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Unofficial translation

Constitutional complaint

By the teenagers and young adults

1) **Luisa Neubauer**
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5) **Jakob Backsen**
6) **Lucas Lütke Schwienhorst**
7) **Franziska Blohm**
8) **Johannes Blohm**
9) **Lueke Recktenwald**

Representative: Attorneys Günther, Mittelweg 150, 20148 Hamburg – attorney Dr. Roda Verheyen and attorney Dr. Ulrich Wollenteit

- complainant -

Regarding: Federal Climate Protection Act (TN: in German "Bundesklimaschutzgesetz") (BGBl. I (2019) p. 2513 ff)
Legislative omission

In the name of and on behalf of the complainants we lodge a constitutional complaint.

A certified copy of the powers of attorney is enclosed.

Violations of the basic right of human dignity, life and physical integrity (Article 1, Article 2.2 sentence 1 of the Basic Law (TN: in German "Grundgesetz"), each in conjunction with Article 20a of the Basic Law), of freedom of occupation and of the guarantee of property (Article 12.1 and Article 14.1 sentence 1 of the Basic Law), as well as the violation of these basic rights in conjunction with Article 20.3 of the Basic Law with regard to Articles 2 and 8 of the ECHR are submitted.

The complainants request to

1. declare that, by implementing a 55 % reduction quota in respect of greenhouse gases for the target year 2030 pursuant to Paragraph 3(1) of the KSG and by setting annual reduction targets for the energy, industry, transport, buildings, agriculture and waste management and other sectors in Paragraph 4(1) in conjunction with Annexes 1 and 2 of the Federal Climate Protection Act ("Bundesklimaschutzgesetz" hereafter known as "KSG"), the legislature has violated the basic rights of the complainants under Article 1 in conjunction with Article 20a of the Basic Law, Article 2(2), Article 12 and Article 14

2. declare that the Federal legislature is obliged to ensure, within a period of time to be set by the Federal Constitutional Court, by means of a new statutory regulation of the reduction quotas for greenhouse gases, that greenhouse gas emissions in the Federal Republic of Germany are kept as low as possible on the basis of more comprehensible forecasts and taking into account the principle of proportionality.

3. declare that the Federal legislator is obliged to create regulations within the period determined in accordance with No. 2 which prohibit the Federal Republic of Germany from transferring emissions allocations on the basis of section 4 para. 3 of the KSG in conjunction with section 4 para. 3 of the KSG. Art. 5 of Regulation (EU) 2018/842 of 30 May 2018 to European neighbouring states as long as the EU climate protection legislation does not provide a level of protection adequate to the basic rights.

4. order the Federal Republic of Germany to reimburse the complainants' necessary expenses.

The court is politely informed that the Federal Republic of Germany is, for factually similar reasons to those currently being heard in this complaint, the respondent in proceedings involving several children and young people on the basis of the UN Convention on the Rights of the Child ratified in 1992 (on the basis of Article 5 of the Third Additional Protocol).

Reference is made to the constitutional complaints already before this Court in this or similar matter:

- **Göppel et al., Az. 1 BvR 2656/18**
- **Yi Yi Prue et al., Az. 1 BvR 78/20**
- **Steinmetz et al., Az. 1 BvR 96/20**

and - should they be accepted for decision - suggested that they be combined with this complaint pursuant to § 66 of the BVerfGG.

The annexes are preceded by an annex list with numbers.

The complaint follows the following structure:

CONTENT

For the sake of clarity, the detailed statement of reasons is preceded by a summary of the application under I.

I. Summary of the submissions

The complainants argue that individual provisions of the Federal Climate Protection Act ("Bundesklimaschutzgesetz" hereafter known as "KSG"), in particular the reduction target by 2030 (55% compared to 1990), which is based on concrete emission quantities per sector, are insufficient and that the legislator has therefore violated the complainants' basic rights by omission.

Because of the concrete threat to the natural foundations of life and the civilisational risks of the life-threatening nature and numerically incalculable extent associated with climate change, the objectionable omission is incompatible with the outstanding protective function which the guarantee of human dignity under Article 1 of the Basic Law in conjunction with Article 20a of the Basic Law, and the basic right to life and physical integrity in Article 2.2 of the Basic Law conveys to the complainants, and is therefore unconstitutional. State action or omissions must not destroy the foundations of the self-development of others and the preservation of the conditions of existence of future generations. It follows from Article 1 of the Basic Law that people must continue to have a humane future. A central function of the principle of human dignity is to be seen in the "securing of bases of life that are appropriate to human dignity". The complainants to 2 - 9 are also violated in their freedom of occupation under Article 12 of the Basic Law and their freedom of ownership under Article 14 of the Basic Law by legislative omission.

The Federal Climate Protection Act

With the Climate Protection Plan 2050, adopted in 2016, the federal government has committed itself to achieving a greenhouse gas reduction of 55% by 2030 and then "extensive decarbonisation" by 2050. This target does not take into account the findings of science and the IPCC, which have been substantiated since then, nor does it take into account Germany's and the EU's obligation under international law under the Paris Agreement to limit the global temperature increase to "well below 2°C" and, if possible, to 1.5°C compared to pre-industrial levels. The Federal Climate Protection Act (KSG) simply adopts this objective - ultimately the national implementation of the target previously set at EU level, namely to achieve an EU-wide reduction of 40% by 2030 compared with 1990 - by way of Section 3 and Annex 2 of the Act. The KSG does not contain a reduction path after 2030, nor does it contain any information on the global and national greenhouse budget that is still permissible.

Climate change: The status quo and the risk to life and limb

Humans influence and change the global climate through greenhouse gas emissions and the destruction of sinks (especially forests). Today, Germany is responsible for about 2% of global emissions and emits over 900 million (million) tonnes (t) of greenhouse gases (GHG) annually. Calculated since 1800, Germany is the fifth largest emitter of greenhouse gases in the world. At around 9.6 tonnes, Germany's annual per capita CO_2 emissions are still about twice as high as the international average (4.8 tonnes per capita).

To date, this has led to a global average temperature rise of around 1°C and in Germany of as much as 1.4°C, a considerable proportion of which is due to emissions from Germany since the beginning of industrialisation. Even if humankind were to directly and immediately stop greenhouse gas emissions, temperatures would continue to rise. The warming caused by emissions from pre-industrial times to the present day will continue for hundreds of years and will affect long-term changes in the climate system. According to the Intergovernmental Panel on Climate Change (IPCC), it is even possible that all the greenhouse gases already released into the atmosphere will cause global warming of 1.5 °C. Already today, it cannot be excluded that abrupt and unstoppable as well as uncontrollable effects may be triggered solely by past emissions (so-called tipping points). In this case, entire areas of northern Germany and other continents could become uninhabitable. Every additional GHG emission increases this risk.

These phenomena are already having an impact locally and therefore on the legal positions of the complainants. The extreme summer in Germany in 2018 and weather extremes in 2019 are (partly) caused (attributed) by climate change, as such events occur much more frequently than without man-made climate change. The number of extreme weather events in Germany has more than doubled in the last 50 years. The bush and forest fires raging in Australia in the winter of 2019/2020 are exactly what climate scientists predicted as early as 2007 with regard to the effects of climate change for the year 2020 with global warming of approx. 1°C. The same applies to the extreme impact of the German forest, especially due to the continuing drought today.

Climate change is a self-inflicted, for at least 40 years foreseeable, existential physical phenomenon which the legislator must tackle determinedly and, at least to avoid the worst risks, still can. Based on the findings of the IPCC and also based on the Dutch decisions in the *Urgenda* case, the complainant believes it is objectively necessary to resolutely pursue at least a limitation of global warming

to 1.5° C compared to pre-industrial values. If this level of protection is abandoned, according to the findings of the IPCC, millions of people will be acutely endangered by the consequences of climate change or, for example, killed by rising sea levels coupled with extreme weather events, and the chance of *tipping points* being exceeded will increase considerably.

These connections and real dangers threatening basic rights have been recognised by the Dutch courts through three instances in the *Urgenda* case and, after the application of the law there, lead to a concrete obligation of the state to protect against dangerous climate change and to contribute "its part" in a global context.

The Federal Climate Protection Act does not pursue this level of protection, and does not provide any reduction path to greenhouse gas neutrality that would be compatible with this level of protection from a global perspective. Thereby the already existing damaging events caused by climate change, including in the companies of the complainants or their parents, and the now undisputed threat to their existence, taking into account the jurisprudence of the Federal Constitutional Court, result in the obligation to as far as possible and proportionately stop releasing more greenhouse gases.

There is scientific consensus that there is a final global greenhouse gas budget that is still available to humankind if global climate targets are to be achieved. This budget can be calculated on the basis of a maximum global temperature target - in this case to be defined solely on the basis of the protection of human life and the considerable risks of the occurrence of *tipping points* at 1.5° C - the probability of occurrence and a global distribution key for the few remaining tonnes of greenhouse gases.

It is already not apparent that the Federal Climate Protection Act is based on these considerations - in any case, however, due to the explicit emissive amounts in the annex to the Federal Climate Protection Act, the available budget will be completely exhausted in a few years, if one assumes - as, for example, the German Council of Environmental Advisors and the Berlin Administrative Court in the *Greenpeace* climate complaint (Case No. 10 K 412.18) - an equal per capita approach for emission allowances worldwide.

The complainants argue that - while maintaining proportionality with regard to other basic rights - all legal regulations that are objectively possible and necessary to protect the climate system and future generations as well as the basic rights of the complainants must be implemented and the necessary measures taken. In contravention to this obligation to act, which is also defined by the Dutch courts, Germany is not on the way to making its share of the necessary global reductions on the way to greenhouse gas neutrality. The Federal Climate Protection Act does not meet these requirements.

The Federal Climate Protection Act is not appropriate for securing the 1,5°C target

If one considers the scientific findings evaluated by the IPCC on the feasibility and necessity of global reductions to greenhouse gas neutrality in order to still meet the 1.5° C target, Germany would have to reduce significantly more than 55% by 2030, about 70% compared to 1990, in order to do "its part", in any case the minimum of what is globally necessary. Germany will reduce its emissions far below the global average of what is necessary, as stipulated by the Federal Climate Protection Act. The complainants therefore argue that the provisions of the Federal Climate Protection Act are already evidently inappropriate for achieving the 1.5°C target.

In the view of the complainants, the global average of a 1.5°C global warming pathway also represents the absolute minimum of an obligation to act on the part of the legislature (as also assumed as a standard in the *Urgenda* decisions), and not, for example, an extreme precautionary or best possible reduction performance. This is simply because the emission scenarios considered by the IPCC only reflect a probability that this target can actually be met, and not the certainty of risk avoidance, and because this approach ignores the historical responsibility of industrialized countries.

Overall, therefore, the German legislature has enacted an inconclusive, inappropriate law that is incompatible with obligations to protect, which permits far too many greenhouse gas emissions on German territory by 2030, thus depriving the generation of complainants of the opportunity to decide of their own future. Germany is not doing "its part". Such reductions are actually feasible, as official studies (such as those of the Federal Environment Agency) show.

Relation to the EU budget
The German law only implements the EU target for 2030, namely a 40% reduction in greenhouse gas emissions relative to 1990, which is objectively inappropriate and unlawful from an EU law and a human rights perspective. This is the subject of the action brought before the European courts by the 9) complainant and others (Carvalho et al., C-565/19 P).

It must therefore be ordered by the court that further reductions in Germany are not to be passed on to other EU countries - because then these would be absorbed into the overall EU budget and would be unsuitable for protecting the complainants' basic rights.

Implementation measures
Irrespective of the level of protection provided by the Federal Climate Protection Act itself, the implementation of sufficient reduction measures is also not apparent. The legislator itself has not made any forecasts as to how and to what extent the 55 % target provided for by the Federal Climate Protection Act itself can be achieved by the measures adopted to date. Studies estimate that even this target will be missed by a considerable margin with the laws presented so far. However, as experience with the unattained climate protection target for 2020 shows, targets must be backed up by measures which also lead to their achievement with sufficient certainty in terms of prognosis.

A significantly faster implementation of reductions, including the implementation of an appropriate interim target of about 70% reduction compared to 1990, is possible and proportionate in all sectors.

The complainants
The complainants are adolescents and young adults, who themselves or whose families run ecological farming and sustainable tourism businesses in Germany, namely on the North Sea island of Pellworm, in the Altes Land on the Elbe near Stade and in Brandenburg, as well as on the island of Langeoog. The complainant to 1). lives in Hamburg and Göttingen and studies geography.

