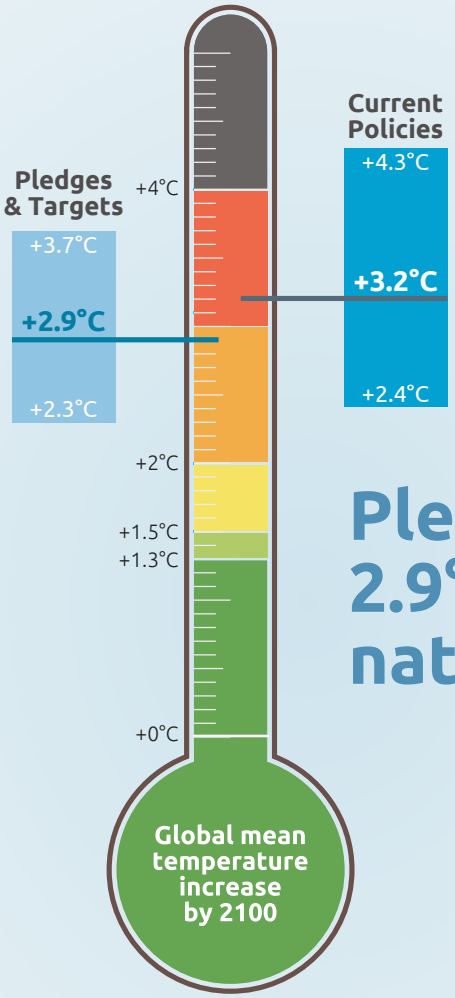
Climate Action Tracker



Pledged action leads to 2.9°C - time to boost national climate action

Climate Action Tracker

WARMING PROJECTIONS GLOBAL UPDATE

September 2019

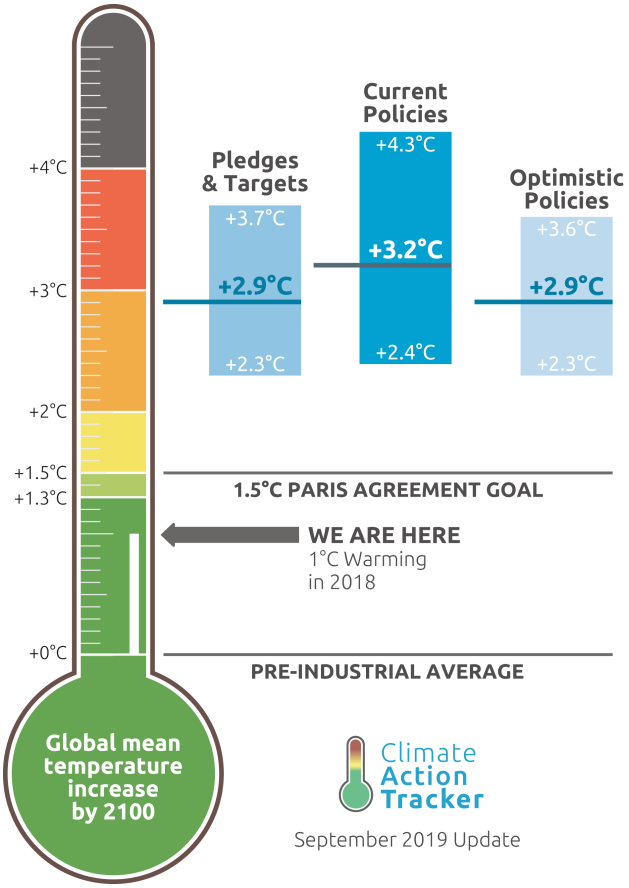
NEW CLIMATE INSTITUTE

CLIMATE ANALYTICS

Summary

The world is not on track to meet 1.5°C

- The world is not on track to limit warming to 1.5°C and meet the Paris Agreement goals. The Climate Action Tracker (CAT) estimates that under current policies, the world will exceed 1.5°C of warming around 2035, 2°C around 2053, and 3.2°C by the end of the century.
- If governments fully achieve the emissions cuts they have committed to, warming is likely to rise to 2.9°C – almost twice the 1.5°C limit they agreed in Paris.
- Under both of these scenarios, there is a 10% chance of exceeding 4°C by the end of the century -- and even up to a 25% chance based on the higher end of the current policies scenario.



Course correction needed urgently

- The CAT finds that this year there has only been a tiny improvement in the total effect of Paris Agreement commitments and of national policies on warming by the end of the century since the last update December 2018, with action only inching forward - at best.
- Governments need to correct their course by making bold commitments, starting at the UN Climate Action Summit on September 23, 2019 and scaling up climate action at home.

New Paris commitments expected

- Governments have agreed to provide updated Paris Agreement commitments by 2020, but no government[1] has yet done so.
- It will be against these reference warming estimates that the CAT will track progress in government action and commitments between the UN Climate Action Summit on September 23, 2019 and the end of 2020.

Evaluating the strength of upcoming announcements

- The CAT has calculated what a 'fair share' contribution to limiting warming to 1.5°C would be in 2030 for seven countries (Australia, Chile, China, the EU, India, Indonesia, and Russia) and translated this, to the extent possible, into the way these governments formulate their commitments.
- While pursuing a 1.5°C compatible pathway is what is needed to avoid the climate crisis, the CAT has also provided two other benchmarks for 2030: how to move up one level of our rating and the "current path" that are meant to help judge the scale of action of any announcements made in New York and over the coming year.

[1] Of the 32 countries that the Climate Action Tracker follows. Argentina updated its NDC when they replaced their INDC in 2016.

How much do NDCs need to be improved by to meet 1.5°C?

Australia

Australia is not on track to meet its NDC. Its greenhouse gas emissions have been rising, in particular in the industry and transport sectors, and current climate policy is ineffective.

INSUFFICIENT ▶ **1.5°C PARIS AGREEMENT COMPATIBLE**

Australia aims to reduce its emissions by 26 to 28% below 2005 levels by 2030 *including* LULUCF which equates to 14 to 17% below *excluding* LULUCF and is rated as "Insufficient."

The fair share target required to bring Australia onto a 1.5°C Paris Agreement compatible pathway would be equivalent to reducing emissions by at least 47% below 2005 levels by 2030 *excluding* LULUCF.

Chile

With existing policies already overachieving the unconditional NDC target, and planned measures going significantly beyond them and overachieving also the conditional NDC target, Chile could easily revise its 2030 target in a new NDC in order to reflect recent progress and align it with their new goal of carbon-neutrality by 2050.

HIGHLY INSUFFICIENT ▶ **1.5°C PARIS AGREEMENT COMPATIBLE**

Chile's first NDC contains two targets, an unconditional target of 30% below 2007 GHG emissions intensity of GDP (in tCO_2e/million CLP$2011) by 2030 (excl. the forestry sector), rated as "Highly Insufficient" and a conditional target of 35-45%.

Chile would need to reduce its emissions intensity by at least 62% below 2007 levels by 2030 to become "1.5°C Paris Agreement Compatible."

China

Given that China is on track to achieve its targets, it is in a prime position to strengthen its NDC. However, its coal consumption and development of coal fired power plants has ramped up in recent years, while it continues to finance foreign coal projects. As China is the world's largest greenhouse gas emitter, global climate mitigation efforts depend on its leadership.

HIGHLY INSUFFICIENT ▶ **1.5°C PARIS AGREEMENT COMPATIBLE**

China's NDC has multiple components, most notably:

- peak CO2 emissions by 2030;
- lower the carbon intensity of GDP by 60%–65% below 2005 levels by 2030; and
- increase the share of non-fossil energy carriers of the total primary energy supply to around 20% by around 2030.

This NDC is rated as "Highly Insufficient."

To become "1.5°C Paris Agreement Compatible" China would need to:

- peak CO2 emissions as soon as possible;
- lower the carbon intensity of GDP by more than 75% below 2005 levels by 2030; and
- increase the share of non-fossil energy carriers of the total primary energy supply to more than 40% by around 2030.

European Union

The EU's NDC is not only inadequate but also outdated. The EU needs to ratchet up its 2030 target in the upcoming NDC update in order to not only reflect recently adopted policies, but also the goal of emissions neutrality by 2050 that is under discussion.

INSUFFICIENT ▶ **1.5°C PARIS AGREEMENT COMPATIBLE**

The EU committed to reducing emissions in 2030 by "at least 40%" below 1990 levels *excluding* LULUCF in its NDC and is rated as "insufficient."

The fair share target range required to bring the EU onto a 1.5°C Paris Agreement compatible pathway would be equivalent to reducing emissions by at least 86% below 1990 levels by 2030 *excluding* LULUCF.

India

Driven by a high level of ambition and policy support, India has emerged as a global leader in renewable energy. It is on track to achieve the more ambitious portion of its NDC (the 40% non-fossil power capacity target) more than a decade early. As it starts to frame coherent policies in the transport sector, and implement market-based mechanisms to control industrial pollution, there is reason to believe that India can significantly increase its NDC commitments to become a global climate leader.

2°C COMPATIBLE → **1.5°C PARIS AGREEMENT COMPATIBLE**

India aims for a 33-35% reduction in the emissions intensity of GDP below the corresponding 2005 value by 2030. The NDC also presents a target of 40% non-fossil installed power capacity by 2030. The CAT rates this NDC as "2°C Compatible"

India would need to reduce emissions intensity by 47% below 2005 levels by 2030 excluding LULUCF to become "1.5°C Paris Agreement Compatible."

Indonesia

The integration of current and planned policies into the climate commitments would improve Indonesia's CAT rating; however, this improvement is not enough to align the country's development with the goals of the Paris Agreement. Scaling up action in its electricity supply and transport sectors would put it on a 2°C compatible pathway.

