

Climate crisis demands more government action as emissions rise

Climate Action Tracker

UPDATE

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Summary

Global progress is stalling

- ▶ Emissions are growing. In 2018, emissions grew at the fastest rate since 2011
- ▶ Fossil fuels are expanding. Coal growth is back and natural gas is booming
- ▶ Installation of renewable energy is slowing

Public concern is growing as impacts bite

- ▶ Climate impacts are becoming clear to a larger number of people
- ▶ Public awareness is growing, protests expanding
- ▶ Climate change is becoming a political priority

Climate crisis demands bold action

- ▶ Time is running out. The IPCC special report on 1.5°C made it clear: incremental steps will not be sufficient. Significant, bold and immediate action is necessary.

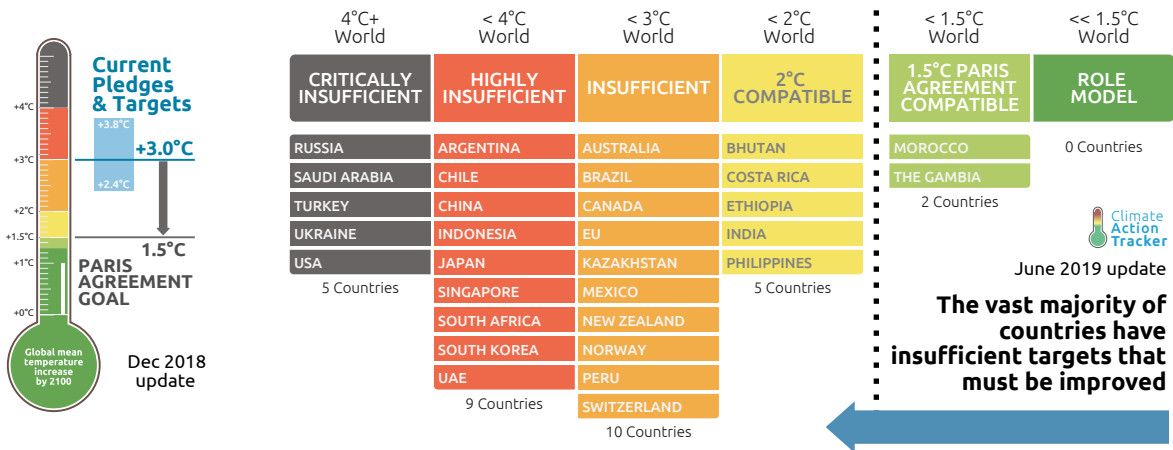
Governments must strengthen Paris targets

- ▶ Governments are scheduled to update their Paris Agreement targets (NDCs) by 2020 and must be ambitious. To keep the 1.5°C goal alive, they need to take radical steps and halve global emissions by 2030.

The last year has seen growing public concern and the formation of global movements pushing governments for serious action in the face of rising emissions and escalating climate impacts.

2018 saw energy-related emissions reach yet another historic high after significant net greenhouse gas increases, 85% of which came from the US, India and China. Coal reversed its recent decline and was responsible for over a third of CO₂ emissions. At the same time there was a huge 4.6% surge in natural gas CO₂ emissions and an associated rise in atmospheric methane. This, plus a stagnation in the number of renewable energy installations, make it clear that governments must do a lot more to address the climate crisis.

In previous assessments, the Climate Action Tracker has identified that the vast majority of countries have targets that are woefully inadequate and, collectively, have no chance of meeting the 1.5°C temperature goal of the Paris Agreement.



This is a call for governments all over to step up their game. In particular focus are those governments that have previously presented inadequate NDCs. The CAT-rated “critically insufficient” examples are Russia, Saudi Arabia, Turkey, Ukraine and the USA.

Equally, there are a number of governments that are likely to meet - or bring their emissions close to - their NDC without implementing any more national policies, a strong indication they have not yet reached their “highest possible ambition” as stated in the Paris Agreement and could do well to increase their targets; examples are India, EU and China.

2020 will see an opportunity for governments to update their targets. Up to 80 may announce new targets later this year at the UN Secretary General’s Summit in September. A number of countries are beginning to discuss net zero targets, mostly by the year 2050, but most governments are nowhere near taking the radical steps required, especially given that global emissions need to halve by 2030 in order to keep the goal of 1.5°C alive.

There have been many developments at a national and sub-national level. For this update, the CAT has assessed 24 of the 32 countries we cover. Below is a selection of highlights (see page 8 for more details on each country):



Australia – Re-election of coalition government makes progress unlikely

The government has effectively turned its back on any serious attempts of action and is instead relying on “carrying over” surplus emissions units from the Kyoto Protocol as emissions continue to rise.



Brazil – President Bolsonaro continues reversal of environmental policies

Deforestation has begun a rapid rise after the progress made since 2005 and the new administration has already taken steps to weaken key environmental policies and institutions.



Canada – Upcoming October election will determine Canada’s direction

The Federal government, playing catch-up on climate, is attempting to implement a number of policies in the face of pushback from some provinces, especially on the mandatory carbon pricing system.



Chile – Plans to phase out coal by 2040 and achieve carbon neutrality by 2050

Chile, hosts of the upcoming COP25, announced plans to close 8 of its 28 coal power plants by 2024, equivalent to 20% of its current coal electricity capacity. This could bring it close to a 1.5°C pathway.



China – Second year of emissions growth as coal power plant construction ban lifted

China’s policies have a huge global impact. It is discouraging that China is continuing to increase its huge coal power plant fleet by 235 GW and is involved in another 102 GW of construction overseas.



Costa Rica – Freshly announced National Decarbonisation Plan 2018-2050

Costa Rica’s new decarbonisation goal by 2050 includes a plan with specific policies in the most polluting sectors, bringing its policies very close to a CAT 1.5°C Paris Agreement-compatible rating.



European Union – Discussing long-term goal while revitalising its Emissions Trading Scheme

A number of new pieces of legislation have been adopted, including new emissions reduction goals for vehicles and discussion on long-term strategy has revealed a shift in dynamics between member states.



Germany – At a crossroads, with plans to adopt overarching climate law by end of 2019

The government has already acknowledged that it will not meet its 40% target for 2020 but intends to adopt a national climate law and coal phase out.



India – On track to become a global renewable energy leader

The ramp up of renewables has continued after the third straight year of RE investment topping fossil fuels. Uncertainty over the future of coal and transport remains. NDC could be much stronger.



Indonesia – Fossil fuel exporter ponders its future

Indonesia is currently developing both its next five-year plan and its long-term vision and much hinges on where it invests. Plans to expand its coal power plant fleet remain despite overcapacity.



New Zealand – Zero Carbon Bill to deliver net-zero emissions by 2050

The newly-introduced bill proposes achieving net zero emissions by 2050 is a big step, but it excludes methane emissions from agriculture and waste, which are the subject of a separate 2050 target.



South Africa – Coal dominant country plans a shift towards renewables

The government’s Integrated Resource Plan includes a shift away from coal, halting nuclear expansion and increased adoption of renewables and gas. But will the new energy minister adopt it?



UK – Draft legislation for net-zero goal by 2050

The UK Parliament has declared a Climate Emergency, and PM May has placed draft legislation in front of parliament to achieve net zero emissions by 2050, making it the first G20 economy to do so.



USA – Trump Administration continues rollback of policy amid Green New Deal debate

Calls for net zero emissions through a “Green New Deal” spark debate while oil & gas production records largest ever increase by any country and weakened federal policies potentially cancel state gains.

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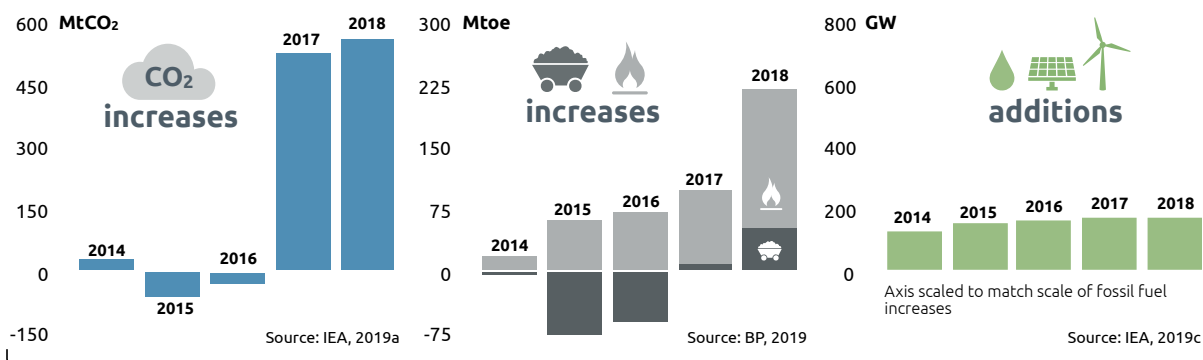
Global progress, political momentum and NDC ambition

Global progress is stalling

▶ In 2018, emissions grew at the fastest rate since 2011

▶ Coal growth is back and natural gas is booming

▶ Installation of renewable energy is slowing



Annual changes in global energy-related CO₂ emissions, fossil fuel consumption and renewable energy installations 2014–2018

Greenhouse gas emissions continue to increase globally. In 2018, energy related emissions reached a historic high of 33.1 GtCO₂, and more than a third of these emissions were from coal (IEA, 2019b). While coal remains largest source of CO₂ emissions, the fastest growing source is natural gas, which grew 4.6% from 2017 to 2018.

China, India and the US accounted for 85% of net GHG emission increase, while emissions in Germany, Japan, Mexico, France and the UK declined. Despite the fact that costs for renewable energy continue to decrease year on year, global renewable net capacity additions in 2018 stagnated after almost 20 years of strong annual growth (IEA, 2019c). On a positive note, the growth in electricity produced from renewables grew 7% from 2017 to 2018, more than twice as fast that from fossil fuel-sourced power.

At the same time other GHG emissions are increasing, notably methane. The increase in atmospheric methane concentrations [has accelerated in the last few years](#), which appears likely to reflect in significant part increasing emissions of methane from oil and gas production, including fracking.

Methane is a much more powerful greenhouse gas than CO₂, some 28 times more powerful on mass for mass basis measure over a 100 year timeframe (Myhre et al., 2013). [Urgent calls](#) are being made from the scientific community for the need to reduce methane emissions, especially from fossil fuels (Nisbet et al., 2019).

The total greenhouse gas concentration of all the major greenhouse gases (CO₂, CH₄ and N₂O) - known as CO₂ equivalent concentration - is rising at record rates, an [average rate of 3.3ppm per year over the last decade](#), with no sign of slowing (Loh et al., 2019). The CO₂ equivalent concentration of GHGs has recently been estimated as over 500 ppm CO₂ equivalent.

Public concern is growing as impacts start to bite

▶ Climate impacts are becoming clearer

▶ Public awareness is growing, protests expanding

▶ Climate change is becoming a political priority

Rising public concern is taking place against a backdrop of increasing and more devastating climate impacts, with many populations now experiencing first-hand the effects of human-induced climate warming.

The 25th anniversary edition of the [WMO "State of the Global Climate" report](#) for 2018 reports ongoing increases in sea level rise and exceptionally high land and ocean temperatures over the past four years, with the trend expected to continue (World Meteorological Organization, 2019).