The complainants are between 15 and 32 years old and are hence expected to experience all the predicted effects of climate change by the turn of the century. They are already affected by the noticeable effects of climate change in Germany (e.g. extreme weather conditions, heat waves), but cannot protect themselves

through their democratic rights, especially not through voting. They feel helplessly exposed to the economic and political "business as usual" and are under considerable stress with regard to their own future.

The complainants to 2-8 were co-complainants in the lawsuit against the Federal Government to enforce the 2020 climate protection target (40% reduction compared with 1990), which culminated in the dismissive judgment of the VG Berlin of 31 October 2019, Ref. VG 10 K 412.18, in which the court made it clear, however, that a right to adequate climate protection can be derived from obligations to protect under basic rights.

The complainant to 9) is a co- complainant in the European climate action with regard to the inadequate climate targets of the EU, which is currently pending before the European Court of Justice on appeal under file number C-565/19 P.

II. Factual and legal starting point

1. Climate change

Humans influence and change the global climate through greenhouse gas emissions, especially in the form of carbon dioxide (CO_2) and the destruction of sinks (especially forests). To date, this has led to a warming of the global average temperature by about 1.1°C compared to pre-industrial values (in Germany an average of 1.4°C). The temperature increase would have been even more noticeable if the oceans had not absorbed considerable amounts of CO_2 and the temperature rise: the global oceans have warmed steadily since 1970 and absorbed more than 90% of the excess heat in the climate system - they are now at their physical and ecological limits. Past generations have used up this "sink", it is no longer available for the present and future generations and thus the complainants. Climate change is therefore accelerating rapidly, changing and threatening the entire reality of life for the complainants.

The subject of the proceedings and the applications is the Federal Climate Protection Act and the legislative omission with regard to the effective reduction of greenhouse gases to achieve the necessary greenhouse gas emissions neutrality.

The subject of the complaint in the version of the draft bill of the parliamentary groups of the CDU/CSU and SPD, BT Dr. 19/14337 with statement of grounds is attached as

Annex 1

The Federal Climate Protection Act was published in the Federal Law Gazette (Part I, No. 48, p. 2513) on 17 December 2019 and has thus been in force since 18 December 2019.

With it, the legislator acknowledges the context and consequences of climate change. However, the complainants are of the opinion that the Federal Climate Protection Act and the inadequate implementation of climate protection in the form of greenhouse gas reductions and fundamental restructuring of the economic and living order in the past and in the future violate their basic rights, also because the legislature objectively failed to recognise the facts and the need for action. A detailed presentation of the facts and, above all, the consequences for the legal positions of the complainant is therefore necessary.

For this purpose, reference is made in the first instance to the judgment of the Dutch Supreme Court

since the facts do not differ in this respect and these have already been reviewed by the courts on several occasions and briefly formulated. This (last-instance) judgment in the *Urgenda* case is published in the official full English translation and own German translation as

Annex 2

is attached. After two lower courts, the highest court in the Netherlands has finally condemned the Dutch government to do more on climate protection: by the end of 2020, Dutch greenhouse gas emissions must be reduced by at least 25% compared to 1990.

According to these rulings, there is a *minimum* obligation to act to reduce greenhouse gases by individual states on the basis of human rights-based protection obligations - in this case by 25% compared to 1990 levels by the end of 2020. These rulings are explained in detail under VI.

a) Scientific basis and German emissions
ECLI: NL:HR:2019:2006, section 2.1 facts

> "Climate change and its consequences
>
> (1) Since the beginning of the industrial revolution, humankind has consumed energy on a large scale. This energy has predominantly been generated by the combustion of fossil fuels (coal, oil and natural gas). This releases carbon dioxide. This compound of carbon and oxygen is referred to by its chemical formula: CO_2. Part of the CO_2 that is released is emitted into the atmosphere, where it remains for hundreds of years or more and is partly absorbed by the ecosystems in forests and oceans. This absorption capacity is dropping continuously due to deforestation and the warming of the sea water.
>
> (2) CO_2 is the most significant greenhouse gas and, in tandem with other greenhouse gases, it retains the heat radiated by our planet in the atmosphere. This is called the 'greenhouse effect'. The greenhouse effect increases as more CO_2 is emitted into the atmosphere, which in turn exacerbates global warming. The climate is slow to respond to the emission of greenhouse gases: the full warming effect of the greenhouse gases being emitted today will not be felt for another thirty to forty years. Other greenhouse gases include methane, nitrous oxide and fluorinated gases.

(3) Concentrations of greenhouse gases in the atmosphere are expressed in parts per million (hereinafter: ppm). The term 'ppm CO_2 equivalent' is used to express the total concentration of all greenhouse gases, in which respect the concentration of all of the other, non-CO_2 greenhouse gases is converted into CO_2 equivalents based on the warming effect.

(4) There is a direct, linear connection between the greenhouse gas emissions caused by humans, which are partly caused by the burning of fossil fuels, and the warming of the planet. The planet is already approximately 1.1°C warmer than it was at the start of the industrial revolution. The Dutch Court of Appeal[1] assumed that the concentration of greenhouse gases in the atmosphere stood at 401 ppm at the time it rendered its judgment. In recent decades, worldwide emissions of CO_2 have increased by 2% annually.

(5) The rise in the planet's temperature can be prevented or reduced by ensuring that fewer greenhouse gases are emitted into the atmosphere. This is referred to as 'mitigation'. Measures can also be taken to anticipate the effects of climate change, such as raising dikes in low-lying areas. The taking of such measures is referred to as 'adaptation'.

(6) There has long been a consensus in climate science – the science that studies climate and climate change – and in the international community that the average temperature on earth may not rise by more than 2°C compared to the average temperature in the pre-industrial era. According to climate scientists, if the concentration of greenhouse gases in the atmosphere has not risen above 450 ppm by the year 2100, there is a reasonable chance that this objective (hereinafter: "the two-degree target") will be achieved. In recent years, new insights have shown that the temperature can only safely rise by no more than 1.5°C, which translates into a greenhouse gas concentration level of no more than 430 ppm in the year 2100.

(7) When viewed in light of the maximum concentration level of 430 or 450 ppm in the year 2100 and the current concentration level of greenhouse gases (401 ppm), it is clear that the world has very little leeway

[1] Court of Appeal: Gerichtshof Den Haag, judgment of 09.10.2018, ECLI:NL:GHDHA:2018:2610

left when it comes to the emission of greenhouse gases. The total worldwide leeway that now remains for emitting greenhouse gases is referred to as the 'carbon budget'. In the meantime, the chance that the warming of the earth can be limited to a maximum temperature increase of 1.5°C has become extremely slim.

(8) If the earth warms by substantially more than 2°C compared to the pre-industrial era, this would cause, inter alia: flooding as a result of sea level rise; heat stress as a result of more intense and longer-lasting heat waves, increases in respiratory ailments associated with deteriorating air quality resulting from periods of drought (with severe forest fires), increased spread of infectious diseases, severe flooding as a result of torrential rainfall, and disruptions of the production of food and the supply of drinking water. Ecosystems, flora and fauna will be eroded and there will be a loss of biodiversity. An inadequate climate policy will, in the second half of this century, result in hundreds of thousands of victims in Western Europe alone.

(9) It is not just the consequences that become more severe as global warming progresses. The accumulation of CO_2 in the atmosphere may cause the climate change process to reach a tipping point, which may result in abrupt climate change, for which neither mankind nor nature can properly prepare. The risk of reaching such a tipping point increases at a steepening rate upon a rise in temperature of between 1°C and 2°C.

The IPCC reports

(10) The Intergovernmental Panel on Climate Change (IPCC) was created in 1988 under the auspices of the United Nations by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). The IPCC's objective is to obtain insight into all aspects of climate change through scientific research. The IPCC does not conduct research itself, but studies and assesses, inter alia, the most recent scientific and technological information that becomes available around the world. The IPCC is not just a scientific organisation, but an intergovernmental organisation as well. It has 195 members, including the Netherlands. Since its inception, the IPCC has published five Assessment Reports and accompanying sub-reports about the state of climate science and climatological developments. Particularly relevant to these

proceedings are the fourth report from 2007 and the fifth report from 2013-2014."

The IPCC Assessment Reports are published on the Internet at:

http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml#1.

The 6th Assessment Report is currently being prepared.

German translations of the most important IPCC publications and summary translations of the Assessment Reports are published here:

https://www.de-ipcc.de/128.php

Because of their scope it is waived to attach all the reports referred to.

The results of the IPCC represent the current state of science. The Assessment Reports and the special reports also contain recommendations for policy makers (Summary for Policy Makers, SPM). These IPCC summary reports are adopted line by line by representatives of the states. Global, European and German climate policy is essentially based on these IPCC findings and recommendations for action.

On 6 October 2018, the IPCC published the "Special Report on 1.5 °C Global Warming" (Special Report - SR1.5). The SPM of SR 1.5 in German translation is attached as

Annex 3

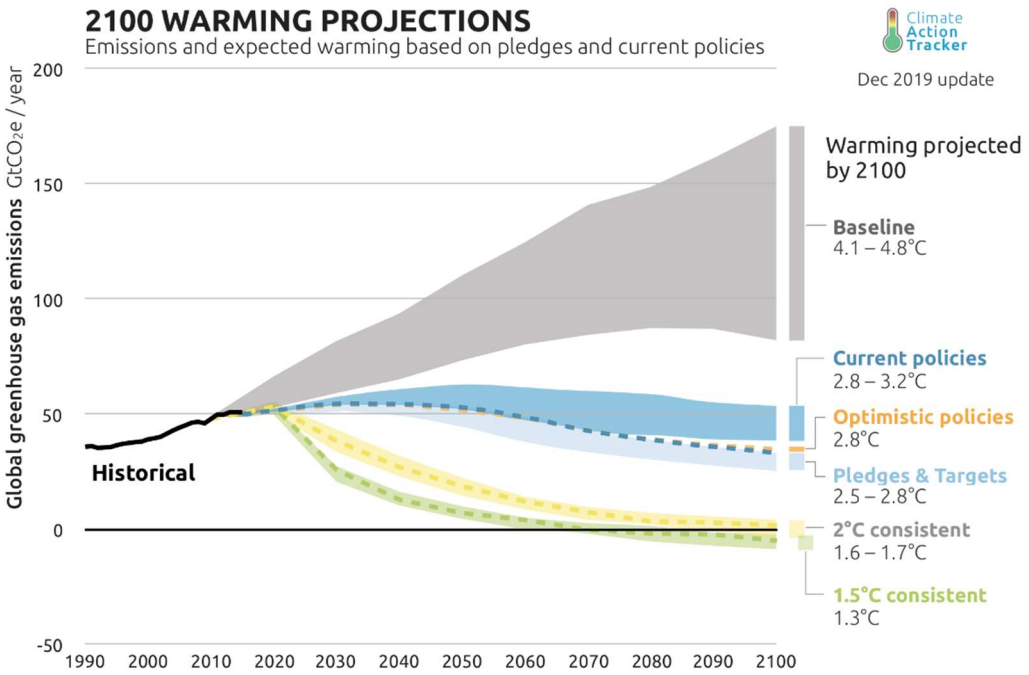
This shows in summary that the already noticeable consequences of climate change become stronger at 1.5°C warming, but that they can be largely dealt with by adaptation measures, and above all the lethal consequences stay limitable. This is no longer the case even with a global temperature increase of 2°C. In addition, a warming of 2°C increases the danger of uncontrollable systematic destructions, *tipping points*, considerably. This will be discussed further below. The central result is also that it cannot be ruled out that the quantities of greenhouse gases emitted to date or the reduction of greenhouse gas sinks alone will cause a temperature increase of 1.5°C compared with pre-industrial values (Annex 3, Paragraph A.2).

The central result is further that reduction paths are *possible* in order to meet the 1.5°C global target. The IPCC writes: "Different reduction strategies can achieve the net emission reductions that would be required to follow a path that limits global warming to 1.5°C with little or no exceedance. (Annex 3, p. 18)

Human-made emissions continue to rise globally, currently by more than 40 billion tonnes per year. If current emissions are extrapolated with global trends, it can be deduced that - if emissions behaviour does not change dramatically - the earth would warm up by almost 5°C in the next 80 years, and if **all** policies and measures presented so far at global level[2] - including those of the EU and Germany - are implemented, the temperature would rise by approx. 3.2°C, cf.

Annex 4

This is presented graphically on the globally recognized analysis portal "Climate Action Tracker" (CAT),[3] a database that primarily aims to inform climate policy and diplomacy about the status of nationally determined contributions (NDC) submitted under the Paris Accord, here: Projections of global warming 2100, December 2019:



[2] Thus including legally non-binding plans and programs.

[3] Online at https://climateactiontracker.org/global/temperatures/. (lastly visited 20.01.2020).

