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Research Report

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Prioritise Greenhouse Gas Neutrality

EU and German Climate Policy Should Be More Ambitious and More Pragmatic

Oliver Geden

Two years after the climate summit in Paris, the euphoria over the diplomatic breakthrough and adoption of new targets – holding the temperature increase to well below 2 degrees Celsius, preferably even to 1.5 degrees – has largely evaporated. There has been little sign of additional ambition in climate change mitigation since. One fundamental problem is the global nature of temperature targets, which are little suited for generating concrete national action plans and not at all suited for evaluating emissions reduction measures implemented by governments or businesses. Starting with the “facilitative dialogue” being prepared at the Bonn climate summit for 2018, it is the third Paris mitigation target that should be the benchmark: namely to attain greenhouse-gas neutrality in the second half of the century. The European Commission and member states of the European Union (EU) should make the zero emissions target their central reference point in reformulating the Climate Roadmap 2050 and in adopting a long-term decarbonisation strategy. This could provide the opportunity to redesign the EU’s climate policy so as to make it both more ambitious and more pragmatic.

Until the Paris Agreement was adopted in December 2015, the United Nations (UN) climate change mitigation policy had only one objective: holding the temperature increase to below two degrees Celsius (°C). In Paris the target was slightly tightened (“well below 2 °C”), and, following pressure by developing countries, it was agreed to pursue efforts to limit the temperature increase to 1.5 °C. The 21st Conference of Parties (COP21) to the UN Framework Convention on Climate Change (UNFCCC) also decided on a third climate-protection target, namely “to achieve a balance between anthropogenic emissions by sources and

removals by sinks of greenhouse gases in the second half of this century” (Article 4). This statement is generally interpreted as targeting greenhouse gas neutrality or zero emissions. It does not mean that all emissions without exception are to be reduced to zero. In some areas, this would be technically impossible (e.g. agriculture); in others it would be too complex or costly (e.g. aviation). The term of *balance*, which is central to Article 4, refers to the concept of compensating for residual emissions by using technologies that can extract emitted carbon dioxide from the atmosphere (carbon dioxide removal, CDR).

Unclear Hierarchy of Targets

The conceptual hierarchy of the three mitigation targets remains unclear. The political and scientific debate has so far been dominated by the two temperature targets. The text of the Paris Agreement also explicitly declares that the purpose of the zero emissions target is to meet the 2 °C and 1.5 °C objectives. Clearly, these temperature targets can only be attained if global emissions do drop to zero eventually. However, the vague time frame of “in the second half of this century” leaves substantial room for manoeuvre in climate policy. Nor has climate science unequivocally identified the point in time by which global greenhouse gas neutrality would have to be established to attain the Paris temperature targets. All statements on this subject are based on assumptions that the political sphere rarely reflects on, or in some cases does not even know. Not least, this is due to the way the temperature targets have been defined. Despite widespread assumptions to the contrary in climate policy, 1.5 °C can no longer be interpreted as a strict limit that must not be exceeded at any point: average temperatures have already risen by about 1 °C above pre-industrial levels. All scientific scenarios accept that there will be a temporary “overshoot” of the temperature threshold, but disagree about its extent and duration.

Whilst the Paris Agreement is rightly viewed as a diplomatic breakthrough, little has happened since then in terms of the enormous mitigation challenges. While emissions have been basically flat between 2014 and 2016, recent projections foresee an increase of 2 percent in 2017. Even in the unlikely event that all the Paris signatories fulfil their voluntary national pledges, emissions would still be expected to continue rising until 2030. The UN environment programme UNEP predicts a temperature rise of 3.2 °C by 2100 – in other words, well above the agreed thresholds – unless the current climate policy course is changed.

Diffusion of Responsibility

Long-term climate policy only works if it pursues ambitious objectives. These also need to be precise, evaluable, attainable and motivating, or they will remain ineffective. A problem-centred temperature target such as 2 °C can easily be communicated as the threshold to dangerous climate change. However, it clearly lacks the necessary characteristics to actually guide the actions of governments and business as well.

Even if targets such as “well below 2 °C” or 1.5 °C were defined more precisely – for instance, if no temporary overshoot was allowed for – it would not change the fact that temperature targets are directed at the earth system as a whole. They do not state the amount of emissions reductions any individual country is supposed to provide. It is therefore relatively easy for governments to support ambitious global targets while doing little against climate change in practice. Since the Intergovernmental Panel on Climate Change (IPCC) declines, with good reason, to deliver a scientific formula for fairly distributing mitigation obligations among individual states, every government is able to declare confidently that its national pledges are in line with global temperature targets. As it stands, mitigation efforts can only be critically evaluated at the global level. However, no single country can be made responsible for the looming breach of the 2 °C or 1.5 °C target.