Developing countries are experiencing the brunt of these impacts - Tropical Cyclone Idai, for example, caused devastating floods and loss of life in Mozambique, Zimbabwe and Malawi. The northern Indian state of Rajasthan recorded 50°C in the heatwaves in early June 2019 at the same time as New Delhi experienced record high June temperatures - close to 48°C (BBC News, 2019; India Today, 2019).

PEW Global Attitudes Survey finds climate change is top global threat
Global climate change is a major threat to our country
 Source: PEW Research Center



There has been a marked increase in public engagement in climate action in some countries. Examples include Greta Thunberg’s Fridays for Future, the Sunrise Movement in the US, and Extinction Rebellion, to name a few. A growing number of Parliaments and councils have declared a “Climate Emergency”.

Recent elections indicate that climate change is increasingly becoming a priority for voters. In some countries, elections have shown that there is growing public support for ambitious policies on climate change. In the recent European Union elections, the green parties rose substantially and now holds the balance of power in the European Parliament. In Germany, the Greens carried over 20% of the votes, the second-largest party.

Even in countries where parties with most progressive climate change policies did not win, climate change was an important topic during the elections. In Australia, climate change became a major topic during the elections (The Guardian, 2019), but ultimately it was not decisive, with the incumbent government winning a larger majority, despite its lacklustre performance on climate change, against the background of rising emissions, and extreme weather events.

A Pew Research poll in February found that in 13 of the 26 countries polled, climate change was considered the top international threat (Poushter & Huang, 2019). The share of people concerned has grown since 2013 (56%) to 67%. In ten countries, the share of people who see it as a major threat grew by at least ten percentage points.

In the US, where the Democratic party has begun the process of selecting presidential candidates, climate change is shaping up to be a key issue, with the Green New Deal at the centre of it, and most candidates are producing major climate policy proposals. While the US public is still very much split along party lines in concern around climate change, with Republicans generally less concerned than Democrats, Republican millennials are by far the most motivated, according to Pew (Funk & Kennedy, 2019).

This political momentum could ultimately lead governments to take more ambitious action.

The urgency of the climate crisis demands bold and immediate action

- ▶ It has become increasingly clear that incremental steps will not be sufficient. Significant, bold action is necessary.

It was already clear in Paris in 2015 that the national climate targets, in aggregate, were not enough to be consistent with the Paris Agreement’s long-term 1.5°C temperature goal. The IPCC Special Report on 1.5°C made it clear: there is no more time to rely on incremental steps. In the face of the climate crisis, significant, bold climate action is necessary.

In the 2009 Copenhagen Accord, the world aimed to halve global emissions by 2050. Now with delayed action global emissions need to be halved in ten years to meet the 1.5°C warming limit. As we are turning from climate change to a climate crisis, bolder and bigger steps are required from decision-makers.

With climate becoming a priority in public opinion, bold government action is more likely. Recent positive examples include:



Finland – carbon neutral by 2035
 Finland has announced a carbon neutral goal of 2035.



Costa Rica – decarbonised by 2050

Costa Rica’s new decarbonisation goal by 2050 includes a plan with specific policies in the most polluting sectors, bringing its policies very close to a CAT 1.5°C Paris Agreement-compatible rating.



United Kingdom – net zero by 2050

The UK Parliament has declared a Climate Emergency, and the government has put in front of parliament the recommendation of the Committee on Climate Change of net zero emissions by 2050. This would be the first G20 economy with a net zero emissions target.



New Zealand – net zero by 2050

In New Zealand, a new zero carbon bill is now before Parliament, mandating a net emissions zero by 2050 (although methane from agriculture and waste is treated separately, and issues remain with its forestry sector accounting).



Chile – reduce coal by 20% in five years, carbon neutral by 2050

Chile will shut down a fifth of its coal capacity in five years. The current share of electricity from coal is 40%. It also aims for carbon neutrality by 2050.



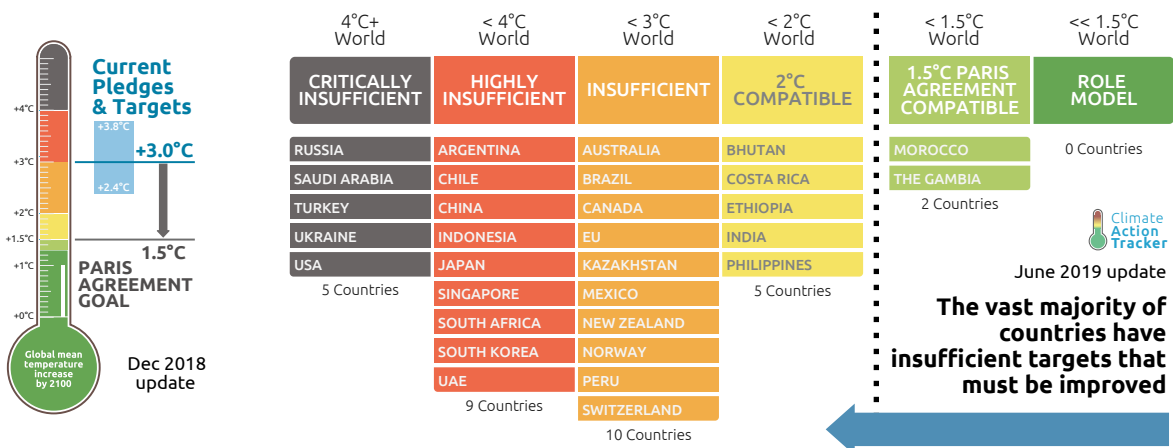
Norway – National pension fund divests

Norwegian Parliament has mandated its national pension fund to divest USD\$ 13 billion away from fossil fuels .

Governments must strengthen their Paris targets

Governments are scheduled to update their Paris Agreement targets (NDCs) by 2020 and must be ambitious. To keep the 1.5°C goal alive, they need to take radical steps and halve global emissions by 2030.

Ambitious action at home is not enough. The Paris Agreement requests governments to update their NDCs by 2020 with more ambitious targets and bold actions, reflecting the highest possible ambition that would lead to achieving the Paris Agreement Goal limiting warming to 1.5°C.



Radical steps need to happen to achieve those goals. 1.5°C means halving emissions by 2030, but right now, we calculate that temperature would continue to rise to around 3.0°C by the end of the century even if Governments fully implemented their NDCs (Climate Action Tracker, 2018).

In particular focus are those governments that have previously presented insufficient NDCs: they should be able to come up with more ambitious targets. This particularly applies to Russia, Saudi Arabia, Turkey, Ukraine, USA, Argentina, Chile, China, Indonesia, Japan, Singapore, South Africa, South Korea, UEA, Australia, Brazil, Canada, EU, Kazakhstan, Mexico, New Zealand, Norway, Peru and Switzerland.

Equally, there are a number of governments that are likely to meet - or bring their emissions close to - their NDC without implementing any more national policies. This means they have probably not yet reached the “highest possible ambition” as stated in the Paris Agreement and could do well to enhance their NDC’s. This applies to Bhutan, China, EU, Japan, India, Indonesia, Peru, Russia, Saudi Arabia, Singapore, Switzerland, Turkey, UAE, and Ukraine.

The UN Secretary General’s Summit in September this year is a prime opportunity for governments to present an updated NDC. According to the UN, [as many as 80 countries](#) may announce enhanced NDC’s in New York (Phys.org, 2019). The Climate Action Tracker will follow the announcements.

And again, incremental steps are not sufficient. The climate crisis demands significant action by all governments.

Country-level updates and CAT ratings



Australia

CAT Paris commitment rating

INSUFFICIENT

Will policies meet that target?

NO

Re-election of coalition government makes progress unlikely

The government has effectively turned its back on any serious attempts of action and is instead relying on “carrying over” surplus emissions units from the Kyoto Protocol as emissions continue to rise.

Australia’s climate policy is further deteriorating, as it focuses on propping up the coal industry and ditches efforts to reduce emissions, ignoring the record uptake of solar PV and storage, and other climate action at state level (Australian Government, 2019; Climate Change Authority, 2017, 2019; Finkel, 2017; Murphy, 2019).

The Australian government has effectively turned its back on global climate action by dismissing the findings of the IPCC Special Report on Global Warming of 1.5°C, announcing it would no longer provide funds to the Green Climate Fund (GCF) and has approved the start of what could prove to be the biggest coal mine in the world, the Adani mine in Queensland (ABC News, 2019a, 2019b; Hannam & Latimer, 2018; Mathiesen, 2019). It will also continue to subsidise fossil fuel extraction and export, against the need to phase out fossil fuels, in particular coal, globally. There are no signs from the re-elected government that they intend to reverse their position on climate change.

Australia’s emissions from fossil fuels and industry continue to rise and are now 7% above 2005 levels and increasing. Under current policies, fossil fuel and industry-related emissions are headed for an increase of 8% above 2005 levels by 2030, rather than the 14–17% decrease in these emissions required to meet [Australia’s Paris Agreement target](#). This means Australia’s emissions are set to far outpace its “Insufficient” 2030 target.

Further undermining this already bad situation is the fact that the Government has stated it intends to “carry over” surplus emission units from the Kyoto Protocol towards its Paris Agreement target (Australian Department of the Environment, 2018). This would significantly lower the actual emission reductions needed to only 4.2 to 4.9% below 2005 levels by 2030 (Climate Analytics, 2019).

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 mainly rely on carry over units, and continue relying on an inadequate instrument, the Emissions Reduction Fund (ERF) now to be called the “Climate Solutions Fund”.

The re-elected government continues to plan to underwrite a new coal power plant - completely inconsistent with the need to phase out coal globally by 2050 and in OECD countries by 2030 (Climate Analytics, 2016). If all other countries were to follow Australia’s current policy trajectory that we rate “Highly Insufficient”, warming could reach over 3°C and up to 4°C.



Brazil

CAT Paris commitment rating

INSUFFICIENT

Will policies meet that target?

NO

President Bolsonaro continues reversal of environmental policies

Deforestation emissions are up in recent years after the incredible progress made since 2005 and the new administration has already taken steps to weaken key environmental policies and institutions.

In just over 100 days in office, Brazil’s new President, Jair Bolsonaro, has moved his country further away from climate action and from fulfilling its commitments under the Paris Agreement. Brazil’s remarkable progress in forestry emissions mitigation observed since 2005 has stopped, and deforestation and resulting emissions increases have picked up speed again in recent years (Instituto Homem e Meio Ambiente da Amazônia (Imazon), 2019; PRODES, 2019; Weisse and Goldman, 2019)

Brazil’s previous administration had already begun reverting key environmental policies (budget cuts to the environmental authorities, and reversal of LULUCF policies already in place) (Climate Home, 2017a, 2017b; Estado de São Paulo, 2017). Bolsonaro’s administration, supported by “ruralist” legislators, has continued with the reversal of key environmental policies and the weakening of environmental institutions.

The government has passed legislation that weakens the institutional and legal framework that helps fight deforestation and other environmental offenses, as well as reforms that substantially weaken the participation of civil society, including pro-environment groups, in policymaking and in the oversight of policy implementation (NBC news, 2019; Observatório do Clima, 2019a, 2019b; The New York Times, 2019).