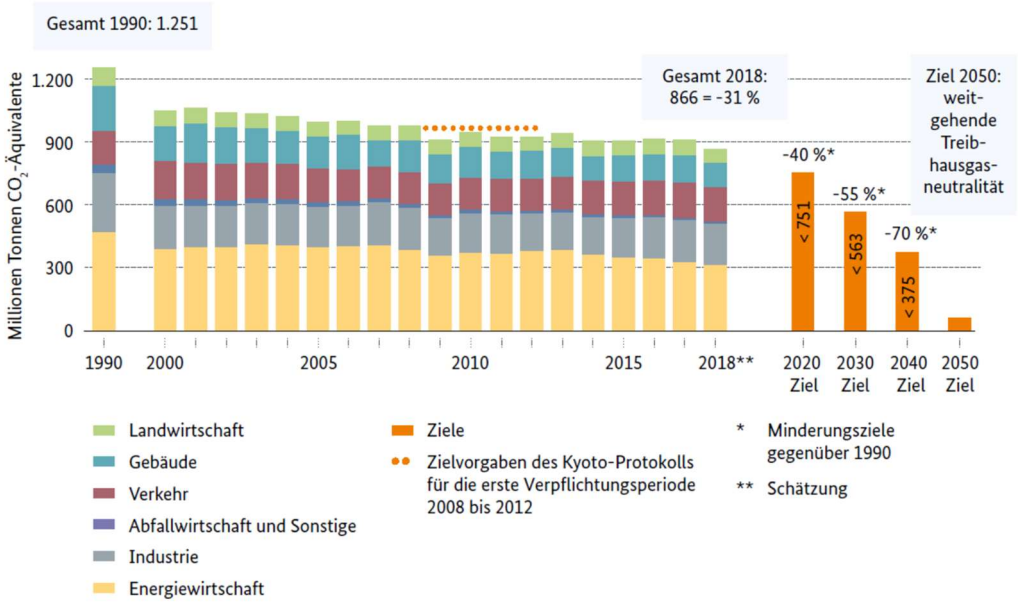
Incidentally, the Federal Government also uses these figures, cf. the brochure "Climate Protection in Figures 2019" of the Ministry for the Environment, Nature Protection and Nuclear Safety,

Annex 5

which also provides a comprehensive overview of past emissions, targets, measures, and trends in German and European climate protection policy.

Today, Germany is responsible for a share of approx. 2% of global emissions and emits (2019) around 811 million tonnes (t) of greenhouse gases (provisional figures[4] for 2019, indicated as CO_2 equivalents, CO_2 eq.) Calculated for the period since 1800, Germany is the fifth largest emitter of greenhouse gases in the world. Germany's annual per capita CO_2 emissions of around 9.6 t are still about twice as high as the international average (4.8 t per capita).

German emissions fell between 1990 and 2000 due to German unification in 1990 and the closure of emission sources. This is clearly shown in the graph at Annex 5:



[4] Here from a preliminary report by AGORA Energiewende, the energy transition in the electricity sector: status in 2019, January 2020; the official inventories for 2019 are not yet available Available at: www.agora-energiewende.de. (last visited on 20.01.2020).

Since the turn of the millennium, only small greenhouse gas emissions reductions have been observed, from the point of view of the complainants, above all because the goals under international law and the EU climate protection goals were assessed in comparison to 1990 as a base year, and thus real action in the "here and now" was hardly evaluated. Due to the lack of drastic measures to reduce greenhouse gas emissions in the last 20 years, Germany has also further reduced the available global greenhouse gas budget to date - at the expense of the global climate and the complainants.

The effects of climate change are presented in more detail below, particularly with regard to the complainants.

However, it should already be emphasised that the situation is already described as hopeless and a real threat to the existence as the chances of effectively limiting the rise in temperature globally are now to be considered as quite low. This is already evident from the following quotation from the IPCC Special Report on 1.5°C:

> A.2 Warming caused by anthropogenic emissions from pre-industrial times to the present day will persist for centuries to millennia and will continue to cause additional long-term changes in the climate system, such as sea-level rise and associated consequences (high confidence), but it is unlikely that these emissions alone will cause global warming of 1.5°C (medium confidence).

According to the methodology of the IPCC, this statement means that there is a probability of up to 50% that this will still be the case, i.e. that the emissions currently in the atmosphere alone will cause the (arising from the Paris Agreement, see b)) threshold value of 1.5°C temperature increase is breached.

In addition, compliance with temperature thresholds depends on the global fulfilment of obligations to act. The IPCC therefore does not make any statements regarding the probability of certain consequences occurring, but only regarding whether these consequences will occur in global scenarios with regard to certain reduction pathways.

In its special report on 1.5°C, the IPCC uses reduction pathways, i.e. climate models with emission scenarios that are feasible and possible, but which depend on the overall social or political will. As outlined above, the world is currently on a straight path to a 3-4°C future, rather than a 1.5°C future.

It should also be noted that the relevant forecasts usually do not take into account emissions from civil aviation and international shipping, because they are not yet covered by international and European climate protection targets.

For greenhouse gas emissions from civil aviation and international shipping, there is a lack of concrete legal instruments at both international and European level.

The expected effects of these circumstances are drastic for the generation of the complainants and all others.

In 2018, the scientist Prof. Bendell (University of Cumbria) advocated the following in his discussion paper "Deep Adaptation - A Map for Navigating Climate Tragedy" on the basis of the scientific findings also used and evaluated here:

> "The findings indicate that we are moving towards destructive and uncontrollable levels of climate change that will bring hunger, destruction, population migrations, diseases and war".
>
> "Our norms of behavior - what we call 'civilization' - can also be disrupted" by "the global environmental catastrophe... that will occur in our lifetime".

This essay, which summarises the current state of a physical phenomenon (anthropogenic greenhouse effect) with regard to its effects on society as a whole and its psychological effects, is attached to the Court in the English original and in a German translation as

Annex 1

The author describes nothing less than the quite realistic possibility that climate change will lead to a global catastrophe within the next decades, up to the complete extinction of human civilization as it is known today.

The complainants, as representatives of the younger generation, assume that this realistic prognosis will be taken into account by the highest court of the Federal Republic of Germany. It must have interpretation-directing influence on the answer to the question which claims can be derived in favour of the complainants from the dimension of the duty to protect basic rights, above all from Article 1 and Article 2.2 of the Basic Law and Article 20a of the Basic Law. In the view of the complainants, climate change triggers, in view of the existential threats to

basic rights associated with it, protective duties on the part of the legislature in a hitherto unprecedented way. More on this in legal terms below.

For the complainants, this is by no means merely a matter of general and abstract threats. On the contrary: with regard to the legal access and the legal position of the individual complainants, it must be emphasised, already in connection with the scientific foundations, that the effects of climate change are not general and abstract, but rather concrete events, trends and effects in certain places and for certain legal entities, which can already be causally attributed to climate change with considerable certainty according to a now widespread attribution mode.

The complainants argue accordingly that their specific rights are being violated due to anthropogenic climate change and its effects or are endangered in the future. From a scientific point of view, this statement requires the so-called "*detection and attribution*" of the "human climate signal".

The IPCC has already defined this concept in its 3rd Assessment Report of 2001. It essentially enables climate scientists to link a observed phenomenon (e.g. temperature increases or extreme weather events) with human-made greenhouse gas emissions. In the 5th Assessment Report of 2014, there are detailed explanations (Chapter 10) on which the complainants can base their methodological assessment of their personal involvement.

On this basis, it is also fundamentally possible to allocate specific climate impacts (expressed in °C) to individual contributions to climate change, such as countries or other major emitters. That concrete consequences can in this form also be attributed to polluters has already been decided by the OLG Hamm, among others, in principle.[5]

b) Climate Change in International Law: The Paris Agreement

Climate change has been recognised and (albeit insufficiently) regulated under international law for decades. Reference is here made again to the summary from the highest court decision in the *Urgenda* case:

> *Cf. Hoge Raad, ECLI: NL:HR:2019:2006, Absatz 2.1 "Fakten":*
> The UNFCCC and the climate conferences
> (13) The United Nations Framework Convention on Climate Change (UNFCCC) was ratified in 1992. The purpose of this convention is to promote the stabilisation of the concentration of greenhouse gases in the

[5] OLG Hamm, decision of 30 November 2017 - I-5 U 15/17 -, ZUR 2018, 118 (119).

atmosphere at a level at which would prevent dangerous anthropogenic interference (i.e.: interference caused by humans) with the climate system. The parties to the UNFCCC are referred to as Annex I countries and non-Annex I countries. The Annex I countries are the developed countries, including the Netherlands[6]. (…)

(15) At the climate conference in Kyoto in 1997 (COP-3), the Kyoto Protocol was agreed upon between a number of Annex I countries, including the Netherlands. This protocol records the reduction targets for the period 2008-2012. According this protocol, the then-Member States of the EU were obliged to achieve a reduction target of 8% compared to 1990. (…)

(18) At the next climate conference in Cancún in 2010 (COP-16), the parties involved acknowledged in the Cancún Agreements the long-term target of maximising the rise in temperature at 2°C compared to the average temperature in the pre-industrial era – along with the possibility of a more stringent target of a maximum of 1.5°C. In the preamble they refer to the urgency of a major reduction in admissions. (…)

The Paris Agreement

(21) The Paris Agreement was concluded at the climate conference in Paris in 2015 (COP-21). This convention calls on each contracting state to account for its own responsibilities. The convention stipulates that global warming must be kept "well below 2°C" as compared to the average preindustrial levels, striving to limit the temperature increase to 1.5°C. The parties must prepare ambitious national climate plans and of which the level of ambition must increase with each new plan."

The Federal Climate Protection Act incorporates the objectives of the agreement expressis verbis in its section 1.

The Paris Agreement of 12 December 2015 does not contain any binding quantitative targets for individual states, but is based on nationally determined contributions (NDC). It is added as

Annex 7

6 Germany belongs to this category as well, equally the EU as a whole.

Germany has ratified the Agreement on 5 October 2016[7], the EU has adopted it on 5 October 2016,[8] and it came into force on 4 November 2016,

Annex 8

Germany has not submitted an NDC itself, but is participating as a member state of the EU. Within this framework, the EU has committed itself to reduce greenhouse gas emissions by a total of 40% by 2030.

In the meantime, many countries have adopted binding greenhouse gas neutrality targets and reduction paths, with reference to the Paris Agreement. In Norway, for example, greenhouse gas neutrality is to be achieved in 2030, in Sweden in 2040, in Finland according to the coalition agreement in 2035 and in Iceland in 2040.

c) The (inevitable) effects of climate change

aa) In general

The effects of climate change are described by science with increasing plasticity since the first IPCC report in 1990, and are today no longer an abstract quantity. Climate change affects the complainants today and here and will shape their lives in the future. They are summarized in an oppressive manner in Annex 6.

The only question is to what extent these consequences will occur and whether the existential consequences can already be predicted with sufficient certainty today to accordingly derive legally relevant behaviour or omissions.

The prognoses made by climate models depend crucially on the assumed (still permissible) global temperature increase, i.e. based on the specifications of the 1992 Framework Convention on Climate Change and the 2015 Paris Agreement, mostly 2° or 1.5°C above pre-industrial values.

The highest court in the Netherlands has already affirmed the legal relevance of this, and in particular pointed out the "safe" limits of warming:

> *Hoge Raad, ECLI: NL:HR:2019:2006, Chapter 4: Assumptions regarding the dangers and consequences of climate change:*

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[7] Federal Law Gazette Volume 2016 Part II No 31 (21 November 2016).

[8] Council Decision (EU) 2016/1841 of 5 October 2016 on the conclusion on behalf of the European Union of the Paris Agreement, OJ 2016, L 282/1.

“Climate science long ago reached a high degree of consensus that the warming of the earth must be limited to no more than 2°C and that this means that the concentration of greenhouse gases in the atmosphere must remain limited to a maximum of 450 ppm. Climate science has since arrived at the insight that a safe warming of the earth must not exceed 1.5°C and that this means that the concentration of greenhouse gases in the atmosphere must remain limited to a maximum of 430 ppm. Exceeding these concentrations would involve a serious degree of danger that the consequences referred to in 4.2 will materialise on a large scale.

[…]

If the emission of greenhouse gases is not sufficiently reduced, the possibility that dangerous climate change will materialise in the foreseeable future cannot be excluded. According to the AR5 “Synthesis Report”, which the IPCC published in 2014 […], there is a danger that the tipping points referred to above in para. 4.2 will occur at a steepening rate once there is a warming between 1°C and 2°C.

