All over the world, there is much talk about natural scientific climate facts in politics, science, and society. But even if the facts tell us that climate change poses an existential threat to human civilization, that the planetary boundaries are being exceeded, and that the consequences of climate change will be considerably more expensive than an effective climate policy, facts as such do not provide a normative yardstick. What the right climate change mitigation goals are, balanced with other societal goals, is a normative question, not an empirical one. Therefore, it is a question for politics, ethics, and law. Without a balanced normative orientation, we cannot assess our current situation—and without goals, we cannot discuss empirically effective means (such as bans or emissions trading or environmental levies). Means always depend on goals. Conversely, it is only through a study of natural scientific facts that we learn whether we are meeting or failing to meet our goals.

The overall normative framework of climate change and climate protection is a highly contentious subject. It is about balancing different spheres of freedom and the elementary preconditions of freedom—the core values of liberal-democratic constitutions. It is about the freedom of consumers and enterprises worldwide on the one hand and, on the other, about the right to life, health, and subsistence as freedom preconditions, including the rights of future generations and people in other countries who did not really contribute to global heating but will suffer its consequences. This balancing situation takes us to substantial political leeway for democratic majorities. But where does this leeway end? Put differently: What are the balancing rules that mark the limits to this leeway? And what does the target in Article 2 of the Paris Climate Agreement to keep global warming well below (!) 2 degrees Celsius and to pursue efforts to stay below 1.5 degrees actually mean?

Analyzing the Paris target and the relationship of climate to human rights poses several questions. Given the insufficient climate action of governments, enterprises and societies, some recent rulings of Supreme Courts of various countries\(^1\) have attempted to provide more concrete answers to these truly existential questions for humankind. The verdicts’ arguments are based on fundamental principles: freedom, human rights, and the separation of powers. This is also the case for the possibly most ambitious ruling, namely, the one by the German Federal Constitutional Court, which is the primary focus of this article. Given the high regard in which the Federal Constitutional Court is held, it is rather likely that the order will strongly influence the European and even international climate debate.

\(<1\)History of a Landmark Ruling</1>

The role of the German Federal Constitutional Court is similar to that of the U.S. Supreme Court.\(^2\) The court’s order on climate protection in the spring of 2021 was probably the most far-reaching judgment on climate protection ever issued by a Supreme Court anywhere in the world.\(^3\) Also, it was the first time that a constitutional complaint for more, rather than for less,
environmental protection was successful in Germany. The decision recognizes the concept of a residual greenhouse gas budget and finds that German lawmakers—and European Union (EU) lawmakers indirectly—must distribute the remaining budget fairly between generations. Given the high esteem of the German Federal Constitutional Court globally and the central role of the EU, this may be of high relevance for the ongoing global climate debate.

The court’s decision was made on four constitutional complaints (with the technical term of lawsuits of ostensible human rights violations before the German Federal Constitutional Court). The first was filed in 2018 by individual plaintiffs such as the actor Hannes Jaenicke, the energy researcher Volker Quaschning, and the former Member of Parliament Josef Göppel, together with the Solar Energy Support Association Germany (SFV) and Friends of the Earth Germany, represented by attorney Franziska Heß and me. The SFV had prepared the lawsuit by commissioning legal opinions from me since 2010. These largely built on my Habilitationsschrift, which in Germany is a postdoctoral thesis and the requirement for a professorship.4 I have done research on law, ethics, politics, and transformation conditions of sustainability since 1997. Several articles on the Paris Agreement and human rights were authored for international journals to develop and refine the arguments for the lawsuit.5

In 2018, the constitutional complaint met with almost unanimous skepticism in politics, jurisprudence, and the media. When it was accepted for decision by the Federal Constitutional Court in August 2019—surprising many—the picture changed. It was then followed in January 2020 by further constitutional complaints, including by activists from Fridays for Future and citizens of Bangladesh, who were supported by other environmental organizations.