The changes include eliminating 95% of the Ministry of Environment’s budget for climate change related activities (Jornal O Globo, 2019); transferring the body responsible for certifying Indigenous territory from the National Indian Foundation to the Ministry of Agriculture (The New York Times, 2019); easing the rules for converting environmental fines into alternative compensations (Climate Policy Initiative, 2019b; Observatório do Clima, 2019a); changes in the Forest code to extend deadlines for enforcement measures (Climate Policy Initiative, 2019a); and the abolition of most committees and commissions for civil participation and social control in the Federal Government (Observatório do Clima, 2019b).

While it’s hard to predict the effect these regulatory changes will have on emissions, most of them have the potential to drive up illegal deforestation and other environmental offenses. Given the key role of the Land Use and Forestry sector in Brazil’s NDC and the huge global importance of its forests for environmental services, biodiversity, and carbon sequestration, the Brazilian government urgently needs to strengthen mitigation action in this sector—instead of weakening it.

In addition, since our last assessment, the current administration has not implemented any new policies to halt emissions growth in other sectors. The current situation is so critical that, for the first time in Brazilian history, a number of former Environment Ministers from different political parties have released a joint declaration encouraging civil society and the official institutions to pay close attention to the government’s detrimental decisions on the environment (IEA USP, 2019). This should raise concern.

Bolsonaro’s agenda on environment is at odds with the urgent need for climate action in Brazil.



Upcoming October election will determine Canada’s direction

The Federal government, playing catch-up on climate, is attempting to implement a number of policies in the face of pushback from some provinces, especially on the mandatory carbon pricing system.

Canada continues with the incremental implementation of its Pan-Canadian Framework on Clean Growth and Climate, its overarching strategy for reducing emissions, adopted in 2016 (Government of Canada, 2016); often in the face of provincial pushback.

The Government is implementing its coal-fired power plant phase-out, but it clearly needs to take more climate action, as emissions are still projected to be above 1990 levels beyond 2030, far from its Paris Agreement target and nowhere near a 1.5°C-compatible pathway.

The Federal government had been facing strong headwinds against climate action at the provincial level, with four provinces (Saskatchewan, Manitoba, Ontario, and New Brunswick) challenging the constitutionality of its mandatory federal carbon pricing system (Perkel, 2019; Reuters, 2019a; The Canadian Press, 2019). These provinces have no - or insufficient - climate plans and the carbon pricing system applies to them while these court challenges proceed. The first of the cases was recently decided in favour of the federal government and will now be appealed to the highest court in the country, the Supreme Court (Hunter, 2019; Reuters, 2019a).

The headwinds reached gale force in April with the election of a conservative government in Alberta (Bakx, 2019). The new government has already begun rolling back the province’s climate policy,

while the federal government has stated that it will apply the federal carbon pricing ‘backstop’ to Alberta as well (Government of Alberta, 2019; Vigiotti, 2019).

Canadians will head to the polls this October to elect their next federal government. It is possible that climate change will be a ballot box issue. There are a number of key pieces of legislation working their way through Parliament to regulate or ban oil and gas industry activity that the current government hopes to pass into law before the summer, all of which may have some bearing on the future of the country’s emissions and fossil fuel exports (Government of Canada, 2019a, 2019b).

Canada, a member of the Powering Past Coal Alliance, adopted performance standards on coal and natural gas-fired power stations in December 2018, which will ensure it meets its 2030 coal phase-out date (Government of Canada, 2018b, 2018a). However, it is expected that many of the coal-fired plants will be replaced by new natural gas plants or coal-to-gas conversions, all of which run the risk of being stranded assets, given that [gas has a limited role to play as a bridging fuel](#) (Climate Action Tracker, 2017; Government of Canada, 2018a).

There have been some positive developments in Canada in the transport sector; though more work is needed. Canada has adopted sales targets for zero-emissions passenger vehicles of 10% by 2025, 30% by 2030 and 100% by 2040 (Transport Canada, 2019). [To reach full decarbonisation of the road transport sector worldwide, the last fossil fuel car should be sold before 2035](#). In the 2019 Federal Budget, the Canadian government allocated \$300 million CAD to support consumers and businesses purchase zero-emissions vehicles (Transport Canada, 2019). The Advisory Council on Climate Action has recommended that the government follow up on these initiatives by imposing supply commitments on car manufacturers (Vrooman & Guilbeault, 2019).

Canada is also vying for a seat on the UN Security Council for 2021-22 and has stated that climate change would be a key focus of its tenure (von Scheel, 2019). The UN Secretary General will host a summit to accelerate action on climate change in September. This is a key opportunity for Canada to demonstrate to the world what leadership on climate change would look like by enhancing its NDC.

In past assessments, the CAT has rated the Canadian NDC as ‘Highly insufficient’ due to the uncertainty around the extent to which it would rely on its forestry sector sink to meet its target. In its latest 2030 projections, Canada has quantified the extent of that contribution for the first time (Environment and Climate Change Canada, 2018). It is estimated that the forestry sector (LULUCF) will contribute a 7-46 MtCO₂e reduction towards meeting its 2030 target. With this greater clarity, the CAT has changed Canada’s rating to ‘Insufficient’.



Plans to phase out coal by 2040 and achieve carbon neutrality by 2050

Chile, hosts of the upcoming COP25, announced plans to close 8 of its 28 coal power plants by 2024, equivalent to 20% of its current coal electricity capacity. This could bring it close to a 1.5°C pathway.

As the host of the upcoming UNFCCC COP25, Chile has a unique opportunity to demonstrate its leadership on ambitious actions to reduce carbon emissions.

In June 2019, Chile announced its plan to completely phase-out coal by 2040 and aim towards carbon-neutrality by 2050 (Ministerio de Energía, 2019). The coal phase-out plan is divided into two stages. By 2024, Chile will close eight of its oldest coal-fired power plants—equivalent to 20% of its current coal electricity capacity.

This is a remarkable step for a country with a 40% coal share in their electricity mix and an example of the type of short-term actions needed to limit temperature increase to 1.5°C as required by the Paris Agreement (Climate Analytics, 2016). Chile will also phase-out its remaining 20 coal plants by 2040, but has not yet specified a detailed phase-out schedule.

In its 2050 Energy Strategy of 2015, Chile had announced renewable energy targets of at least 60% by 2035 and 70% by 2050 for electricity generation (Ministerio de Energía, 2015). Notably, most

recent energy sector planning documents—the Mitigation Plan for the Energy Sector, and the Electromobility Strategy—are aligned with these goals (Ministerio de Energía, 2017b, 2017c).

The Chilean electromobility strategy sets out an action plan to achieve a 40% share of the private vehicle fleet—and 100% of public urban transport—being electric by 2050 (Ministerio de Energía, 2017a). Chile has already made some steps in the right direction: as of January 2019, Chile had the second-largest electric urban public bus fleet in the world (after China), making Chile a pioneer for electric buses in Latin America.

Our analysis which, in comparison to previous assessments, now takes into account emissions reductions from the Electromobility Strategy and the retirement of the first eight coal-fired power plants—suggests that Chile will overachieve its 2020 pledge, and meet its unconditional and conditional Nationally Determined Contribution (NDC) Paris Agreement targets with currently implemented policies.

Additionally, we have estimated the impact of a complete coal phase-out by 2040 under a planned policies scenario. Under this scenario Chile would get to our 2°C compatible range. We have also estimated a range for Chile’s net-zero carbon target for 2050. While this highly depends on the size of their forestry sinks, we estimate that the lower end of the range would be consistent with the CAT rating category of 1.5°C Paris Agreement compatible for Chile.

The Climate Action Tracker rates countries based on their NDC targets – the current Chilean 2030 pledge is rated “Highly insufficient.” If Chile were to enhance their NDC to reflect their new national targets of phasing out coal by 2040 and achieving carbon-neutrality in 2050, we would upgrade their CAT rating.



Second year of emissions growth as coal power plant construction ban lifted

China’s policies have a huge global impact. It is discouraging that China is continuing to increase its huge coal power plant fleet by 235 GW and is involved in another 102 GW of construction overseas.

China is the world’s largest greenhouse gas emitter, and its actions both at home and abroad have an enormous impact on global greenhouse gas emissions. Discouragingly, increased fossil-fuel consumption drove an estimated 2.3% increase in Chinese CO₂ emissions in 2018 (Korsbakken, Andrew, & Peters, 2019), a second year of growth after emissions had appeared to level out between 2014 and 2016.

China is simultaneously, and almost paradoxically, the world’s largest consumer of coal and the largest solar technology manufacturer, and the choice it makes between the technology of the past versus the future will have a lasting effect on the world’s ability to limit warming to 1.5°C.

The IPCC Special Report on 1.5°C found that coal needs to exit the power sector by 2050 globally if warming is to be limited to this level, and efforts by China to reduce coal in the next few years will be critical to this. In global cost-optimal, Paris Agreement-consistent pathways, China phases out coal by 2040 (Climate Analytics, 2016).

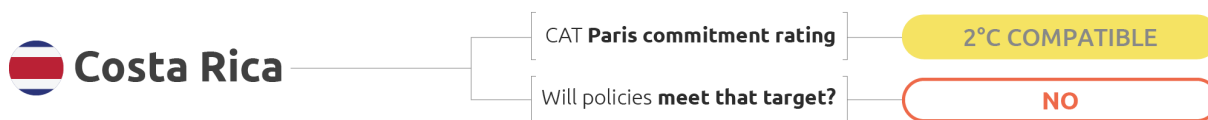
China’s emissions, like the rest of the world’s, need to peak imminently, and then decline rapidly (IPCC, 2018). Discouragingly, China started construction of 28 GW of new coal-fired power capacity in 2018 after a previous construction ban was lifted, bringing its total coal capacity under construction to 235 GW (Shearer, Mathew-Shah, Myllyvirta, Yu, & Nace, 2019).

With current policies, China’s greenhouse gas emissions are projected to rise until at least 2030. Under optimistic renewables growth assumptions, energy-related CO₂ emissions could level off over the next few years, but these emissions continue to grow in our upper-bound scenario.

China’s actions abroad will also have an important impact on future global greenhouse gas emissions, and China is financing and building both fossil-fuel and renewables infrastructure worldwide. Of all coal plants under development outside of China, one quarter, or 102 GW of capacity, have committed or proposed funding from Chinese financial institutions and companies (Shearer, Brown, & Buckley, 2019). That’s roughly double Germany’s current coal capacity.

China is on track to meet or overachieve its 2030 Nationally Determined Contribution (NDC), which the CAT rates “Highly insufficient.” China’s NDC is not ambitious enough to limit warming to below 2°C, let alone to 1.5°C as required under the Paris Agreement, unless other countries make much deeper reductions at comparably greater effort.

Under current policies, China is also likely to achieve its 2020 pledge. Given that China is on track to achieve or overachieve its climate targets, its next step could be to set an example by submitting a strengthened NDC to the Paris Agreement by 2020. China has indicated that it is working on updating its NDC (Darby, 2019).



Freshly-announced National Decarbonisation Plan 2018-2050

Costa Rica’s new decarbonisation goal by 2050 includes a plan with specific policies in the most polluting sectors, bringing its policies very close to a CAT 1.5°C Paris Agreement-compatible rating.

In February 2019, Costa Rica outlined its pathway towards net-zero emissions by 2050 in a new plan: the National Decarbonisation Plan 2018-2050 (Gobierno de Costa Rica, 2019).

