On the Wrong Track?

German Climate Policy after the Paris Agreement

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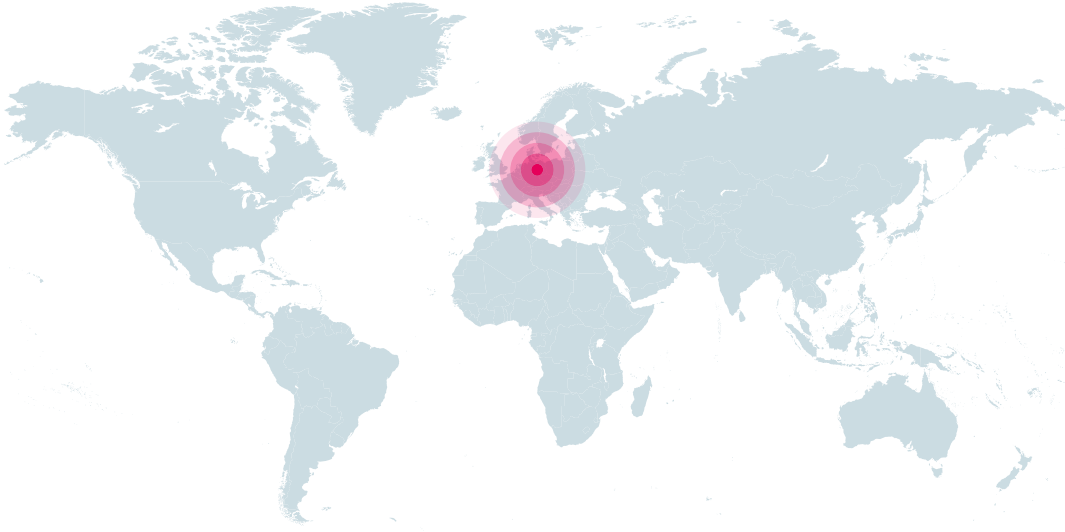


The Paris Agreement has stimulated the German debate about climate protection and has once more drawn further attention to issues like the *Energiewende* (energy transition) or national climate targets. But what derives from the Paris Agreement for Germany? How can Germany contribute most effectively and efficiently to the development of global climate protection – and how rather not?

Greater German measures toward countering the effects of climate change, the fastest possible exit from coal-based electricity generation in Germany as well as stronger efforts made by the German government to promote an ambitious EU climate policy – these are things the majority of the German population want to see implemented on the ground according to a recent survey commissioned by the environmental organisation WWF.[1] The Paris Climate Protection Agreement (PA) has given further impetus to expectations and demands of this sort. Many think that in its role as climate policy pioneer Germany should show the world it can achieve its national climate protection targets, master the *Energiewende* (energy transition), realise the breakthrough of e-mobility and much more. Seen from this perspective, the costs involved in the promotion of renewable energies in Germany – the total volume of the so-called EEG levy (based on the Renewable Energy Sources Act) since its introduction in 2000 is set to pass the 150 billion euro mark sometime during 2016[2] – is justified as development aid under the heading of climate and energy policy.

Anyone who doubts this view is quickly labelled a pessimist, industry lobbyist, a dinosaur belonging to the fossil world characterised by obsession with growth, unimaginative and unreceptive to the message of a sustainability narrative promising salvation. However, particularly in view of new CO_2 and temperature records increasing around the world,[3] should we not keep a cool head and consider how Germany can be most effective in serving international climate protection? There is a distinct risk that Germany could take the wrong track because of exaggerated climate-policy ambitions. This article looks at where this risk lies and what can be done to increase the effectiveness and efficiency of German climate policy. First, the content of the PA will be examined as this is meant to act as the key frame of reference for international climate protection from now on. Then, the current climate debate in Germany is looked at in greater detail before finally being put into a European and global context.

