

Climate Action Tracker

To show climate leadership, US 2030 target
should be at least 57-63%

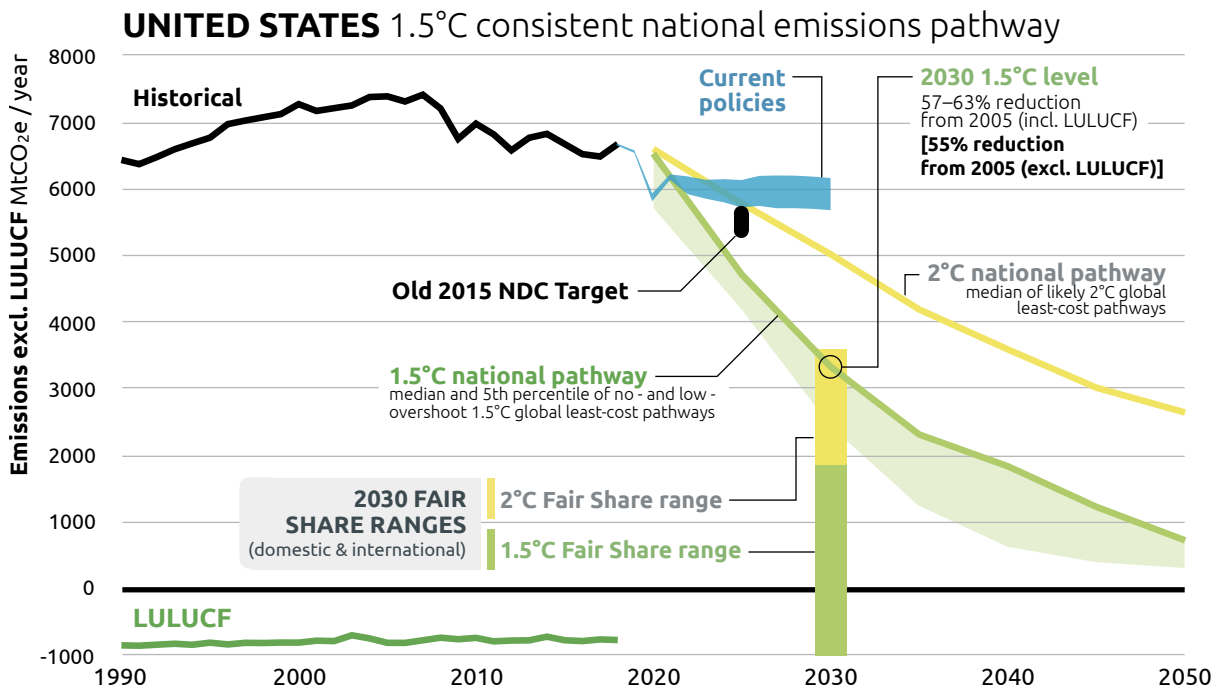
March 2021



Summary

After officially rejoining the Paris Agreement, the Biden administration is now preparing a new 2030 Paris Agreement target - or Nationally Determined Contribution (NDC) that is expected to be announced in time for the Leader's Climate Summit on Earth Day (22 April).

The CAT's analysis indicates that the new US NDC should aim to reduce its national emissions by at least 57-63% below 2005 levels by 2030 (incl. LULUCF) and provide support to other countries in order to be consistent with the Paris Agreement 1.5°C limit.



The CAT analysis looks at President Biden's plans for three sectors and compares them with benchmarks defined in its benchmarks report:

- ▶ Decarbonising the US power sector by 2035 is consistent with a Paris Agreement pathway;
- ▶ For the transport sector, the largest source of emissions in the US, there is still a long way to go. While President Biden has begun the process toward clean passenger vehicles, he has set no targets nor timelines. The CAT analysis shows that to be compatible with the Paris Agreement 1.5°C temperature limit, 95%-100% of sales of new light-duty vehicles in the US should be zero-emissions at national level by 2030. Progress has been made in states (such as California) and by automakers, but needs to be taken nationwide;
- ▶ For the buildings sector, President Biden plans to reduce the carbon footprint of the US buildings sector by 50% by 2035. However, to be Paris Agreement compatible, the CAT analysis indicates that by 2030, emissions in the US buildings sector should be around 60% lower in residential buildings, and 70% lower in commercial buildings (from 2015 levels)



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1 CAT analysis - Required level of ambition of the new NDC

On his first day in office, President Biden signed an [Executive Order](#) to re-join the Paris Agreement, reversing the absence of US leadership on climate policy over the past four years, and signaling that the incoming administration puts climate at the center of its agenda.

