition of the residential housing sector if implemented.

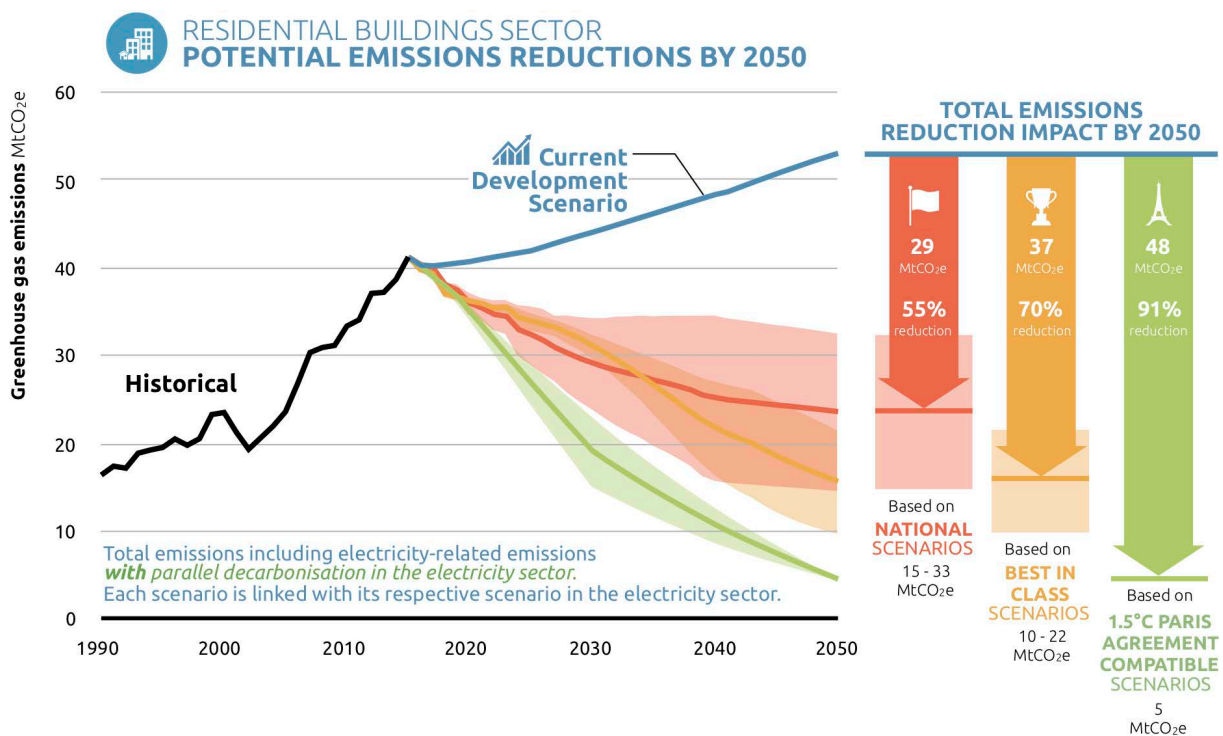


Figure 3: Overview of sectoral emission pathways under current policies and different levels of accelerated climate action in the residential buildings sector, including electricity-related emissions and parallel decarbonisation actions according to the respective scenario categories in the Argentinian electricity supply sector. The CAT PROSPECTS Argentina scenario evaluation tool has estimated all historical emission calculations and sectoral projections towards 2050. For this reason, historical emission levels might differ from the latest inventory data.

The social, economic and health-related benefits of social housing enable Argentina to promote its sustainable development agenda, particularly on inclusive, resilient and sustainable human settlements and cities (SDG 11), increasing well-being and general health (SDG 3) and ensuring access to affordable, reliable, sustainable and modern energy for all (SDG 7) through renewable-based alternatives in the residential sector (e.g. solar panels on residential buildings).

# Accelerated climate action and Argentina's emission reduction target

Accelerated climate action in line with the Paris compatible scenarios in the three sectors would allow Argentina to overachieve its unconditional and conditional target of limiting emissions to 322 MtCO<sub>2e</sub> by 2030.

The Climate Action Tracker's country assessment rates Argentina's current mitigation target "Highly Insufficient". If Argentina were to increase its ambition by making its conditional target unconditional, the Climate Action Tracker would upgrade its rating to "Insufficient" instead of the current "highly insufficient" rating. To be compatible with the Paris Agreement, the target would need to decrease emissions further - to below 205 MtCO<sub>2e</sub>.