The Plan includes strategies for all sectors of the economy, which, if implemented, will lead to further emissions reductions, and get very close to our 1.5°C compatible range. The strategies include electrifying the public transport system, energy efficiency measures in industry, transport (incl. freight), and buildings sectors, and improved farming practices and measures in the waste and agriculture sectors.

The National Decarbonisation Plan is more ambitious than Costa Rica’s Paris Agreement targets for 2030 and 2050. The government plans to present an updated Nationally Determined Contribution (NDC) in 2020, which is expected to be informed by this plan, as well as other climate policy planning documents, including the National Strategic 2050 plan.

Costa Rica is close to achieving its 2030 NDC emissions reduction target due to new policies that support the electrification of its transport sector, the country’s largest source of greenhouse gas emissions (Gobierno de Costa Rica, MINAE, & MOPT, 2019; Ministerio de Ambiente y Energía, 2015a). This includes the 9518 law on the promotion and incentive of transport electrification - all from renewable energy, and made it a national priority to use renewable energy in all modes of transportation including trains, freight, buses, and taxis (Asamblea Legislativa de la República de Costa Rica, 2018).

The new National Plan for Electric Transportation, published in early 2019, contains a set of strategic actions, the plan for implementation (Gobierno de Costa Rica et al., 2019). It establishes that the bus fleet should be replaced by electric buses every two years by at least 5%, and at least 10% of new taxis concessions are given to electric vehicles, between other measures. Successful implementation of this policy would lead to a 2030 emissions reduction equivalent to 19% of GHG reductions compared to a pathway without this policy.

Costa Rica has also launched multiple initiatives to facilitate the implementation of its NDC. Its climate-related policies and programmes include the second phase of its National Programme for Carbon Neutrality—a carbon neutral certification scheme for businesses and municipalities, Nationally Appropriate Mitigation Actions in the agricultural sector, and the National Energy Plan (Ministerio de Ambiente y Energía - Gobierno de Costa Rica, 2017; Ministerio de Ambiente y Energía, 2015a, 2015b; NAMA Database, 2011). In February 2019 Costa Rica extended its moratorium on oil extraction and exploitation from 2021 until the end of 2050 (Ministerio de Ambiente y Energía - Gobierno de Costa Rica, 2017).

Costa Rica’s electricity generation already runs on a very high share of renewable sources, and aims to be 100% renewable by 2021 (Ministerio de Ambiente y Energía, 2015b). In 2018 the country beat its own record by generating 98% of electricity from renewable sources - for the fourth consecutive year (Canelo, 2018).



European Union

CAT Paris commitment rating

INSUFFICIENT

Will policies meet that target?

CLOSE

Discussing long-term goal while revitalising its Emissions Trading Scheme

A number of new pieces of legislation have been adopted, including new emissions reduction goals for vehicles and discussion on long-term strategy has revealed a shift in dynamics between member states.

The last two years witnessed a flurry of climate policy developments at the European level. The implementation of the numerous proposals presented by the European Commission in its Winter Package “Clean Energy For All Europeans” from November 2016 led to the adoption of eight new pieces of legislation.

In some cases, the adopted legislation was more ambitious than the proposals suggested by the Commission. That was especially the case for the share of renewable energy goal at 32% and improving energy efficiency by 32.5% - both by 2030. In both cases the Commission suggested 27%. Achieving both targets would allow the EU to reduce emissions by at least 48%. Yet its NDC target is only “at least 40%”, so it’s clear the EU could strengthen that target.

The flagship EU climate policy instrument, the Emissions trading scheme, has been revitalised: With the entry into force of the Market Stability Reserve in January 2019, in the coming months almost 400 million allowances will be taken off the market, contributing to reducing their oversupply (European Commission, 2019). This has already been reflected in the price of emissions allowances, which remained above €20 since the beginning of 2019 and even reached €27 in April 2019 (EEX, 2019).

Significant legislative progress has also taken place in the case of emissions from transport sector with the next round of passenger and light commercial vehicle standards agreed as well as, for the first time in the EU, standards for heat duty vehicles (The ICCT, 2019). In 2019, the EU finalised the adoption of a range of new emissions reduction goals for vehicles.

The EU has also started discussing its long-time strategy based on the proposal tabled by the Commission in November 2018, with a focus on reaching emissions neutrality by the middle of the century (European Commission, 2018). While the presentation of the strategy was a step in the right direction, the emissions reduction pathways postpone a large share of the emissions reduction effort to post 2030. This will not only have negative impact on the climate by using up a large portion of the remaining carbon budget in the 2020s, but this way the EU will also forego the opportunity to develop new low carbon industries, especially with climate action accelerating in some other countries.

The negotiations concerning the different pieces of legislation saw some clear new dynamics among the EU member states. While Germany suspended its climate leadership it has, in some cases, worked jointly with Poland as the major objector of an ambitious climate action, but appears to have recently changed its mind. Spain, France, the Netherlands and recently Finland with its carbon neutrality by 2035, with some other countries, held the ground (Finnish Government, 2019). In general, however, the Council representing the EU member states, was much less ambitious than the European Parliament.

Despite a significant legislative effort, the EU still needs to do more to regain its climate action leadership. Formal adoption of the net-zero emissions goal by at the latest 2050, still opposed by some member states, would send a clear signal allowing the industry to adapt and accelerate development of low carbon solutions. Increasing the level of ambition of EU’s NDC is essential to achieving the goal of the Paris Agreement goal.



Germany

Paris target rating

NO RATING

At a crossroads, with plans to adopt overarching climate law by end of 2019

The government has already acknowledged that it will not meet its 40% target for 2020 but intends to adopt a national climate law and coal phase out.

Germany is at the crossroads of climate policy. The government plans by the end of 2019 to put the agreement of a stakeholder commission into law and adopt an overarching climate law. In addition it is discussing implementing an additional carbon price. Due to the currently unstable coalition, it remains to be seen how much of these plans it implements by the end of 2019.

A multi-stakeholder commission developed a compromise for ending coal-fired power plants in Germany (Kommission „Wachstum Strukturwandel und Beschäftigung“, 2019). Of the 43 GW currently installed coal capacity, the commission proposed to shut down 13 GW by 2022, an additional 13 GW by 2030 and phase out all production by 2038, with the option of bringing this date forward to 2035. The compromise was found only by compensating the affected regions (€40 billion Euro) and the affected companies operating the coal power plants (up to additional €40 bln Euro). The compromise now needs to be enshrined in law.

The positive aspect of this is that the compromise was reached with broad societal consensus. However, the schedule is not fast enough to be compatible with 1.5°C which would require a coal phase-out by 2030 (Climate Analytics, 2018). The compensation is also very high.

In its coalition contract, the current government decided to adopt a national climate law, which would include the national climate targets. The government has already acknowledged that it will not meet its 40% target for 2020. Current projections are at 32%. The failure to meet the 2020 target and making up for by 2030 would result in cumulatively 1 GtCO2e of additional emissions compared to the original target path (Höhne, Emmrich, Fekete, & Kuramochi, 2019a).

A draft climate law was rejected as it intended to distribute the 55% reduction target by 2030 to sectors and to give responsibility to sector ministries to implement it (Bundesministerium für Umwelt Naturschutz und nukleare Sicherheit (BMU) [Hrsg.], 2019). The building and transport ministries would also be responsible to pay the fines to the EU Commission, if these targets were not met. Such compensation is required by the EU regulation and could be in the order of €60 bln Euro for Germany if no additional measures are implemented (Agora Energiewende & Agora Verkehrswende, 2018; Höhne & Fekete, 2019). An intense debate on a carbon price for the building and transport sectors has started and makes it more likely that such an instrument is adopted (tagesschau.de, 2019).

In addition, the 55% reduction 2030 target (agreed ten years ago) would need to be strengthened to be compatible with the Paris Agreement (Höhne, Emmrich, Fekete, & Kuramochi, 2019b). Implementing this insufficient target would risk locking Germany into stranded assets, if it were to later increase that target. Germany’s current goal for 2050 is to be “largely climate neutral”. Germany did not participate in an initiative of the President of France, Emanuel Macron, to move the EU to adopt a target of climate neutrality by 2050 (France et al., 2019). The government is considering how such a target could be reached if it were adopted. Media report that Germany now backs an EU-wide net-zero emissions target (Financial Times, 2019).



India

CAT Paris commitment rating

2°C COMPATIBLE

Will policies meet that target?

YES

On track to become a global renewable energy leader

The ramp up of renewables has continued after the third straight year of RE investment topping fossil fuels. Uncertainty over the future of coal and transport remains. NDC could be much stronger.

India is on track to becoming a global leader in the field of renewables. While India’s NDC is currently rated “2°C compatible” by the CAT, an updated NDC which reflects the lower end of India’s current policy projections would be rated “1.5°C Paris Agreement compatible”. For this to be

feasible, the incoming government should continue to signal its strong commitment to renewable energy deployment and enshrine similar commitments in other sectors such as the transport sector.

The ramp-up of renewables in India can provide access to affordable power at scale, and quickly. For three consecutive years, renewable energy investment topped that of fossil fuel-related power investments and in 2018, solar investments exceeded those in coal (McKenna, 2019). Moreover, India is likely to achieve the more ambitious part of its **NDC goals**—a 40% non-fossil-based power capacity by 2030 more than a decade earlier than targeted.

Despite the fact that current policies in place will lead to an overachievement of targets laid out in India's NDC, there is significant uncertainty over the future of coal power capacity in India. The NEP foresees coal-fired power capacity additions of 46 GW between 2022 and 2027 (CEA, 2018), and these risk becoming stranded assets. This expansion is not only inconsistent with the goals of the Paris Agreement, but also inconsistent with demand projections from independent studies (Shearer, Fofrich, & Davis, 2017). Addressing concerns over the grid integration of renewables and cancelling the planned coal expansion plans are pivotal steps in the short term for India to meet the goals of the Paris Agreement.

While interventions in the electricity sector have largely been driven by strong policy commitments, action in the transport sector is governed by uncertainty. The Indian Government set up the National Electricity Mission Mobility Plan (NEMMP), with an aim to provide incentives for the adoption and manufacturing of electric vehicles. This plan operates in an atmosphere of uncertainty over a broader transport strategy, with the government no longer pursuing its initial commitment to a 100% share of electric vehicles in new sales by 2030. This commitment would have been consistent with global benchmarks [to reach full decarbonisation](#).



Fossil fuel exporter ponders its future

Indonesia is currently developing both its next five-year plan and its long-term vision and much hinges on where it invests. Plans to expand its coal power plant fleet remain despite overcapacity.

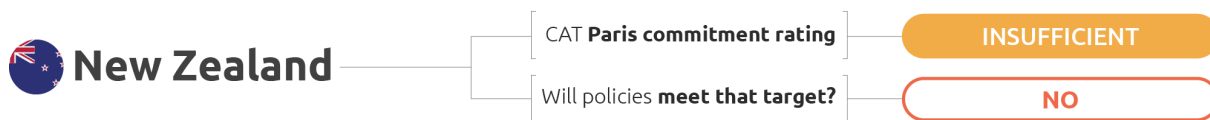
Indonesia is one of the most populous countries in the world, with substantial emissions from the forestry sector, and a massive coal-fired power generation pipeline. Indonesia is currently developing both its next five-year plan and its long-term vision. Only one of the long-term scenarios under consideration would see absolute emissions decrease by 2045 (Ministry of National Development Planning (BAPPENAS), 2019). Shifting the investments planned for the next five years towards zero-carbon solutions is crucial to putting Indonesia on a development pathway compatible with the Paris Agreement.