**<1>Major Content of the German Climate Verdict</1>**

With its order, the court made a number of essential legal statements that go beyond the specific case and also appear transferable to other environmental areas, as well as to fields beyond environmental protection. For the first time in Germany, a constitutional complaint for more environmental protection was successful. The German Federal Constitutional Court follows in central points the first constitutional complaint of 2018 represented by us, thus changing its jurisdiction in essential respects without, however, explicitly admitting doing so.

In response to our submission, the court recognizes that climate protection—like any policy field—is an issue of balancing different spheres of freedom. It is about the freedom of consumers and producers on the one hand and about the right to the elementary preconditions of freedom of all people on the other hand. This balancing act leads to leeway, which in principle is to be exercised by the legislature. The task of a Constitutional Court is to ensure that the balancing limits are respected. In climate protection, as in other policy areas, there are limits to balancing that the legislature must observe in environmental matters as well and that, if encroached upon, allow for successful legal challenges before a Constitutional Court.

The main statements of the court’s decision are:

- The legislature must allocate the remaining greenhouse gas budget in compliance with the 1.5 degrees Celsius limit from Article 2 of the Paris Agreement according to the calculations of the Intergovernmental Panel on Climate Change (IPCC) in such a way that the exercise of freedom is fairly balanced intertemporally.
- The legislature must regulate the climate targets enshrined in the German Climate
Protection Act much more specifically and thus anchor measurable intermediate steps in order to set transparent benchmarks for the further design of greenhouse gas reductions at an early stage, providing orientation and planning certainty for citizens and enterprises. In this context, the court imposed on the legislature a deadline to institutionalize improvements, namely, the end of 2022.

- The key decisions on climate protection must be made by parliament, not the government.

<1>Freedom, Human Rights, and Climate Change</1>

As a basis for the already-described findings, the verdict fundamentally repositions the normative framework of liberal democracies and addresses some issues that have been contentious not only in the scientific, legal, and political literature, but also in public debates. It does so by interpreting fundamental principles of liberal constitutions, such as freedom and the separation of powers with regard to climate protection. Human rights, as is now finally recognized, also protect intertemporal and (this was previously recognized only sporadically and not in relation to environmental protection) transnational freedom, including its elementary preconditions, not only the freedoms exercised today but those infringed upon for future generations and for people living in other countries. This is a legal milestone.

What is particularly important is that according to our argumentation, a fundamental right is also affected if, as in the case of climate change, a great number of people are affected. This, too, is a break with the previous approach, especially in German jurisprudence. In line with our claim, the precautionary principle is finally applied to fundamental rights. The precautionary principle means that it is not solely a matter of whether the plaintiff’s right has already been violated. Now, cumulative, uncertain, and long-term impairments of fundamental rights are also to be considered. This is compelling because in the case of imminent irreversible damage, fundamental rights cease to exist. This is precisely what the court recognizes. The sprawling international debate on causality in climate claims is rendered moot by this. And it goes beyond conventional familiar legal assessments of climate and human rights in more or less all points discussed above.

Furthermore, the German Federal Constitutional Court draws the right conclusions from the above-mentioned insight that liberal democracies center around balancing different spheres of freedom. Balancing the freedom rights of producers and consumers and the rights to the fundamental preconditions of freedom of all humans imposes a double threat to freedom: Freedom can be constrained not only by measures to protect the climate but also by climate change itself. Both must be averted. The so-called balancing limits that result from the guarantees of freedom themselves (and from the constitutionally enshrined principle of environmental protection, which guarantees safeguarding the preconditions of freedom in addition to the fundamental rights) must not be violated in the balancing process required in this respect. In the specific case, the requirement to balance freedom fairly across time was ultimately violated by German (and EU) climate law.

Balancing must also take into account that public policies must be based on the latest and best available scientific insights. This means that the facts must be carefully ascertained, and any possible gaps or uncertainties may not be used to justify inaction; furthermore, the evolution of research must be carefully monitored to ensure that future political decisions can and will reflect
the scientific status quo. In the past, the Federal Constitutional Court asserted such fact-finding principles rather vaguely and only occasionally with some specificity, a lacuna we had also criticized in the case under review.