HIGHLY INSUFFICIENT → **1.5°C PARIS AGREEMENT COMPATIBLE**

Indonesia has an unconditional emissions reduction target of 29% below BAU emissions of GHGs, *including* LULUCF (*16% excl. LULUCF*), by 2030, plus a conditional target of up to 41% below 2030 BAU including LULUCF with sufficient international support (*20-24% excl. LULUCF*). It is rated as "Highly Insufficient."

Indonesia would need to reduce its emissions by at least 71% below 2030 BAU levels by 2030 *excluding* LULUCF to become "1.5°C Paris Agreement Compatible."

Russian Federation

With policies in place already overachieving its unambitious target and additional policies under consideration, Russia urgently needs to substantially ratchet up its 2030 target.

CRITICALLY INSUFFICIENT → **1.5°C PARIS AGREEMENT COMPATIBLE**

Russia aims to reduce its emissions by 25 to 30% *below* 1990 levels by 2030 *including* LULUCF (13-19% *excluding* LULUCF) and is rated as "Critically Insufficient."

The fair share target required to bring Russia onto a 1.5°C Paris Agreement compatible pathway would be equivalent to reducing emissions by at least 72% below 2005 levels by 2030 *excluding* LULUCF.

Contents

Introduction

Before the ink was dry on the Paris Agreement, it was clear to governments that their commitments to cut greenhouse gas emissions would not be sufficient to respect the Agreement's temperature goal of pursuing efforts to limit warming to 1.5°C (Climate Action Tracker, 2015).

It was therefore part of the grand bargain that to cut emissions further, governments would communicate new or updated commitments and prepare mid-century plans, both of which would be ready by 2020. The IPCC was also invited to prepare a report on the impacts of global warming of 1.5°C above pre-industrial levels.

The conclusions of the IPCC's Special Report on 1.5°C are now well known, and public awareness and concern is growing as impacts are becoming increasingly widespread and severe (Masson-Delmotte et al., 2018). It is time for governments to deliver on their promises by announcing new or updated 2030 emission reduction targets and releasing their mid-century plans. To facilitate the scaling up of climate action, the UN Secretary General António Guterres is hosting a Climate Summit in New York on September 23, 2019, and he has invited governments attending to announce new and improved climate commitments.

In this briefing, the CAT has updated its estimates of where current commitments and real-world action get us in terms of warming by the end of the century. The purpose of this briefing is to set the benchmark against which to judge the announcements we expect from governments in the coming months. We will update this assessment for COP25 in Chile at the end of 2020, in order to track how far these announcements are able to bring down the warming estimates.

Under the Paris Agreement, developed countries should adopt economy-wide absolute emissions reduction targets, while developing countries are encouraged to move to this type of target over time. A variation in the type of targets can make any analysis difficult. To assist in judging the quality and strength of governments' anticipated announcements, the CAT has translated, to the extent possible, what a 1.5°C fair share contribution - as well as two other benchmarks - into a government's chosen method of expressing its emissions reduction target for seven countries (Australia, Chile, China, the EU, India, Indonesia, and Russia).

Current Paris commitments are almost double the 1.5°C warming limit

If all governments achieve their Nationally Determined Contributions (NDCs) submitted under the Paris Agreement, the world is still likely to face a global temperature increase of 2.9°C above pre-industrial levels,[2] close to twice the limit they agreed in Paris.

There is one caveat that needs highlighting. The *current policy projections* of a number of countries, notably Chile, Indonesia, India, Russia, Singapore, Turkey and Ukraine, have them overachieving their NDCs, sometimes by a wide margin. We have not included the NDC numbers from these countries in our analysis, but rather we have taken the upper end of their current policy projections as the limit.

The USA is *not* on track to meet, let alone exceed, its NDC. The Trump Administration has indicated its intention to withdraw from the Paris Agreement. Therefore, we are not considering the NDC any longer in the *pledges and targets* estimate and instead have used the upper end of its current policy projection, as a realistic assessment of where its emissions are likely to be.

For these countries to influence the Climate Action Tracker's *pledges and targets* warming estimate, they would need to announce more ambitious NDCs (or, in the case of the USA, rescind its withdrawal) in order to contribute to bringing this warming estimate down.

This *pledges and targets* warming projection is 0.07°C lower than the CAT's December 2018 assessment. This reduction is not due to governments proposing new NDCs. Rather, it is due to

[2] The figure is the "central" (median) estimate. It is consistent with a likely (66% or greater chance) of a global average temperature increase below 3.2°C in 2100. The full range is 2.4 –3.6 °C.

methodological changes,[3] the clarification of the use of LULUCF accounting (Canada) and as well as lower estimates for the current policy projections for the countries noted above, mainly Indonesia and USA (see next section).

Real-world action heading in the wrong direction

The picture is even more sombre when one considers where the world is actually heading based on how much of their pledges governments have implemented: This is what the CAT's *current policies projection* measures, and it shows that governments, in aggregate, are not on track to meet their largely inadequate pledges and targets. Current policies would only limit warming to 3.2°C by the end of the century, more than twice the Paris Agreement 1.5°C temperature limit.

This warming estimate is 0.07°C lower than that of the CAT December 2018 update. Positive developments since then include stronger measures in Chile's transport sector and the initiation of its coal-fired power plant phase-out, and the EU implementing its new renewable energy and energy efficiency policies (which we had previously only included in our *optimistic policy scenario*).

The USA and Indonesia also had lower current policy projections, but both warrant a word of caution. The drop in American emissions projections was driven by increased gas and renewables usage and decreased coal usage in electricity generation. However, this drop is due to market pressures and, if the Trump Administration continues with its systematic dismantling of federal climate policy, it could increase GHG emissions projections for the year 2030 by up to 400 $MtCO_2e$ over what was projected when President Trump first took office.[4]

In Indonesia, a downward revision of the coal electricity generation projections is the main driver for a decrease in the projections of 300 $MtCO_2e$ per year in 2030, compared to last year's estimates. However, the decrease in generation has not stopped Indonesia's coal capacity expansion. Methodological changes also contributed to the slight decrease.[5]

A little cause for optimism

We also estimated the effect of policies that governments have stated they will implement, but have not yet done so. Under such an *optimistic policy projection*, warming would be limited to 2.9°C above pre-industrial levels. The projection is close to where the world would be if governments achieved their NDCs, yet it is still just as far from the Paris Agreement's temperature limit, and indicates that what is on the drawing board is not enough and needs to be replaced with bold and transformational plans.

The *optimistic policy projection* assesses the effect of any additional government plans or adopts the lower end of the current policy projection for those countries with no further plans (in particular China and India). These additional measures include, for example, Argentina's renewable energy targets, Saudi Arabia's 200 GW solar plant, South Africa's Draft Integrated Resource Plan, Ukraine's 2050 Low Emissions Development Strategy, and Chile's coal phase out.

Much of the change in the *optimistic policy projection* since December 2018 has been driven by factors outside government announcements (as for the other scenarios, see previous section).

3 These methodological changes include up-to-date estimates of historical and present-day emissions.

4 This is the upper end of CAT's estimate of the impact on annual emissions in 2030 of rolling back: the Clean Power Plan (already excluded from the CAT current policies scenario) (U.S. Energy Information Administration, 2018a), CAFE standards for light duty vehicles (based on CAT calculations), methane standards for oil and gas production (U.S. Environmental Protection Agency, 2016), and HFC regulations under the Significant New Alternatives Policy programme (U.S. Environmental Protection Agency, 2015). The lower bound of the estimate is 270 MtCO2e/yr in 2030. For more information click here.

5 For example, the CAT revised its lower estimate of Turkey's current policy projection to reflect the continuation of historical trends in energy production and GDP growth.

Two positive developments deserve highlighting:

- Chile's 2040 coal phase out; and
- Costa Rica's National Decarbonisation Plan

Countering the reductions are updated GHG emission estimates for the EU's renewable energy and energy efficiency targets and a weakening of effect of the additional measures planned under Canada's Pan-Canadian Framework on Clean Growth and Climate Change.

The table below summarises all of the temperature projections and the changes from recent years.