An important conclusion from these findings is that it is beneficial for Argentina to considerably ratchet up its 2030 target to be consistent with the Paris Agreement. Increased climate action will achieve a wide range of benefits, while they can build on already ongoing activities. Argentina will have to scale up action considerably in the electricity sector as well as in both the buildings and transport sectors.

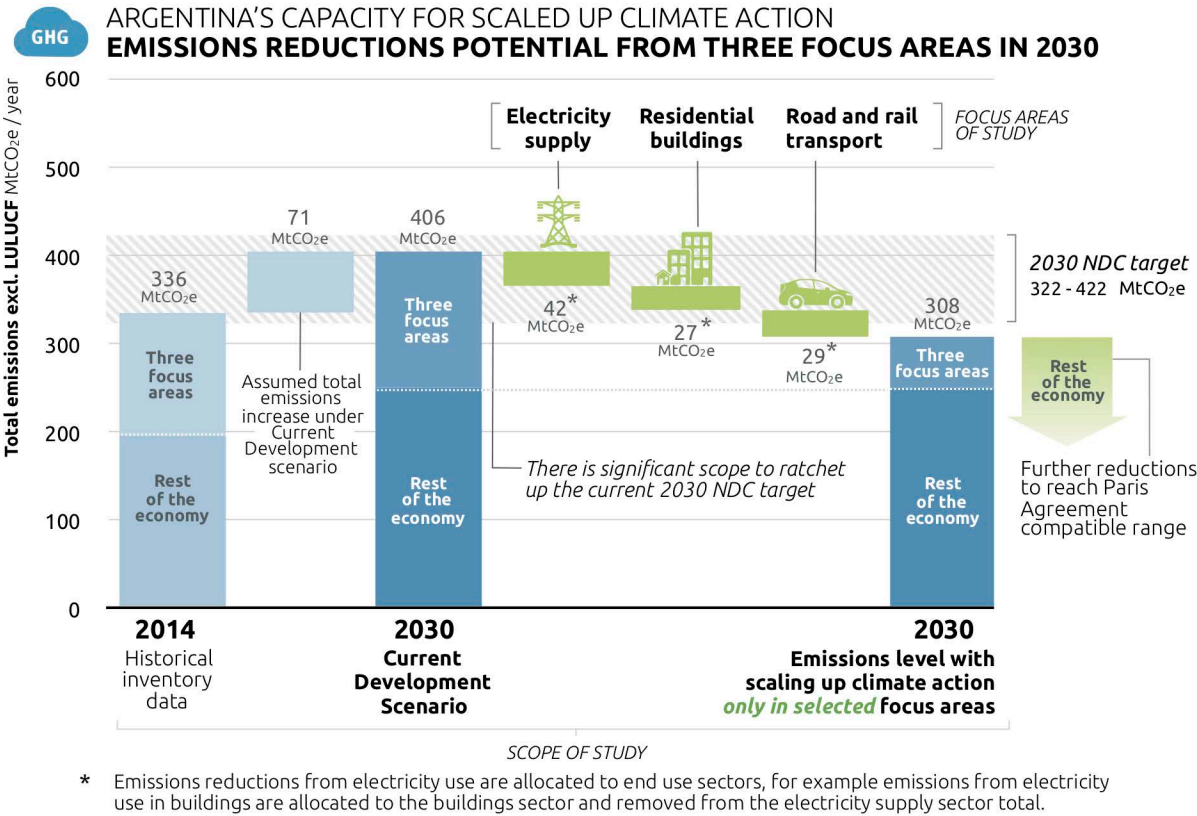
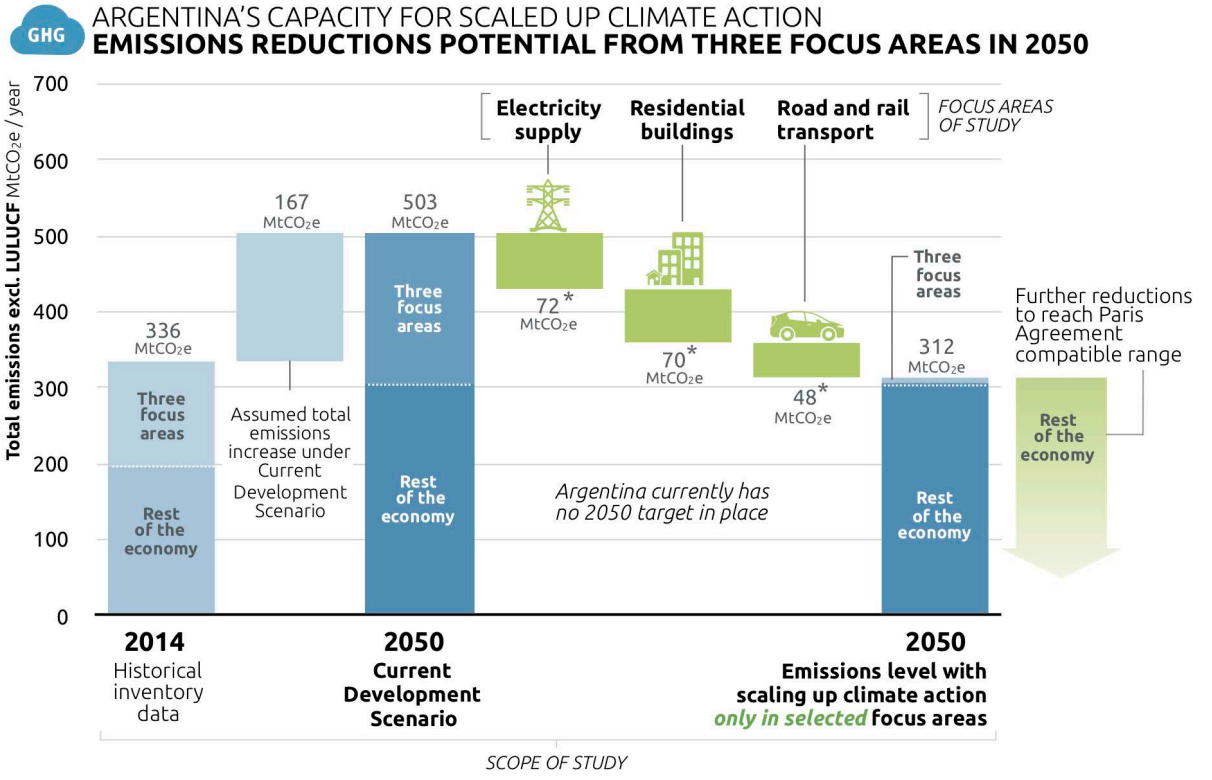