This change in administration is an opportunity to put the US back on track with climate policy. However, it is not enough for President Biden to simply restore environmental rules and reverse the previous administration's rollbacks on climate policy. According to the rules of the Paris Agreement, the US now needs to step up climate action and set ambitious targets to reduce its own emissions by 2030 that are consistent with the Paris Agreement 1.5°C limit. The Biden administration plans to announce the new Nationally Determined Contribution (NDC) before the [Leader's Climate Summit](#) on 22 April (Earth Day).

1.1 Domestic action

The US needs to significantly increase its domestic action and strengthen its climate target to be consistent with a 1.5°C pathway. **According to CAT's analysis, the US should aim to reduce its national greenhouse gas (GHG) emissions by at least 57-63% from 2005 levels by 2030 (incl. LULUCF) – 55% (excl. LULUCF)** (Figure 1). Setting an emissions reduction target at this level would also put the country on track to achieve its 2050 net zero emissions target.

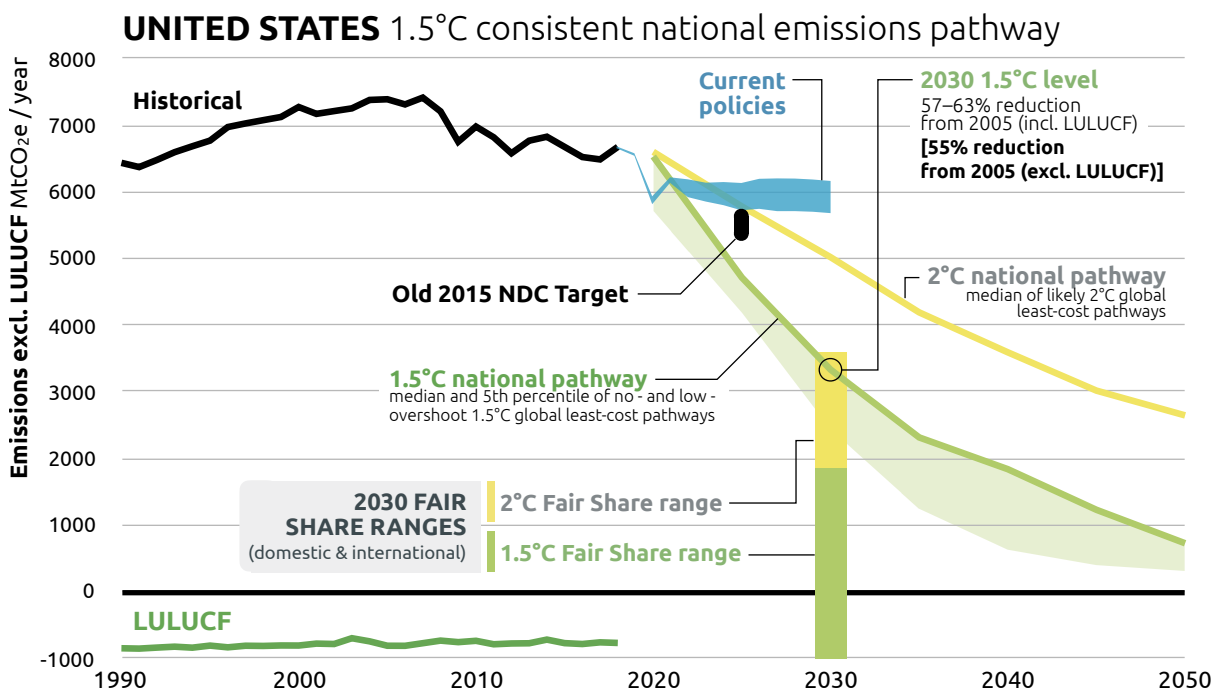


Figure 1 GHG emissions pathways for US that would be consistent with 1.5°C and 2°C global least-cost scenarios (excl. LULUCF), fair share ranges, historical emissions for 2010–2018 and current policy projections. See the bottom of the article for a summary of the methodology and assumptions used.

