

BRIEFING

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European Union 2030 emissions reduction target needs to be brought into line with the Paris Agreement 1.5°C limit

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KEY MESSAGES

- The European Union Council is meeting 10-11 December to revise its 2030 domestic emissions reduction target to bring it into line with the Paris Agreement 1.5°C goal
- This briefing shows the domestic emission reductions needed by 2030 for the EU27 and three member states – France, Germany and Poland – based on downscaling of 1.5°C compatible Global mitigation pathways published by the IPCC in the SR1.5.
- **Paris Agreement compatible 2030 domestic emission reductions for the EU27 are in the range of 58-70% below 1990 levels**
 - The EU Commission’s proposed 2030 emissions target of a 55% reduction below 1990 levels is not quite compatible with limiting warming to the 1.5°C long-term temperature goal of the Paris Agreement;
 - The EU Parliament’s proposed 60% target lies just within the Paris Agreement compatible band of 2030 emission reductions
 - A 65% target would ensure it is firmly within its 1.5°C compatible 2030 emissions range;
- **If the EU Council adopts a 2030 domestic reduction target well within the Paris Agreement range of 58-70% the EU-27 would join the UK in having fully Paris Agreement compatible domestic emission goals through to mid-century, 2050**
- In addition to a stronger 2030 domestic reduction target the European Union will need to provide further support to less wealthy nations for emissions reductions abroad to ensure the EU is contributing its fair share of the global mitigation burden;
- 2030 targets of major EU countries Germany, France, and Poland all fall short of being 1.5°C compatible.

Introduction

The Council of the European Union is meeting 10-11 December, just ahead of the Climate Ambition Summit on 12 December. On the European Council agenda is the adoption of the EU27 new domestic emission reduction target for 2030, going beyond the present 40% reduction from 1990 by 2030 goal to one that is consistent with the Paris Agreement’s 1.5° limit. While the European Union adopted last year a domestic climate neutrality goal by 2050, ahead of many other countries and regions, its 2030 goal has not yet been brought into line with that longer term target.

The upcoming December 12 Climate Ambition Summit, co-hosted by the UK and France in partnership with Chile and Italy, will call on countries to ratchet up their climate targets to ensure

the 1.5°C long-term temperature goal of the Paris Agreement is achieved. A flurry of significant climate target announcements in late 2020 places the summit, which marks the five-year anniversary of the Paris Agreement, in a new context.

A number of other major economies have now also committed to achieving net zero emissions by 2050 or close to mid-century, including China, Japan, South Korea, and Canada, as well as the USA under the incoming Biden Administration.

Setting an ambitious new NDC 2030 domestic emission reduction target in line with the Paris Agreement would place the EU in a clear climate leadership role heading into the Summit.

This briefing shows the domestic emission reductions that the European Union and three of its important member states - France, Germany and Poland - would need to achieve by 2030 to be consistent with the Paris Agreement's 1.5° limit.

The importance of 2030 ambition

The IPCC showed in its 2018 Special Report on 1.5° of Warming (SR1.5) that achieving the Paris Agreement long-term temperature goal requires substantial and immediate reductions in emissions, reaching net zero levels by mid-century (IPCC, 2018). Achieving net zero emissions by 2050 requires substantive and real action throughout this half century.

The credibility of targets set 30 years in the future is founded on real-world action in the near-term and requires significant ratcheting up of ambition levels for 2030 beyond present-day pledges. If countries' ambition levels are not aligned with Paris Agreement-compatible emissions reductions, meeting the Agreement's long-term temperature goal and, indeed, recently set net zero targets may become impossible.

Any delay in emissions reductions in the near- to medium-term may result both in warming greater than 1.5°C and greater reliance on so-called negative emissions (carbon removal from the atmosphere) using technologies that remain unproven and may turn out to be extremely costly compared with earlier mitigation, and which carry some level of environmental risk.

Overshoot of temperatures beyond 1.5°C, for a period of years or decades will result in some level of irreversible global loss and damage, especially for polar and high mountain regions (the earth's frozen regions or "cryosphere"), low-lying islands and coastal regions and the world tropical coral reef systems.