2100 WARMING PROJECTIONS

	2017	2017	2017	2018	2019	Recent changes
Current policies	3.6°C	3.6°C	3.4°C	3.3°C	3.2°C	-0.08°C
Pledges & Targets	2.7°C	2.8°C	3.2°C	3.0°C	2.9 °C	-0.07°C
Optimistic policies	-	-	-	3.0°C	2.9°C	-0.07°C

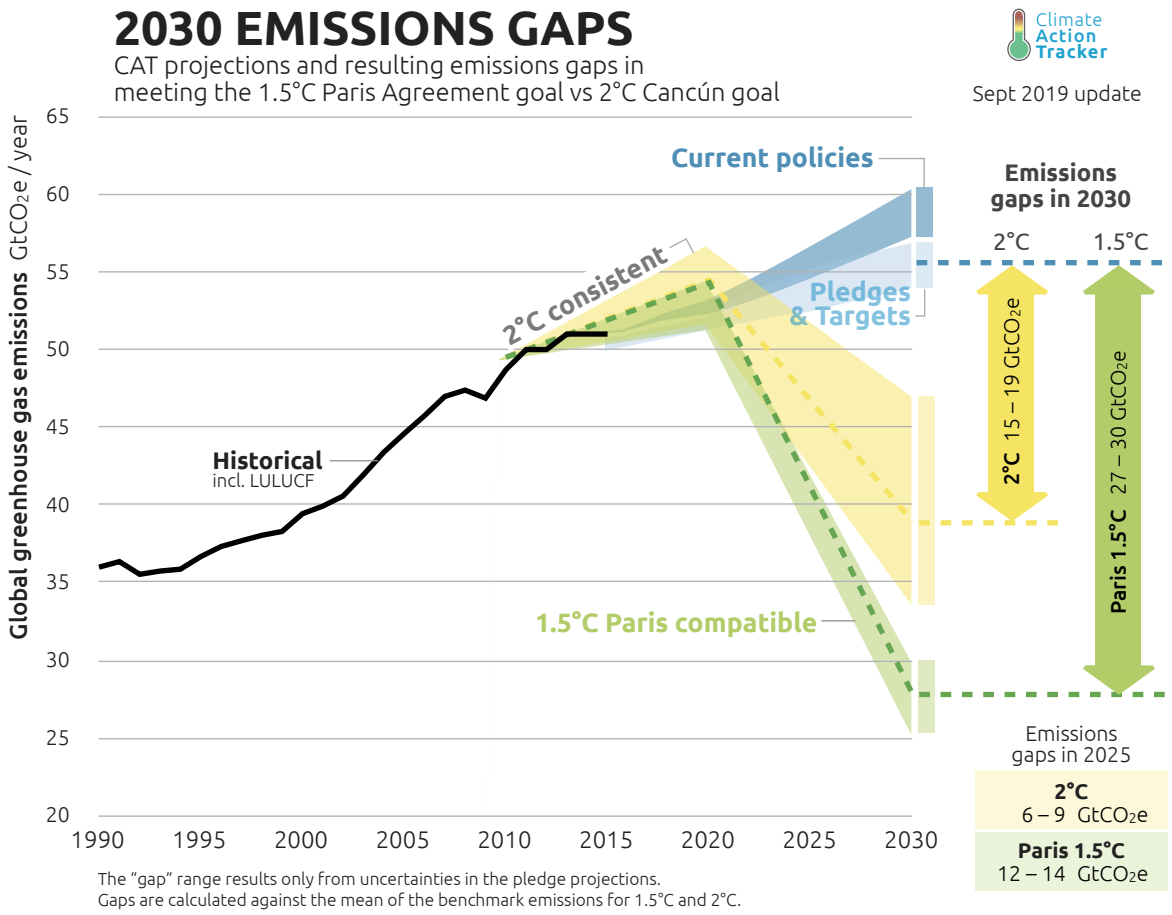
There has been a very slow improvement in the projected warming outcome from *current policy* emissions however the global warming outcome projected from *pledges and targets* has not shown a strong trend of improvement in the period from 2015. Various data improvements and some methodological changes have occurred and may obscure the identification of a strong trend; however, it is clear that there has not been a substantial improvement in the commitments put forward under the Paris Agreement. Optimistic interpretations of current policies - including the effects of policies proposed but not yet implemented - does improve the outlook but not fundamentally.

Urgent need to close the gap

This incremental change in all evaluated pathways is far from closing the emissions gap to 1.5°C compatible climate action. Compared to last year's December assessment, the 2025 gap remains the same at 12-14 GtCO2e in 2025 and slightly increases by 1 Gt CO2e in 2030 to 27-30 Gt CO2e. The slight increase is caused by an update of the 1.5°C compatible pathway which is now based on a broader set of compatible integrated assessment model scenarios, which slightly lowers the allowed 2030 emissions.

The full range of the median temperature rise for the pledges & target projection is 2.3-3.7 °C and for the current policies, it is 2.4 - 4.3 °C. For the current policies projection, there is a 10-25% chance that warming could exceed 4°C by the end of the century. The pledges and targets projection also has about a 10% chance of exceeding 4°C by 2100. Under current policies, warming of 1.5°C will likely be reached between 2030-2043, with a median estimate of 2035, and 2.0°C between 2044-2067, with a median estimate of 2053.6

6 Likely means a 66% chance.



The case for urgency cannot be overstated: bold action is needed in New York, in Santiago, in Glasgow and beyond, until such time as governments bring emissions onto a 1.5˚C pathway.

A short guide to tracking government announcements

To assist in judging the strength of government announcements, the CAT has included three benchmarks for reference: what a 1.5°C "fair share" contribution is, where a government would be if it improved one CAT rating category and where a government would be if it achieves current and planned policies. Make no mistake: nothing less than a 1.5°C "fair share" contribution to limiting warming to 1.5°C is compatible with the Paris Agreement.

Under the Paris Agreement, developed countries should undertake economy-wide absolute emission reduction targets, while developing countries are encouraged to move to this type of target over time. In this section, we analyse what targets would look like for seven countries (Australia, Chile, China, the EU, India, Indonesia and Russia) in the terms of the "language" of their Nationally Determined Contributions (NDCs), i.e. using the indicators that the they chose to describe their NDC to the extent possible. This translation exercise is meant to provide clarity on the scale of action of these announcements.

The list of countries was chosen to provide broad sample of cases, including developed and developing countries, some overachieving their NDCs, some not, some with policy progress over the last years, some not. We did not focus on the US because we are not expecting any NDC announcements from the Trump Administration.

Scaling up climate targets to close the gap to 1.5°C

To avoid the climate crisis, governments must scale up climate targets to be consistent with their "fair share" contribution to limiting warming to 1.5°C; there are no ifs, ands, or buts, about it. Since 2009 the Climate Action Tracker has provided estimates of the "fair share" based on a very wide range of perspectives of what could be considered a "fair share" and also notes that it is not acceptable that countries choose the one approach that is most favourable to them (full method). From that, we derive rating categories from "critically insufficient" to "role model".

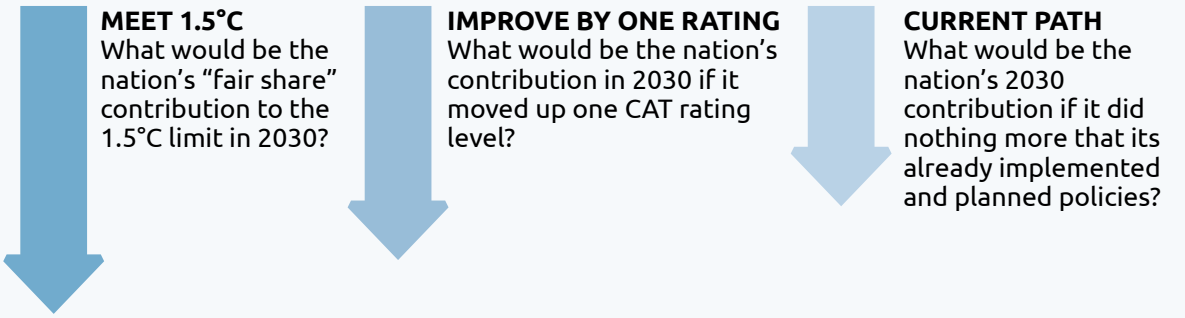
In the following evaluation it is important to note three key issues:

- The Climate Action Tracker's "fair share" range rating system is based on published scientific literature on what a country's total contribution would need to be to make a fair contribution to implementing the Paris agreement. In order to make a fair contribution to meeting the Paris Agreement's goals, developed countries need to make both domestic emission reductions and contributions to assisting poorer countries reduce their emissions. What this means is that a country's total NDC "fair share" action range is the total sum of domestic reductions + emission reductions overseas (from climate finance, providing means or implementation or acquisition of emission units, if those are in turn discounted in the host country). This means that, in addition to domestic emissions reduction targets, the "fair share" emissions reduction range as estimated by the CAT would almost always require a developed country to provide enough climate finance, or via other means of implementation, support to bring the total emissions reduction contribution of that country down to the required "fair share" level[7].
- The scientific literature on fair share allocation of emissions is generally based in emissions excluding land use, land use change and forestry and there is no generally accepted methodology to include LULUCF in fairness rating systems. Where NDCs are expressed including LULUCF, or have LULUCF goals such as deforestation reduction, the CAT converts the emission consequences of the NDC to GHG emissions excluding LULUCF in order to place them within the fairness rating system[8]. In such cases we were not able to fully translate the ambition levels into the language of chosen by the country.
- Governments vary in their approaches LULUCF in the NDCs, which adds significant uncertainty to where emissions will be in 2030 (Fyson & Jeffery, 2019). Greater transparency and separate LULUCF targets would assist in evaluating the scale of action to which governments have committed.

SCALING UP CLIMATE PLEDGES TO CLOSE THE GAP TO 1.5°C

The world is a long way off course from limiting warming to 1.5°C and governments have agreed to provide updated Paris Agreement commitments by 2020. We examine three possible levels of action governments could take

Where can governments take their NDCs?



7 At present the Climate Action Tracker does not routinely estimate what a fair domestic emission reduction would be for countries, nor does it estimate the quantity of finance contribution that will be needed, as these methodologies are still under development.

8 Methodologies to evaluate the adequacy of LULUCF commitments in NDC's are presently under development.

Australia

CAT **Paris commitment rating** — INSUFFICIENT

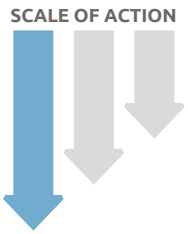
Will policies **meet that target?** — NO

Australia's NDC is an economy-wide absolute emission reduction target below 2005 levels that includes the land-use, land-use change and forestry (LULUCF) sector. Australia aims to reduce its emissions by 26-28% below 2005 levels by 2030. Excluding LULUCF, Australia's target equates to 14 to 17% emissions reductions below 2005 levels in 2030.