Another important element of the judgment is that the German government cannot use the inaction of other states to justify its own slow walking. Instead, Germany must work toward effective international climate protection. The court recognizes that national measures do not guarantee the conscientious commitment of others and that there is indeed a risk of emissions being shifted to other countries (and also negatively affecting economic competitiveness).

All in all, the court order highlights that the importance of balancing competing interests in liberal democracies is based on qualitative principles. This is in distinction to the mathematical cost–benefit analyses of the IPCC, a body composed mainly of economists and natural scientists. The court’s perspective is convincing. In my opinion, cost–benefit analysis—while counting all preferences on a monetary basis and summing them up—after all implies a plebiscitary understanding of democracy that stands in stark contrast to the representative focus of liberal-democratic constitutions. Furthermore, preferences in cost–benefit analyses depend on the ability to pay, but the weight of human rights in balancing different spheres of freedom in liberal democracies is independent of that.

<1>Paris Agreement and IPCC Weaknesses</1>

Brought into sharp relief by the Federal Constitutional Court's ruling, it becomes clear that by neglecting law (instead of economic cost–benefit analysis and sometimes additional vague ethical statements), the IPCC reports contain a substantial gap. This also applies to the Paris Climate Agreement itself, which the IPCC does not deal with in detail in legal terms, although it is a legal document. The court recognizes the binding nature—in international law—of the 1.5 degrees Celsius warming ceiling. In this respect, the court correctly recognizes (unlike parts of the international legal and scientific literature) that Article 2 of the Paris Agreement no longer speaks of "two degrees," but that states must pursue efforts to limit the temperature increase to 1.5 degrees, as the wording of Article 2 stipulates. Likewise, the court correctly notes that the Paris Agreement refers in various provisions precisely to Article 2 as the binding lodestar for all details of the treaty. Following the constitutional requirement of net zero emissions to balance spheres of freedom, the court ultimately also recognizes that Article 2 of the Paris Agreement is thus on its way to becoming a constitutionally required minimum standard.

A warming limit implies calculating the remaining greenhouse gas emissions budget. This the court accepts and requires, based on the mostly used IPCC budget. The weaknesses of the IPCC residual greenhouse gas budget are also recognized by the court, even if they are not detailed in the order. The IPCC works by consensus, which translates into overly sanguine assumptions, for example, as regards climate sensitivity and tipping points. It merely refers rather vaguely to the fact that the budget could be calculated too high for a number of reasons. Legal criticisms of the IPCC budget, which is intended as a concretization of a legal norm, namely, Article 2 of the Paris Agreement, are also ignored. This norm is determined to be legally binding, as the court itself accepts when it refers to the norm as the binding concretization of the climate goal on the part of politics. Even so, it is questionable to determine a 1.5-degree ceiling with only 67% probability, as the IPCC does, and, moreover to concede an interim overshoot. Nor is it sufficient to aim at only 1.75 degrees, as the German government's Scientific Advisory Council
for the Environment does, a slip that the Federal Constitutional Court quietly censures as "not excessively stringent."

Indirectly, however, the court at one point does comment on the overshoot: Politics should by no means rely on geoengineering approaches that are dubious in their technical feasibility and constitutional tenability.

Furthermore, Article 2 of the Paris Agreement refers to the temperature comparison with the pre-industrial level. For this, however, one cannot choose a year in the second half of the 19th century as the base year, as the scientific studies used by the IPCC do. This is because industrialization began as early as about 1750 (this remains correct, although there is admittedly a lack of precise emissions data for this period). In this respect, the court erroneously states that we, the complainants, would never have voiced such a criticism.

</1>Political Consequences in the EU, in Germany, and Globally</1>

The court order supports recent developments in EU (and international) climate policies to raise and harden targets and to arrive at more ambitious—and transnational—policy instruments such as more effective emissions trading schemes. The goal must be zero fossil fuels in literally all sectors as soon as possible. While this is encouraging, open questions remain, and both the EU and Germany—contrary to common misperceptions—still have to go quite rapidly and far to become true climate role models.