Figure 4: Overview of total emission levels (excl. LULUCF) under historical inventory data in 2014 (left bar), under a Current Development Scenario in 2030 (middle bar), and most ambitious levels of accelerated climate action by 2030 in the electricity supply, the residential buildings sector, and land-based passenger and freight transport (right bar). All electricity-related emission reductions from the residential buildings and transport sectors are allocated as emissions reductions under these two end-use sectors.



**Scaling up climate action in Argentina’s electricity supply, residential buildings sector, and land-based passenger and freight transport alone can reduce Argentina’s total greenhouse gas emissions by up to 7% below 2014 levels (excluding LULUCF) by 2050. Our analysis also shows that these three sectors can be fully decarbonised by 2050.**

When determining its long-term strategy by mid-century, Argentina can consider these identified mitigation potentials for the three focus sectors in line with the Paris Agreement’s temperature target. It will need to implement more ambitious and stringent policies to initiate and steer these sectoral transformations.



\* Emissions reductions from electricity use are allocated to end use sectors, for example emissions from electricity use in buildings are allocated to the buildings sector and removed from the electricity supply sector total.

Figure 5: Overview of total emission levels (excl. LULUCF) under historical inventory data in 2014 (left bar), under a Current Development Scenario in 2050 (middle bar), and most ambitious levels of accelerated climate action by 2050 in the electricity supply, the residential buildings sector, and land-based passenger and freight transport (right bar). All electricity-related emission reductions from the residential buildings and transport sectors are allocated as emissions reductions under these two end-use sectors.

If it does so, Argentina can become a regional and international frontrunner in successfully transitioning its energy supply and demand sectors, while benefiting from a wide range of socio-economic benefits such as sustainable employment generation, reduced levels of dangerous air pollution, and socially just housing.

Our findings emphasise that Argentina will still need to undertake additional mitigation actions in all other remaining sectors to align its economy-wide emissions pathway with the Paris Agreement’s temperature limit, particularly in the agriculture and forestry sectors.