The CAT rates Australia's target (excluding LULUCF) as "Insufficient". Australia's NDC is not consistent with holding warming below 2°C, let alone limiting it to 1.5°C as required under the Paris Agreement, and is instead consistent with warming between 2°C and 3°C.

Australia is not on track to meet its NDC (Department of the Environment and Energy, 2018). Its greenhouse gas emissions have been rising, in particular in the industry and transport sectors, and current climate policy is ineffective.

What would be…

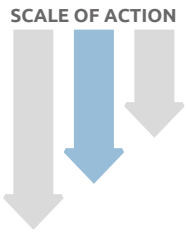


Australia's "fair share" contribution to the 1.5°C limit in 2030?

We estimate that the fair share target range required to bring Australia onto a 1.5°C Paris Agreement compatible pathway would be equivalent to a 47-85% reduction in emissions from 2005 levels (excl. LULUCF). This starts in the middle of the range recommended by the Climate Change Authority when translated to reductions excl. LULUCF of 37-58 % below 2005 levels)[9] (CCA, 2014, 2015; Climate Analytics, 2019a).

As explained above, this "fair share" contribution includes both domestic emission reductions and contributions to assisting poorer countries reduce their emissions. Australia's domestic reductions should "reflects its highest possible ambition" to be in line with the Paris Agreement.

Global least cost modelling suggests that Australia would need reduce its domestic emissions in the order of 35-55% below 2005 levels by 2030 (excl. LULUCF) (Climate Analytics, 2018). To play its fair share Australia would need to make contributions to other developing countries reducing their emissions through climate finance, the Green Climate Fund and other modalities.



Australia's contribution in 2030 to move up one CAT rating level?

Australia's NDC is rated "Insufficient" by the CAT. To improve one CAT rating level and become consistent with holding global warming to 2°C above pre-industrial levels, Australia would need a "fair share" commitment equivalent to greater than 27% below 2005 levels in 2030 (excl. LULUCF) (range of 27-47% reductions below 2005 levels in 2030 (excl. LULUCF).

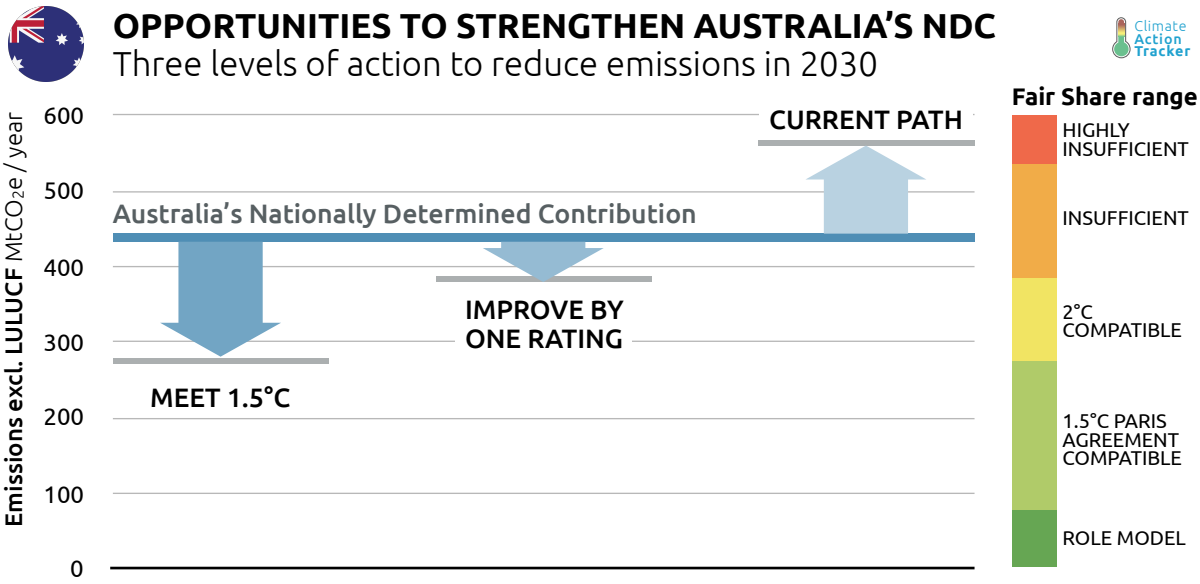
Australia's 2030 contribution, based on implemented and planned policies?

Australia is not on track to meet its NDC. The so-called "Climate Solutions Package" announced in February 2019 confirms that the Government is not intending to implement any serious policy efforts. Instead, it wants to rely on carry over units, and the inadequate instrument, the Emissions Reduction Fund (ERF) now re-named the "Climate Solutions Fund". Compounding the situation is the fact that Australia intends to use carryover units from the Kyoto Protocol to achieve a little over half of its abatement task (Department of the Environment and Energy, 2018). Use of these units significantly lowers the actual emissions

[9] Original CCA range is 40-60% below 2000 levels (incl. LULUCF).

reductions to be achieved.

Under current policies, Australia's emissions are projected to rise to 8% above 2005 emissions levels in 2030 (excl. LULUCF).



Australia's Nationally Determined Contribution
Reduce emissions to 26 to 28% below 2005 levels by 2030 including the forestry sector

Comparison of targets	*Excluding* forestry (LULUCF) emissions			
Reference year - 2005			522	$MtCO_2e$
Current Path		↑	**8%**	above 2005 levels by 2030
Australia's Nationally Determined Contribution	**14%**	—	**17%**	below 2005 levels by 2030
Improve By One Rating		>	**27%**	
Meet 1.5°C		>	**47%**	

Chile

CAT **Paris commitment rating** — HIGHLY INSUFFICIENT

Will policies **meet that target?** — CLOSE

Chile's first NDC submitted in 2015 contains two targets, an unconditional target of 30% below 2007 GHG emissions intensity of GDP (in tCO2e/million CLP$2011) by 2030 (excl. the forestry sector), and a conditional target of 35-45% (Government of Chile, 2015). Both these targets do not include emissions or removals from the forestry sector.

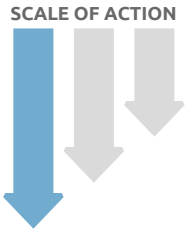
In its NDC, Chile proposes separate targets to address only this sector: a) sustainable management and recovery of 100,000 hectares of forest by 2030 with estimated emissions reductions of 0.6 MtCO2e per year from 2030 and b) commitment to afforest 100,000 hectares, with mostly native species, that are estimated to capture between 0.9–1.2 MtCO2e per year from 2030 (idem). All the following calculations do not consider the forestry element of the NDC.

Chile's definition for its NDC targets based on emissions intensity of GDP introduces uncertainty on the future emission level under this target, i.e. allowing for more emissions if their economic growth is higher. Chile's NDC should be strengthened by replacing the intensity target with targets defined as absolute emissions without the link to GDP.

According to CAT analysis, Chile's current unconditional NDC target is "highly insufficient" and is instead consistent with warming between 3°C and 4°C if all countries were to follow Chile's approach. However, recent positive changes and policies in place are leading Chile to projected emissions levels lower than both its current unconditional NDC target (by 10 $MtCO_2e$/yr in 2030) and achieving the upper end of its conditional target.

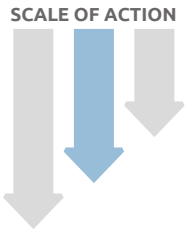
With existing policies already overachieving the unconditional NDC target, and planned measured going significantly beyond them overachieving also the conditional NDC target, Chile could easily revise its 2030 target in a new NDC in order to reflect recent progress and align it with their new goal of carbon-neutrality by 2050.

What would be…



Chile's "fair share" contribution to the 1.5°C limit in 2030?

We estimate that a fair share contribution of Chile by 2030 would be to reduce its emissions to lower than 71 $MtCO_2e$/yr in 2030 (excl. LULUCF). Chile would then be rated "1.5°C Paris Agreement compatible". In the language of Chile's NDC, this level would be 62% below 2007 GHG emissions intensity of GDP (excl. the forestry sector)[10], significantly more ambitious than the 30-45% proposed in the first NDC. Chile would have to update its NDC from 30- 45% improvement in GHG emissions per GDP to 62% to make a contribution that is unambiguously in line with the 1.5°C limit.



Chile's contribution in 2030 to move up one CAT rating level?

If Chile were to further aim for a domestic emissions level of 90 $MtCO_2e$/yr in 2030 (excl. LULUCF), it would receive a CAT rating of "2°C compatible," one category better than their current policy projection, two better than their NDC rating. In the language of Chile's current NDC, this level is translated to 52% below 2007 GHG emissions intensity of GDP (excl. the forestry sector)[11].