Indonesia is a fossil fuel exporter: coal, oil, and gas were responsible for about half the country's non-tax revenue in 2018. However, fossil fuel net exports have been declining since 2013 and international market prices for both coal and oil finished 2018 at lower levels than they began the year (Ministry of Energy and Mining Resources, 2019).

To reduce Indonesia's dependency on international fossil fuel demand, the Government is incentivising domestic coal utilisation for industry and power generation to maximise coal extraction profits. Besides the damage to the climate from continued coal use, this support is not without risk. Indonesia has consistently overbuilt capacity that, combined with inflated energy demand projections, is likely to result in high shares of idle capacities (Republic of Indonesia, 2018, 2019; The Jakarta Post, 2018). Yet it is still planning to install over 6 GW of coal-fired power generation by 2020 and about 27 GW by 2028, which is estimated to lead to an obligation to pay over USD 16 billion for idle capacity by 2026 (IEEFA, 2017).

Questions remain as to whether Indonesia will achieve its 2025 renewable energy (RE) target. The government has implemented some policies to support reaching this target, e.g. by regulating the installation of rooftop solar. However, various design elements of these policies and the general investment environment still favour large-scale fossil-fuelled power and prevent a swift and large-scale expansion of renewables (Institute for Essential Services Reform, 2018).

Based on current policies projections, Indonesia is very likely going to overachieve its Paris Agreement targets excluding the forestry sector. However, the CAT rates the Indonesian NDC target (excluding forestry) as “Highly insufficient”. This overachievement puts Indonesia in a position to significantly increase the ambition of its NDC. Including the 2025 renewable energy target in the target is the first step, though further action would be needed to become 1.5°C compatible.



Zero Carbon Bill to deliver net-zero emissions by 2050

The newly-introduced bill proposes achieving net zero emissions by 2050 is a big step, but it excludes methane emissions from agriculture and waste, which are the subject of a separate 2050 target.

Prime Minister Jacinda Ardern’s government introduced its Zero Carbon Bill into Parliament in May 2019, proposing to achieve net zero emissions of all greenhouse gases, except for methane emissions from agriculture and waste, by 2050 (Government of New Zealand, 2019). Methane emissions from these sectors – about 40% of emissions today - would be reduced by at least 24-47% below 2017 levels by 2050, with an interim target of 10% by 2030.

While the introduction of the Bill is a significant step forward, excluding such a substantial share of emissions from the net zero goal lowers its ambition. During the consultation process for the Bill, an overwhelming majority (91%) of the 15,000 submitters supported achieving net zero emissions for *all* greenhouse gases (Ministry for the Environment, 2018). Previous analysis found that a net zero target for all domestic GHG emissions in 2050 could be consistent with the Paris Agreement (Hare, Schleussner, Schaeffer, & Nauels, 2018).

The Zero Carbon Bill will also establish an independent Climate Commission to oversee a five-year carbon budgeting process to drive the required emission reductions. The Commission will also advise on future revisions of the 2050 target, the use of international credits and the extent to which emissions may be banked or borrowed from one budget to the next. The comparable climate advisory body in the UK unequivocally advised its government in February not to bank emissions from its second carbon budget (UK Committee on Climate Change, 2019a). New Zealand’s Climate Change Minister has called the practice “dodgy accounting” (Doherty, 2018).

The Bill does not introduce any policies to actually cut emissions: New Zealand has very few policies to implement this bill.

The CAT rates New Zealand’s 2030 emissions reductions target as “Insufficient”, and its [current policy projections](#) do not put it on track to meet this target.

Prime Minister Jacinda Ardern has vowed to make New Zealand a climate leader. According to our analysis, this would mean: 1) implementing strong policies to reduce emissions quickly, 2) updating the Paris Agreement 2030 emissions reductions targets, including abstaining from carry-overs and other creative accounting rules, and 3) strengthening the long-term target.

We would expect to see PM Ardern taking a leading role at the UNSG Climate Summit in September.



CAT Paris commitment rating

HIGHLY INSUFFICIENT

Will policies meet that target?

NO

Coal dominant country plans a shift towards renewables

The government’s Integrated Resource Plan includes a shift away from coal, halting nuclear expansion and increased adoption of renewables and gas. But will the new energy minister adopt it?

The South African government under recently re-elected President Cyril Ramaphosa released the long-awaited draft of its Integrated Resource Plan (IRP 2018) in August 2018 (Department of Energy, 2018), setting out a new direction in energy sector planning.

The plan includes a shift away from coal, increased adoption of renewables and gas, and an end to the expansion of nuclear power. Directly after the election in May 2019, then Energy Minister Jeff Radebe announced that the IRP updated will be concluded ‘very shortly’ and be approved by the Cabinet (Cloete, 2019). However, initial remarks by newly appointed Minister Gwede Mantashe of the now combined Department of Minerals and Energy indicate that he will review the current renewable-focused draft IRP of his predecessor and might consider a larger role of other technologies such as coal and nuclear going forward (Heiberg, 2019; Seccombe, 2019).

The revised plan, if adopted in the upcoming weeks as originally proposed under previous Energy Minister Jeff Radebe, would mark a major shift in energy policy, which is remarkable for a coal-dominated country like South Africa. It aims to decommission a total of 35 GW (of 42 GW currently operating) of coal-fired power capacity from state-owned coal and utility giant Eskom by 2050, starting with 12 GW by 2030, 16 GW by 2040 and a further 7 GW by 2050.

Costly coal capacity currently under construction (5.7 GW) would still be completed and another 1 GW of new coal capacity would be commissioned by 2030. The plan also proposes a significant increase in renewables-based generation from wind and solar as well as gas-based generation capacity by 2030 (additional 8.1 GW for wind, 5.7 GW for solar and 8.1 GW for gas by 2030) and beyond, with no further new nuclear capacity being procured.

Implementing the IRP update of 2018 could bring South Africa close to meeting the upper range of its 2030 NDC target. The implementation of the IRP update of 2018 would constitute significant progress in the transformation of the South African energy sector. However, we rate South Africa’s NDC target as “Highly Insufficient”. To be in line with the Paris Agreement goals for mitigation, South Africa would still need to adopt more ambitious actions by 2050 such as expanding renewable energy capacity beyond 2030, fully phasing out coal-fired power generation by mid-century, and substantially limiting unabated natural gas use.

The South African Parliament also finally approved a carbon tax in February 2019 after two years of consultations (Climate Home News, 2019; Reuters, 2019b), although its immediate impact will likely be limited given tax exemptions for up to 95% of emissions during the first phase until 2022 (KPMG, 2019).



Paris target rating

NO RATING

Draft legislation for net-zero goal by 2050

The UK Parliament has declared a Climate Emergency, and PM May has placed draft legislation in front of parliament to achieve net zero emissions by 2050, making it the first G20 economy to do so.

On 12 June, Theresa May’s government tabled draft legislation in Parliament to strengthen the country’s 2050 target to net-zero emissions of greenhouse gases (UK Government, 2019b, 2019a). This is seen as a legacy issue for May, who will leave office at the end of July (Evans, 2019; Walker, Mason, & Carrington, 2019). Once passed, it will make the UK the first G20 country to adopt such a target.

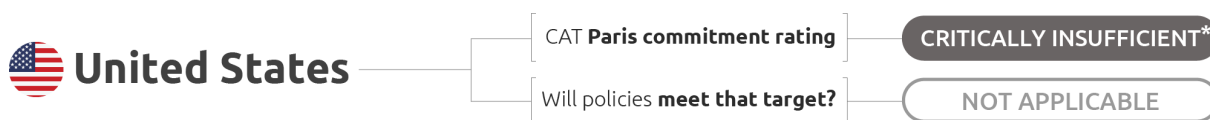
The new net-zero target was a recommendation from the UK's advisory body, the Committee on Climate Change (CCC), in May, that pointed out that replication of this target across the world, coupled with ambitious near-term emissions reduction would deliver a greater than 50% chance of limiting the increase in global temperature to 1.5°C (UK Committee on Climate Change, 2019b). The Committee also stressed that such a target represented the "highest possible" level of ambition called for by Article 4 of the Paris Agreement. The new legislation will strengthen the previous target of 80% emissions reduction **adopted** in 2008 (UK Government, 2008). The CCC also recommended targets for Scotland and Wales of net zero in 2045 and 95% reduction below 1990 levels by 2050, respectively.

The Committee stressed the need to strengthen and acceleration policy implementation in a number of areas in order to be able to meet this target. It highlighted that current plans to phase-out combustion cars by 2040 are too late. As achieving this goal would still lead to many of such cars being utilised around the middle of the century, this phase-out date must be moved forward to 2035 - even 2030 if feasible.

The new target is a step in the right direction. However, the expectation that the hydrogen will be most cost-effectively produced with CCS ("blue hydrogen") underestimates the potential of the "green hydrogen" generated in the process of electrolysis utilising renewables sources of energy. It also largely ignores the fact - already stated in the **CCC 2018 report** that hydrogen from natural gas with CCS is "not a zero-carbon process" (UK Committee on Climate Change, 2018).

Between 1990 and 2018, the UK's emissions have already **decreased** by 44% whereas its economy has grown by 75% (UK Committee on Climate Change, 2019b). The **adoption** of the five-year carbon budgets allows its industry to plan in advance and invest in low carbon technologies, knowing these will be needed as the carbon budget decreases.

The 80% emissions reduction target adopted in 2008 resulted in an emissions reduction pathway with the intermediate target of reducing emissions by 57% in 2030 - way more than the EU's "at least 40%" emissions reduction target and more than the German 55% target adopted in its Climate Protection Plan 2050 (European Commission, n.d.; German Federal Ministry for the Environment Nature Conservation and Nuclear Safety, n.d.). The adoption of the net zero target should result in corresponding changes to the periodical carbon budgets and a more ambitious emissions reduction target in 2030.



Trump Administration continues rollback of policy amid Green New Deal debate

Calls for net zero emissions through a "Green New Deal" spark debate while oil & gas production records largest ever increase by any country and weakened federal policies potentially cancel state gains.

The Trump Administration has continued with its campaign to systematically walk back US federal climate policy. If it successfully implements all the proposed actions, greenhouse gas emissions projections for the year 2030 could increase by up to 400 MtCO_{2e} over what was projected when President Trump first took office. That's almost as much as the entire state of California emitted in 2016.

The Trump Administration rollbacks include:

- ▶ Put forward a weak replacement for the Clean Power Plan called the Affordable Clean Energy Rule (U.S. Environmental Protection Agency, 2018a)
- ▶ Raised emissions standards for coal-fired power plants (U.S. Environmental Protection Agency, 2018c)
- ▶ Proposed freezing vehicle efficiency standards after 2020 under the Safer Affordable Fuel-Efficient Vehicles (SAFE) rule, instead of requiring more stringent standards over time (U.S. Environmental Protection Agency, Administration, & U.S. National Highway Safety Administration, 2018)
- ▶ Will not enforce regulations to limit highly potent HFC emissions (U.S. Environmental Protection Agency, 2018d)

- ▶ Will also allow methane leaks from oil and gas production to continue for longer before they are found and fixed (U.S. Environmental Protection Agency, 2018b).