The reduction range is derived from global model runs of the IPCC special report on 1.5°C that distribute emission reductions across countries and sectors in a cost optimal way to limit global temperature rise to below 1.5°C by the end of the century. The result of this analysis indicates plausible emission reductions that the US can undertake domestically, but does not determine whether this is a fair contribution of the US to the Paris Agreement.

The CAT's suggested national target for the US is comparable to targets put forward by national stakeholders including the "America Is All In" [coalition](#), which is calling for a national target of reducing emissions at least 50% from a 2005 baseline by 2030 (incl. LULUCF) and put the US on track to net-zero by 2050. This target accounts for the emissions reduction potential of states, cities, businesses, and other non-federal actors across the US (from a bottom-up approach) supported by strong cooperation and alignment with Federal action.

The CAT analysis shows that while the at least 50% target advocated by the 'America Is All In' coalition is close, this target would still result in a gap of 0.5-0.9 GtCO₂e emissions in 2030 to a 1.5°C pathway for the US.

The Biden administration's interest and willingness to collaborate with non-federal actors enhances the feasibility and credibility of achieving ambitious climate targets, which require the buy-in and commitment of the private sector, civil society and subnational institutions. The importance of this alignment is evidenced by the impact of climate actions coming from non-federal actors, who counter-balanced the inaction of the federal government in climate policy over the past four years.

1.2 Fair contribution

To make a fair contribution to the Paris Agreement, the US needs to do two things: adopt an ambitious national reduction target of at least 57-63% below 2005 levels by 2030 (incl. LULUCF) and **provide support to help other countries drive their own transitions** to help shape global ambition on climate change.

The US has a higher responsibility (long history of emissions and very high per capita emissions) and capability (one of the richest countries in the world) compared to other countries. When these factors are taken into account, and to contribute its fair share to the Paris Agreement, the US is responsible for emissions reductions that, if viewed from a domestic perspective alone, would require emissions to be **80-86% below 2005 levels by 2030 (incl. LULUCF) – 75% (excl. LULUCF)** (Figure 1).

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A new NDC would be a positive first step, but much more to go on road to Paris compatibility

Setting a strong and fair NDC is only the first step. The US must adopt and implement ambitious policies to ensure it meets this target.

President Biden has started to act on his [campaign promises](#) and continued with an [Executive Order](#) on Tackling the Climate Crisis at Home and Abroad to tackle GHG emissions and put the US on a path to a net-zero economy by 2050. These plans include the goal of achieving a [carbon-free electricity sector by 2035](#), [halving the carbon footprint in the buildings sector](#) by 2035 and aiming towards [100% zero-emissions vehicles](#).

While these plans are positive first steps, not all measures proposed are Paris Agreement compatible, [nor are they sufficient](#) for the US to achieve a Paris Agreement compatible target.

2.1 A decarbonised power sector by 2035

President Biden has committed to [decarbonising the power sector by 2035](#).

This goal is aligned with the Paris Agreement, based on the [benchmarks](#) defined by the CAT: our analysis indicates that, to be compatible with the Paris Agreement 1.5°C temperature limit, emissions in the US power sector need to be rapidly reduced to reach zero in the 2030's (Figure 2).

One of his first [Executive Orders](#) ordered federal agencies to develop a procurement plan for carbon-free electricity in line with this target, an initial step towards meeting this broader objective.