10 0.40 tCO2e/CLP2011 in 2030

11 0.50 tCO2e/CLP2011 in 2030

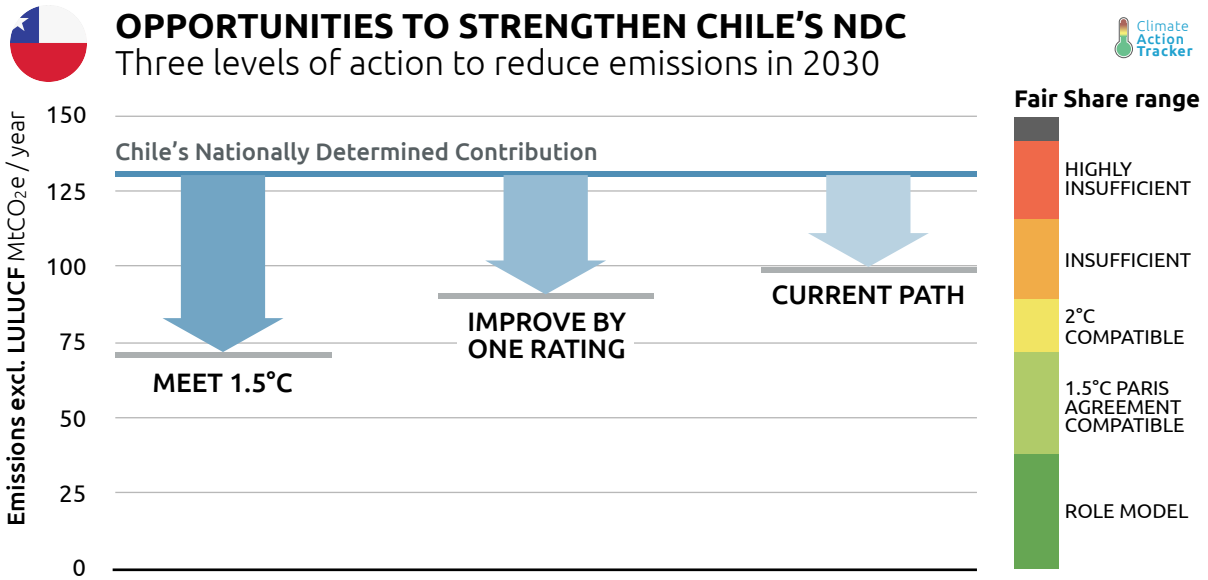
SCALE OF ACTION

Chile's 2030 contribution, based on implemented and planned policies?

Chile has already implemented policies (incl. Chile's Electromobility Strategy) and is planning additional policies that tackle the energy sector—its largest emitting sector. Some of these policies include the second stage of Chile's coal phase-out by 2040 and its 2050 Energy Strategy—which sets renewable electricity targets of 60% by 2035 and 70% by 2050 (Ministerio de Energía, 2015).

When calculating the lower end of Chile's planned policy scenario, we assume that the displaced electricity generation from removing coal-fired power plants, and the additional electricity demand stemming from increasing electric vehicles, will be covered by renewable energy (Climate Action Tracker, 2019).

We estimate that implemented and planned policies could lead to an absolute emissions level of 99 $MtCO_2e/yr$ in 2030 (excl. LULUCF). In the language of Chile's current NDC it would be 48% below 2007 GHG emissions intensity of GDP (excl. the forestry sector)[12]. In other words, a revised NDC of 48% improvement of GHG emissions per GDP would be compatible with what is already planned. This would move Chile from the "highly insufficient" category to the "insufficient" category. But it may not yet reflect the highest possible ambition.



Chile's Nationally Determined Contribution

- Unconditional: 30% below 2007 GHG emissions intensity of GDP (in tCO_2e/million CLP$2011) by 2030.
- Conditional: 35-45% below 2007 GHG emissions intensity of GDP (in tCO2e/million CLP$2011) by 2030.

Current Path	>	48%	below 2007 GHG emissions intensity of GDP (in tCO_2e/million CLP$2011) by 2030
Improve By One Rating*	>	52%	
Meet 1.5°C	>	62%	

* from current path

12 0.55 tCO2e/CLP2011 in 2030

China

CAT **Paris commitment rating** — HIGHLY INSUFFICIENT

Will policies **meet that target?** — YES

China's NDC includes several commitments:

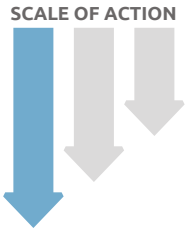
- Peaking of CO_2 emissions by 2030;
- Lowering the carbon intensity of GDP by 60%–65% below 2005 levels by 2030;
- Increasing the share of non-fossil energy carriers of the total primary energy supply to around 20% by around 2030; and
- Increasing its forest stock volume by 4.5 billion cubic metres, compared to 2005 levels.

The CAT currently projects China could meet its 2030 NDC targets if emissions under current policies are at the lower end of their range. Under current policies, China's emissions will grow to 14.4-15.8 $GtCO_2e$/year in 2030 (excl. LULUCF). The CAT rates the NDC ambition level "Highly Insufficient" given that it is consistent with warming of between 3°C and 4°C if all countries followed China's level of action.

Given that China is on track to achieve its targets, it is in a prime position to strengthen its NDC. However, its coal consumption and development of coal fired power plants has ramped up in recent years while it continues to finance foreign coal projects.

China has indicated it will update its NDC and develop a long-term strategy (UN Secretary-General, 2019). It is pertinent to present a more ambitious NDC by ratcheting up emission targets in line with a long-term decarbonisation pathway compatible with limiting warming to 1.5°C. As China is the world's largest greenhouse gas emitter, global climate mitigation efforts depend on its leadership.

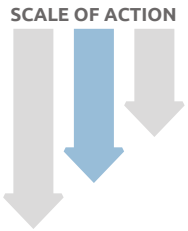
What would be…



China's "fair share" contribution to the 1.5°C limit in 2030?

According to the CAT, China's NDC emissions target would need to peak greenhouse gas emission as soon as possible and limit emissions to below 8.5 $GtCO_2e$/year in 2030 (excl. LULUCF) to be 1.5°C compatible. In the language of China's NDC, this level would be:

- peaking of CO2 emissions as early as possible (from originally "before 2030");
- lowering the carbon intensity of GDP by more than 75% (from originally 60%–65%) below 2005 levels by 2030; and
- increasing the share of non-fossil energy carriers of the total primary energy supply to more than 40% (from originally 20%) by around 2030, with further accelerated decarbonisation in key emitting sectors.



China's contribution in 2030 to move up one CAT rating level?

China is currently on track under current policies to exceed their NDC target of a 20% share of non-fossil energy sources in the total primary energy supply by 2030. According to our projections, China's non-fossil share could reach between 21-30% by that year, and between 24-40% by 2040.

An improved NDC to 40% share of non-fossil energy carriers of the total primary energy supply by 2030 could bring emission levels down to 13.8 $GtCO_2e$/year by 2030, bringing China to the upper (less ambitious) end of the next CAT rating category – "Insufficient" – and implying a level of warming between 2°C and to 3°C by 2100 if all countries implemented this level of ambition.

Accelerating the deployment of renewables to this extent would need to be coupled with overall gains in electrical efficiency to offset rising national energy demand. China's electricity demand reached 6.84 TWh in 2018, marking the

second continuous year of growth, due in part to a large increase in industrial activity (Xin, 2019).

Other critical energy sub-sectors such as transport and buildings, which are projected to make up approximately 42% of China's final energy demand in 2030 (IEA, 2018), should begin to immediately increase their uptake of non-fossil energy use.

SCALE OF ACTION

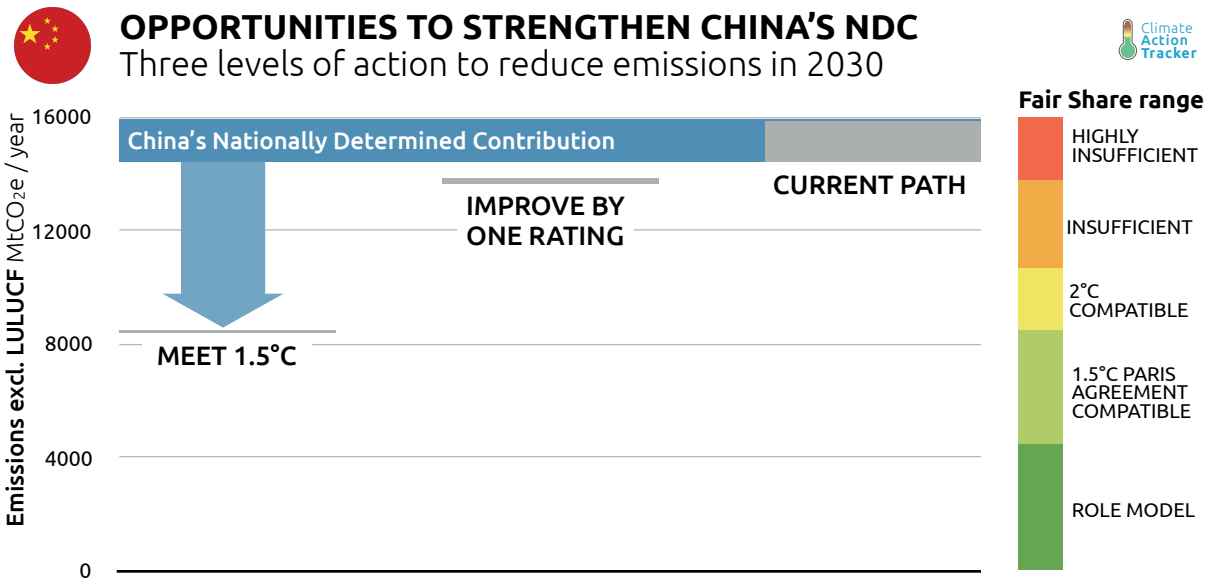
China's 2030 contribution, based on implemented and planned policies?

The CAT's current policies projection leads to 14.4-15.8 $GtCO_2e$/year in 2030 (excl. LULUCF). In the language of China's NDC, this level would be:

- CO_2 emissions still peak by 2030;
- lowering the carbon intensity of GDP by 67-71% (from originally 60%–65%) below 2005 levels by 2030;
- increasing the share of non-fossil energy carriers of the total primary energy supply to 21-30% (from originally 20%) by around 2030.