The Paris Climate Deal: Evolution instead of Revolution

The most important reason for the successful conclusion of the PA at the UN Climate Summit in December 2015 (COP21) was the non-binding and procedural character of the agreements it contains. At the COP15 in Copenhagen in 2009, a failed attempt was made to transfer the top-down approach modelled on the Kyoto Protocol, splitting a joint emissions budget into tradable emission rights to all 196 contracting parties of the United Nations Framework Convention on Climate Change (UNFCCC). Consequently, a bottom-up model was developed in subsequent years, which does away with a joint concrete emissions budget in exchange for voluntary Nationally Determined Contributions (NDCs) to achieve a reduction in greenhouse gas (GHG) emissions. The long-term common goal agreed in the PA is to limit global warming towell below two degree celsius above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 degree celsius, and correspondingly aim to reach global peaking of GHG emissions as soon

as possible, so as to achieve zero net emissions in the second half of this century. All contracting parties have undertaken to present their NDCs every five years according to a (yet to be negotiated) common standard in a transparent and reproducible manner. The NDCs are meant to be as ambitious as feasible, within each country's capabilities, and not to fall behind previously promised goals. These goals need to be translated into national catalogues of measures. This means that every country remains in charge of its own goals related to climate change and need not fear "hard" sanctions if they are not reached. The only "soft" tool for sanctioning failure is the option of naming and shaming; judging from previous experience, this did not, however, prove to be very effective.[4]

The idea that all states must take some responsibility for climate protection has won through, although the industrialised countries are meant to take the lead.

At least the fact that all states joined together in coming to a global climate protection consensus meant the long-overdue abandonment of the strict division of the contracting states into industrialised and developing countries, with only the former being assigned responsibility for climate protection. The idea that all states must now take some responsibility for climate protection has broken through, although the so-called industrialised countries are meant to continue taking the lead with absolute emissions reductions while the so-called developing and emerging countries are granted more time. In this spirit, the PA also does not pursue climate protection as the one and absolute goal, but places it in context with other development principles such as poverty reduction and food security. In this connection, the PA emphasises that the climate policy ambitions of poorer states depend on the amount of assistance they receive from richer states, particularly in terms of financial resources, technical equipment and expertise. Especially from the perspective of countries that are particularly vulnerable to the impact of climate change, it is also essential to give the aspect of mitigation the same importance as prevention.

Windpower: The north of Germany provides → great potential for electricity generation through wind power stations. Source: © Fabrizio Bensch, Reuters.

The PA therefore marks a significant evolutionary step for international climate protection, albeit not a revolutionary one because of the lack of a binding character and sanctioning mechanisms. It would, in fact, be unrealistic to have more far-reaching expectations as states are not known for being willing to restrict their sovereignty voluntarily when key political issues are at stake. Against this backdrop, it is not surprising that the entire intended contributions to climate protection would clearly fail to meet the agreed temperature target and be more likely to produce a global warming scenario of 2.7 degrees celsius.