[…]

4.6 The need to reduce greenhouse gas emissions is becoming ever more urgent. Every emission of greenhouse gases leads to an increase in the concentration of greenhouse gases in the atmosphere, and thus contributes to reaching the critical limits of 450 ppm and 430 ppm. In any case, the limited remaining carbon budget (see above in para. 2.1(7)) means that each postponement of a reduction in greenhouse gas emissions will require a future reduction to be more stringent in order to stay within the confines of the remaining carbon budget. […]

4.7 Based on the aforementioned facts, the Court of Appeal concluded, quite understandably, in para. 45 that there was “a real threat of dangerous climate change, resulting in the serious risk that the current generation of citizens will be confronted with loss of life and/or a disruption of family life”. The Court of Appeal also held, in para. 37, that it was "clearly plausible that the current generation of Dutch nationals, in particular but not limited to the younger individuals in this group, will have to deal with the adverse effects of climate change in their lifetime if global emissions of greenhouse gases are not adequately reduced." "

Because of the specific request in the *Urgenda* case, namely to establish that the Netherlands is acting unlawfully if it does not reduce its domestic greenhouse gas emissions by at least 25 % by the end of 2020 compared with 1990, it was not necessary for the Court in this case to make further findings with regard to the 1,5 °C or other temperature targets. In contrast to the present proceedings, this case never dealt with a reduction path that was appropriate to the problem as a whole, but only with targets up to the year 2020.

Regarding the fundamental classification of the IPCC's forecasts: The assessments of the projected future changes made in the reports are based on the projections of one or more climate models using emission reduction paths. These are scenarios that cover emissions and concentrations of the entire range of greenhouse gases and aerosol and chemically active gases as well as land use. Due to the changed framework conditions in the relevant climate models and scenarios, emission targets are usually no longer given in comparison to the base year 1990, but rather in comparison to 2010. Germany's Federal Climate Protection Act and its 55% target in relation to 1990 can be translated with regard to the base year 2010 as a reduction commitment of minus 41%.

The IPCC[9] has summarised the risks of a further rise in temperature on the basis of the various emission paths and warming stages as follows:

- Risk of death, injury, damage to health or destruction of livelihoods in **low-lying coastal areas** and small island developing States and other small islands due to **storm surges, coastal flooding, and sea level rise**.

- This particularly affects complainants 2-5) and 9), who all live on North Sea islands. The melting of the world's ice and glacier systems (cryosphere) and the thermal expansion of the warming oceans is already causing a global rise in sea level of about 20 cm. Due to the warming of the oceans in recent decades, the rate of melting from sea ice in particular is increasing, and since the last Special Report on "Oceans and the Cryosphere in a Changing Climate",[10] the IPCC now expects a global sea-level rise of up to 40 cm as early as 2050. This must be seen in connection

[9] Statements based on the IPCC 5th Assessment Report and IPCC SR 1.5 Report, unless otherwise referenced. In the 5th Assessment Report, the report of the Working Group 2 (Impacts, Adaptation and Vulnerability) is decisive. Some of the results also result from the IPCC Special Report "Oceans and the Cryosphere in a Changing Climate", September 2019.
[10] IPCC; The Ocean and Cryosphere in a Changing Climate, September 2019.

with the fact that today there are around 680 million people (almost 10% of the world's population) living in coastal zones - by 2050 there will be 1 billion people. Assuming a global temperature increase of 1.5°C, up to 20 million more people will be affected by the loss of their livelihoods than in the 2°C scenarios. For Germany, areas are defined as "potentially along the North Sea that are no higher than 5 metres above sea level. On the Baltic Sea coast these include areas up to 3 metres above sea level. Around 3.2 million people live in areas at risk of flooding.

Cf. the evaluation of the current scientific sources for 2018: Sea-level rise and its effects on the population, Wissenschaftlicher Dienst des Bundestages WD 8 - 3000 - 085/18.

Annex 9

- **Risk of serious damage to health and destruction of livelihoods** for large urban settlements (particularly in Asia and Africa) due to inland flooding in some regions, mainly due to extreme weather events, but also due to sea-level rise and intrusion of saltwater into freshwater sources. In the case of a considerable rise in sea level, this also applies to complainants 7) and 8), whose parents' farm is located in the low-lying Altes Land on the Elbe. Drinking water conductors and soils would be destroyed by the ingress of salty water.

- Systemic risks due to **extreme weather events** leading to the **failure of infrastructure networks** and critical services such as electricity, water supply and health and emergency services. The number of floods and other hydrological events has more than quadrupled since 1980 and doubled since 2004. The complainants 2) - 5) have already experienced extreme rainfall events several times, which have "filled up" the island of Pellworm to an unprecedented extent.

- Risk of **mortality and morbidity** in times of **extreme heat**, especially for endangered urban populations and people working outdoors in urban or rural areas. The number of heat waves has increased fifty-fold since 1980. The number of people exposed to them increased by an estimated 125 million between 2000 and 2016. Hot temperatures affect the body's ability to regulate its own temperature. This can cause a wide range of physiological stress including heat cramps, heat stroke, hyperthermia,

and fatigue. In addition, temperature extremes can aggravate pre-existing conditions, in more detail below.

- Risk of **food insecurity** and food system breakdown related to warming, **drought,** floods, and precipitation, especially for poorer populations in urban and rural areas.

- Risk of loss of rural livelihoods and income due to insufficient access to **drinking and irrigation water** and reduced agricultural productivity. This already applies to the (parental) farms of the complainants 2)-8).

- **Forest fires** and loss of land ecosystems. The risk of forest fires has already increased significantly throughout Europe due to the rise in temperature and drought attributable to climate change. Worldwide, the fire season has already expanded by almost 20 percent since 1979. Statistically, between 260,000 and 600,000 people die each year worldwide due to the smoke caused by forest fires. With every additional degree of global warming, the destruction caused by flames could increase by a factor of four. In Germany, too, forests have now been recognised as extremely damaged and endangered. With an area of around 11.4 million hectares and a share of 32 percent of Germany's land area, the forest is a cultural landscape and the central guarantor of ecosystem services, air pollution control and a sustainable microclimate. According to the ministry responsible, the damage and threat are clear: "The severe storms in 2017 and 2018, the extreme drought and heat waves in 2018 and 2019, and the subsequent mass reproduction of bark beetles have caused severe, incalculable damage to Germany's forests. The forests have to be rebuilt on an area of around 180,000 hectares. Millions of trees show very high damage symptoms. In many places the young trees in the stands have dried up. Spruce and beech in particular have been severely damaged. The number and extent of forest fires were exceptionally high in some regions."[11] The business of the complainant 6) includes a managed forest, which is already affected today.

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[11] BMEL- Eckpunkte Wald im Klimawandel, September 2019, available at: https://www.bmel.de/SharedDocs/Downloads/Landwirtschaft/Wald-Jagd/Wald_Diskussionspapier.html (last visited on 20.01.2020)

- Risk of loss of **marine and coastal ecosystems**, as well as **land and inland water ecosystems**, biodiversity and related ecosystem goods, functions, and services. Some tropical coral ecosystems are already irretrievably lost with today's temperature increases.

The current and projected impacts of climate change are also apparent from the comprehensive 2017 report of the European Environment Agency (EEA), which assessed and modelled the effects of climate change in the most important regions of Europe. This is based on the scientific findings summarised in the IPCC's 5th Assessment Report of 2014, Working Group II. This research also models specific impacts, e.g. the North Sea coast is strongly threatened by storm surges due to rising sea levels, agriculture, and forestry in Eastern Europe (including Eastern Germany) by rising temperatures and lack of soil moisture. This report is extremely comprehensive and complete and can be viewed online by chapter

> https://www.eea.europa.eu/publications/climate-change-impacts-and-vulnerability-2016

It is therefore not attached.

In Germany, the already today unavoidable consequences of climate change, are processed centrally by the Federal Environment Agency, according to regions and sectors/industries:

> https://www.umweltbundesamt.de/themen/klima-energie/klimafolgen-anpassung/folgen-des-klimawandels/klimafolgen-deutschland

It is undisputed that already today Germany must adapt to the consequences of climate change at great cost in order to avoid deaths and extreme economic losses, for example through the loss of infrastructure.

Generally applies in this context in the words of the IPCC: "The climate-related risks to natural and human systems are higher than today with a global warming of 1.5°C, but lower than at 2°C (high confidence level).“ For illustration purposes, here is the graphic processing of the responsible federal ministry from the publication of the BMU, Klimaschutz in Zahlen, p. 11, Annex 5:

Abbildung 03: Gegenüberstellung ausgewählter Klimafolgen bei einem Anstieg der globalen Durchschnittstemperatur im Vergleich zum vorindustriellen Niveau um 1,5 °C und 2 °C

Bereich	Folgen		Temperaturanstieg um 1,5 °C	Temperaturanstieg um 2 °C
Süßwasser	Dürre	Zusätzliche Stadtbewohner, die schwerer Dürre ausgesetzt sind	Etwa 350 ± 159 Mio.	Etwa 411 ± 214 Mio.
	Hochwasser	Zunahme der von Flusshochwasser betroffenen Bevölkerung (Vergleich zu 1976 bis 2005)	100 %	170 %
Terrestrische Ökosysteme	Verlust an Biodiversität	Insekten, die mehr als die Hälfte ihres Lebensraums verlieren (Anteil)	Etwa 6 %	Etwa 18 %
		Pflanzen, die mehr als die Hälfte ihres Lebensraums verlieren (Anteil)	Etwa 8 %	Etwa 16 %
		Wirbeltiere, die mehr als die Hälfte ihres Lebensraums verlieren (Anteil)	Etwa 4 %	Etwa 8 %
Ozeane	Meeresspiegelanstieg	Anstieg bis 2100	Um bis zu etwa 1 m*	Um etwa 10 cm höher als bei 1,5 °C*
	Meereisfreie arktische Sommer	Häufigkeit	Etwa alle 100 Jahre	Etwa alle zehn Jahre
	Verlust an tropischen Korallenriffen	Verlorener Anteil	70–90 %	> 99 %
	Sinkende Fischbestände	Rückgang der jährlichen Meeresfischereierträge	Etwa 1,5 Mio. t	> 3 Mio. t
Küstengebiete	Folgen von Meeresspiegelanstieg und zunehmenden Stürmen	Betroffene Anzahl an Menschen (ohne Schutzmaßnahmen)	Etwa 128–143 Mio.	Etwa 141–151 Mio.
		Betroffene Anzahl an Menschen (mit Schutzmaßnahmen von 1995)	Jährlich etwa 2–28 Mio.	Jährlich etwa 15–52 Mio.

* Die Instabilität der polaren Eisschilde könnte außerdem einen Meeresspiegelanstieg um mehrere Meter über einen Zeitraum von hunderten bis tausenden Jahren zur Folge haben.

Quelle: Eigene Darstellung nach IPCC-Sonderbericht über 1,5 °C globale Erwärmung

According to the current IPCC special reports on 1.5°C and on oceans and the cryosphere, it is also still unclear whether permafrost regions (which are already melting to a considerable extent) also release methane into the environment. However, this possibility also increases with increasing temperatures.

From the point of view of limiting the damage and threats that are already occurring today, it is obviously necessary to limit the rise in temperature as much as possible - life and limb are at stake to an unimaginable extent, yet already at a warming of only 1.5°C.

This is also the view of the international community if the expert dialogue established 2012 in preparation for the Paris Agreement is taken seriously. The 2015

report (prepared by the UNFCCC Secretariat) states succinctly that the 2°C target is only a "*defence line*" and that temperatures must be kept as low as possible.[12]

bb) The generation problem of further rising temperatures

Germany has a population of about 83 million people, 18% of whom are under 19 years old. An average 15-year-old German citizen is expected to live to the age of 90. These demographic estimates can be linked with the projections of the rise in global mean temperature.

According to the best estimate of the future temperature trend based on the Climate Action Tracker (see above, i.e. assuming the policies presented so far, including those of the Federal Republic of Germany), the global mean temperature will exceed 1.5°C in 2035, 2°C in 2055 and 3°C in 2100. Nearly all children and young people, including the victims of this process, therefore have a very high probability of experiencing a 2°C warmer world and the associated effects, and some of them will experience even greater warming.

As early as 2015, a UNICEF report centrally described the consequences of climate change for children and young people[13] and drew attention to the fact that in Europe, too, sea-level rise, increased intensity and frequency of extreme weather events, water shortages, and extreme heat events with health consequences will affect children and young people above all - especially because the consequences of climate change will continue to worsen during their lifetime. At least in the global South, these consequences of climate change will lead to considerable further conflicts over water, food and habitats, which can decisively destabilise the living conditions of the entire generation. Children with chronic health problems, children living in poverty and without adequate food, water or sanitation are at particularly high risk.