## SCALING UP CLIMATE ACTION IN ARGENTINA POTENTIAL EMISSIONS REDUCTIONS IN THREE FOCUS AREAS BY 2050

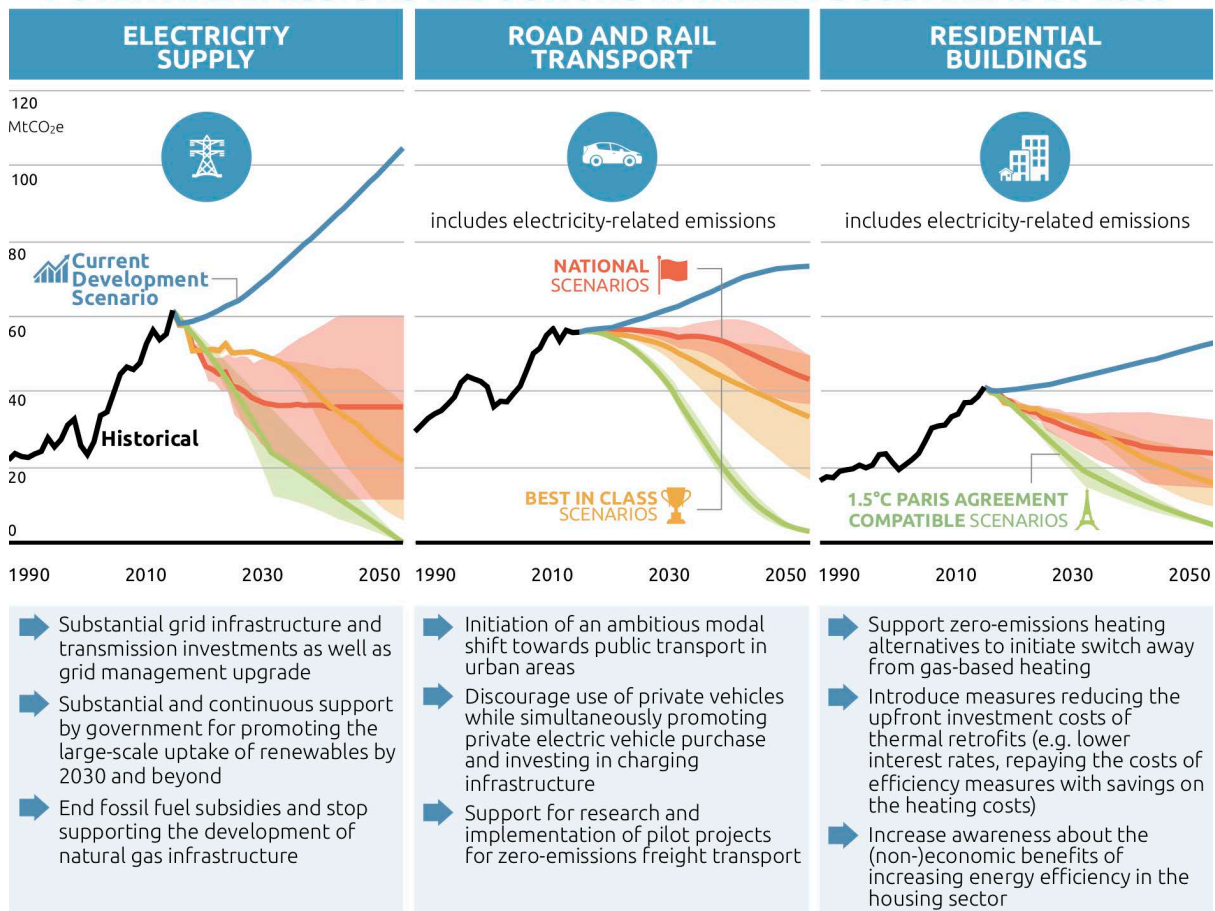


Figure 6: Overview of emissions levels under different scenarios for the three focus areas. All electricity-related emissions in the sector-specific scenario graphs for the residential buildings sector (middle graph) and passenger and freight transport sector on land (right graph) include electricity-related emissions under these two end-use sectors.






### The status of sectoral transitions: opportunities for accelerating climate action

**The transitions towards zero-emissions in the Argentinian electricity supply, land-based passenger and freight transport, and residential buildings sectors have shown different levels of progress.**

While the electricity supply sector is most advanced with ambitious 2025 targets for renewables and limited remaining coal capacity in operation, to fully implement its targets, Argentina must make a policy shift away from supporting natural gas infrastructure to achieve a transition to full decarbonisation. Actions in the transport and building sectors are also lagging.