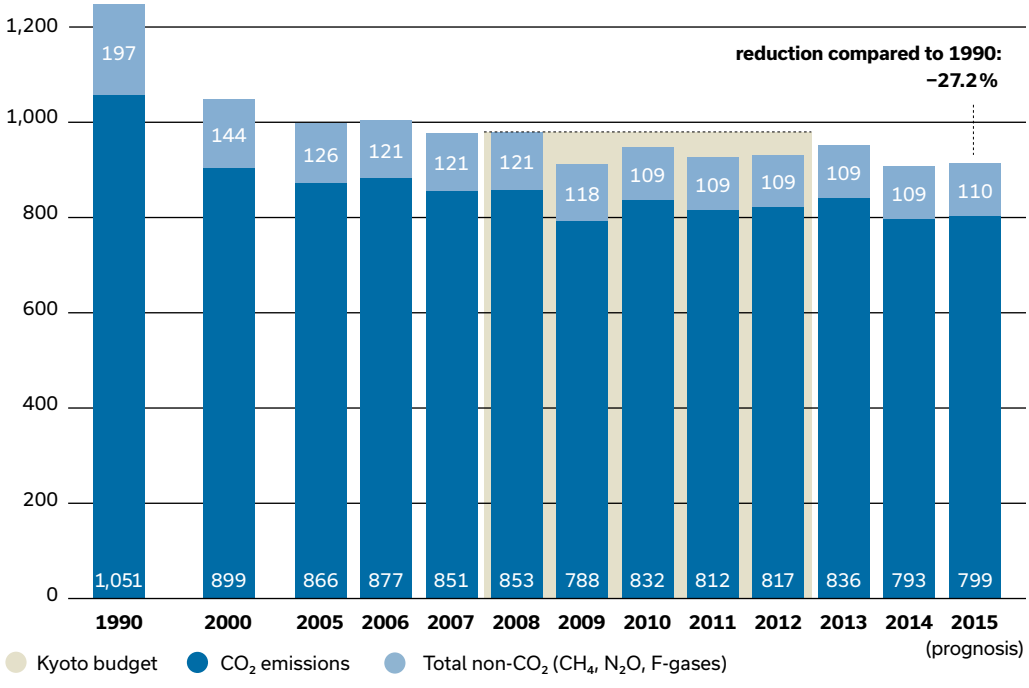
Consequently, the turning point in global GHG emissions, which had been set as an urgent goal by the PA, is not yet in sight either. On the contrary, the International Energy Agency (IEA) works on the assumption that worldwide energy demand will increase by roughly a third until 2040 compared to 2013 levels, which corresponds to a 16 percent GHG emissions increase in the energy sector.[5] Despite impressive groth rates, renewable energy currently has an estimated share of of global final energy consumption of only roughly 20 per cent.[6] The findings of the international future study entitled Delphi Energy Future 2040 of the BDEW (German Association of Energy and Water Industries) indicate that energy demand is likely to double between now and 2040.[7] At the same time, the prices for fossil fuels will probably remain at a relatively low level because of oversupply, partly due to new technical options such as fracking.[8] That said, one can assume it will be possible over time to better reconcile economic and social goals with climate-related ones. It is also likely

that climate change issues will rise to the level of high politics for an ever-greater number of states as their key significance in terms of the impacts on the economy and security will become increasingly obvious.[9] One can expect such a change of perception of global warming to take place in relation to North Africa and the Middle East, for instance, as water stress in conjunction with dysfunctional state structures in this region is likely to become more pronounced.[10]

The Climate Debate in Germany: Limits to Trailblazing

Since COP21, the climate debate in Germany has been dominated by opinion makers urging the federal government to pursue the national climate protection goals more forcefully, particularly by making greater efforts to implement the *Energiewende*. There is a demand, for instance, to facilitate the decarbonisation of the German economy, i.e. the total replacement of fossil fuels, by 2050, mainly by changing over entirely to renewable energies for electricity generation.[11] The hope is that Germany will then be perceived as a "reliable and credible partner" and an "honest broker" in international climate politics.[12] The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) has elaborated the so-called Climate Action Plan 2050, which defines "the further reduction steps in light of European targets and the results of the Paris Climate Protection Conference 2015 up to the target value of 80 to 95 per cent in 2050"[13] and underpins them with respective measures. The long-term goal of the Climate Action Plan 2050 is ambitious. To achieve an emissions reduction of 80 to 95 per cent, Germany would have to reduce its CO_2 emissions by an average of 3.5 per cent a year as of now. Reductions of this magnitude have only been achieved as peak value since 1990.[14] One also needs to bear in mind that Germany was only able to reduce its GHG emissions in the course of the last 25 years mainly during the early 1990s because of the structural economic changes in

Fig. 1: Greenhouse gas emissions in Germany 1990 to 2015 forecast in millions of tonnes of CO_2 equivalent



Source: UBA 2016: Treibhausgas-Emissionen, UBA Emissions Situation, as at: 11 Feb 2016 (chart), 2 May 2016, in: http://umweltbundesamt.de/themen/klima-energie/treibhausgas-emissionen [13 Jul 2016].