The administration has also instructed government agencies to change their climate science methodology.

In 2018, the US overtook Russia and Saudi Arabia to become the world's largest producer of crude oil (U.S. Energy Information Administration, 2018a). It is also the world's largest producer of natural gas (U.S. Energy Information Administration, 2018b), and increased LNG exports by 53% in 2018 (Lester, 2019).

Against this background, climate action has forcefully entered the political debate in the United States following the introduction of the "Green New Deal" legislation in Congress. The resolution, which did not pass the Republican-controlled Senate, calls for economy-wide action to "achieve net-zero greenhouse gas emissions through a fair and just transition" (Ocasio-Cortez, 2019). This would be a major step in the right direction. As the run-up to the 2020 presidential election begins, some Democratic candidates are also putting forward their own climate plans.

Based on the Trump Administration's intent to withdraw from the Paris Agreement, we rate the US "Critically insufficient." In May 2019, the US House of Representatives passed a resolution to keep the US in the Paris Agreement, the first major legislation on climate change in nearly ten years to win congressional approval. Although symbolically important, such a resolution is, however, unlikely to get the necessary approval of the Senate. The existing US target under the Paris Agreement would be rated "Insufficient", as it is not stringent enough to limit warming to 2°C, let alone 1.5°C.

At the subnational level, some cities, states, businesses, and other organisations are taking action. Recent analysis suggests that recorded and quantified non-state and subnational targets, if fully implemented, could come within striking distance of the US Paris Agreement commitment, resulting in emissions that are 17–24% below 2005 levels in 2025 (incl. LULUCF) (America's Pledge, 2018; Data Driven Yale, NewClimate Institute, & PBL, 2018). 22 states, 550 cities, and 900 companies with operations in the US have made climate commitments, and all 50 states have some type of policy that could bring about emissions reductions (America's Pledge, 2017).

Even with the Trump Administration's steps to rollback federal climate policy, the CAT's June 2019 emissions projections for 2030 are 2–3% lower than they were in 2018, mainly because the projected gas and renewables share in electricity generation has increased, and the projected coal share has decreased. The US is within striking distance of the upper end of its 2020 target, with emissions projections for 2020 only 1–2% higher than the target.

References

- ABC News. (2019a). Adani has its environmental approvals, so where does the project go from here? Retrieved from <https://www.abc.net.au/news/2019-06-14/adani-has-its-environmental-approvals-2c-so-what-happens-now/11207998>
- ABC News. (2019b, April 9). Adani coal mine a step closer with Environment Minister endorsing groundwater approvals. Retrieved from <https://www.abc.net.au/news/2019-04-09/adani-gains-commonwealth-groundwater-approval/10984134>
- Agora Energiewende, & Agora Verkehrswende. (2018). Die Kosten von unterlassenen Klimaschutz für den Bundeshaushalt. Berlin: Agora Energiewende. Retrieved from https://www.agora-energiewende.de/fileadmin2/Projekte/2018/Non-ETS/142_Nicht-ETS-Papier_WEB.pdf
- America's Pledge. (2017). America's Pledge Phase 1 Report: States, Cities, and Businesses in the United States Are Stepping Up on Climate Action. Retrieved from <https://www.bbhub.io/dotorg/sites/28/2017/11/AmericasPledgePhaseOneReportWeb.pdf>
- America's Pledge. (2018). Fulfilling America's Pledge: How States, Cities, and Businesses are Leading the United States to a Low-Carbon Future. Retrieved from https://www.bbhub.io/dotorg/sites/28/2018/09/Fulfilling-Americas-Pledge_Executive-Summary_2018.pdf
- Asamblea Legislativa de la República de Costa Rica. (2018). No. 9518: Incentivos y promoción para el transporte eléctrico. Retrieved 15 October 2018, from http://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo.aspx?param1=NRTC&nValor1=1&nValor2=85810&nValor3=111104&strTipM=TC
- Australian Department of the Environment. (2018). Australia's emissions projections 2018. Retrieved from <https://www.environment.gov.au/system/files/resources/128ae060-ac07-4874-857e-dced2ca22347/files/australias-emissions-projections-2018.pdf>
- Australian Government. (2019). Climate Solutions Package. Retrieved from <http://www.environment.gov.au/system/files/resources/128ae060-ac07-4874->
- Bakx, K. (2019). Oilpatch hopes investment flows back to Alberta after big Kenney win. Retrieved from <https://www.cbc.ca/news/business/kenney-oilpatch-investment-oilsands-1.5100085>
- BBC News. (2019). India reels as summer temperatures touch 50C - BBC News. Retrieved from <https://www.bbc.com/news/world-asia-india-48495492>
- BP. (2019). BP Statistical Review of World Energy 2019 | 68th edition. London, UK: BP p.l.c. <https://doi.org/10.2307/3324639>
- Bundesministerium für Umwelt Naturschutz und nukleare Sicherheit (BMU) [Hrsg.]. (2019). Referentenentwurf des Bundesministeriums für Umwelt, Naturschutz und nukleare Sicherheit Artikel 1 Bundes-Klimaschutzgesetz (KSG) (pp. 1–65). Retrieved from <https://www.klimareporter.de/images/dokumente/2019/02/ksg.pdf>
- Canelo, A. (2018, December 21). Costa Rica Maintains Clean Energy Record for the 4th Consecutive Year. The Costa Rica News, p. Energy. Retrieved from <https://thecostaricanews.com/costa-rica-maintains-clean-energy-record-for-the-4th-consecutive-year/>
- CEA. (2018). National Electricity Plan.
- Climate Action Tracker. (2017). Foot off the gas: increased reliance on natural gas in the power sector risks an emissions lock-in. Climate Action Tracker (Climate Analytics, Ecofys, NewClimate Institute). Retrieved from https://climateactiontracker.org/documents/55/CAT_2017-06-16_DecarbNaturalGas_CATAnalysis.pdf
- Climate Action Tracker. (2018). The Climate Action Tracker (CAT) Thermometer. Retrieved 18 June 2019, from <https://climateactiontracker.org/global/cat-thermometer/>
- Climate Analytics. (2016). Implications of the Paris Agreement for Coal Use in the Power Sector. Retrieved from https://climateanalytics.org/media/climateanalytics-coalreport_nov2016_1.pdf
- Climate Analytics. (2018). Science based coal phase-out pathway for Germany in line with the Paris Agreement 1.5°C warming limit, (October). Retrieved from https://climateanalytics.org/media/germany_coalphaseout_report_climateanalytics_final.pdf
- Climate Analytics. (2019). Australian political party positions and the Paris Agreement: an overview. Retrieved from https://climateanalytics.org/media/ca_-_australian_political_party_positions_and_the_paris_agreement_-_2019.05.10_1.pdf
- Climate Change Authority. (2017). Review of the emissions reduction fund. Retrieved from http://passthrough.fw-notify.net/download/164004/http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/files/CFI_2017_December/ERF_Review_Report.pdf
- Climate Change Authority. (2019). Australia's Climate Change Policies at the Australian and State and Territory Government Levels: A Stocktake. Retrieved from [http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/Australian climate change policies - stocktake.pdf](http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/Australian%20climate%20change%20policies%20-%20stocktake.pdf)
- Climate Home. (2017a). Brazil halves environment budget amid rising Amazon deforestation | Climate Home - climate change news. Retrieved 21 April 2017, from <http://www.climatechangenews.com/2017/04/03/brazil-halves-environment-budget-amid-rising-amazon-deforestation/>
- Climate Home. (2017b, July 17). Brazil's Temer extends amnesty to Amazon land-grabbers | Climate Home - climate change news. Retrieved from <http://www.climatechangenews.com/2017/07/17/brazils-temer-extends-amnesty-amazon-land-grabbers/>
- Climate Home News. (2019). South Africa set to introduce long-awaited carbon tax in June. Retrieved from <https://www.climatechangenews.com/2019/02/20/south-africa-set-introduce-long-awaited-carbon-tax-june/> [accessed on 25 April 2019]
- Climate Policy Initiative. (2019a). Amendments to a provisional measure threaten the implementation of Brazil's new Forest Code. Retrieved from <https://climatepolicyinitiative.org/publication/amendments-of-a-provisional-amnesty-amazon-land-grabbers/>
- Climate Policy Initiative. (2019b). Decreto no 9.760/2019 altera regras de conversão de multa ambiental em prestação de serviços ambientais - CPI. Retrieved from <https://climatepolicyinitiative.org/publication/decreto-no-9-760-2019-altera-regras-de-conversao-de-multa-ambiental-em-prestacao-de-servicos-ambientais/>
- Cloete, K. (2019, May 14). Release of updated IRP imminent, says Radebe, as he allays coal producers' fears. Engineering News. Retrieved from <https://www.engineeringnews.co.za/article/updated-irp-is-imminent-says-radebe-as-he-allays-coal-producers-fears-2019-05-14> [accessed on 21 May 2019]
- Darby, M. (2019, April 10). EU, China agree to work together on clean energy. Climate Home News. Retrieved from <https://www.climatechangenews.com/2019/04/10/eu-china-agree-work-together-clean-energy/>
- Data Driven Yale, NewClimate Institute, & PBL. (2018). Global climate action of regions, states and businesses. Retrieved from http://datadriven.yale.edu/wp-content/uploads/2018/08/YALE-NCI-PBL_Global_climate_action.pdf
- Department of Energy. (2018). Draft Integrated Resource Plan 2018. Retrieved from <http://www.energy.gov.za/IRP/irp-update-draft-2018/IRP-Update-2018-Draft-for-Comments.pdf> [accessed on 30 August 2018]
- Doherty, B. (2018). Australia likely to use controversial Kyoto loophole to meet Paris agreement. Retrieved from <https://www.theguardian.com/environment/2018/dec/12/australia-likely-to-use-controversial-kyoto-loophole-to-meet-paris-agreement>
- EEX. (2019). EU Emission Allowances | Secondary Market.
- Environment and Climate Change Canada. (2018). Canada's greenhouse gas and air pollutant emissions projections 2018. Retrieved from http://publications.gc.ca/collections/collection_2018/eccc/En1-78-2018-eng.pdf
- Estado de São Paulo. (2017). Corte no orçamento do Inpe ameaça satélites e monitoramento da Amazônia - PROCLIMA - Programa Estadual de Mudanças Climáticas do Estado de São Paulo. Retrieved 20 February 2018, from <http://cetesb.sp.gov.br/proclima/2017/11/25/corte-no-orcamento-do-inpe-ameaca-satelites-e-monitoramento-da-amazonia/>
- European Commission. (n.d.). 2030 climate & energy framework. Retrieved from https://ec.europa.eu/clima/policies/strategies/2030_en
- European Commission. (2018). A Clean Planet for all. A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy.
- European Commission. (2019). ETS Market Stability Reserve to reduce auction volume by almost 400 million allowances between September 2019 and August 2020.
- Evans, S. (2019, June 12). In-depth Q&A: The UK becomes first major economy to set net-zero climate goal. CarbonBrief, p. UK Emissions. Retrieved from <https://www.carbonbrief.org/in-depth-qa-the-uk-becomes-first-major-economy-to-set-net-zero-climate-goal>
- Financial Times. (2019). Germany to back EU-wide target for net zero emissions. Financial Times. Retrieved from <https://www.ft.com/content/acc09db6-8ea1-11e9-a1c1-51bf8f989972>
- Finkel, A. (2017). Independent Review into the Future Security of the National Electricity Market: Blueprint for the Future. Retrieved from <https://www.energy.gov.au/sites/default/files/independent-review-future-nem-blueprint-for-the-future-2017.pdf>
- Finnish Government. (2019). Osallistava ja Osaava Suomi.
- France, Belgium, Denmark, Luxembourg, Netherlands, Portugal, ... Sweden. (2019). Non paper on Climate for the future of Europe. Retrieved from <https://www.euractiv.com/wp-content/uploads/sites/2/2019/05/Non-paper-Climate-FR-SE-PT-DK-LU-ES-NL-BE.pdf>
- Funk, C., & Kennedy, B. (2019). How Americans see climate change in 5 charts. Retrieved from <https://www.pewresearch.org/fact-tank/2019/04/19/how-americans-see-climate-change-in-5-charts/>
- German Federal Ministry for the Environment Nature Conservation and Nuclear Safety. (n.d.). Climate Action Plan 2050 – Germany's long-term emission development strategy. Retrieved from