Given that China is already on track to exceed its 2020 targets and reach the target of CO_2 emissions peaking by 2030 CO_2, the next step should be to bring forward the peaking date for CO_2 emissions to before 2025. Studies suggest that this is an attainable goal, with China possibly able to achieve CO_2 emissions peaking by 2023 with the reformation of existing policies and additional implementation of new policies (e.g. - Gallagher et al., 2019; Green and Stern, 2017).

The peaking of Chinese CO_2 emissions by 2025 would set the country on an emissions pathway of 14.3 to 15.2 $GtCO_2e$/year in 2030. However, this ambition level would still be "Highly Insufficient" and project a global temperature increase of between 3°C and 4°C by 2100 if all countries implemented the same level of action.



China's Nationally Determined Contribution includes several commitments

- peaking of CO2 emissions by 2030;
- lowering the carbon intensity of GDP by 60%–65% below 2005 levels by 2030;
- increasing the share of non-fossil energy carriers of the total primary energy supply to around 20% by around 2030; and
- increasing its forest stock volume by 4.5 billion cubic metres, compared to 2005 levels.

	Current Path	Peaking of CO_2 emissions	**by 2030**	Lowering the carbon intensity of GDP in 2030 by	**67% — 71%**	increasing the share of non-fossil energy carriers of the total primary energy supply by around 2030 to	**21% — 30%**
	Improve By One Rating		**as early as possible**				**40%**
	Meet 1.5°C				**> 75%**		**> 40%**

European Union

CAT **Paris commitment rating** — INSUFFICIENT

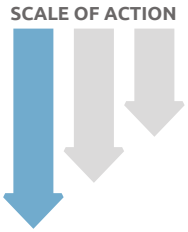
Will policies **meet that target?** — CLOSE

In its NDC, the EU committed to reducing emissions in 2030 by "at least 40%" below 1990 levels (excl. LULUCF)[13]. The CAT rates this NDC (excl. LULUCF) as "Insufficient". It is instead consistent with warming between 2°C and 3°C, if all countries were to follow the EU's level of action. The EU target is explicitly defined as a domestic emissions reduction target and, contrary to other governments, also includes intra-EU aviation.

Since the NDC was presented, the EU has adopted various new measures, which we estimate to have the potential to reduce emissions by 48% below 1990 (excl. LULUCF). These include new renewable energy and energy efficiency goals, the reform of the emissions trading scheme (EU ETS), and a new directive on emissions reductions in the buildings sector. A number of EU member states have also adopted plans to phase out coal power plants by the end of 2030, which would result in halving EU emissions if corresponding allowances are cancelled in the EU ETS (Sandbag, 2019).

This makes it clear that the EU's NDC is not only inadequate but also outdated. The EU needs to ratchet up its 2030 target in the upcoming NDC update in order to not only reflect recently adopted policies, but also the goal of emissions neutrality by 2050 that is under discussion. Further, EU member states need to implement the EU directives to achieve and go beyond this level of emissions reduction.

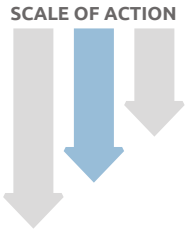
What would be…



the EU's "fair share" contribution to the 1.5°C limit in 2030?

Compatibility with the Paris warming limit would require EU emissions to stay below 804 MtCO2e/yr in 2030 (excl. LULUCF). This level of reduction equates to emissions cuts of 86% below 1990 levels (excl. LULUCF). As explained above, this "fair share" contribution includes both domestic emission reductions and contributions to assisting poorer countries reduce their emissions.

The EU's domestic reductions should "reflects its highest possible ambition" to be in line with the Paris Agreement. Studies on mitigation potential show that it could be net-zero domestic greenhouse gas emissions by 2050 (Pestiaux et al., 2018).



the EU's contribution in 2030 to move up one CAT rating level?

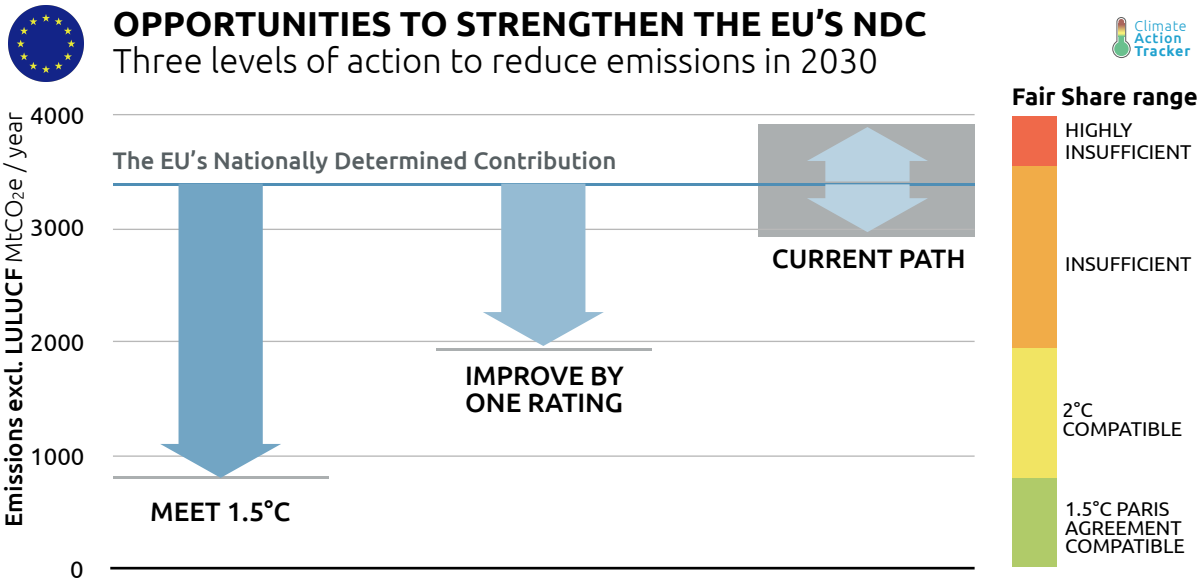
To improve from the EU's NDC "Insufficient" to "2°C compatible" would need a "fair share" commitment equivalent to keeping emissions in 2030 below 1937 MtCO2e/yr (excl. LULUCF) or around 66% below 1990 levels.

Earlier CAT analysis has shown that scaling up climate action in the three sectors alone, electricity, buildings and transport, would result in emissions reductions of 52% below 1990 levels (Climate Action Tracker, 2018).

[13] In June 2018, a new EU Regulation on the inclusion of emissions and removals from the LULUCF sector in the EU 2030 climate and energy framework entered into force. It allows EU member states to use LULUCF removals for up to 280 MtCO2—between 2021 and 2030—to meet the emissions reduction target in the non-ETS sectors (European Parliament and the Council of the European Union, 2018a, 2018b). Since the removals were not included in 1990 emissions levels, this represents a potential weakening of the 2030 target by 28 MtCO2 or 0.8%.

the EU's 2030 contribution, based on implemented and planned policies?

Currently implemented policy would reduce the EU's greenhouse gas emissions by 31-48% below 1990 levels by 2030 (excl. LULUCF). As stated above, the new renewable energy and energy efficiency goals, the reform of the emissions trading scheme (EU ETS), and a new directive on emissions reductions in the buildings sector and plans to phase out coal power plants by the end of 2030, would result in halving EU emissions if corresponding allowances are cancelled in the EU ETS (Sandbag, 2019). Therefore, the EU is well-placed to scale up its climate action and strengthen its NDC.



The European Union's Nationally Determined Contribution
Reduce emissions by at least 40% below 1990 levels by 2030 including LULUCF

Comparison of targets	*Excluding* forestry (LULUCF) emissions			
Reference year - 1990			5650	$MtCO_2e$
The EU's Nationally Determined Contribution		**>**	**40%**	below 1990 levels by 2030
Current Path	**31%**	**—**	**48%**	
Improve By One Rating		**>**	**66%**	
Meet 1.5°C		**>**	**86%**	

India

CAT **Paris commitment rating** — 2°C COMPATIBLE

Will policies **meet that target?** — YES

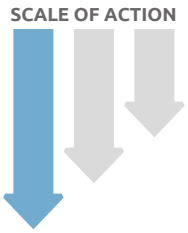
India's NDC contains an unconditional emissions intensity-based target. This commits India to a 33-35% reduction in the emissions intensity of GDP below the corresponding 2005 value by 2030 (Government of India, 2015). The NDC also presents a conditional target of 40% non-fossil installed power capacity by 2030.

The Climate Action Tracker estimates this intensity target translates into absolute emissions levels of 6,025-6,194 $MtCO_2e$ in 2030 (excl. LULUCF). If India were to achieve the more ambitious portion of its NDC (the 40% non-fossil power capacity target) it would lead to an emissions level of 5055 $MtCO_2e$ in 2030 (excl. LULUCF).

The CAT rates India's NDC "2°C compatible", indicating that India's climate commitment is within the range of what is considered to be a fair contribution to global effort. However, if all countries were to follow India's approach, warming could be held below, but not well below 2°C, which is incompatible with the temperature limit of the Paris Agreement.

Driven by a high level of ambition and policy support, India has emerged as a global leader in renewable energy. It is on track to achieve the more ambitious portion of its NDC (the 40% non-fossil power capacity target) more than a decade early. As it starts to frame coherent policies in the transport sector, and implement market-based mechanisms to control industrial pollution, there is reason to believe that India can significantly increase its NDC commitments to become a global climate leader (BBC, 2019; Sharma, 2019).

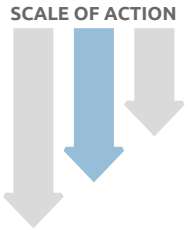
What would be…



India's "fair share" contribution to the 1.5°C limit in 2030?