Any increase in global temperature (e.g. +0.5°C) will above all have negative impacts on human health - this is undisputed in the scientific literature following the IPCC Special Report on 1.5°C (Annex 3). Climate change is already today leading to health risks and damages, among other things, which will multiply accordingly in the lifetime of the complainant. Climate change will considerably

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12 Report on the Structured Expert Dialogue on the 2013-2015 review, available in English language at: https://unfccc.int/topics/science/workstreams/periodic-review/the-structured-expert-dialogue-the-2013-2015-review. (last visited 20.01.2020).

13 Unicef, Unless we act now, The impact of climate change on children, 2015; www.unicef.org, (last visited 20.01.2020).

increase the risk that their lives will be concretely shortened accordingly. The costs of climate change and the rise in sea levels will also affect the complainants and their generation most:

(1) Heat waves
Each of the last three decades has been successively warmer than all previous decades in Germany. The first decade of the 21st century was recorded as the warmest. The heat waves are becoming increasingly frequent in Europe and Germany. June 2019 was the warmest June in Germany since weather records began.

The following figure shows the change in the frequency of European climate extremes at different stages of global warming.

			Likelihood of similar event per year			
EVENT	CONTEXT, IMPACT	VARIABLE	NATURAL	CURRENT	1.5°C	2°C
Europe 2016	Hottest year on record	T	0% (0%)	27% (17-37%)	52% (42-63%)	88% (83-92%)

This shows the change in the frequency of European climate extremes at different degrees of warming[14].

The probability of reaching similar temperatures in a given year as during the 2016 heat wave is shown for a natural world, a 1.5°C world and a 2°C world. In a 2°C warmer world summer heat waves are 88% more likely, and already at 1.5°C it is twice as likely. The figure thus shows that with a global temperature increase of 2°C, Europe will experience temperatures in nine out of ten summers (June) that are similar to those in 2016. The correlation to the hot summer of 2018 would be similar. The complainants will spend half of their lives in a 1.5°C or warmer world, and they will not only experience heat extremes more frequently, but also such that have never been seen before in Germany.

Heat waves lead to an increased burden of disease, especially of pulmonary and cardiovascular diseases, and to increased mortality rates. In 2003, for example, an estimated 50,000 to 70,000 additional people died during the summer heat waves in twelve European countries, which can still be regarded as one of the biggest European "natural disasters" to date. This heatwave was the first extreme

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14 Taken from: *King /Karoly*, Climate extremes in Europe at 1.5 and 2 degrees of global warming, Environmental Research Letters, Volume 12, Number 11. (2017).

event for which a scientific attribution study was conducted. This study came to the conclusion that without the anthropogenic climate change this heat wave would have occurred only very improbably.[15] In other words: climate change increases the probability of such events by several orders of magnitude.

Climate change increases the risk of conditions that exceed the human thermoregulatory capacity. Numerous studies prove the increased mortality rate associated with extreme heat events. Heat waves in Europe have significantly increased in frequency and intensity over the last decades. In the context of climate change, the number of heat waves will continue to increase. It is expected that the number of heat-related deaths will therefore also continue to rise[16] and thus also the risk for the complainants.

The heat waves in Europe in the years 2003, 2017 and 2018 will not remain isolated cases. In her book "*Angry Weather - In Search of the Guilty for Heat Waves, Floods and Storms* (2019)", the insofar leading scientist and IPCC contributor Prof. Friederike Otto writes vividly: "Heat waves will become the summer normality.

Mortality was particularly high in Baden-Württemberg during the 2003 heat wave. *Koppe* and *Jendritzky* show clearly increased mortality rates in direct dependence of such heat waves.[17]

However, not only the basin and valley areas of southern Germany are affected. In West and North Germany, too, increased mortality rates are recorded during heat waves. In large cities such as Berlin or Hamburg, the mortality rate of people during intensive heatwaves has been shown to increase.

Respiratory system diseases show the strongest effects of heat stress besides cardiovascular diseases and the entirety of all diseases.[18] The influence of weather extremes on the event rates of vulnerable patient groups has already been proven.

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[15] *Stott et.al.*Human contribution to the European heatwave of 2003. *Nature* 2004, 432:610–614.

[16] *Muthers/ Matzarakis* (2018) Hitzewellen in Deutschland und Europa. In: Lozán JL, Graßl H, Breckle S-W (Hrsg) Warnsignal Klima. Extremereignisse: wissenschaftliche Fakten.

[17] *Koppe /Jendritzky* (2005) Inclusion of short-term adaptation to thermal stresses in a heat load warning procedure. Metereologische Zeitschrift 14(2):271–278. doi:10.1127/0941-2948/2005/0030.

[18] *Scherber* (2014) Auswirkungen von Wärme- und Luftschadstoffbelastungen auf vollstationäre Patientenaufnahmen und Sterbefälle im Krankenhaus während Sommermonaten in Berlin und Brandenburg. dissertation, Humboldt-University Berlin.

Clinical studies have shown that patients with COPD (chronic obstructive pulmonary disease) are very strongly affected by heat stress.[19]

(2) Allergies
The WHO estimates the number of people suffering from allergies worldwide at 30-40% of the total population. In Germany, according to a study by the Robert Koch Institute, 30% of the population is affected by allergies, with 14.8% of the population suffering from hay fever. Allergic diseases are one of the biggest health problems in many countries of the world; their prevalence has also increased dramatically over the last 50 years. Besides cardiovascular and infectious diseases, it is mainly allergies as an effect of climate change that impair the health of affected individuals.[20]

Due to climate change, climate zones and seasonal rhythms have shifted. The rise in temperature and the associated increased CO_2 concentration also affect plant growth, which leads to a longer pollination period in the northern hemisphere and to the appearance of neophytes[21] with allergenic properties in central Europe.[22] This leads to a change in pollen season, pollen quantity and pollen allergenicity, and also promotes the spread of invasive species.[23] The following factors associated with climate change thus influence the development of allergies:

- **longer pollen season:** Due to the milder weather in spring, the pollen season starts noticeably earlier already today. A Europe-wide study shows that spring periods are on average about 2 weeks earlier. An extension of the pollen season is observed especially for grasses.
- **invasive species:** The thermophilic species Ambrosia artemisiifolia L. (ragweed) grows in Germany, especially in the Rhine valley, southern Hesse, eastern Bavaria, Berlin and Brandenburg, and is likely to spread further as temperatures rise. In some parts of Europe (and Germany) ragweed produces about 50% of the total pollen production. Only 30 years ago ragweed was extremely rare, but nowadays it is a common

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[19] *Scherber et. al*. (2014) Spatial analysis of hospital admissions for respiratory diseases during summer months in Berlin taking bioclimatic and socio-economic aspects into account. Die Erde (144, 3-4):217–237. doi:10.12854/erde 144.

[20] *Behrendt /Ring* (2012). Climate change, environment and allergy. Chemical Immunology and Allergy, 96, 7-14.

[21] Plants that are established in areas where they were previously not indigenous

[22] *Behrendt/Ring*, op. cit.

[23] Cif. *Brasseur et. al.* (ed.) (2017) Klimawandel in Deutschland. Entwicklung, Folgen, Risiken und Perspektiven. Springer Spektrum, Berlin.

threat, especially in the Rhine Valley and in Bavaria.[24] In Germany today, 1-2 million people are already affected by ragweed allergy, but since it is not a standard allergen, it is not tested in routine allergy practice.[25] Based on the experiences in other countries and against the background described above, a serious health hazard can also be assumed in Germany, should the mugwort ambrosia spread more frequently.[26] Mugwort ambrosis is particularly harmful to public health because each plant produces a large amount of pollen (< 1 billion grains per year) and its allergenic potential is high.[27] The allergy can cause severe hay fever symptoms, allergic asthma and allergic skin reactions. In March 2015, the EU published the highest alert level for the spread of mugwort ambrosis.[28] In doing so, they draw attention to the fact that the emergency for allergy sufferers could aggravate and new symptoms could arise.

Nevertheless, the consequences of climate change will not be limited to ragweed. A recent study shows that other pollen-producing species are also being favoured by climate change.[29]

- **Pollen quantity and allergenicity:** A general increase in the total pollen quantity is observed in Germany. The increase in pollen quantity over the past decades - especially in cities - is a factor that can also lead to more frequent, more severe allergic diseases and new sensitizations. Both the increase in temperature and an elevated atmospheric CO_2 concentration are considered to be the cause of the rising pollen allergenicity. European studies have shown that the main allergen of birch (Bet v 1) is increasingly formed at higher temperatures. In view of the ragweed pollen concentration and the extended pollen season, it is predicted that affected persons will experience much more severe symptoms.[30]

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[24] *Behrendt/Ring*, op. cit.

[25] *Behrendt/Ring*, op. cit.

[26] *Beate/Stefan* (2008) Ausbreitung der Beifuß-Ambrosie in Deutschland – zunehmende Gefahr für die Gesundheit? In: Lozàn JL, Maier WA (ed.) Warnsignale Klima. Gesundheitsrisiken: Gefahren für Menschen, Tiere und Pflanzen. Wiss. Auswertungen, Hamburg.

[27] *Lake, et.al.*. (2018). Climate Change and Future Pollen Allergy in Europe. *Environmental Health Perspectives*, *126*(7), 079002.

[28] https://ec.europa.eu/programmes/horizon2020/en/news/red-alert-ragweed-allergy (visited 17.01.2020)

[29] *Lake et al.,* op. cit.

[30] *Lake et a*l. op. cit.

> Allergic diseases also affect the economy of a country and the European Union. In 2007, the total cost of allergic diseases for the European Union was estimated at between 55 and 151 billion euros.[31]

(3) Asthma

The health impacts of climate change also include an increase in the prevalence of allergic respiratory diseases, the worsening of chronic obstructive pulmonary disease, premature mortality, and a decline in lung function.[32]

Allergic asthma symptoms can be caused by pollen in combination with air pollutants.

Both changes in the weather and changes in the long-term climate have a negative effect on patients with allergic asthma.[33] In addition, climate change favours the migration and spread of allergenic neophytes, whose pollen causes an allergic reaction and asthma.[34] Ambient air temperature is most likely related to the recurrence and hospitalization of asthmatic patients. The ragweed described above blooms in late summer and thus prolongs the time of complaint for people with asthma.

Besides the possible effects outdoors, there are also concerns about indoor mould growth in combination with rising humidity, especially after extreme storms or floods. Although an allergy to mould is rare, it has been shown that asthma and respiratory problems are 30-50% more prevalent in damp houses.[35] For example, in the United States, the catastrophic flooding caused by Hurricane Katrina has resulted in a high rate of microbial and mold growth, with adverse effects on respiratory health.[36]

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[31] *Lake et al.,* op. cit.

[32] *D'Amato* et. al. (2015) Effects on asthma and respiratory allergy of Climate change and air pollution. Multidiscip Respir Med 10:39. doi:10.1186/s40248-015-0036-.

[33] *Poole et. al*. (2019). Impact of weather and climate change with indoor and outdoor air quality in asthma: A Work Group Report of the AAAAI Environmental Exposure and Respiratory Health Committee. *Journal of Allergy and Clinical Immunology*, *143*(5), 1702–1710.

[34] *Bunz/Mücke* (2017). Klimawandel – physische und psychische Folgen. *Bundesgesundheitsblatt - Gesundheitsforschung - Gesundheitsschutz*, *60*(6), 632–639.

[35] *Cecchi et. al.* (2010). Projections of the effects of climate change on allergic asthma: The contribution of aerobiology. *Allergy: European Journal of Allergy and Clinical Immunology*, *65*(9), 1073–1081.

[36] *Poole et al.,* op. cit.

Air pollution can also increase the frequency of emergency room visits and hospital stays for asthma patients, increase the incidence and development of asthma and promote the development of pollen allergy.[37]

Ambient air temperature is most probably related to the recurrence and hospitalisation of asthmatic patients. The results of some studies have shown that extremely hot and cold temperatures increase the incidence of asthma in children.[38]

(4) Novel diseases

With regards to the health impacts of climate change the focus is mostly put on infectious diseases, however climate change can also affect non-infectious diseases. For example, storm or flood disasters can lead to psychological trauma.[39]

The complainants will experience tropical and new diseases in Germany, which may or may not be medically combatable.

Climatic factors can strongly influence the population size of insects, arthropods, rodents or birds, which could increase vector-borne infectious diseases such as yellow fever, dengue fever and malaria.[40] The survival of the relevant vectors and/or pathogens in Germany is made possible by climate change. In Central Europe, more than 800 new plant species and over 1000 new animal species, especially insects, have been observed in the last 30 years.[41] Mild winters and an associated increase in food supply could lead to growing rodent populations. This in turn could trigger epidemics such as the hantavirus epidemic, which can cause severe lung diseases, acute renal failure, or febrile illnesses.[42]

In general, anthropogenic warming will create better conditions for hitherto non-native vectors and pathogens and thus bring new dangers to Germany. One example for that is the Asian tiger mosquito, which has established itself in Europe over the last three decades as a result of a warmer climate - it transmits dengue

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[37] *Poole et al.,* op. cit.