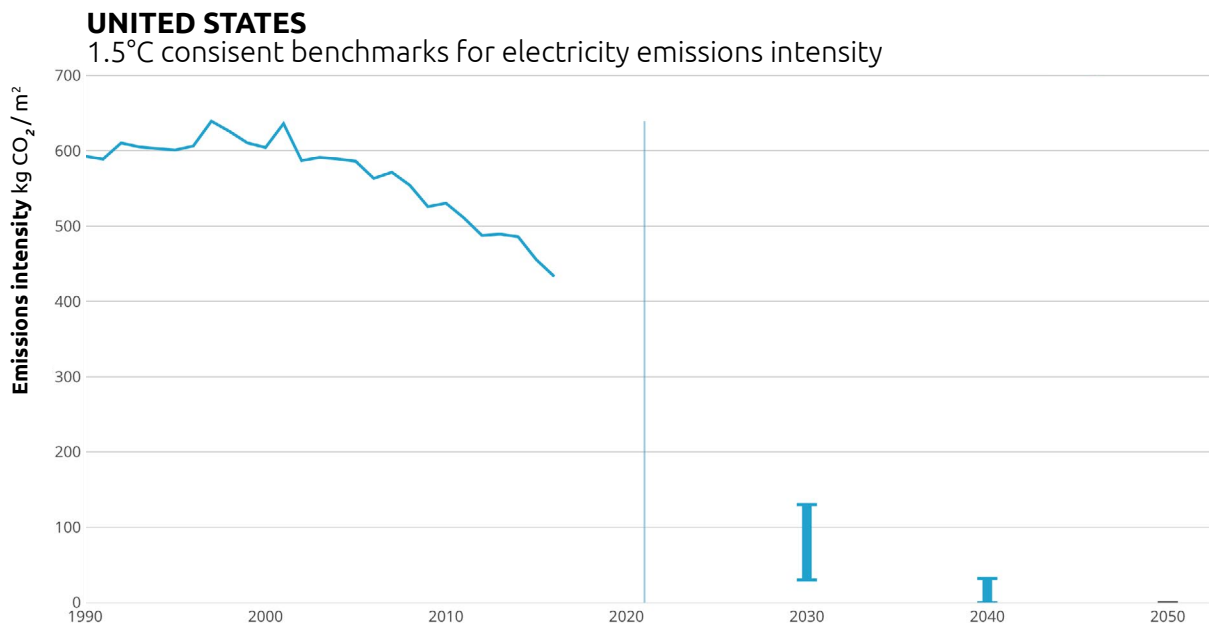


Figure 2 US electricity emissions intensity - Historical trend and Paris Agreement compatible Benchmarks (source: CAT data portal)

2.2 Aim to 100% zero-emissions Light Duty passenger Vehicles (LDV)

President Biden has signaled his intention to gradually transition towards clean mobility, focusing on the electrification of light-duty passenger vehicles (LDV), although he has yet to set clear plans or targets in the transport sector, the largest source of emissions in the US. His climate plan included incentives to develop electric automobile industry and infrastructure, including public investment in half a million electric vehicle charging stations.

In the Executive Order, President Biden also [initiated the process](#) to replace the entire federal vehicle fleet with electric models, but has not yet provided a timeline for its implementation.

To be compatible with the Paris Agreement 1.5°C temperature limit, the Climate Action Tracker analysis indicates that [95%-100%](#) of sales of new light-duty vehicles in the US should be zero-emissions at national level by 2030.

The formulation of new and ambitious fuel economy standards aimed at ensuring 100% of new sales for light and medium-duty vehicles is one of the most powerful policy instruments at the federal level to guide substantial emissions reduction in the transport sector. Although there are no nationwide targets to ban the sale of new vehicles with internal combustion engines (ICE), much progress has been made at the non-federal level where states and automakers have set targets of 100% zero-emissions new vehicles sales by 2030 or 2035 ([California](#) by 2035, Washington ([proposal](#)) by 2030, [General Motors](#) by 2035, [Volvo](#) by 2030).

The Leaders' Summit setting 2030 as the date for the phase out of new ICE vehicles sales would be an important step in decarbonising the transport sector.

2.3 Reduce the carbon footprint of the building sector by 50% by 2035

In his [climate plan](#), President Biden committed to reduce the carbon footprint of the US building sector by 50% by 2035, through deep retrofits, appliance electrification, energy efficiency, and on-site clean power generation.

The [Executive Order](#) on Tackling the Climate Crisis also directs federal agencies to plan and support the deployment of clean energy technologies and sustainable infrastructure, which can spur the development of energy efficiency and retrofits in the building sector.