Table 1 is an overview of this study's evaluation for the three sectors compared with sector-specific benchmarks. These benchmarks represent the most important short-term steps for limiting global warming to 1.5°C identified by the Climate Action Tracker (Kuramochi et al., 2017). The full results of this analysis for all sectors are detailed in the full report.

Table 1: Summary table for sectoral policy activity and gap analysis in Argentina for the electricity supply, land-based passenger and freight transport, and residential building sectors. 1.5°C compatible benchmarks relate to most important short-term steps for limiting global warming to 1.5°C identified by the Climate Action Tracker (Kuramochi et al., 2017). Percentages in the first column indicate the share of national GHG emissions in 2014, calculated based on the 2nd Biennial Update Report of 2017 including LULUCF (Government of Argentina, 2017b).

Sector	1.5 °C-consistent benchmark	Overall evaluation based on policy activity and gap analysis	Policy rating
 <b>Electricity supply sector</b> (12% of GHG emissions, incl. LULUCF)	<p><i>Sustain the global average growth of renewables and other zero and low-carbon power until 2025 to reach 100% by 2050</i></p>	<ul style="list-style-type: none"> <li>Share of electricity generation from low-carbon technologies (incl. hydro and nuclear) projected to decrease from 36% in 2018 (CAMMESA, 2019b) to 31% in 2030 under current policy projections (CAT, 2018).</li> <li>Additional actions are needed to deploy non-conventional <sup>1</sup> renewables in line with the Secretariat of Energy's targets of a 20% share of non-conventional renewables by 2025 and 25% by 2030. Assuming the target's full implementation, the share of low-carbon electricity generation (incl. hydro and nuclear projections) reach levels of 55-62% by 2025 and 62-69% by 2030 (MINEM, 2017).</li> <li>Policy instruments are in place to support the uptake of non-conventional renewables (e.g. auction policies), but recent delays in commissioned renewables projects might slow down the average growth of installed renewables capacity until 2025.</li> <li>The Energy Secretariat has declared it will double oil and gas production within five years for both international exports and domestic energy supply generation (Energy Secretariat, 2018). This support for natural gas in electricity generation, incl. production-related subsidies and tax benefits, puts the power sector's full decarbonisation by mid-century in doubt.</li> <li>The Argentinian government has successfully reduced some consumption and production related fossil fuel subsidies in recent years (OECD/IEA, 2019), but direct financial support for natural gas consumption and production continue.</li> </ul>	 Ambitious Plan
	<p><i>No new coal plants, reduce emissions from coal power by at least 30% by 2025</i></p>	<ul style="list-style-type: none"> <li>As of 2019 Argentina only operates a single coal plant with an already prolonged lifetime. A 240 MW power plant is under construction, but construction has been paused and the start of operation remains unclear as of August 2019 (Energy Secretariat, 2018).</li> <li>The government's direct support of renewables and natural gas aims for a complete coal phase-out in Argentina (MAYDS &amp; MINEM, 2017), which should be relatively easy considering the currently low share in 2019 (&lt;2%).</li> <li>No policy to formally phase out all coal fired generation exists.</li> </ul>	 Partially Transitioned
 <b>Transport sector on land</b> (14% of GHG emissions, incl. LULUCF)	<p><i>Last fossil fuel car sold before 2035</i></p>	<ul style="list-style-type: none"> <li>Transport sector emissions forecast to increase by almost 50% by 2030 compared to 2014 levels under a business-as-usual scenario (MAYDS &amp; MINTRAN, 2017).</li> <li>Participation of EVs in car fleet remains negligibly small with few existing policies to incentivise their uptake.</li> <li>Several short-term measures in place such as higher levels of biofuel blending, inclusion of flex fuel vehicles and actions to increase efficiency but limited expected impact of these measures in terms of emission reductions and sustainability concerns of biofuel production.</li> <li>The transport action plan suggests a share of at least 30% of electric buses in public urban transport by 2030 in Buenos Aires City and Province (MAYDS &amp; MINTRAN, 2017).</li> </ul>	 Getting Started

1 The term non-conventional renewable energy is a term broadly used in Latin America to refer to the generation of electricity from renewable sources different than large hydro, which is predominant in the region. The term comprises wind, solar, biomass, small hydro (run-of-the-river), tidal and geothermal energy.