India's "fair share" contribution to the 1.5°C limit in 2030 would require its 2030 emissions to be below 4597 $MtCO_2e$ (excl. LULUCF). Within the limits of uncertainty, India is meeting just about this level with currently implemented policies (4,510-4,607 $MtCO_2e$ excl. LULUCF). As highlighted above, India's intensity-based target alone would lead to much higher emission levels between 6,025-6,194 $MtCO_2e$ (excl. LULUCF).

The lower end of the current policy projections falls within the upper end of the CAT's "1.5°C Paris Agreement compatible" rating. The current policy projections therefore almost reflects India's "fair share" contribution. In the language of India's NDC, this would be consistent with a target to reduce emissions intensity by 47% below 2005 levels by 2030.



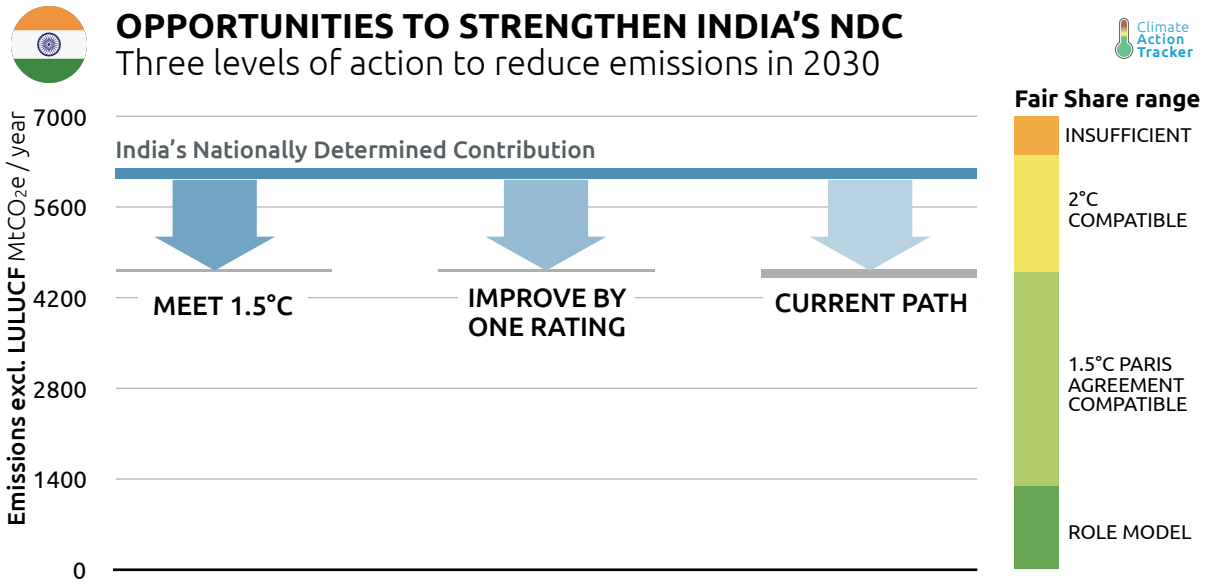
India's contribution in 2030 to move up one CAT rating level?

If India's rating improved by one category, India would fall in the "1.5°C Paris Agreement compatible" rating, so the GHG intensity improvement compared to 2005 would also be 47%. Also, as highlighted earlier, a contribution that reflects the lower end of India's current policy projections already places India in the next CAT rating level. However, this means that India can adopt additional measures, to move from the upper end of its fair share range, and place itself well within the "1.5°C Paris Agreement compatible" range.

An example of such a target would be to adopt a Paris Agreement-compatible benchmark renewable generation target of 50% by 2030. The CAT projects that India is set to achieve a non-fossil capacity of 60-65% in 2030, which corresponds to a 40-44% share in electricity generation. This would largely be driven by increases in solar PV and wind installations. The adoption of a 50% non-fossil share in electricity generation would be compatible with benchmarks compatible with the Paris Agreement (Climate Analytics, 2019).

India's 2030 contribution, based on implemented and planned policies?

With current policies in place, which include the 2022 renewable targets, and policies to improve energy efficiency, the CAT estimates that India's current policy projections would be consistent with a target to reduce emissions intensity by 46-47% below 2005 levels by 2030. The upper end of this projection would lie in the lower end of the "2°C compatible" fair share range, while the lower end would lie in the "1.5°C Paris Agreement compatible" fair share range.



India's Nationally Determined Contribution

- Unconditional: 33-35% reduction in the emissions intensity of GDP below the corresponding 2005 value by 2030
- Conditional: 40% non-fossil installed power capacity by 2030

Current Path	Reduction in the emissions intensity of GDP below the corresponding 2005 value by 2030 excluding forestry (LULUCF) of	**46% — 47%**	Non-fossil installed power capacity by 2030	
Improve By One Rating				**50%**
Meet 1.5°C		**> 47%**		

Indonesia

CAT **Paris commitment rating**	HIGHLY INSUFFICIENT
Will policies **meet that target?**	YES

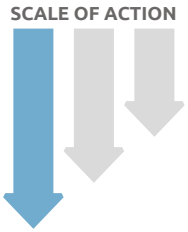
Indonesia's NDC is expressed as a percentage reduction below business as usual emissions in 2030. The country has an unconditional emissions reduction target of 29% below BAU emissions of GHGs, including LULUCF, by 2030, plus a conditional target of up to 41% reductions below BAU with sufficient international support. Excluding LULUCF, the unconditional target equates to a 16% reduction below BAU in 2030 and the conditional target ranges from 20-24%.

Reducing emissions in the forestry sector will account for almost two-thirds of the effort required for Indonesia to meet its NDC. As a result, emissions in other sectors will more than double compared to today's levels by 2030, even if these targets are met.

The CAT rates Indonesia's NDC, excluding LULUCF, as "Highly Insufficient." This rating indicates that Indonesia's climate commitment in 2030 is not consistent with holding warming to below 2°C, let alone limiting it to 1.5°C as required under the Paris Agreement, and is instead consistent with warming between 3°C and 4°C.

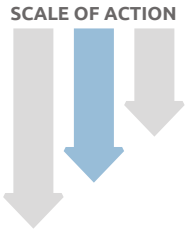
The integration of current and planned policies into the climate commitments would improve Indonesia's CAT rating; however, this improvement is not enough to align the country's development with the goals of the Paris Agreement. Scaling up action in its electricity supply and transport sectors would put it on a 2°C compatible pathway.

What would be…



Indonesia's "fair share" contribution to the 1.5°C limit in 2030?

Emissions, excluding LULUCF, would need to be reduced to below 622 $MtCO_2e/yr$ for the CAT to consider Indonesia "1.5°C Paris Agreement compatible". This equates to a 71% reduction below BAU by 2030 (excl. LULUCF). This would require implementing ambitious action in all sectors. As for other countries, the LULUCF component of the NDC is not considered.



Indonesia's contribution in 2030 to move up one CAT rating level?

Integrating implemented policies would not put Indonesia on a path towards limiting temperature increase to 1.5°C. The energy sector continues to be a major source of emissions due to its huge reliance on coal and oil.

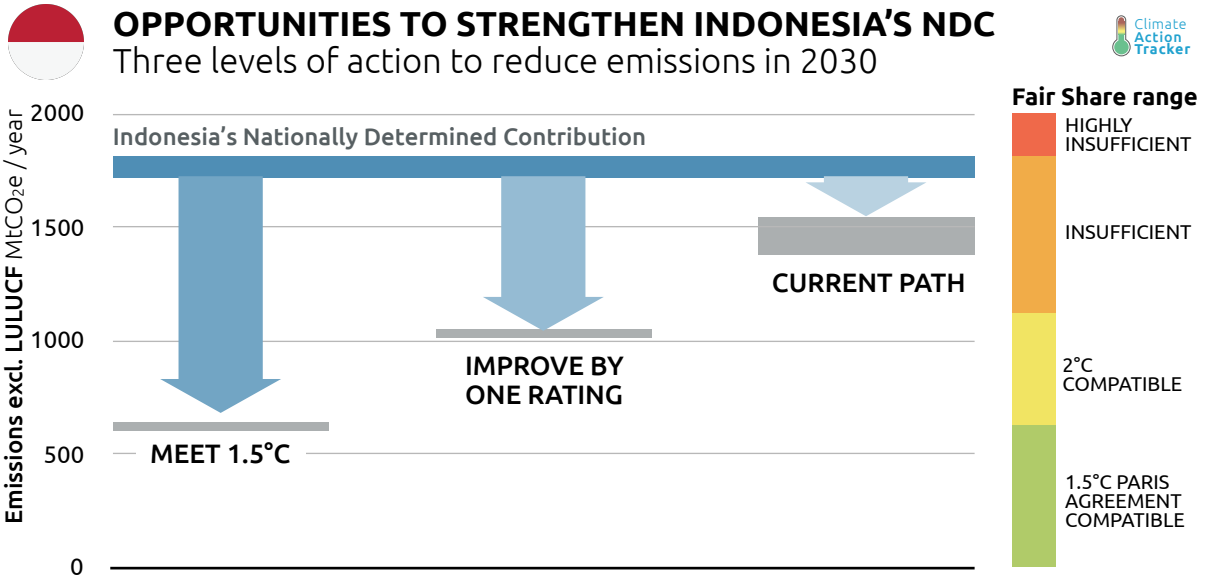
Indonesia could scale up climate action significantly and increase the ambition of its NDC by increasing mitigation activities in the electricity supply and transport sector, as a forthcoming Climate Action Tracker publication shows.[14] For a long-term decarbonisation of the power sector, Indonesia would need to improve its renewable investment climate and stop the construction of new coal-fired power plants. Emissions standards, public transport, and electric vehicles support and infrastructure are cornerstones to reduce emissions in the transport sector.