- <https://www.bmu.de/en/topics/climate-energy/climate/national-climate-policy/greenhouse-gas-neutral-germany-2050/>
- Gobierno de Costa Rica. (2019). Plan Nacional de Descarbonización 2018-2050. San José. Retrieved from <https://cambioclimatico.go.cr/wp-content/uploads/2019/02/PLAN.pdf>
- Gobierno de Costa Rica, MINAE, & MOPT. (2019). Plan Nacional de Transporte Eléctrico 2018-2030. Retrieved from <https://sepse.go.cr/documentos/PlanTranspElect.pdf>
- Government of Alberta. (2019). Carbon tax repeal. Retrieved from <https://www.alberta.ca/carbon-tax-repeal.aspx>
- Government of Canada. (2016). Pan-Canadian Framework on Clean Growth and Climate Change. Retrieved from <https://www.canada.ca/content/dam/themes/environment/documents/weather1/20170125-en.pdf>
- Government of Canada. (2018a). Regulations Amending the Reduction of Carbon Dioxide Emissions from Coal-fired Generation of Electricity Regulations. In Canada Gazette (p. Part II, Vol. 152, No. 25, Regulation SOR/2018-263). Retrieved from <http://www.gazette.gc.ca/rp-pr/p2/2018/2018-12-12/html/sor-dors263-eng.html>
- Government of Canada. (2018b). Regulations Limiting Carbon Dioxide Emissions from Natural Gas-fired Generation of Electricity. In Canada Gazette (p. Part II, Vol. 152, No. 25, SOR/2018-261).
- Government of Canada. (2019a). House Government Bill C-48. Retrieved from <https://www.parl.ca/LegisInfo/BillDetails.aspx?Language=E&billid=8936657>
- Government of Canada. (2019b). House Government Bill C-69. Retrieved from <https://www.parl.ca/LegisInfo/BillDetails.aspx?Language=E&billid=9630600>
- Government of New Zealand. (2019). Climate Change Response (Zero Carbon) Amendment Bill. Retrieved from <http://www.legislation.govt.nz/bill/government/2019/0136/latest/LMS183736.html>
- Hannam, P., & Latimer, C. (2018). UN's IPCC report on devastating climate change effects rejected by Morrison government, mining sector. Retrieved 21 November 2018, from <https://www.smh.com.au/environment/climate-change/mining-sector-morrison-government-on-the-defensive-over-ipcc-report-20181008-p508ee.html>
- Hare, B., Schleussner, C., Schaeffer, M., & Nauels, A. (2018). New Zealand's Zero Carbon Bill – getting the Paris Agreement right. Retrieved from <https://climateanalytics.org/publications/2018/new-zealands-zero-carbon-bill-getting-the-paris-agreement-right/>
- Heiberg, T. (2019, June 5). South Africa's mines, energy minister says all options open for future power supply. Reuters.Com. Retrieved from <https://af.reuters.com/article/topNews/idAFKCN1T60QY-OZATP>
- Höhne, N., Emmrich, J., Fekete, H., & Kuramochi, T. (2019a). 1,5°C: Was Deutschland tun muss. Cologne/Berlin, Germany: NewClimate Institute / Campact. Retrieved from <https://newclimate.org/2019/03/14/15c-what-germany-needs-to-do/>
- Höhne, N., Emmrich, J., Fekete, H., & Kuramochi, T. (2019b). 1,5°C: Was Deutschland tun muss. Cologne/Berlin, Germany: NewClimate Institute / Campact.
- Höhne, N., & Fekete, H. (2019). Was kostet ein Verfehlen des 2030-Klimaziels im Verkehrssektor?
- Hunter, A. (2019). Saskatchewan files notice of carbon tax appeal to Supreme Court of Canada. Retrieved from <https://www.cbc.ca/news/canada/saskatchewan/sask-carbon-tax-supreme-court-appeal-1.5157465>
- IEA. (2019a). CO2 Emissions Statistics. Retrieved 20 May 2019, from <https://www.iea.org/statistics/co2emissions/>
- IEA. (2019b). Global Energy & CO2 Status Report. Retrieved 3 June 2019, from <https://www.iea.org/geco/>
- IEA. (2019c). Renewable capacity growth worldwide stalled in 2018 after two decades of strong e. Retrieved 3 June 2019, from <https://www.iea.org/newsroom/news/2019/may/renewable-capacity-growth-worldwide-stalled-in-2018-after-two-decades-of-strong-e.html>
- IEA USP. (2019, May 8). Ex-ministros de Meio Ambiente divulgaram comunicado sobre a política para a área do atual do governo. Retrieved from <http://www.iea.usp.br/noticias/ex-ministro-de-meio-ambiente-divulgam-comunicado-sobre-a-politica-para-a-area-do-atual-do-governo>
- IEEFA. (2017). Overpaid and Underutilized: How capacity payments to coal-fired power plants could lock Indonesia into a high-cost electricity future. Retrieved from http://ieefa.org/wp-content/uploads/2017/08/Overpaid-and-Underutilized_How-Capacity-Payments-to-Coal-Fired-Power-Plants-Could-Lock-Indonesia-into-a-High-Cost-Electricity-Future_August2017.pdf
- India Today. (2019). Too hot to handle: Delhi temperature reaches all-time June high of 48 degrees - India News. New Delhi: India Today. Retrieved from <https://www.indiatoday.in/india/story/delhi-temperature-weather-heatwave-48-degrees-celsius-1546121-2019-06-10>
- Institute for Essential Services Reform. (2018). Indonesia Clean Energy Outlook. Jakarta, Indonesia.
- Instituto Homem e Meio Ambiente da Amazônia (Imazon). (2019). Boletim Sistema de Alerta de Desmatamento - Janeiro de 2019. Retrieved 7 May 2019, from https://k6f2r3a6.stackpathcdn.com/wp-content/uploads/2019/02/INFBolSAD_Jan2019_A5_210x148_WEB.jpg
- IPCC. (2018). Global Warming of 1.5°C: Summary for Policymakers. Retrieved from http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf
- Jornal O Globo. (2019, May 7). Ministério do Meio Ambiente bloqueia 95% da verba para o clima. Retrieved from <https://oglobo.globo.com/sociedade/ministerio-do-meio-ambiente-bloqueia-95-da-verba-para-clima-23646502>
- Kommission „Wachstum Strukturwandel und Beschäftigung“. (2019). Kommission "Wachstum, Strukturwandel und Beschäftigung" - Abschlussbericht. Retrieved from https://www.bmw.de/Redaktion/DE/Downloads/A/abschlussbericht-kommission-wachstum-strukturwandel-und-beschaeftigung.pdf?__blob=publicationFile
- Korsbakken, J. I., Andrew, R., & Peters, G. (2019, March 5). Guest post: China's CO2 emissions grew slower than expected in 2018. Carbon Brief. Retrieved from https://www.carbonbrief.org/guest-post-chinas-co2-emissions-grew-slower-than-expected-in-2018?utm_campaign=Carbon+Brief+Daily+Briefing&utm_medium=email&utm_source=Revue+newsletter
- KPMG. (2019). Carbon Tax: A Burning Issue. Retrieved from <https://home.kpmg/content/dam/kpmg/xx/pdf/2019/02/tnf-south-africa-feb25-2019.pdf> [accessed on 25 April 2019]
- Lester, P. (2019). U.S. Liquefied Natural Gas Exports Breaking Records. Retrieved from <https://www.energy.gov/articles/interactive-map-us-liquefied-natural-gas-exports-breaking-records>
- Loh, Z., Mitrevski, B., Etheridge, D., Derek, N., Fraser, P., Krummel, P., ... Cleland, S. (2019). Why there's more greenhouse gas in the atmosphere than you may have realised. Retrieved from <https://theconversation.com/why-theres-more-greenhouse-gas-in-the-atmosphere-than-you-may-have-realised-118336>
- Mathiesen, K. (2019). Australia stops payments to Green Climate Fund. Retrieved from <https://www.climatechangenews.com/2019/04/02/australia-stops-payments-green-climate-fund/>
- McKenna, P. (2019). India Is Now Investing More in Solar than Coal, but Will Its Energy Shift Continue? | InsideClimate News. Retrieved 24 May 2019, from <https://insideclimatenews.org/news/20052019/india-solar-investment-coal-modi-election-renewable-energy-future>
- Ministerio de Ambiente y Energía. (2015a). Costa Rica. First Biennial Update Report. Retrieved from http://unfccc.int/files/national_reports/non-annex_i_parties/biennial_update_reports/application/pdf/corbur1.pdf (accessed 15 September 2017)
- Ministerio de Ambiente y Energía. (2015b). VII Plan Nacional de Energía 2015-2030. Retrieved from <http://www.minae.go.cr/recursos/2015/pdf/VII-PNE.pdf>
- Ministerio de Ambiente y Energía - Gobierno de Costa Rica. ALCANCE N° 230 Gaceta No182 (2017). Costa Rica. Retrieved from https://www.imprentanacional.go.cr/pub/2017/09/26/ALCA230_26_09_2017.pdf
- Ministerio de Energía. (2015). Energía 2050: Política Energética de Chile. Retrieved from http://www.minenergia.cl/archivos_bajar/LIBRO-ENERGIA-2050-WEB.pdf
- Ministerio de Energía. (2017a). Estrategia Nacional de Electromovilidad Un camino para los vehículos eléctricos. Retrieved from http://www.minenergia.cl/archivos_bajar/2018/electromovilidad/estrategia_electromovilidad-27dic.pdf
- Ministerio de Energía. (2017b). Plan de Mitigación de Gases de Efecto Invernadero para el Sector Energía. Retrieved from http://www.minenergia.cl/archivos_bajar/2017/03/propuesta_plan_mitigacion_gases_efecto_invernadero.pdf
- Ministerio de Energía. (2017c). Proceso de Planificación Energética de Largo Plazo. Retrieved from <http://pelp.minenergia.cl/informacion-del-proceso/resultados>
- Ministerio de Energía. (2019). Gobierno anuncia la salida ocho centrales a carbón en 5 años y la meta de retiro total al 2040. Retrieved 5 June 2019, from <http://www.valgesta.com/wp-content/uploads/2018/09/Análisis-de-impacto-de-un-Plan-de-Cierre-Centrales-Carboneras-en-el-SEN-Valgesta.pdf>
- Ministry for the Environment. (2018, October 4). 15,000 submissions on Zero Carbon Bill consultation publicly released | Ministry for the Environment. Retrieved from <https://www.mfe.govt.nz/news-events/15000-submissions-zero-carbon-bill-consultation-publicly-released>
- Ministry of Energy and Mining Resources. (2019). Energy Booklet, 2018.
- Ministry of National Development Planning (BAPPENAS). (2019). Low Carbon Development: A Paradigm Shift Towards a Green Economy in Indonesia.
- Murphy, K. (2019). Scott Morrison to reboot Tony Abbott's emissions reduction fund with \$2bn. Retrieved from <https://www.theguardian.com/australia-news/2019/feb/25/scott-morrison-to-reboot-tony-abbotts-emissions-reduction-fund-with-2bn>
- Myhre, G., Shindell, D., Bréon, F.-M., Collins, W., Fuglestedt, J., Huang, J., ... Zhang, H. (2013). Anthropogenic and Natural Radiative Forcing. In Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (pp. 659–740). Retrieved from https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf
- NAMA Database. (2011). NAMAs in the Costa Rican Coffee Sector. Retrieved 15 September 2017, from http://www.nama-database.org/index.php/NAMAs_in_the_Costa_Rican_coffee_sector
- NBC news. (2019, April 8). Environmentalists fear rampant deforestation as Brazil's Bolsonaro eyes new policy. Retrieved