An increasing body of research, detailed in the 2019 IPCC Special Report on Oceans and Cryosphere, indicates that dynamics set in motion as temperatures rise will lead to cryosphere feedbacks and other changes that continue irrespective of future warming levels (IPCC, 2019), with these risks rapidly escalating above 1.5°C warming. Most of these feedbacks, in particular sea-level rise from ice sheets, loss of land glaciers and Arctic sea ice, and permafrost thaw kick in between 1° and 2-3°C of warming above pre-industrial, and may persist for centuries or millennia. Emissions from permafrost thaw continue for one to two centuries after initial thaw, requiring an equally long period of negative emissions to compensate; a carbon debt that grows with each rise in temperature. Ocean acidification – especially in colder regions near the poles, which absorb carbon faster and where shell damage is already occurring – is based on peak CO₂ levels, and persists for around 50 000 years. Limiting warming to 1.5°C will limit this and also likely lead to declining ocean acidification levels from mid-century.

These irreversible impacts above 1.5°C sharpen the need to avoid overshoot through sufficient emissions reductions by 2030.

Domestic emission reductions needed in the European Union

Global technically and economically feasible mitigation pathways published by the IPCC in the SR1.5 demonstrate the reduction in total greenhouse gas (GHG) emissions necessary for achieving the 1.5°C goal. These pathways are useful tools to derive what is both practically feasible and required at the national level between now and 2030 and in the subsequent 2030-50 timeframe. Downscaling these pathways to the national level (Gidden et al., 2019), provides a range of 1.5°C compatible domestic emissions levels across time for individual countries and places existing targets among pathways reaching above-1.5°C levels.¹

In September, the EU Commission submitted its proposal to update the EU27’s NDC from its current 40% target to 55% below 1990 levels by 2030 (EU Commission, 2020). While this is a significant improvement, a 55% domestic reduction remains outside of its 1.5°C compatible EU27 domestic emissions range of 58-70% shown in **Figure 1**, and is more compatible with the former 2°C goal of the EU than with the Paris Agreement’s 1.5°C long-term temperature goal.

The 60% domestic reduction proposed by the European Parliament would, if adopted by the EU Council, bring the EU’s domestic emission reductions just within the range of Paris Agreement-compatible pathways calculated here. A **65% reduction** target would put the EU’s domestic emissions reductions squarely in middle the Paris Agreement-compatible domestic emissions range for the EU27.

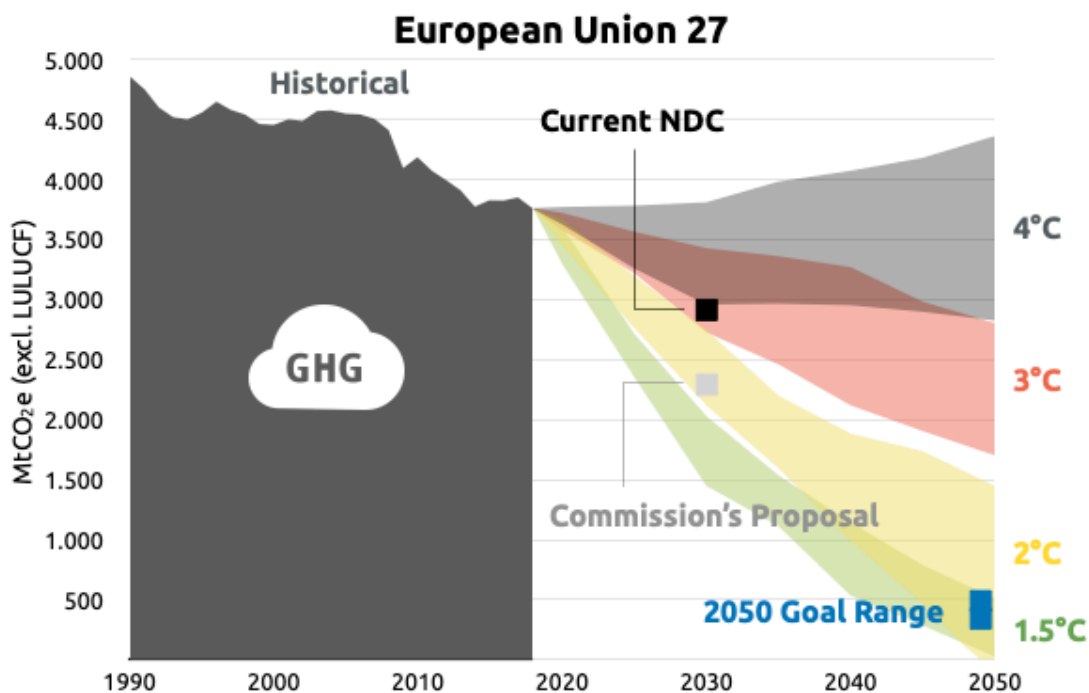


Figure 1. EU27 current and proposed targets vs. temperature ranges

¹ All emissions pathways and targets shown in **Figure 1-4** exclude emissions from the land use, land use change and forestry sector, to enable a meaningful comparison between countries and their targets.