Aligning actions in these two sectors with 1.5°C scenarios could bring total emissions down to 1,031 $MtCO_2e$/year in 2030, excl. LULUCF. This equates to a 52% reduction below BAU in 2030 (excl. LULUCF). Overall, the CAT would then rate Indonesia "2°C compatible."

14 See the CAT Scaling Up Climate Action Series: climateactiontracker.org/publications/scalingup/.

Indonesia's 2030 contribution, based on implemented and planned policies?

Reflecting Indonesia's implemented and planned policies, emissions could reach 1,374-1,538 $MtCO_2e$/yr in 2030, excl. LULUCF. This equates to a 29-36% reduction below BAU in 2030 (excl. LULUCF). These policies could be accomplished by achieving the National Energy Policy target of 23% renewables in primary energy supply and the 30% biofuels blending mandate, considering the biofuels are subject to strict sustainability standards. The resulting emissions level is already below both unconditional and conditional targets, which are between 1,629 and 1,817 $MtCO_2e$/yr in 2030 (excl. LULUCF), and would result in a CAT "Insufficient" rating.



Indonesia's Nationally Determined Contribution
▸ Unconditional: 29% below BAU emissions of GHGs, including forestry, by 2030
▸ Conditional: Up to 41% reductions below BAU with sufficient international support

Comparison of targets	*Excluding* forestry (LULUCF) emissions
2030 Business as Usual reference value	2155 $MtCO_2e$

Indonesia's Nationally Determined Contribution	**16%**	**—**	**20%**	Reduction of emissions below 2030 Business as Usual reference value by 2030
Current Path	**29%**	**—**	**36%**	
Improve By One Rating*		**>**	**52%**	
Meet 1.5°C		**>**	**71%**	

* Based on electricity supply and transport sectors with 1.5°C compatible benchmarks

Russian Federation

CAT **Paris commitment rating** — CRITICALLY INSUFFICIENT

Will policies **meet that target?** — YES

Russia is one of the few countries who have not ratified the Paris Agreement and therefore does not have a target or Nationally Determined Contribution (NDC) under the Agreement. For the purposes of this analysis, the CAT assumes Russia will follow the target it communicated in 2015 (i.e. its Intended Nationally Determined Contribution).

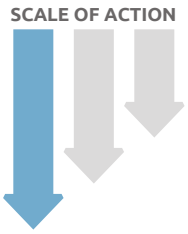
Russia proposes to limit GHG emissions to 70-75% *of* 1990 levels by 2030 (incl. LULUCF). We present this target here as a 25-30% cut in emissions *below* 1990 levels to be in line with the language of most other developed countries. Excluding LULUCF, the target is 13-19% below 1990 levels. Russia intends to rely as much as possible on the emission absorptive capacity of its forests in achieving this target, with the effect that less work will be done to cut its fossil fuel based emissions.

The CAT assesses and rates NDCs excluding LULUCF. Russia's target is rated as "Critically Insufficient" based on the upper end of its target. The "Critically Insufficient" rating indicates that Russia's emission target is consistent with a warming of over 4°C, if all other countries committed to similarly insufficient climate action.

Despite the inadequacy of Russia's climate commitments, there are some encouraging signs for future climate action. A bill was drafted in December 2018 that would regulate GHG emissions by establishing targets for reductions and/or increased absorption across sectors. The bill proposes a permit trading system for limiting direct emissions and economic mechanisms to regulate emissions and absorption, while also requiring regulated entities to conduct an inventory of emissions (US Law Library of Congress, 2019).

With policies in place already overachieving its unambitious target and additional policies under consideration, Russia urgently needs to substantially ratchet up its 2030 target.

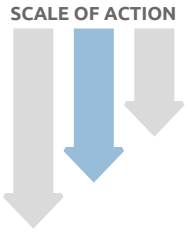
What would be…



Russia's "fair share" contribution to the 1.5°C limit in 2030?

Russia needs to cut its emissions to below 1038 $MtCO_2e$ (excl. LULUCF) in 2030, in order to meet its "fair share" contribution to limiting warming to 1.5°C. In terms of cutting emissions, this "fair share" is equivalent to a 72% reduction below 1990 levels by 2030 (excl. LULUCF).

As explained above, this "fair share" contribution includes both domestic emission reductions and contributions to assisting poorer countries reduce their emissions. Russia's domestic reductions should "reflects its highest possible ambition" to be in line with the Paris Agreement.



Russia's contribution in 2030 to move up one CAT rating level?

Russia's NDC straddles the line between "Critically Insufficient" and "Highly Insufficient". While the CAT does not rate current policies, that emission level also falls within the "Highly Insufficient" range. In order for Russia to improve its NDC rating by one level from "Highly Insufficient" to that of "Insufficient", it must limit emissions in 2030 to below 2.3 $GtCO_2e/yr$ (excl. LULUCF), equivalent to 38% below 1990 level emissions by 2030.

Given Russia's current energy sector emission trajectory is leading to emissions rising until at least 2030 (IEA, 2018), there is great scope for action and ambition in this sector. Russia's current target for the renewable energy share (excl. large hydropower) in total electricity production is 4.5% by 2024. The draft 2035 energy strategy released in 2014 currently has an even lower renewable target for 2024 of 2.5%. However, this strategy is currently under review, which is a good opportunity to bolster this target rather than lower it (IRENA, 2017;

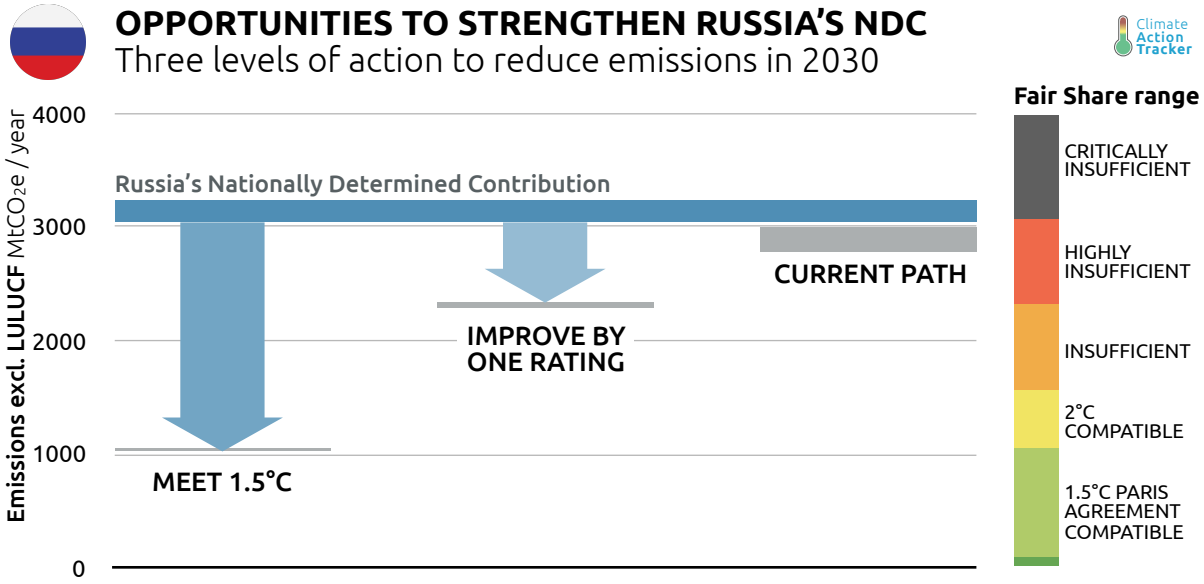
Khashman, 2019).

Under the IEA's Sustainable Development Scenario, Russia's renewable energy generation in 2030 is equal to 8% of total electricity generation (31% including hydropower), showing that a far greater level of ambition is possible (IEA, 2018). Under this scenario CO_2 emissions are 330 Mt lower than under current policies. If Russia were to follow this trajectory, it would bring emissions down more than two thirds of the reduction necessary for improving its rating to "Insufficient". However, to achieve this rating, Russia would need to commit to at least a further 145 $MtCO_2e$ in emission reductions by 2030 from other emitting sectors, below the current policy projection.

SCALE OF ACTION

Russia's 2030 contribution, based on implemented and planned policies?

Russia has not ratified the Paris Agreement, however it has signalled it intends to do so (Sauer, 2019). Under its current policy projections, Russia's emissions are expected to be 2.8-3.0 $GtCO_2e$ (excluding LULUCF) in 2030, equivalent to up to a 25% reduction below 1990 levels. As Russia's NDC is 13-19% below 1990 levels (excl. LULUCF), it is clear that there is substantial remove to scale up climate action as part of its ratification process.



The Russian Federation's Nationally Determined Contribution
Limiting anthropogenic greenhouse gases in Russia to 70-75% of 1990 levels by the year 2030, subject to the maximum possible account of absorbing capacity of forests

Comparison of targets	*Excluding* forestry (LULUCF) emissions			
Reference year - 1990			3734	$MtCO_2e$
Russia's Nationally Determined Contribution	**13%**	—	**19%**	below 1990 levels by 2030
Current Path	**20%**	—	**25%**	
Improve By One Rating		>	**38%**	
Meet 1.5°C		>	**72%**	

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The Climate Action Tracker (CAT) is an independent scientific analysis produced by two 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.

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The Consortium

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.

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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.

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