**Residential buildings sector**  
(8% of GHG emissions, incl. LULUCF)

*All new buildings fossil free and near zero energy by 2020*

- Sustainable housing manual and labelling scheme in place, which applies standards to all new buildings financed or co-financed by the Secretariat of Housing. However, no policy framework for buildings financed by private actors to be fossil free by 2020 or shortly thereafter.
- Mandatory efficiency guidelines exist for design and construction of social housing.
- A voluntary certification system for energy efficient buildings is in place, but no implementation of strict building efficiency standards foreseeable.
- Labelling system and minimum performance standards for appliances are in place, but do not significantly reduce sector emissions.



*Increase building renovation rates from <1% to 3% by 2020*

- No wide-scope strategy or policies in place to enhance energy performance of existing buildings apart from soft loans available for thermal renovation of existing social housing buildings stock.
- Major challenges remain to undertake extensive renovations of existing residential buildings (e.g. lack of financial resources and subsidised costs for gas that hinder the economic viability of building renovations).
- Argentina has progressed in gradually reducing subsidies in end-user tariffs for natural gas, but remaining subsidies and the difference in price for technological change hinder the consumers' shift to heat pumps.



## Co-benefits of upscaled climate action: employment

**Accelerated climate action in Argentina can generate significant socio-economic co-benefits that help promote the national sustainable development agenda. These include low and high-skilled employment in low-carbon-oriented sectors, a reduction in adverse health impacts from air pollution, and increased participation and social justice in mobility and housing.**

These co-benefits would directly enable Argentina to progress towards key national sustainable developments goals (SDG) such as ensuring access to affordable, reliable, sustainable and modern energy for all (SDG 7) or making cities and human settlements inclusive, safe, resilient and sustainable (SDG 11).

For example, the study's findings on employment generation in low carbon-oriented sectors from scaled up climate action in electricity generation (see below) support Argentina's aim to promote inclusive and sustainable economic growth, full and productive employment, and decent work for all as anchored in SDG 8.

**The findings emphasise the employment potential of accelerated climate action in the electricity generation sector, particularly in low-carbon-oriented fields. This study's quantification of employment impacts indicates that scenarios heavily relying on renewable capacity additions all support more jobs compared to the Current Development Scenario, where the majority of capacity additions are fuelled by natural gas.**





## ELECTRICITY SECTOR COMPARISON OF AVERAGE EMPLOYMENT PER YEAR BETWEEN SCENARIOS

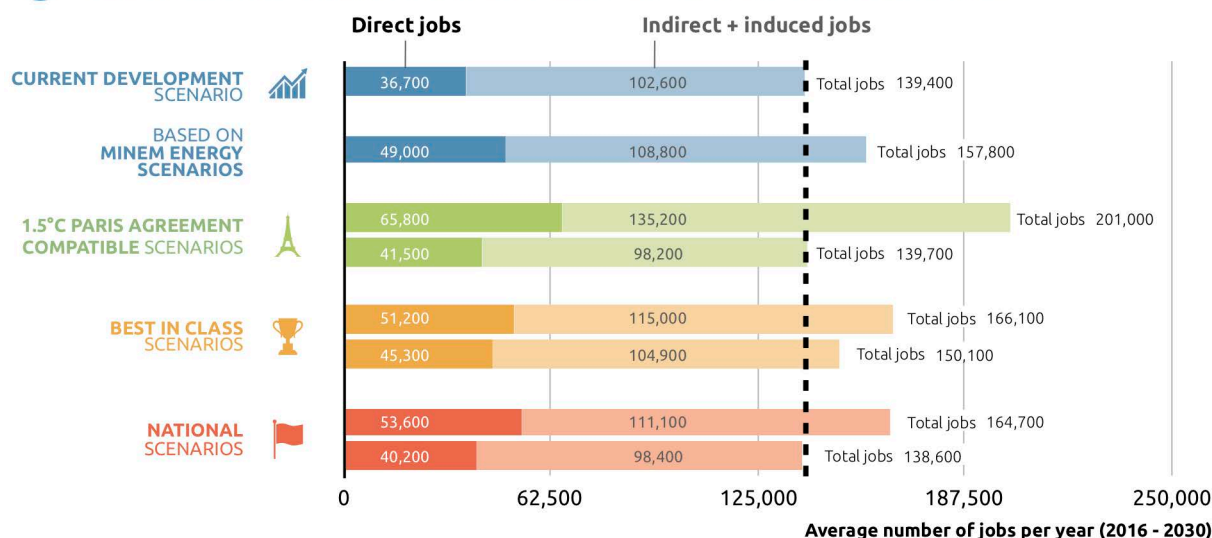


Figure 7: Average direct employment per year between 2016–2030 and average total employment per year between 2016–2030 in Argentina for different electricity generation scenarios. Employment impacts are estimated with the Economic Impact Model for Electricity Supply (EIM-ES).