Participants at the Paris Climate Change Conference 2015: The global agreement on climate change has incorporated developing countries in assuming responsibility for combating climate change.
Source: © Etienne Laurent, Reuters.

the former East Germany.[15] During subsequent years, the annual reduction rates were markedly lower, disregarding a sizeable reduction in 2009 due to the global financial and economic crisis. Since then, emissions have remained more or less steady. While GHG emissions are declining slowly but steadily in the energy sector, hardly any progress has been made in the other relevant sectors. In the transport sector and in agriculture, for instance, there have been no significant emissions reductions in the last two decades – rather the opposite. Germany will most likely fall short of its reduction target for the period to 2020.[16]

The development of emissions in Germany illustrates that uncoupling economic growth from emissions is anything but easy, even if a country possesses top-class technologies in this area. According to experts, what is needed to achieve this uncoupling is "not only a gradual transition to the use of climate-compatible energy sources in the energy system, but also the creation of the necessary political, institutional, cultural and social framework. This includes both changed behaviours at various levels as well as the need for sustained and consistent broad support as well as acceptance by the population".[17]

Whether the German population is prepared to support such fundamental changes seems all but certain. While still in the early stages rather than close to completion, the implementation of the *Energiewende* is meeting with increasing resistance among the population, be it where the further expansion of renewable energies or of the power grids is concerned or because of rising electricity prices. Of course the latter not only affects private households but also businesses. Considering the findings of the environmental awareness study conducted by the BMUB every

two years, it is unlikely that the majority of German society would be willing to endure noticeable economic disadvantages in the course of the *Energiewende*. In this survey, the respondents are divided according to their attitude to environmental issues and their environmental behaviour as follows:

- Individuals "focused on sustainability" (14 per cent of respondents), who play a pioneering role with their environmentally aware thinking and actions and who are convinced fundamental social transformation is required;
- Individuals "concerned about the environment" (22 per cent), who consider the state of the environment to be very worrying and would like to see ecological modernisation, where economic growth and sustainability should be linked;
- Individuals "seeking guidance" (20 per cent), who are convinced that "continuing as usual" is not an option. At the same time they are unsure as to what can be done in concrete terms and worry about maintaining their accustomed living standard;

Floods in Frankfurt (Oder): The German energy transition is intended to contribute to climate change mitigation.
Source: © Thomas Peter, Reuters.

- Individuals "focused on growth" (17 per cent), who have total confidence in market mechanisms and economic growth and are convinced that Germany is on the right path as regards environmental and climate protection;

- "Environmentally passive" individuals (27 per cent), who are hardly interested in environmental issues and show little willingness to engage in sustainable behaviour.[18]

The implementation of the German climate protection and *Energiewende* plans will therefore only be possible and legitimised by society if the move to a low-carbon economy is not detrimental to economic activities in Germany.

The European and International Context: Key to Greater Effectiveness and Efficiency

There is a general consensus that in order to facilitate successful implementation the German *Energiewende* must be embedded in a European context. However, hardly anything has happened at a practical level to date. As regards the envisaged integration of the internal European electricity market, the German view is that this will require above all stronger energy policy coordination as well as improved physical grid integration with the eleven "electrical neighbours".[19] The Joint Declaration for Regional Cooperation on Security of Electricity Supply in the Framework of the Internal Energy Market of June 2015 points in this direction, but now urgently needs to be underpinned by the implementation of concrete measures,[20] as the expansion of renewable energies in Germany is far ahead of the required modernisation and expansion of the electricity grid. This is causing considerable problems, not only in Germany but also across its borders, as illustrated by the current discussion about the Austrian-German electricity trading zone. Because of a lack of grid capacities to pass excess electricity generated by the wind farms in northern Germany on to southern Germany and from there to Austria, the Agency for the Cooperation of Energy Regulators (ACER) recommends splitting up the joint trading zone, which has been in existence since 2001, or at least to restrict it to prevent overloading the grid. There are also discussions about splitting Germany into two electricity price zones.[21] That certainly does not bode well for integration.