As regards Germany, there is the requirement of the court that the budget must be distributed more equitably between generations so as to achieve equitable freedom opportunities intertemporally. The revised German Climate Protection Act of June 2021 still does not do justice to this. The largest part of the remaining climate budget will still be used up by 2030, even according to the inadequate IPCC budget calculation. Moreover, the legislature failed to carefully analyze the facts. Climate budget assumptions were not disclosed in the considerations. Moreover, the Climate Protection Act only standardizes targets. Whether climate policy instruments will be improved by the legislature as well has yet to be seen. In any case, amending the Climate Protection Act alone is not enough, because without policy instruments, targets are meaningless.

The ruling will also have an impact on specific individual decisions made by the administration on various levels of government. In the future, no road, airport, industrial plant, or construction site will be approved unless compatibility with medium-term emissions neutrality can be ascertained. The wide-ranging effects of this are not yet fully foreseeable.

However, the court does not fully appreciate that the majority of German emissions are not regulated by Germany alone, but by EU legislation, a development that is expected to increase after the proposals of the EU Commission (the EU’s executive branch) for a more ambitious EU climate policy of July 2021. For this reason, we had explicitly requested a declaration in the process that Germany had not taken sufficient action in favor of climate protection at the EU level. The court did not address this directly, but indirectly, with the aforementioned international climate protection commitment, which is intended to prevent a mere shifting of emissions to other countries. The role played by the old and new German governments in the upcoming EU legislation via the EU Council of Ministers will have more far-reaching effects than the amendment of German laws—because of the size of the EU and because an increasing
number of emissions can no longer be controlled by the German legislature at all, especially if they will be subject to EU emissions trading. The German role in the further discussion on EU climate policy will play a central role in the further implementation of the German Federal Constitutional Court’s order.

The most important proposal of the EU Commission from July 2021 is a more sophisticated EU emissions trading scheme. It should finally act as a quantity control system for all fossil fuels and get a stricter target, that is, an earlier total ban for coal, gas, and oil. Indeed, this is the way to achieve post-fossil-fuel status in all sectors, and in the most cost-efficient way, because the quantities of emissions still permitted are tradable between companies and the fossil phase-out happens in plannable, small steps. Still, the EU proposals should have gone further. Measured against the 1.5-degree limit, important upgrades of the proposals are essential. According to the ruling, Germany would have to be one of the ecologically minded actors demanding such improvements. The relevant questions are: Will such actors push the EU to cancel all surplus legacy allowances in emissions trading, which states used to give away to companies and which still massively dilute the price of emissions certificates today? Will they call for stricter climate targets—namely, setting emissions trading so that it leads to zero fossil fuels by 2035 or, even better, 2030? Furthermore, it would be important to close all loopholes, that is, banning the option to take credit for pseudo climate protection measures abroad. Moreover, there is a need for a second emissions trading scheme for animal products since, obviously, livestock farming must be reduced substantially.

<1>Climate and Other Environmental Issues</1>

The Federal Constitutional Court's decision will have a major impact on other environmental areas. These will initially arise indirectly. Climate protection requires fossil fuel consumption to be phased out and livestock farming to be reduced. These factors are also key factors causing damage to biodiversity, nitrogen cycles, soil, air, and water quality. However, there could also be a direct transferability of the verdict to those environmental problems without referring to climate change (which could possibly become the subject of further lawsuits). The starting point for this is the observation that climate protection and nature conservation (even if tensions sometimes exist) are essentially designed for synergies and the problem drivers are essentially the same. Also, climate change and biodiversity loss are existential threats to human civilization and, at the same time, economically extremely costly. Consequently, the reasoning of the double threat to freedom (with its basis in fundamental rights and state goals) can be repeated for biodiversity protection.