The goal is not ambitious enough to be aligned with the Paris Agreement, based on the [benchmarks](#) defined by CAT. To be compatible with the Paris Agreement 1.5°C temperature, the Climate Action Tracker analysis indicates that emissions in the US buildings sector would need to be around 60% and 70% lower in 2030 in residential and commercial buildings, respectively, compared to 2015 levels. These levels of emission reductions are only possible by phasing out new fossil fuel energy supply installations in buildings and rapidly retrofitting existing buildings to make them more energy efficient. This would lead to significant reductions in emissions intensity in residential (Figure 3) and commercial (Figure 4) buildings.

UNITED STATES

1.5°C consistent benchmarks for residential buildings emissions intensity - floor area

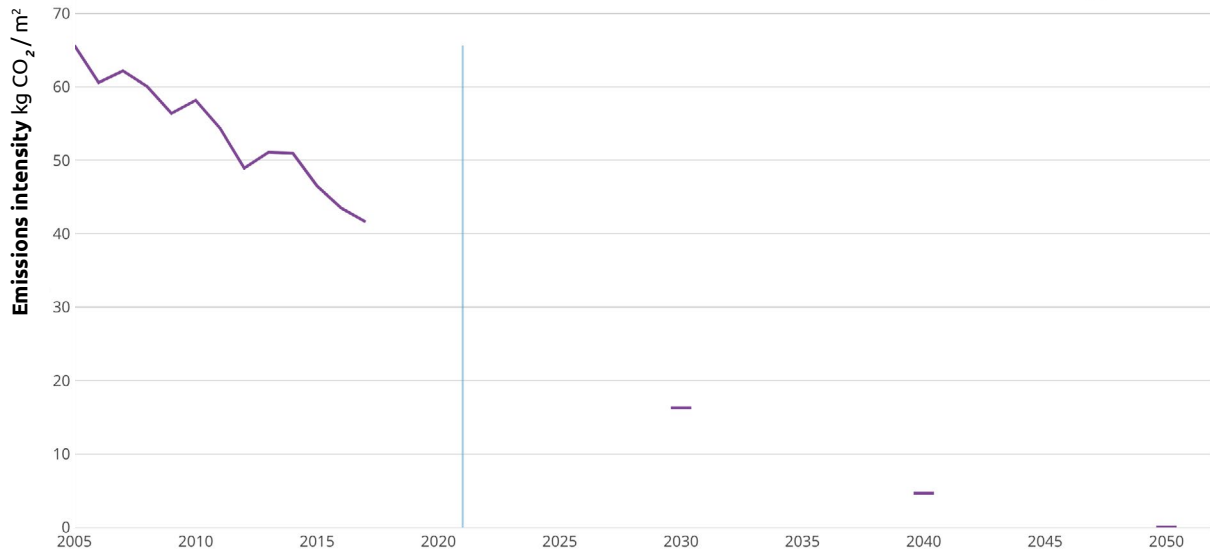


Figure 3 US Building emissions intensity (Residential) - Historical trend and Paris Agreement compatible Benchmarks (source: CAT data portal)

UNITED STATES

1.5°C consistent benchmarks for commercial buildings emissions intensity - floor area