The attainability of climate-policy objectives is generally neglected as a factor, inter alia because the ostensible scientific validation of climate targets makes it difficult for policymakers and companies to disclose their pragmatic cost-benefit calculations. However, as in every other policy area, governments also diminish their efforts in climate policy as soon as the economic and – often more importantly – the political cost of consistent target achievement seems too high. The extent to which the envisaged target is missed as a consequence tends to be of secondary importance to them. In the case of threshold values, such as 1.5 °C and 2 °C, this has encouraged the problematic

scientific practice of not questioning the attainability of the targets at any cost – because that might reduce the motivation of politicians, scientists and the public to work towards an ambitious climate change mitigation policy. Instead of accepting that the remaining CO₂ budgets will already be exhausted in five years (for 1.5 °C) and twenty years (for 2 °C), the budgets have been successively expanded by creating the possibility of “negative emissions”. Given the fact that CDR technologies are barely researched and lead a peripheral existence in climate policy, the CDR volumes assumed by climate economists – 670 to 810 gigatonnes CO₂ by 2100 – look like a daring bet on the future.

Steering Action

Compared to temperature thresholds, targeting greenhouse gas neutrality is noticeably more precise, easier to evaluate, politically more likely to be attained and ultimately more motivating too. Since this goal directly tackles the actions perceived as problematic, their effectiveness at steering policy can be expected to be much greater than “1.5 °C” or “well below 2 °C”. A zero emissions target shows the policy-makers, the media and the public fairly precisely what needs to be done. If global greenhouse gas neutrality in the sense of Article 4 of the Paris Agreement is interpreted to mean that all signatories have to gradually reach “net zero” between 2050 and 2100, then they must all be measured against the same yardstick. Any differentiation between these obligations – for instance, between industrialised nations, emerging economies and developing countries – can only occur along the time axis. Under the “bottom-up” approach of the Paris Agreement, governments make that decision for themselves.

Each country’s emissions must first peak (which is already the case for 49 of them), then continually decrease and finally attain zero. Measured against this target, it is easy to make mitigation action transparent –

not just of national governments, but of cities, economic sectors and individual companies as well. Whoever ignores the target will not be able to deceive others: it is relatively easy to ascertain whether the respective emissions are going up or down. Whenever greenhouse gas neutrality becomes the socially accepted norm, new fossil-fuel infrastructure would be very hard to justify. A zero emissions vision could also kickstart a race to reach the zero line before others. Some countries have already taken up the challenge. Sweden, for instance, hopes to reach zero by 2045. The United Kingdom has at least declared its willingness to announce its zero emissions target soon.

Obviously, even a zero emissions target is no guarantee that all emissions reduction measures will be implemented as planned. Given the perspective of several decades, such a guarantee cannot exist. Since greenhouse gas neutrality is primarily about setting a clear direction, rather than positing an imaginary border between “acceptable” and “dangerous” climate change (namely 2 °C), its attainability is not a question of *either/or*, but of *sooner/later*. It thus avoids definitive failure, which would have a demoralising political effect.

Targeting zero emissions would provide clear and transparent directions for all relevant actors. It would bring out inconsistencies between talk, decisions and actions much more clearly than temperature objectives such as 2 °C or 1.5 °C can. The UNFCCC should therefore give the target of greenhouse gas neutrality much more weight in future. It could start with the facilitative dialogue planned for 2018, whose rules are being set at the COP23 in Bonn. The dialogue is intended to boost countries’ ambitions and to lead to strengthened ‘nationally determined contributions’ under the Paris Agreement.

Greenhouse Gas Neutrality as an EU Target

For the EU – which, like Germany, currently pursues the target of reducing its emissions

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by 80 to 95 percent by 2050 – zero emissions would be the next logical step. Long-standing climate policy pioneers cannot seriously question the principle of aiming for zero. But deciding on the exact timing would be politically controversial. Currently, it seems unrealistic for the EU to agree on 2050 as a target year.

In 2018 the debate about long-term EU climate targets should regain momentum, fostered by the new version of the Climate Roadmap first presented in 2011, which is expected in autumn 2018. The European Commission's planning document follows the publication of the IPCC Special Report on the 1.5 °C target and should be seen as the European contribution to the "facilitative dialogue", which will conclude in December 2018 at the COP24 in Katowice, Poland. However, it is not the Commission which will be making the decision on the EU's new long-term strategy, to be submitted to the UNFCCC by 2020. Its roadmap is merely a carefully calculated proposal. The final decision rests with EU member states; de facto it is likely to be made by the European Council. It is reasonable to suppose that the German Federal Government will champion an ambitious target at the EU level, which it will then transpose into its national climate policy as well.

Setting a target of greenhouse gas neutrality would conceptually change European climate policy in two ways: it could become both more ambitious and more pragmatic. The target of an 80 to 95 percent emissions reduction (usually paraphrased in Germany as "extensive greenhouse gas neutrality") allows many businesses and member states to see a substantial share of their emissions as part of the remaining five to 20 percent., to suggest that they are only partially affected by the current climate policy pathway. This is especially true for industries and member states where very ambitious reduction measures encounter substantial technological, economic or political obstacles. This constellation is also advantageous for proponents of "extensive greenhouse gas neutrality" in that they can

focus their proposed solutions essentially on expanding renewables and increasing energy efficiency. They do not need to discuss unpopular and costly measures – such as capturing and storing CO₂ in industrial processes, and using synthetic fuels or negative emissions technologies. A reduction target of 100 percent would push both sides out of their comfort zone and greatly increase the level of seriousness in climate policy.