[38] *Khanjani* (2019) The Relation between Ambient Temperature and Asthma Exacerbation in Children: A Systematic Review. J Lung Health Dis:1–9

[39] *Stark et al.* (2009). Die Auswirkungen des Klimawandels : Welche neuen Infektionskrankheiten und gesundheitlichen Probleme sind zu erwarten? *Bundesgesundheitsblatt - Gesundheitsforschung - Gesundheitsschutz*, *52*(7), 699–714.

[40] *Stark et al.,* op. cit.

[41] *Behrendt/Ring*, op. cit.

[42] *Stark et. al.* (2009). Die Auswirkungen des Klimawandels : Welche neuen Infektionskrankheiten und gesundheitlichen Probleme sind zu erwarten? *Bundesgesundheitsblatt - Gesundheitsforschung - Gesundheitsschutz*, *52*(7), 699–714.

fever, among other things.[43] Due to the rapid spread of the tiger mosquito, Germany is exposed to a new risk of an epidemic. Here, too, the risk increases with increasing warming, for the complainants as well as for their entire generation.

(5) Increased risk of skin cancer

Little attention has so far been paid to the increased harmful UV radiation due to the changed density ratios in the atmosphere and the ozone-damaging greenhouse gases, even if considerable uncertainties in the prognosis still prevail:

To this Prof. Augustin et. al.[44] point out:

> Kelfkens et al (2002) have modelled the changed skin cancer incidence under climate change for Europe. The results show that the additional skin cancer cases in Central Europe caused by climate change will continue to increase for several decades. Norval et al. (2011) forecast an increase in cataracts in the United States of America of 1.3-6.9% by 2050.

Overall, the health and life-shortening effects of climate change on the generation of the complainants are undisputed. The Federal Government/States Ad-hoc Working Group on "Health Adaptation to the Consequences of Climate Change (GAK)" of the Robert Koch Institute recommends the development of heat action plans[45] to protect human health and issues recommendations for action for risk groups requiring special attention, including people with chronic diseases such as asthma.

(6) Global political instability

It is further undisputed, based on the research evaluated by the IPCC, that climate change is and will be a major cause of poverty and global inequalities, primarily due to too little water on the one hand and (destructively) too much water in the event of flooding etc. According to the general scientific data and forecasts and also according to the IPCC's assessment, this will lead to armed conflicts and further geopolitical destabilisation in general - at the expense of the complainants.

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[43] *Ingendahl/Thieme* (2009). Gesundheitliche Effekte des Klimawandels. Aufklärung und Bewusstseinsbildung als wesentlicher Bestandteil von Anpassungsmaßnahmen. *Klimawandel Und Gesundheit*, 5–7.

[44] *Augustin et.al*., Chapter 14 - Gesundheit, in: Brasseur/ Jacob /Schuck-Zöller (Hrsg.) Klimawandel in Deutschland, Springer 2017.

[45] Robert Koch Institut (2017) Handlungsempfehlungen für die Erstellung von Hitzeaktionsplänen zum Schutz der menschlichen Gesundheit. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz 60(6):662–672. doi:10.1007/s00103-017-2554-5.

(7) Sea-level rise
The complainants will experience rising sea levels and extreme events such as storm surges that will exceed the current safe dike heights. Whether these can be safely adapted everywhere in Germany is uncertain. There is especially no more time, if further generations are involved. For instance, with regard to the global rise in sea levels, a five-year delay in reaching the peak of global CO_2 emissions will lead to an additional sea-level rise of about 20 cm - in the long term the end for a large part of humanity living in the vicinity of coastlines. This is currently summarized in the IPCC report on oceans and the cryosphere.

The consequences for the complainants and their home are described in Annexes 29 and 32.

(8) Costs
Eventually, the generation of the complainants is the one who will have to pay for the consequences of climate change globally, but also concretely in Germany, not only regarding the health, but also in terms of the national economy.

Determining the costs and assessing the economic effects of climate change are very complex - not only because of the time element. However, since the so-called *Stern Report* of 2007[46] (which for the first time made it scientifically clear that investments in climate protection make economic sense as the costs of climate change will be much higher), there are considerable numbers of model-based estimates which, for example, show damage as a proportion of gross domestic product or in absolute figures at a specific point in time[47].

The Federal Environment Agency (UBA) currently estimates the overall economic costs of a tonne of CO_2 globally at 180 €/t.[48] Converted to Germany's greenhouse gas emissions in 2018 alone (865.6 million tonnes of CO_2), this corresponds to total costs of around 155.8 billion euros - in one year and without taking into account previous or subsequent years. As a comparison, the federal budget for 2018 was 343.6 billion

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[46] *Stern*, The Economics of Climate Change, Cambridge University Press, 2007.

[47] Cf. Comprehensively for Germany: *Klepper et.al.*, 25. Kosten des Klimawandels und Auswirkungen auf die Wirtschaft, in: Brasseur/ Jacob /Schuck-Zöller (Hrsg.) Klimawandel in Deutschland, Springer 2017

[48] „Methodenkonvention 3.0 zur Ermittlung von Umweltkosten“ of 2018, available at www.umweltbundesamt.de

These costs will not entirely occur in Germany, but above all they will not be "paid" today and by the polluters of the past, but by future generations of taxpayers, and this because "damage caused by climate change is intergenerational damage", cf. excerpt from the UBA Methodological Convention,

Annex 10

However, it is undisputed that the costs of climate change will rise to the extent that the effects of climate change are increasingly stronger. So while the (alleged) costs of investing in climate protection are being weighed politically today, this is not the case for the rising economic costs of climate change, e.g. due to infrastructure damage, land abandonment, costs of refugee assistance, etc.

In the view of the complainants, this is comparable to taking out a loan for the future, which will have an impact on the guarantee of their basic rights, but which has not been taken into account by the legislator.

(9) Tipping Points
Beyond the effects predicted here, it must be taken into account for the basic rights of the complainants that with rising global temperatures also the risk of globally irreversible and highly destructive consequences threatens - if this occurs, people will no longer be able to take effective avoidance measures according to the current state of knowledge. They - especially the generation of the complainants - become objects instead of acting subjects. This can already be seen strikingly in Annex 6.

Both the 5th IPCC Assessment Report and SR1.5 deal with these so-called "*tipping points*" (which were already part of the IPCC's analysis in the 4th Assessment Report of 2007), at which major and irreversible changes in the Earth system are triggered, such as the destabilisation of the West Antarctic ice sheet, the complete destruction of coral reefs and the major change in the Gulf Stream system.

The interrelationships are summarized on the website of the Potsdam Institute for Climate Impact Research as follows:

> “Tipping elements are components of the Earth system of supra-regional size that exhibit threshold behaviour with respect to the background climate. This means that they, as long as they operate close to a threshold value, can be brought into a qualitatively new state by even small external

> disturbances. In comparison with the human body, organs could be described as tipping elements. These drastically change their usual way of functioning or even stop functioning as soon as certain conditions, such as oxygen supply, are no longer sufficiently fulfilled.
>
> The threshold behaviour in the Earth system is often based on self-reinforcing processes which - once triggered - continue to function without any further external influence. As a result, the new state of a tipping element may be maintained even if the background climate falls below the threshold value again. The transition after exceeding a system-specific tipping point can be abrupt, but also gradual. Its environmental effects are far-reaching and could endanger the livelihoods of many millions of people."

The breaching of the "tipping points" becomes considerably more probable with increasing warming, as clearly states the IPCC statement in the SR 1.5 Report, Annex 3.

This is summarized in a recent publication by the head of the Potsdam Institute for Climate Impact Research, Prof. Rockström, together with the probably best known climate scientist in Germany, Prof. Rahmstorf, in the scientific magazine Nature with the title "Climate tipping points - too risky to bet against",

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It is said there:

> "If damaging tipping cascades can occur and a global tipping point cannot be ruled out, then this is an existential threat to civilization.
>
> In our view, the evidence from *tipping points* alone suggests that we are in a state of planetary emergency: both the risk and urgency of the situation are acute … We argue that the intervention time left to prevent tipping could already have shrunk towards zero, whereas the reaction time to achieve net zero emissions is 30 years at best."

According to the probably most prominent German climate scientist, WBGU member and long-standing advisor to the German government (Prof. Dr. Hans Joachim Schellnhuber), it is therefore a question of 'every hundredth of a degree' of warming that must be avoided.

2. The CO_2 budget

For the complainants, it logically necessarily follows from the scientific issue that further GHG emissions should in any case be avoided as far as possible – only by this an effective protection of basic rights can be achieved at all.

This insight is reinforced by the findings on the greenhouse gas budget, which have been considerably consolidated in recent years:

a) Basics of the C02 budget

As already stated above as a quotation from the decision of the Dutch Supreme Court, the decisive factor for achieving protection levels or a temperature target such as "1.5 °C to well below 2 °C" of the Paris Agreement is the global limitation of the absolute amount of CO_2 and other greenhouse gases in the atmosphere. In fact, every temperature target is a global budget target: only a certain amount of greenhouse gases may be released by a defined date in order to achieve the temperature target.

In detail, there are scientific uncertainties as to what these absolute limits are and what actual reduction in absolute CO_2 quantities (globally and regionally) will be necessary to achieve the 1.5°C target or the 2°C target on which the German targets are still based. However, that is not decisive in the legal context of the present claim. What is decisive is that it is not only a question of time-defined targets, but also of the way to achieve them, the time dimension.

The complainants already reprimand in principle that the contested law makes no statements whatsoever on this or at least is based on them. The result of this is that, in case of doubt, there is no or no relevant budget left for the complainants even in their life cycle, they thus only have to cover for the costs of climate change, but cannot claim the right to emit greenhouse gases.

The following figure, taken from a WBGU publication (German Advisory Council on Global Change, WBGU, Zeitgerichtete Klimapolitik, Policy Paper 9, September 2018)

Annex 12

illustrates the budget and also explains the necessity of rapid action respectively the importance of the timing of the release of greenhouse gases for meeting the temperature targets:

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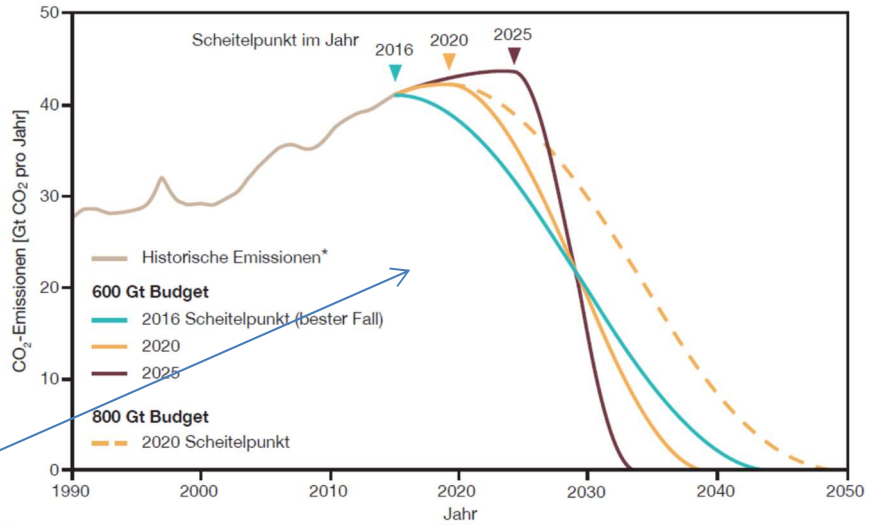

Abbildung 1
Zusammenhang zwischen dem Scheitelpunkt der globalen CO_2-Emissionen und der notwendigen Transformationsgeschwindigkeit. Das Ausmaß des Klimawandels hängt von den kumulierten CO_2-Emissionen ab. Je später also der Höchststand der Emissionen überschritten wird, desto schneller müssen die Emissionen anschließend sinken, um ein bestimmtes Klimaziel zu erreichen. Für die Begrenzung des Klimawandels auf 1,5–2 °C wird hier am Beispiel eines mittleren Emissionsbudgets von 600 Gt CO_2 gezeigt, wie sich eine Verschiebung des Scheitelpunkts auf die erforderliche Transformationsgeschwindigkeit auswirkt. Ein größeres Budget von 800 Gt CO_2 würde den Zeitraum, bis die Emissionen auf Null sinken müssen, um etwa 10 Jahre verlängern, geht aber mit einem höheren Risiko einher, die Klimaziele zu verfehlen.
Quelle: nach Figueres et al., 2017; *Daten des Global Carbon Project

It becomes clear: the areas below the curves (blue arrow) are important for compliance with temperature targets and thus for climate protection or the protection of specific legal interests (in this case the complainant's), and not just points on a time scale up to 2050 that define reduction targets (-20%, -40% etc.). It is about the reduction path to greenhouse gas neutrality.