Like Germany, the EU as a whole aspires to emissions reductions of 80 rising up to 95 per cent by 2050.

Particularly from the perspective of climate policy, a coordinated European approach appears to be more promising than focusing on a national solution, if only because of the fact that Germany "only" contributes close to 2.4 per cent to global emissions, with a declining trend. The entire EU at least accounts for some ten per cent, behind the USA with just under 16 per cent and China at the top with some 28 per cent.[22] Like Germany, the EU as a whole aspires to emissions reductions of 80 rising up to 95 per cent by 2050 (as opposed to 1990). In the context of the PA, this is significant as Germany – like all EU Member States – is itself also a contracting party, but its emission reduction contributions are incorporated in the joint climate targets of the EU, which also acts as a contracting party. In other words, under the PA, there are no separate national climate protection targets of individual EU states. It follows that the most effective way for Germany to contribute to global climate protection is to provide consensus-forming leadership in the further development of EU climate policy. This is a particularly great challenge for Germany in view of the crises and disintegration tendencies in Europe (Brexit etc.) and the existence of some fundamental discrepancies between the Member States in the area of climate policy. The search for compromises is unavoidable if Germany wishes to act effectively in pursuing a progressive climate policy at a global scale. As things stand, the climate targets of the EU have been set and will probably not be reviewed until the new EU Commission takes office in 2018. According to the PA, however, the climate protection contributions of the contract-

Miners: In Germany, and also many other countries, lignite fired power plants are an important bridge technology towards a completely renewables-based energy system. Source: © Laszlo Balogh, Reuters.

ing parties are due to be reviewed with respect to their compatibility with the agreed long-term targets in 2018 and then again in 2023. The EU too will then have to ask itself once again whether the existing reduction target of minus 40 per cent by 2030 is appropriate or needs to be made more stringent. After all, the EU itself referred to the 40 per cent target as a minimum, obviously contemplating a potential future increase. The future German governments should therefore use the years between 2018 and 2023 to negotiate the possibility of increasing the target and the associated burden sharing with other EU Member States. No doubt that would be a more effective way to provide leadership in climate policy than merely playing the role of model pupil or geek no one wants to emulate. Recent history has shown that German leadership will not necessarily meet with a positive response in every case.

To look into the matter more deeply, it is worth examining the EU Emissions Trading System (EU ETS) as a central tool of European climate policy. The EU ETS covers the energy and manufacturing sectors, which jointly account for around half of all EU GHG emissions. As the total volume

of emissions certificates is matched to the EU's emissions reduction targets, the ETS represents a basically effective climate policy tool, which is also preferred by most industry representatives as a comparatively uncomplicated, market-relevant and cross-border scheme. From the business perspective, a global trade in emissions would be ideal to create a level playing field for all.[23] This could be achieved in the longer term by successively linking existing trading systems.[24] There have already been some initial efforts made in this direction. As the globally largest carbon market, which has been in existence since 2005, the EU ETS definitely has potential. Consequently, Germany should continue to make intensive efforts to maintain and improve the system and promote its expansion to further sectors.

Germany should persistently promote an expansion of the Emissions Trading System to further sectors, particularly the mobility sector.

Until this widening of the scheme has been achieved, Germany should focus its national emissions reduction efforts more strongly to the sectors not covered by the EU ETS, i.e. in particular the transport and property sectors, which harbour great savings potential.[25] The German government's "Climate Action Plan 2020", intended to help reach the self-imposed national emissions target of minus 40 per cent by 2020 despite all the difficulties, envisages additional emissions reductions totalling 62 to 78 million tonnes of CO_2.[26] However, one-third of this is covered by the EU ETS, which at least theoretically means that German emissions savings in this area would be neutralised by certificates traded elsewhere in Europe. This applies, for instance, to the so-called brown coal reserve, which provides for several large brown coal power stations to be transformed into a capacity reserve to be maintained from 2017 to 2021; this measure was discussed intensively last year and approved by the Federal Ministry for Economic Affairs and Energy in November 2015.[27] As remuneration for providing this (ultimately probably not required) reserve, the power plant operators will jointly receive up to an estimated 260 million euros a year. These costs will in turn be allocated to the grid fees and consequently paid by the electricity consumers.[28] The rising costs of the *Energiewende* put public acceptance at risk.