Germany

Germany adopted its climate law in December 2019, inscribing its 2030 target of a 55% reduction below 1990 levels in legislation (German Government, 2019). In addition, Germany has committed to a 95% reduction below 1990 levels by 2050. While Germany's 2050 target falls within its 1.5°C range, a more ambitious 2030 target is needed.

The 1.5°C compatible domestic 2030 emission reduction range for Germany is 65-75%, so a minimum 65% domestic reduction is needed.

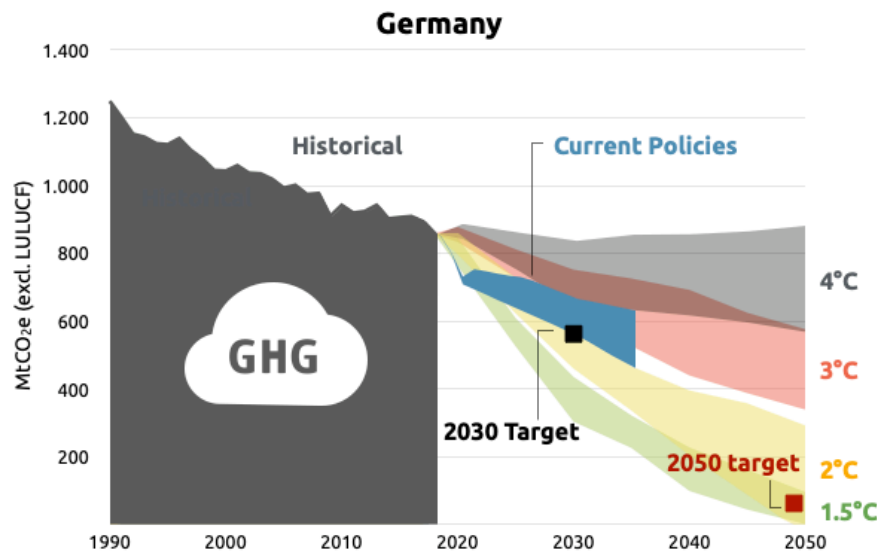


Figure 2. Germany current policies and targets vs. temperature ranges

France

In September 2019, the French government updated its 2050 emissions target from a 75% reduction below 1990 levels to reaching net zero, placing it within France's 1.5°C compatible range (Beta, 2019). However, the current 2030 target of a 40% reduction below 1990 levels fails to match this ambition level, instead sitting toward the upper bound of its 2°C range.

A 1.5°C compatible 2030 domestic target for France would entail a 52-66% reduction below 1990 levels.

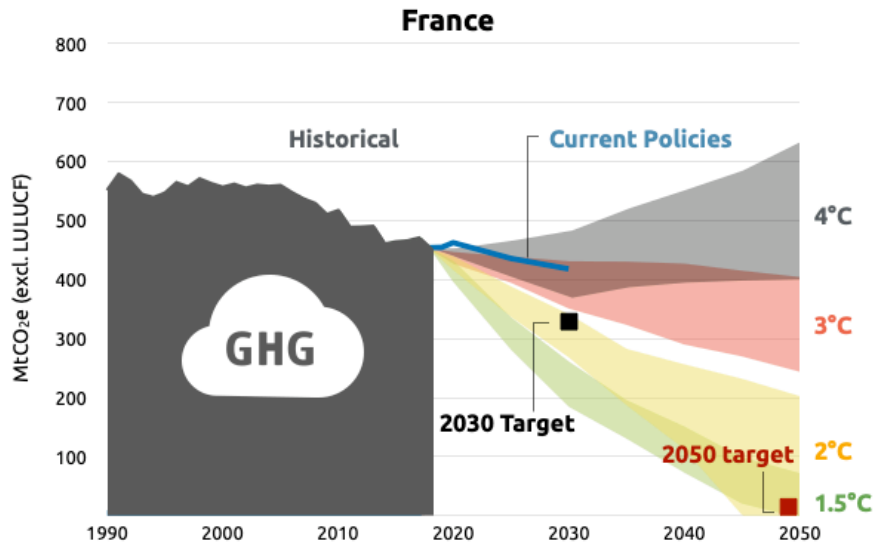


Figure 3. France current policies and targets vs. temperature ranges

Poland

The Energy Policy of Poland 2040 describes a 2030 target of reducing CO₂ emissions by 30% below 1990 levels (Polish Ministry of Energy, 2018). For the purpose of comparison, it is assumed that this 30% target will also apply to all other GHG emissions. Government emission projections to 2030 show that Poland is not on track to meet this modest target (Government of Poland, 2019).