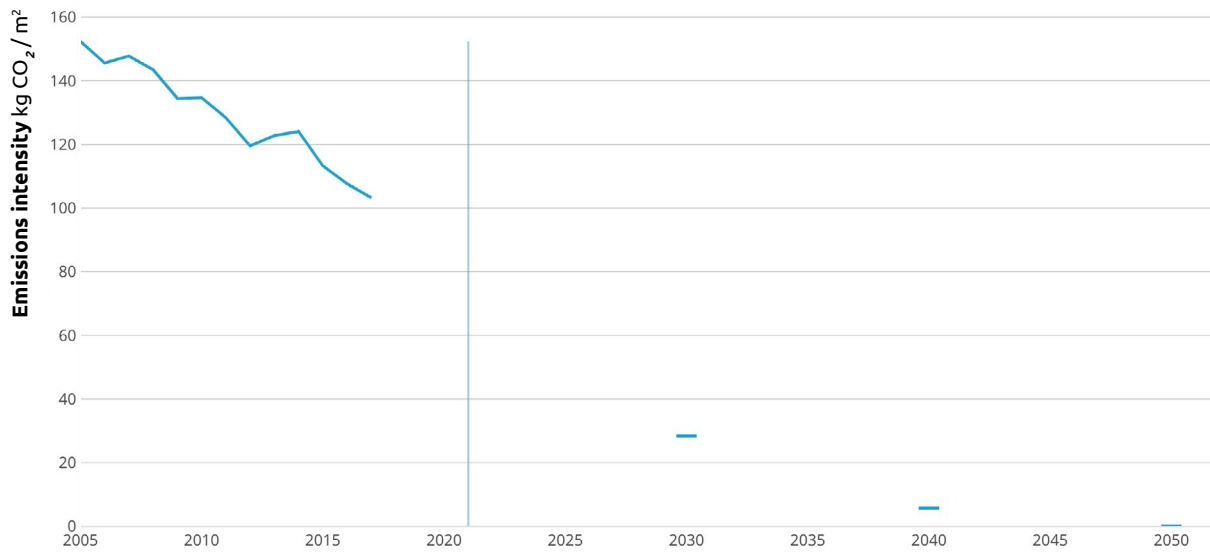


Figure 4 US Building emissions intensity (Commercial) - Historical trend and Paris Agreement compatible Benchmarks (source: CAT data portal)

President Biden has committed to achieving net-zero emissions by 2050 at the latest. He joins a long line of leaders who have recently committed to net-zero greenhouse gas emissions goals by mid-century. Taken together, all of these targets could reduce end of century warming to 2.1°C. As we established in late 2020, if the US alone were to achieve its net zero target, this could lower global average temperature by 2100 in the order of 0.1°C (see [CAT briefing](#), December 2020).

For this estimation, we assume the US net-zero target comprises all greenhouse gases (GHG), but it is not clear in the formulation whether it is a net-zero carbon or a net-zero GHG emissions target. The achievement of this target requires a strong NDC from the US to put in on the right path.

The submission of an ambitious and science-based target would encourage domestic action towards decarbonised systems. It would also be a major boost to international climate cooperation and would mean the US could claim global leadership in climate action which would make it more likely that other countries would also adopt the 2030 targets they need in order to make net zero a reality.

4 Method and assumptions

For each of the global least-cost emission pathways, the emissions of the OECD region are distributed amongst the OECD member states following an extension of the Impact, Population, Affluence, and Technology (IPAT) method that was developed by (van Vuuren, Lucas and Hilderink, 2007) and refined by (Gidden et al., 2019). It assumes country-specific emission intensities converge from their present-day values to the regional value for each given IAM pathway by the end of the modelled time horizon (i.e., by 2100). We then assess the full distribution of downscaled outcomes to find the median of country-level emissions pathway in order to form an upper-bound for Paris-Agreement compatibility for each country.

For the [fair share range](#) is based on published scientific literature on what a country's total contribution would need to be to make a fair contribution to implementing the Paris agreement. In order to make a fair contribution to meeting the Paris Agreement's goals, developed countries need to make both domestic emission reductions and assist poorer countries reduce their emissions. This means that a country's total NDC "fair share" action range is the total sum of domestic reductions plus emission reductions overseas (from climate finance, providing means or implementation or acquisition of emission units, if those are in turn discounted in the host country). Thus, in addition to domestic emissions reduction targets, the "fair share" NDC emissions reduction range as estimated by the CAT would almost always require a developed country to provide enough climate finance, or support via other means of implementation to bring the total emissions reduction contribution of that country down to the required "fair share" level.

The CAT [does not consider LULUCF when assessing NDCs](#); however, we have provided both figures excluding and including LULUCF here for comparability with national estimates.

The LULUCF emission projections up to 2030 were taken from the 6th National Communication, which reported net sinks of 0.5–0.9 GtCO₂e/year in 2030 ([U.S. Department of State, 2014](#))



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

climateactiontracker.org



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

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

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