Under the Current Development Scenario, approximately 37,000 people a year, on average, are directly employed in developing new electricity supply capacity and operating and maintaining both existing and new capacity over the period of 2016–2030. We estimate these investments would stimulate a further 103,000 indirect and induced jobs a year, on average, such as jobs in cement production for the concrete foundations of wind turbines.

1.5°C Paris Agreement Compatible scenarios support up to 29,000 direct jobs per year more than Current Development Scenario. The estimated employment impact across all other scenarios is at least as high as under the Current Development Scenario. They range between approximately 40–66,000 direct jobs a year and a further 98–135,000 jobs when considering the wider indirect and induced impacts of the investments.

**Employment in electricity supply sector scenarios with accelerated renewables deployment is focused in the construction and manufacturing sectors and increasingly in the development and operation of renewable energy sources, notably hydropower, solar PV and onshore wind.**

**Jobs supported by these technologies grow over time and will continue to be needed well after 2030 as the electricity generation sector moves towards full decarbonisation. These jobs are in technologies and sectors that are more likely to form the core of future electricity supply, both in Argentina and globally.**

In the Current Development Scenario, gas-fired generation technologies – both combined and open cycle plants - support a large share of jobs. Jobs in the extraction sector – to mainly supply natural gas – account for approximately 45% of total jobs during the 2020’s (see Figure 8, see top left chart).

The additional jobs in fossil fuel production and fossil fuel-based electricity generation in the Current Development Scenario are not in line with Argentina’s commitment to decarbonising its economy in line with the Paris Agreement’s temperature target. Further investment in the natural gas sector in the coming years could create short-lived employment opportunities, but this risks leading to structural unemployment over the medium-term if stringent global climate policy phases out natural gas use and a domestic labour force that is ill-prepared to support the expansion of renewables required to deliver on the commitments of the Paris Agreement.