- from <https://www.nbcnews.com/news/latino/environmentalists-fear-rampant-deforestation-brazil-s-bolsonaro-eyes-new-policy-n992051>
- Nisbet, E. G., Manning, M. R., Dlugokencky, E. J., Fisher, R. E., Lowry, D., Michel, S. E., ... White, J. W. C. (2019). Very Strong Atmospheric Methane Growth in the 4 Years 2014–2017: Implications for the Paris Agreement. *Global Biogeochemical Cycles*, 33(3), 318–342. Retrieved from <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018GB006009>
- Observatório do Clima. (2019a, April 12). Bolsonaro inaugura era da multa zero. Retrieved from <http://www.observatoriodoclima.eco.br/bolsonaro-multa-zero/>
- Observatório do Clima. (2019b, April 12). Revogação reafirma incompetência de Bolsonaro e pode dar prejuízo ao país. Retrieved from <http://www.observatoriodoclima.eco.br/revogacao-pode-dar-prejuizo-ao-pais/>
- Ocasio-Cortez, A. (2019). H.Res.109 - Recognizing the duty of the Federal Government to create a Green New Deal. Retrieved from <https://www.congress.gov/bills/116th-congress/house-resolution/109/text>
- Perkel, C. (2019). Province, feds submit closing arguments in Ontario carbon tax court battle.
- Phys.org. (2019). UN envoy says 80 countries ready to step up on climate. Retrieved 17 June 2019, from <https://phys.org/news/2019-05-envoy-countries-ready-climate.html>
- Poushter, J., & Huang, C. (2019). Climate Change Still Seen as the Top Global Threat, but Cyberattacks a Rising Concern. Retrieved from <https://www.pewresearch.org/global/2019/02/10/climate-change-still-seen-as-the-top-global-threat-but-cyberattacks-a-rising-concern/>
- PRODES. (2019). Monitoramento da Floresta Amazônica Brasileira por Satélite. Retrieved 29 May 2019, from <http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes>
- Republic of Indonesia. (2018). Rencana Usaha Penyediaan Tenaga Listrik (RUPTL).
- Republic of Indonesia. (2019). Rencana Usaha Penyediaan Tenaga Listrik (RUPTL) 2019-2028.
- Reuters. (2019a). Canadian court rules Trudeau's carbon tax constitutional. Retrieved from <https://www.reuters.com/article/us-canada-court-carbon/canadian-court-rules-trudeaus-carbon-tax-constitutional-idUSKCN15911T5>
- Reuters. (2019b). South African parliament approves long-delayed carbon tax bill. Retrieved from <https://www.reuters.com/article/us-safrica-carbon-tax/south-african-parliament-approves-long-delayed-carbon-tax-bill-idUSKCN1Q81U8> [accessed on 25 April 2019]
- Secombe, A. (2019, June 4). Gwede Mantashe backs coal and nuclear in SA's energy mix. *Business Day*. Retrieved from <https://www.businesslive.co.za/bd/national/2019-06-04-gwede-mantashe-backs-coal-and-nuclear-in-sas-energy-mix/>
- Shearer, C., Brown, M., & Buckley, T. (2019). China at a crossroads: Continued support for coal power erodes country's clean energy leadership. Retrieved from http://ieefa.org/wp-content/uploads/2019/01/China-at-a-Crossroads_January-2019.pdf
- Shearer, C., Fofrich, R., & Davis, S. J. (2017). Future CO2 emissions and electricity generation from proposed coal-fired power plants in India. *Earth's Future*, 5(4), 408–416. <https://doi.org/10.1002/2017EF000542>
- Shearer, C., Mathew-Shah, N., Myllyvirta, L., Yu, A., & Nace, T. (2019). Boom and Bust 2019: Tracking the global coal plant pipeline. Retrieved from https://endcoal.org/wp-content/uploads/2019/03/BoomAndBust_2019_r6.pdf
- tagesschau.de. (2019). Treffen der Umweltminister: Bundesregierung soll CO2-Steuer prüfen | tagesschau.de. Retrieved 17 June 2019, from <https://www.tagesschau.de/inland/umweltministertreffen-schulze-101.html>
- The Canadian Press. (2019). Manitoba files separate court action over federal carbon tax, seeks review. Retrieved from <https://www.cbc.ca/news/canada/manitoba/manitoba-carbon-tax-suit-1.5110110>
- The Guardian. (2019). Climate change is this election's top issue. *Guardian Australia* tells you what you need to know. Retrieved from <https://www.theguardian.com/australia-news/2019/may/14/climate-change-is-this-elections-top-issue-guardian-australia-tells-you-what-you-need-to-know>
- The ICCT. (2019). CO2 standards for heavy-duty vehicles in the European Union. Retrieved from https://www.theicct.org/sites/default/files/publications/CO2_HDV_EU_Policy_Update_2019_04_17.pdf
- The Jakarta Post. (2018, March 14). PLN puts 22,000 MW power plant projects on hold. Retrieved from <http://www.thejakartapost.com/news/2018/03/14/pln-puts-22000-mw-power-plant-projects-on-hold.html>
- The New York Times. (2019, January 2). Jair Bolsonaro, on Day 1, Undermines Indigenous Brazilians' Rights. Retrieved from <https://www.nytimes.com/2019/01/02/world/americas/brazil-bolsonaro-president-indigenous-lands.html>
- Transport Canada. (2019). Government of Canada invests in zero-emission vehicles. Retrieved from <https://www.canada.ca/en/transport-canada/news/2019/04/government-of-canada-invests-in-zero-emission-vehicles.html>
- U.S. Energy Information Administration. (2018a). The United States is now the largest global crude oil producer. Retrieved from <https://www.eia.gov/todayinenergy/detail.php?id=37053>
- U.S. Energy Information Administration. (2018b). United States remains the world's top producer of petroleum and natural gas hydrocarbons. Retrieved from <https://www.eia.gov/todayinenergy/detail.php?id=36292>
- U.S. Environmental Protection Agency. (2018a). Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program Emission Guidelines for Greenhouse Gas Emissions From Exist. Retrieved from https://www.epa.gov/sites/production/files/2018-08/documents/frn-ace-proposal_8.20.2018.pdf
- U.S. Environmental Protection Agency. (2018b). Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Reconsideration. Retrieved from <https://www.epa.gov/sites/production/files/2018-09/documents/frnOilGasreconsideration2060-at54nprm20180910.pdf>
- U.S. Environmental Protection Agency. (2018c). Proposed Rule - Review of Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units. Retrieved from <https://www.federalregister.gov/documents/2018/12/20/2018-27052/review-of-standards-of-performance-for-greenhouse-gas-emissions-from-new-modified-and-reconstructed>
- U.S. Environmental Protection Agency. (2018d). Protection of Stratospheric Ozone: Notification of Guidance and a Stakeholder Meeting Concerning the Significant New Alternatives Policy (SNAP) Program. Retrieved from https://www.epa.gov/sites/production/files/2018-04/documents/snap-guidance-notice_assigned-4-13-18-with-disclaimer.pdf
- U.S. Environmental Protection Agency, Administration, & U.S. National Highway Safety Administration. (2018). The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks. Retrieved from <https://www.govinfo.gov/content/pkg/FR-2018-08-24/pdf/2018-16820.pdf>
- UK Committee on Climate Change. (2018). Hydrogen in a low-carbon economy. Retrieved from <https://www.theccc.org.uk/wp-content/uploads/2018/11/Hydrogen-in-a-low-carbon-economy.pdf>
- UK Committee on Climate Change. (2019a). Carry forward of surplus emissions from Carbon Budget 2. In Letter to UK Minister of State for Energy and Clean Growth, Rt Hon Claire Perry MP. Retrieved from <https://www.theccc.org.uk/wp-content/uploads/2019/02/Letter-from-Lord-Deben-to-Claire-Perry-Surplus-emissions.pdf>
- UK Committee on Climate Change. (2019b). Net Zero: The UK's contribution to stopping global warming. Retrieved from <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>
- UK Government. Climate Change Act 2008 (2008). United Kingdom. Retrieved from <http://www.legislation.gov.uk/ukpga/2008/27/contents>
- UK Government. (2019a). PM Theresa May: we will end UK contribution to climate change by 2050. Retrieved from <https://www.gov.uk/government/news/pm-theresa-may-we-will-end-uk-contribution-to-climate-change-by-2050>
- UK Government. (2019b). The Climate Change Act 2008 (2050 Target Amendment) Order 2019. In Draft statutory instruments. Retrieved from <http://www.legislation.gov.uk/ukdsi/2019/9780111187654>
- Vigliotti, M. (2019). Federal carbon tax to be introduced in Alberta in January: McKenna. Retrieved from <https://ipolitics.ca/2019/06/13/federal-carbon-tax-to-be-introduced-in-alberta-in-january-mckenna/>
- von Scheel, E. (2019). Costs for Canada's UN Security Council bid keep mounting. Retrieved from <https://www.cbc.ca/news/politics/canada-un-security-council-von-scheel-1.5113585>
- Vrooman, T., & Guilbeault, S. (2019). Advisory Council on Climate Action Final Report. Retrieved from <https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/advisory-council-climate-action/acca-final-report.pdf>
- Walker, P., Mason, R., & Carrington, D. (2019). Theresa May commits to net zero UK carbon emissions by 2050. Retrieved from <https://www.theguardian.com/environment/2019/jun/11/theresa-may-commits-to-net-zero-uk-carbon-emissions-by-2050>
- Weisse, M., & Goldman, L. (2019). World lost Belgium sized area of primary rainforests last year, 25(12), 3713–3726. <https://doi.org/10.1111/gcb.12627>
- World Meteorological Organization. (2019). State of the Climate in 2018 shows accelerating climate change impacts | World Meteorological Organization. WMO. Retrieved from <https://public.wmo.int/en/media/press-release/state-of-climate-2018-shows-accelerating-climate-change-impacts>



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



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