Furthermore, climate change and biodiversity loss or climate and biodiversity conservation often reinforce each other. Thus, the conservation of ecosystems and biodiversity is directly related to the conservation of the global climate. Forests and peatlands in particular are both biodiversity hotspots and greenhouse gas sinks for negative emissions, which are needed for climate protection complementary to phasing out fossil fuel and reduction of livestock production. Land-use changes will successively reduce the carbon storage potential of these sinks, as well as biodiversity.
However, unlike nature conservation, climate change does not have the problem of heterogeneous local factors. Therefore, transnational action is even more clearly needed for climate protection than for nature conservation.

<1>Climate Litigation Directly Against Enterprises?</1>

Compounding the points already described, there may be implications for potential lawsuits by private parties against companies that pursue business models highly damaging to the climate. Another recent ruling picks up thoughts from the German case in a different way:

In May, the District Court of The Hague in the Netherlands ruled that the fossil fuels company Royal Dutch Shell must reduce its emissions by 45% by 2030, compared to 2019.11 Precisely, the court held Shell responsible for its entire production and supply chain. In short, the Dutch court adjudicates the following in its verdict: There is a need for global zero emissions by 2050. To this end, different paths are conceivable. At the same time, any company, no matter its size, has to deliver a minimum reduction by 2030—beyond any democratic balancing on distributive questions. The ruling will greatly advance the implementation of Article 2 of the Paris Agreement and climate-related human rights. The verdict will cause great turmoil in business, politics, and society and will most likely promote ambitious climate protection. However, several points of the verdict require further legal discussion.

The German Federal Constitutional Court understood very clearly: Climate is about rights to freedom in their entirety. Both climate change and climate protection acting too rapidly can undermine our freedom. The Federal Constitutional Court also understood that fundamental freedoms and elementary preconditions of freedom create a trade-off that can be resolved in very different ways. This is the task of parliaments; constitutional courts merely monitor whether balancing limits (which in turn derive from these rights to freedom and its preconditions) have been respected. "Human rights" do not demand anything "per se," but rather provide a balancing sphere; only the limits of this balancing sphere formulate unconditional limits for the parliamentarian majorities. According to our lawsuit (insofar as adapted by the German court), the 1.5-degree limit of the Paris Agreement roughly provides such a balancing limit. However, according to the German verdict, it is left to the democratic balancing procedure to determine who has to reduce emissions and when and how this needs to be done. This includes not only balancing the various normative concerns, such as various aspects of freedom, but also the natural scientific and economic factual issues, which are characterized by uncertainties.

Here, the Dutch District Court goes further. It not only assumes a role similar to that of a constitutional court in determining the limits of the democratic process. It also delves deeply into distributional issues by specifying what exactly an individual actor has to do to protect the climate. However, if civil courts are left to determine the balancing between private persons (including companies), the fear that this could render the democratic balancing process obsolete is not entirely absurd. The Dutch court is trying to resolve this issue by requiring only a minimum standard of emission reductions from Shell and by accepting that emissions trading makes emission reduction obligations tradable throughout Europe—covering already a significant amount of Shell’s emissions. This is a plausible approach and limits the problem, but does not eliminate it entirely. In any case, completely splitting a global problem into civil law relations between single persons would hardly be conceivable. Instead, the court could have
established a greater reference to the state-like role of large corporations—and to the fact that in large parts of the world there is only limited state administration capable of acting. The latter aspect could work in favor of stronger obligations of transnational corporations.

Even if a reduction obligation of companies is considered justifiable under civil law, open questions remain. These include the exact calculation of the minimum standard in question, especially if the entire production and supply chain is included, and what this would mean in detail. Besides, further clarification is required on the effect of the integration of (almost) all fossil fuels into the EU Emissions Trading Scheme currently under discussion. This would reduce the influence of the companies with regard to their emissions. Finally, open questions remain regarding the problem that in international climate law, emissions are actually counted territorially by state—rather than beyond borders, as the court suggested for Shell.

The German case, but also the Dutch case, show that the normative framework of climate protection is finally being taken seriously. It is foreseeable that this will strongly influence climate policy, but also the evolving understanding of liberal-democratic constitutions in general.

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<1n>NOTES</1n>
1. The Supreme Court. *Friends of the Irish Environment v The Government of Ireland & Ors*