The WBGU assumes (in 2018) a budget of 600 Gt or 800 Gt for the 2°C target.

The WBGU had already publicly and explicitly pointed out the interrelationships between climate protection targets and the budget approach in 2009 and called on the then Federal Government to create the relevant legal basis. The report at that time, which also took into account the international dimension of the distribution of the global budget ("cash box for the global climate treaty"), is attached here - as it is still fundamentally relevant - as

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The German Advisory Council on the Environment (Sachverständigenrat für Umweltfragen) has also clearly addressed this interrelationship several times, most recently in an open letter to the federal government

Annex 14.

b) Concrete calculations and breakdown

According to the IPCC Special Report on 1.5°C (Annex 3), the global CO_2 budget to meet the 1.5°C target from 2018 was 420 gigatons, in order to limit global warming to 1.5°C with the highest possible probability (66%) in this report, and 580 Gt. at a 50% probability (using the global mean air temperature near the ground).

Regarding the statements of probability, the following should be noted:

Over the years, the IPCC has translated scientific statements into statements of probability. A probability of more than 66% for a certain result is translated as "probable". A probability of 66% for a temperature increase is therefore the prognosis that it is probable that the "warming can be kept below x°C" if a certain greenhouse gas density in the atmosphere is reached with further emissions. The wording in the Paris Agreement is now "well below 2°C" and this can refer to the absolute temperature level or the certainty/probability of compliance.

The IPCC further states:

> "The uncertainties regarding the size of these estimated leaded CO_2 budgets are considerable and depend on several factors. Uncertainties regarding the climate response to CO_2 and non- CO_2 emissions contribute ±400 Gt CO_2 and the degree of historic warming ±250 Gt CO_2 (medium confidence). A potential additional release of carbon by future thawing of permafrost and methane release from wetlands would reduce the budgets by up to 100 Gt CO_2 during this century and beyond (medium confidence). Furthermore, the extent of future non- CO_2 reduction could reduce the remaining CO_2 budget by 250 Gt. CO_2 in both directions (medium confidence)."

This budget increases to 1085 Gt. CO_2 if the temperature increase is to be limited to 2.0°C with a 66% probability, or only 800 Gt. if the probability of compliance

is set at 80%. 800 Gt. would at the same time give about 33% certainty that the 1.5°C target can be met.[49]

These current figures and methods result from an expert opinion prepared in the course of the preparations for the 6th IPCC Assessment Report, which is attached in English (Constrain, The remaining carbon budget decadal warming rates, 2019)

Annex 15.

The IPCC specifies that the annual global CO_2 emissions in the special report of 1.5° C is at 42 gigatons (plus/minus 3 gigatons).[50] Using these and the IPCC figures quoted above, there is a 66% probability of meeting the 1.5°C target with a CO_2 budget of 336 gigatons CO_2:

Gigatons CO_2	
420	Remaining budget as of 01.01.2018
- 42	Yearly emissions 2018 (estimation according to IPCC)
- 42	Yearly emissions 2019 (estimation according to IPCC)
= 336	Remaining budget as of 01.01.2020

Depending on the calculation method and reduction path, this results in a global "emission space" remaining for 9-16 years for the 1.5°C target.

On this basis, the SRU (Annex 14) proposes a budget for Germany, assuming the same per capita emission rights. This approach leads to the following dimensions (also shown here for other temperature targets):

Maximum global warming	Global CO_2 budget as of 01.01.2020	CO_2 budget Germany as of 01.01.2020

[49] These figures are derived from Annex 15, but with the addition of 100 Gt CO_2 in each case. The Constrain Study has decided to deduct the uncertainty margin estimated by the IPCC with regard to emissions from permafrost soils directly from the budget, because it is certain that emissions are taking place, but there are considerable uncertainties regarding their extent.
[50] IPCC, SR1,5, summary, 2018, C.1.3 (Annex 3)

1,5 °C	336 gigatons[51] CO_2	3,465 gigatons CO_2[52]
1,75	736 gigatons CO_2	6,6 gigatons CO_2
2,0	1085 gigatons CO_2	9,652 gigatons CO_2

The VG Berlin

Annex 16

has pointed out the following in his judgement:

> "The question of the distribution of the global CO_2-residual budget is not a matter of descriptive natural science, but of a normative and ethical discourse on questions of justice and equity and the subject of an important political negotiation process. There is much to be said for at least an equal distribution of the remaining global CO_2 budget per capita of the world population."

The IPCC has repeatedly considered the options for sharing and evaluated the approaches, which recently increasingly refer to the provisions of Article 4 para. 3 of the Paris Agreement (shared and different responsibilities depending on national circumstances). These include the following benchmarks:

- the responsibility of a state in the form of its historical emissions,
- the ability/need of a state, i.e. the per capita GDP or the Human Development Index
- equal per capita CO_2 emission rights,
- Capacity, such as knowledge and capital for the implementation of transformation

The following diagram from Constrain, Annex 15, p. 7, is helpful for understanding the scientific and normative elements of the determination of a budget:

[51] 1 gigatonne (Gt) = 1 billion tons (t)

[52] In million tons: 3465 Mio t. CO_2

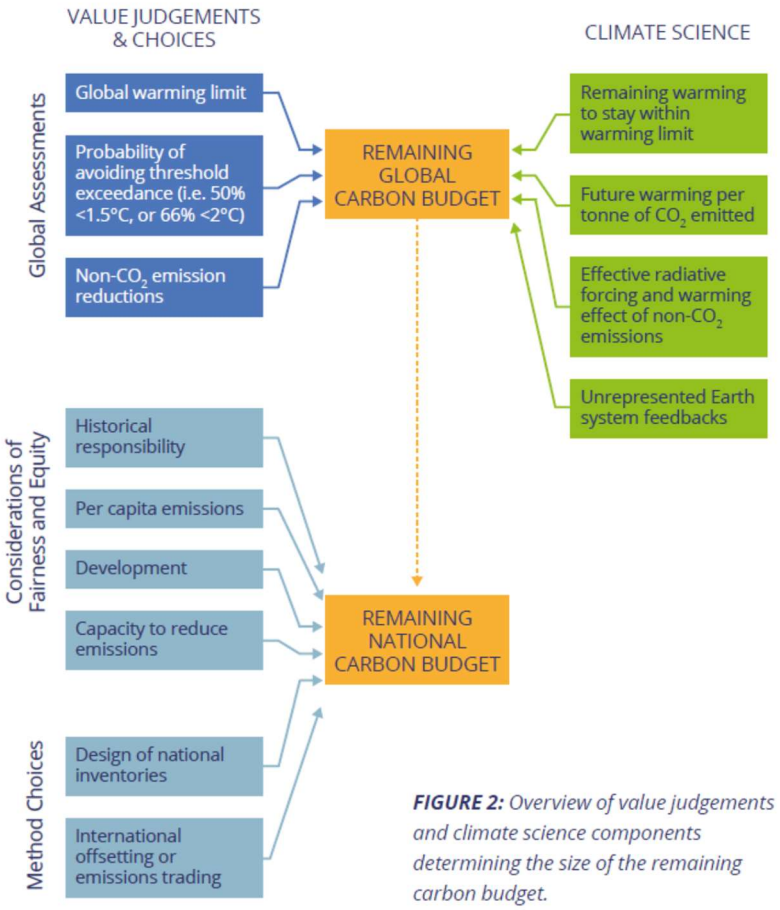

FIGURE 2: *Overview of value judgements and climate science components determining the size of the remaining carbon budget.*

In the action before the VG Berlin, the complainants there argued that, according to all distribution methods, a 40% reduction by 2020 represents the constitutional minimum with regard to the budget still globally available today in relation to the temperature targets. Similarly, can also subsumed here with regard to the total budget still available to Germany:

The distribution of the budget purely according to population share is a favourable view for the Federal Republic. According to this, the Federal Republic would still be entitled to 3.465 gigatons of CO_2 from the remaining CO_2 budget of 336 gigatons of CO_2 as of 1.1.2020. The reduction quota of at least 55 percent compared to 1990, as stipulated in section 3 para. 1 KSG, in conjunction with the annual emission quantities according to section 4 para. 1 in conjunction with Annex 2 KSG, means that this national budget will already be exhausted around

2025. This results from the mere addition of the permissible sector emission quantities in Annex 2[53], taking into account the necessary conversion factors.

Apart from that, the complainants expressly refer to the relevant detailed calculation in Annex 2 to the constitutional complaint Yi Yi Prue et. al., Ref. 1 BvR 78/20.[54]

If the historical emissions of the Federal Republic of Germany were also taken into account, the CO_2 budget of the Federal Republic of Germany would already have been used up, cf. a corresponding calculation in *Höhne et al*, Was Deutschland muss tun, 2019, III, online at https://newclimate.org/wp-content/uploads/2019/03/Deutschland_1.5_Web.pdf

Annex 17.

Even if it was relied on the per capita GDP or the Human Development Index, the Federal Republic could only claim a much smaller share of the remaining global CO_2 budget. Germany leads the Human Development Index and has an extremely high GDP, even in comparison to the G20. If the focus were to be on cost efficiency, i.e. the loss of prosperity through CO_2 savings, the Federal Republic could potentially claim a larger share. In the view of the complainants, however, this is not a legally suitable distribution criterion.

c) Negative Emissions or Climate Engineering

Is the budget actually final? In the scientific community, including in the latest IPCC reports, various technical options are discussed for increasing the remaining CO_2 budget. A distinction has to be made between the targeted removal of carbon dioxide from the atmosphere (Carbon Dioxide Removal - CDR) and an influence on the radiation balance (Solar Radiation Management - SRM).

There are various ways of removing carbon from the atmosphere (also known as carbon dioxide removal or “CDR”), including afforestation or reforestation, soil carbon sequestration, CO_2 storage after uptake of biomass or direct removal from the air, accelerated weathering of rocks and fertilization of the oceans. Most of

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[53] Assuming a linear reduction in the energy industry sector - where concrete figures are only given for 2020, 2022 and 2030 and after conversion of CO_2 equivalents.

[54] Deutsche Umwelthilfe (DUH), Berechnung des CO_2-Budgets auf Basis der geltenden Klimaziele der Bundesregierung, 7 November 2019, Annex 2.

the scenarios in the IPCC Special Report on 1.5°C envisage, in addition to reducing GHG emissions, some form of removal of carbon dioxide from the atmosphere in the second half of this century to reach the global temperature limit. The model calculations evaluated there are largely based on the coupling of bioenergy (BE) with CO_2 capture and storage technologies (CCS) for electricity or fuel production (BECCS). Plants absorb carbon; if they are burned to produce energy and the released carbon is captured, it can be stored in geological sites for the long term.

1.5°C-compatible reduction paths, which the IPCC evaluates, foresee negative emissions of a few percent up to 50% of today's global CO_2 emissions by 2100.

The German government has so far decided against the use of such technologies and processes. The future extraction of large quantities of greenhouse gases from the atmosphere is unlikely at present.

Moreover, Solar Radiation Management technologies already have no influence on the CO_2 concentration in the atmosphere, the cause of anthropogenic climate change, but are aimed solely at influencing individual consequences of climate change, in particular global warming. For this reason and because of their great risks, they are criticised by large parts of the scientific community, including the IPCC. Their widespread use currently also seems very unlikely.

Negative emissions (or at least CDR options) are thus already part of the IPCC's reduction pathways which, with a probability of 50-66%, can still meet the 1.5°C target - they do not increase the budget or the overall scope for action. They have therefore already been rejected by the highest court as an argument against necessary reductions in the *Urgenda* proceedings, see below.