Notwithstanding the above-mentioned limitations, Germany, which is still the world's fourth largest economy, does have some influence of its

own in international climate policy circles, which is illustrated by the interest many other countries have shown in the German *Energiewende*. "If anybody can do it, Germany can," is a much quoted comment. However, this statement not only displays admiration but also a certain amount of scepticism and distance. Most observers consider the costs incurred in the course of the *Energiewende* to date to be very high, which only an affluent country such as Germany, if any, can cope with. In any case, Germany will only be able to make a significant contribution to climate protection with its *Energiewende* if it succeeds in presenting it as an attractive economic model for other countries as well. If the *Energiewende* degenerates into a national end in itself instead, it will not benefit climate protection. It would also be tragic insofar as Germany could benefit enormously from climate protection measures taken by other countries thanks to its excellent technological capabilities.[29]

For countries such as China and India, significant factors include environmental and health-related aspects, technological development and economic modernisation.

To provide additional contributions with an international impact, Germany should focus its cooperation efforts more on the major emitter countries. The four largest (China, USA, India and Russia) alone are responsible for roughly half of all global GHG emissions and can, thanks to their economic, political and cultural importance, become drivers for change towards lower-emission, more resource-saving economic activities and lifestyles, regionally and in the case of the USA and China even globally. Consequently, offers of cooperation from the German side should concentrate as much as possible on the predominant motivations for emissions reductions in these countries. As is generally known, the expansion of renewable energies can also have a positive impact on a country's electricity supply security – besides the climate protection effect – both internally, providing for greater decentralisation of the supply of electricity to the population and industry, and externally, through reduced reliance on fossil fuel imports. Ukraine, for instance, is focusing on this aspect in the context of its conflict with Russia, where the issue of dependence on gas plays a key role. For countries such as China and India, significant factors include environmental and health-related aspects (key term: air pollution), technological development and economic modernisation. The expansion of renewable energies is also being driven forward in the USA. It is promoted to U.S. farmers under the key phrase "homegrown economy". This involves rural development prospects, job security and questions of national security. Increasing the consumption of bio-fuels will help to reduce oil consumption and imports and may even make significant oil exports possible in the medium term. From a German perspective, another aspect is currently coming to the fore. An energy system relying increasingly on renewables, which involves greater fluctuations in electricity generation, needs intelligent control of feed-in, storage, distribution and consumption. This provides numerous possibilities for digital applications, the development of which can generate valuable expertise in Germany in this pioneering field.[30] Using and strengthening such motivations in a purposeful manner can – as something of a side effect – help global climate protection becoming a driving force and developing the necessary dynamic to ensure that the targets set in Paris have a chance of being realised.

Conclusion: Greater Pragmatism, Less Unilateral Action!

In view of the urgency of taking action to mitigate global warming, German climate policy should follow a more pragmatic course. UN climate diplomacy over the last 20 years has clearly demonstrated the practical limits of normative argumentation in the case of a complex challenge such as climate change. The current debate in Germany, however, is dominated by the idea of a pioneering role, favouring unilat-

eral action and hoping that other countries will follow Germany's example.[31] This approach harbours the risk of having the opposite effect and ultimately resulting in the failure of the German *Energiewende* and climate policy due to a lack of coordination and cooperation, within the EU and in the global context. It is precisely because so many countries look at the German *Energiewende* with interest that Germany must act responsibly and give greater thought to the question of cost. As is frequently the case, it is worth looking beyond the national horizon and engaging more intensely with European and international partners.

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