An upgraded domestic reduction target of 51-69% below 1990 levels (excluding land use, land use change and forestry emissions), would be needed to ensure Poland is on a 1.5°C compatible trajectory.

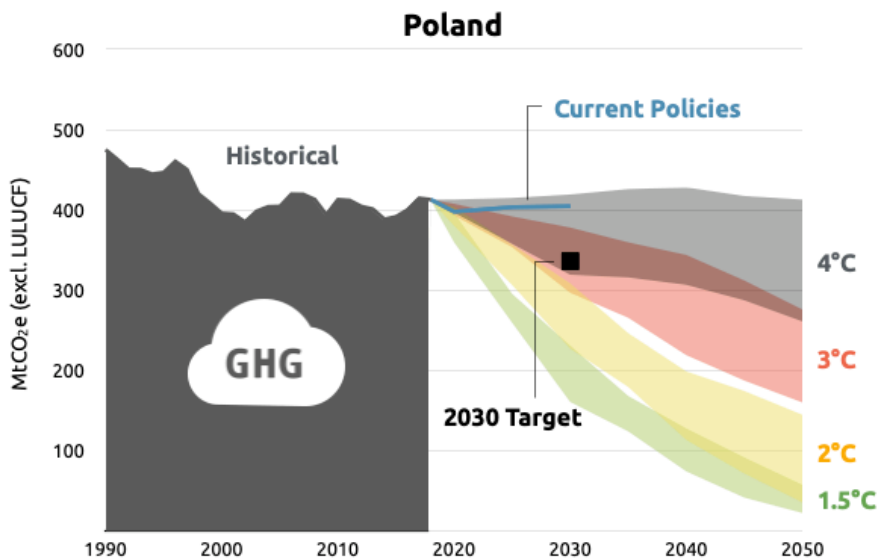


Figure 4. Poland current policies and 2030 target vs. temperature ranges

The strong recent commitments by major economies to reach net zero emissions by mid-century mean the world is on the brink of achieving the long-term temperature goal of the Paris Agreement if these commitments are implemented and the targets are met (Climate Action Tracker, 2020). As is clear from this analysis, 2030 targets are far from Paris Agreement compatibility globally, and the

above analyses show that this also applies to major European economies. In particular, present 2030 domestic emissions targets fail to go far enough to match net zero goals for 2050. Along with Germany, France, Poland and the EU27 as a whole, European nations need to lead the way with ambitious Paris Agreement compatible 2030 targets and policies.

Fair share efforts are additional to domestic reductions

National 1.5°C compatible domestic emissions ranges, while essential to derive sufficient 2030 domestic emissions targets, do not reflect the full fair share contribution to implementing the Paris Agreement. Wealthier countries are required under the Paris Agreement to provide support for emissions reductions in developing countries. Such international assistance is critical to ensure wealthy countries are contributing their fair share towards the global mitigation burden (Höhne, den Elzen, & Escalante, 2014).

This briefing note does not evaluate the full fair share contribution of the European Union or its member states however we do emphasise that the full fair share goes significantly beyond the needed Paris Agreement compatible domestic emission reductions for 2030.

A key climate moment

The European Union Council is being held immediately before the global Climate Ambition Summit on 12 December. The Council has an unprecedented opportunity to cement the EU's global leadership on climate change by adopting a 2030 emission reduction goal that is fully consistent with the Paris Agreement. By doing so, it would then join the UK, with its recently announced NDC target, as the two major developed country parties to the Paris Agreement with fully compatible domestic emission goals from 2030 to 2050. In addition to Paris Agreement compatible domestic emission reductions, the EU would also need to enhance its support for climate action in developing countries to Paris Agreement compatible levels as part of its fair share contribution to global implementation of this Agreement.

Acknowledgment

This briefing was prepared in collaboration with the International Cryosphere Climate Initiative (ICCI)

Formed in 2009 immediately after COP-15 in Copenhagen, ICCL is a network of senior policy experts and researchers working with governments and organizations to create, shape and implement initiatives designed to preserve as much of the Earth's cryosphere as possible. ICCL programs target the unique climate dynamics at work in the cryosphere, while at the same time lending increased urgency to global climate efforts aimed at CO₂ and other greenhouse gases by communicating the unexpected rapidity and global implications of cryosphere warming.

www.iccinet.org

About Climate Analytics

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. Climate Analytics undertakes extensive research on the 1.5°C temperature limit in the Paris Agreement, evaluates progress on climate action and shows governments how they can act on their policies to keep global warming to this limit.

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