**ELECTRICITY SECTOR**  
**DIRECT JOBS PER SECTOR AND TECHNOLOGY**

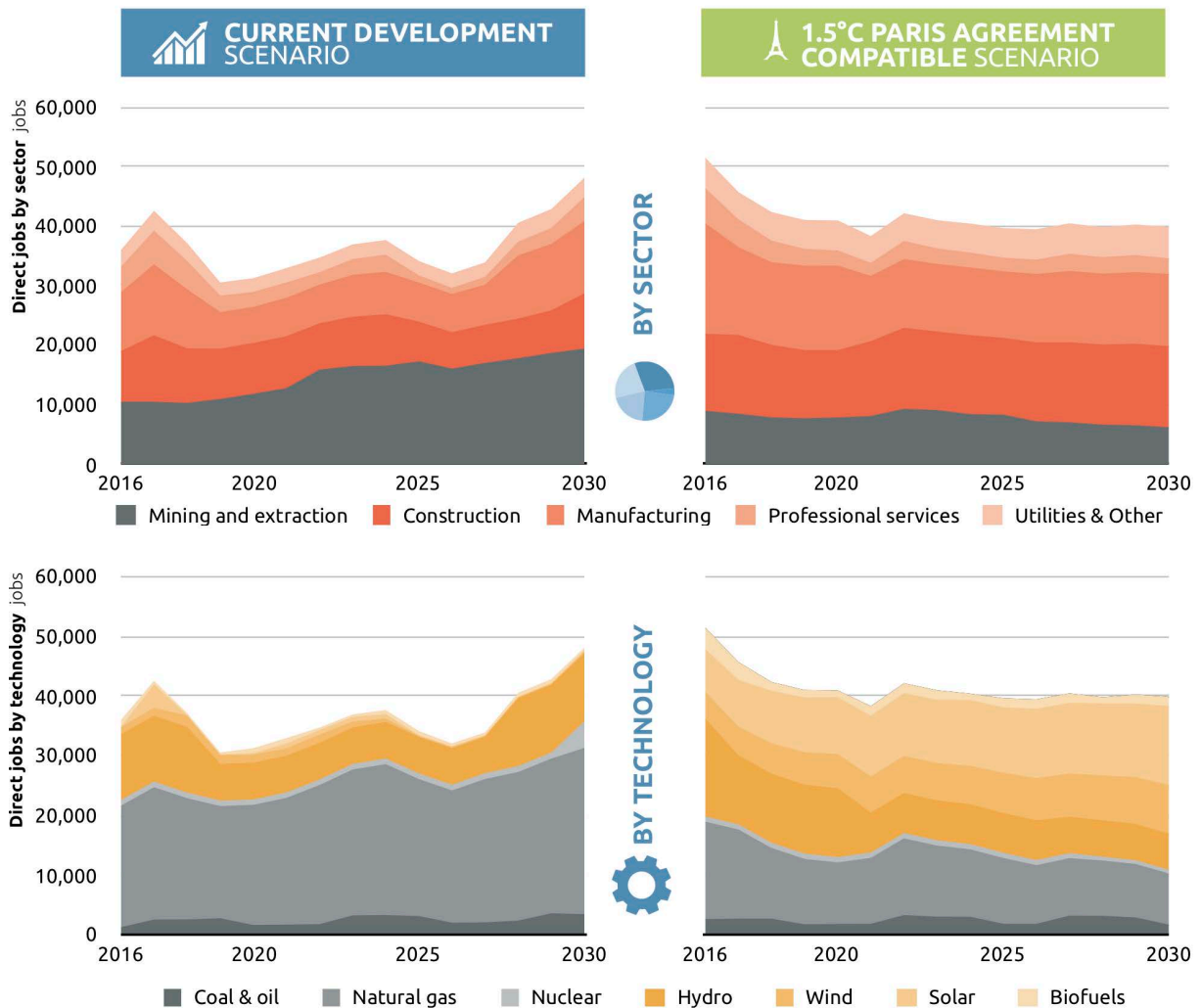


Figure 8: 'Direct jobs per employment sector' and 'Direct jobs per generation technology' between 2016-2030 for the Current Development Scenario (CDS) (graphs on left) and the 1.5°C Paris Agreement compatible scenario for the Argentinian electricity supply sector (graphs on right). Direct employment estimates reflect energy supply sector investments linked to planning, construction, the manufacturing of component parts, operating (including fuel supply such as coal mining, where relevant) and maintaining power plants.

In the lower bound 1.5°C Paris Agreement compatible scenario, the mining and extraction sector accounts for less than 20% of jobs between 2016 and 2030 (see Figure 8, right hand side). Instead, employment opportunities are focused in the construction and manufacturing sectors and increasingly in the development and operation of renewable energy sources, notably hydropower, solar PV and onshore wind. The higher number of jobs supported in the construction and manufacturing sectors in the 1.5°C Paris Agreement compatible scenario more than outweighs the reduction in employment opportunities in the extraction sector, compared to the Current Development Scenario.

These findings emphasise how accelerating climate action in the electricity generation sector has the potential to support higher overall employment. They also highlight the need for Argentina to avoid investing in skills and jobs in the gas industry, which are incompatible with delivering the Paris Agreement. This could lead to structural issues in the Argentinian labour market, which is typically accompanied by social problems and costly retraining of workers.

A well-managed transition should start now by reducing the incentives to join the natural gas sector and could be delivered via the usual turnover of the workforce, in combination with increasing opportunities to develop skills in future-proof technologies.

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The Climate Action Tracker (CAT) is an independent scientific analysis produced by three research organisations tracking climate action since 2009. We track progress towards the globally agreed aim of holding warming well below 2°C, and pursuing efforts to limit warming to 1.5°C.

## The Consortium



NewClimate Institute is a non-profit institute established in 2014. NewClimate Institute supports research and implementation of action against climate change around the globe, covering the topics international climate negotiations, tracking climate action, climate and development, climate finance and carbon market mechanisms. NewClimate Institute aims at connecting up-to-date research with the real world decision making processes.

[newclimate.org](http://newclimate.org)



Climate Analytics is a non-profit climate science and policy institute based in Berlin, Germany with offices in New York, USA, Lomé, Togo and Perth, Australia, which brings together interdisciplinary expertise in the scientific and policy aspects of climate change. Climate Analytics aims to synthesise and advance scientific knowledge in the area of climate, and by linking scientific and policy analysis provide state-of-the-art solutions to global and national climate change policy challenges.

[climateanalytics.org](http://climateanalytics.org)