III. Federal Climate Protection Act and National Climate Protection Programme

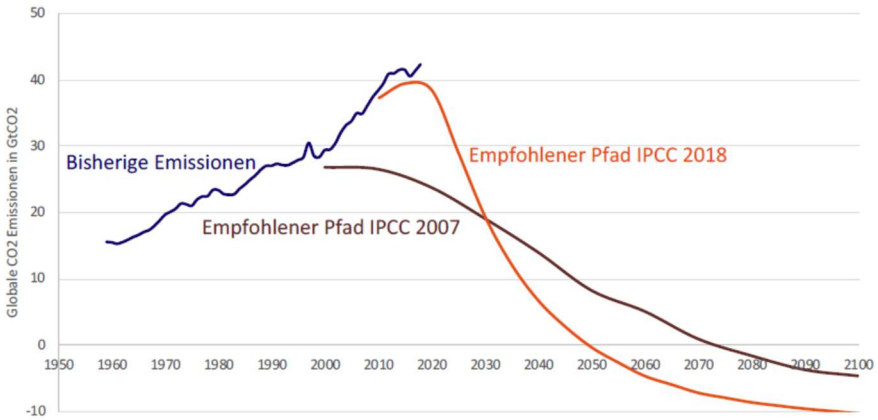
The core of this complaint is the question of whether the German legislator initiates and implements sufficient protection. The national climate protection goals have so far been based solely on decisions by the German government, and only since the cabinet decisions on the "Integrated Energy and Climate Programme (IEKP)" in 2007, which set the goal of reducing GHG emissions by 40 % by

2020 compared to 1990.[55] This was followed by EU-level commitments for 2020 (20%) and 2050 (80-95% reduction).

This was confirmed in the "Energy Concept 2020" and further climate protection targets were set. According to these, German GHG emissions were to be reduced by 55% by 2030, by 70% by 2040 and by 80-95% by 2050. These targets were repeatedly confirmed by the following government coalitions. In the Climate Protection Plan 2050, the German government for the first time also defined sector-specific reduction paths in 2016 (for the energy sector, buildings, transport, industry and agriculture).

This does not take into account the scientific interrelationships described above and the need to aim for 1.5°C instead of 2°C as the temperature target. The German targets are ultimately based on the EU specifications from 2009 and are thus based on the findings of the IPCC's 4th Assessment Report from 2007.

Moreover, a large part of the remaining global budget has been used up in the last 12 years. Global CO_2 emissions are now 45% higher than in 2000, which means that the global emission reduction paths examined by the IPCC in its Special Report (Annex 3) are now much steeper than at the time of the IPCC's Fourth Assessment Report (2007).



[55] This was the sole objective of the claim before the VG Berlin, judgment of 31 October 2019, VG 10 K 412.18 - not yet published in the Collection, above Annex 16.

This graph (courtesy of Prof. Niklas Höhne) illustrates how the emissions of the past years and thus the decreasing scope for action influence the necessary reduction level. "IPCC 2018" refers to the average of the reduction paths evaluated by the IPCC in the Special Report on 1.5°C (Annex 3), "IPCC 2007" the same for the time and state of knowledge at that time, i.e. in relation to a concentration level in the atmosphere that causes a global temperature increase of > 1.5°C to about 2°C. The red line "IPCC 2018" is below zero because of the negative emissions involved, see above II.2 c)

This connection is central to this complaint and to the understanding of the divergent objectives respectively deficient level of protection. The legislator has neglected precisely this connection and enacted an inherently contradictory law.

1. Statutory climate protection targets – KSG – subject of the complaint

With the adoption of the Federal Climate Protection Act (“Bundesklimaschutzgesetz” or short KSG), some of the Federal Government's climate protection goals mentioned above have been anchored in law.

Section 1 sentence 1 of the KSG states that the purpose of the Act is to ensure compliance with national and European climate protection targets. According to section 1 sentence 3 KSG, this is based on the Paris Agreement, i.e. "to limit the increase in the global average temperature to well below 2 degrees Celsius and, if possible, to 1.5 degrees Celsius“ and the "commitment of the Federal Republic of Germany [...] to pursue greenhouse gas neutrality by 2050 as a long-term goal":

Hereby the law at least indirectly reflects the facts described above, namely that any further rise in global temperatures is actively accepted, that millions of human lives are at risk, and that uncontrollable turning points in the climate system may be passed. The justification states that Germany is obliged to "contribute to the achievement of the 1.5 to 2-degree objective" (Annex 1, p. 19)

Section 3 of the KSG defines the 'national climate protection targets'. According to section 3 para. 1 KSG, a "reduction rate" of 55 % by the target year 2030 compared to 1990 applies. According to section 3 para. 2, these targets can also be achieved through purchases and acquisitions from other European or non-European countries. This means that the reductions are not necessarily tob e

achieved in Germany. Section 3 para. 3 of the KSG provides that the Federal Government shall take steps to increase the climate protection targets if this should become necessary to meet European or international climate protection targets. In accordance with the provisions of the Paris Agreement (Art. 4 para. 3), "climate protection targets may be increased but not lowered". For the period after 2030 a reduction path is not specified - this is to be determined by the Federal Government in 2025 as "annually decreasing emission quantities" by legislative decree (Section 4 para. 6).

Section 4 para. 1 sentence 3 KSG stipulates annual sector-specific annual emission quantities via Annex 2 ("The annual emission quantities for the period until 2030 are determined according to Annex 2.)

From this legislation follows the total German emissions budget from 2020 to 2030.

Anlage 2 – Zulässige Jahresemissionsmengen (zu § 4)

Jahresemissionsmenge in Mio. Tonnen CO_2-Äquivalent	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Energiewirtschaft	280		257								175
Industrie	186	182	177	172	168	163	158	154	149	145	140
Gebäude	118	113	108	103	99	94	89	84	80	75	70
Verkehr	150	145	139	134	128	123	117	112	106	101	95
Landwirtschaft	70	68	67	66	65	64	63	61	60	59	58
Abfallwirtschaft und Sonstiges	9	9	8	8	7	7	7	6	6	5	5

The law does not define how these objectives are to be achieved; to do so, the government must - as in the past - adopt programmes of measures and individual regulations.[56]

Section 8 KSG defines which measures are to be taken if the sector-specific reduction targets are exceeded. Accordingly, the responsible Federal Ministry

[56] *Scharlau et. al*., Das Bundes-Klimaschutzgesetz, NVwZ 2020, 1.

must submit an "emergency programme" to the Federal Government if the emission reduction targets are not met, which shall ensure that the annual emission levels for the following years are met. Under Section 8.2, the Federal Government may also "take into account the existing margins under the European Climate Protection Regulation and amend the annual emission quantities of the sectors pursuant to Section 4.5". In this way, missed reduction targets can be offset by purchasing emission allowances abroad in the EU (for the EU climate protection regime see IV). According to Section 4.3 KSG, the annual budgets for the following year are reduced if the annual emission levels are exceeded.

Section 9 defines climate protection programmes as a planning instrument for implementing the provisions of the climate protection plan and thus the climate protection targets. Section 10 contains requirements for reporting and projections with regard to the status of implementation. Section 11 establishes the "Expert Council" for climate issues, whose tasks under Section 12 are limited to the implementation forecast and do not include monitoring the appropriateness of the targets or the reduction path itself.

Subject of the complaint are exclusively the quantitative regulations of the Act and the target provisions, i.e. Sections 1, 3, 4 with Annex 2 and Section 7. The regulations on reporting and planning of implementation programmes are not attacked.

2. Missed climate protection target 2020

As pointed out above, the goal of reducing German greenhouse gas emissions by 40% by the end of 2020 compared to 1990, which has been postulated consistently since 2007 by cabinet resolutions (but not formally laid down in law due to the lack of a climate protection law), will be significantly missed; a reduction of only 32-35% will be achieved. There is no objective justification for this, it can only be found in the political sphere.

The basis for this goal was the so-called Meseberg resolutions or the Meseberg Climate Programme: "Key Points for an Integrated Energy and Climate Programme", which the Federal Cabinet adopted on 23/24 July 2007 (in Meseberg). This "Climate Protection Programme" with its "Programme of Legislation and Measures" with a "Parallel Foreign Energy Policy" covered all the relevant sectors (industry, transport, buildings and consumers) and comprised 29 fields of action, for each of which quantified CO_2 savings volumes were defined by 2020. On this basis, greenhouse gas emissions were to be reduced by at least 40% by 2020 compared to 1990.

In 2010, the Federal Cabinet expressly reaffirmed its commitment to the goal of reducing German greenhouse gas emissions by 40% by the end of 2020 compared to 1990, and adopted the so-called Energy Concept 2010 ("Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply, 28 September 2010") on 28 September 2010. With the cabinet decision of 3 December 2014, the new federal government also confirmed this goal and adopted the "Action Programme Climate Protection 2020" in order to be able to achieve the climate protection goal 2020 (Action Programme Climate Protection 2020, cabinet decision of 3 December 2014).

The target was then de facto abandoned in June 2018 in lack of willingness to implement it. The insofar operative Climate Protection Report 2017 (published in June 2018) did not contain any scenario or additional measures to still achieve the target. The VG Berlin has established that, on the basis of Annex 2 to the Federal Climate Protection Act, this target will not be reached until 2023 (cf. Annex 16).

However, the German Institute for Economic Research (DIW), on the basis of the measures presented so far (i.e. not the numerical target from Annex 2),

Annex 18

concludes that the reduction target will not be reached until 2025 at the earliest.

The DIW study examines the measures announced in September 2019 in the German government's "Climate Protection Program 2030". The authors calculate when the 2020 target will actually be reached, i.e. when Germany's annual CO_2 emissions are expected to be reduced to 750 million tonnes. With today's state, the CO_2 gap to this target will be around 85 million tonnes in 2020 and emissions will not fall to 750 million tonnes until 2025 at the earliest.

The 2020 target was based on the assumption that the reduction path runs roughly linear downwards. However, this has not been the case since 2010. Compared to a linear reduction, in the absence of a coherent reduction path, by the end of 2020 approx. 650 million tonnes of excessive CO_2 eq. will be emitted. According to the DIW calculation, in consequence an additional 800 million tonnes of CO_2 will be released into the atmosphere over the next decade between 2020 and 2030.

Since 2007, the German government and all coalition parties have declared the climate protection target for 2020 to be binding. Even if there was no legal basis

for it, it would thus have been expected that it would be maintained through legislation and other implementation measures. Possible measures to achieve it - at any point in time on the time scale since 2007 - were sufficiently available, and this was not disputed at any time, not even in the proceedings before the VG Berlin (Annex 16).

This submission is important for the complainants, not only because the complainants 2-8 were co- complainants in the court proceedings there, but because the issue shows that without sufficiently certain implementation measures, even the, here criticised as insufficient, climate protection objectives of § 4 in conjunction with Annex 2 of the KSG cannot be achieved.

In addition, the legislator wanted to ensure that the fulfilment of the climate objectives and thus sectoral objectives would remain non-verifiable, cf. Section 4.2 KSG. Insofar there is no significant difference between the target for 2020, which has been set since 2007, and the target for 2030, which is now laid down in the Act, especially since the failure to meet the target between 2013 and 2020 has incurred and will incur considerable costs due to the European burden-sharing decision, see below in this regard.

3. Climate Protection Plan 2050

With a cabinet resolution of 14 November 2016, the "Climate Protection Plan 2050 - Climate Protection Policy Principles and Targets of the Federal Government"

Annex 19

was adopted. This describes the climate protection policy principles and goals of the German Federal Government, but - as the KSG - does not contain any measures itself, but only targets: 40% for 2020, 55% for 2030 and 70% for 2040, as well as an 85% reduction in 2050, in each case compared to 1990.

As described above, the Federal Government's Climate Protection Plan 2050 is orientated along targets that no longer correspond to scientific findings.

The KSG at issue here includes the plan in the regulatory context; according to Section 2 No. 7, it is the long-term strategy under the EU Governance Regulation (EU 2018/1999), but it must be distinguished from the climate protection

programmes standardised in the KSG, and is not one of the control mechanisms[57].

4. Climate Protection Programme 2030

According to the projection report of the Federal Government on the basis of the measures adopted by 31 August 2018, it was obvious that the 55% savings target could not be achieved. Since 2014, the projection report[58] is the main instrument for analysing the measures of the climate protection programmes on the basis of the EU Regulation (EU) No. 525/2013[59] and analyses all climate and energy policy measures adopted by 31 August with regard to their effects on the development of GHG emissions in Germany. The projection report also contains predicted savings potentials for individual measures. According to this, emissions of 730 million tonnes of CO_2e are still expected for 2030. In order to achieve the 55% target for 2030, however, only 563 million tonnes of CO_2e would be allowed to be emitted.

On 20 September 2019, the Federal Government adopted "Key Points for the Climate Protection Programme 2030", which have in the meantime been specified in the Federal Government's resolution of 09.10.2019 as "Climate Protection Programme 2030 for the Implementation of the Climate Protection Plan 2050“

Annex 20

The climate protection programme 2030 provides, among other thing, the introduction of a CO_2 pricing system for transport and buildings, the phasing out of

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57 *Scharlau et. al.,* Das Bundes-Klimaschutzgesetz, NVwZ 2020, 1/3.

58 Available at: https://www.bmu.de/download/projektionsbericht-der-bundesregierung-2019/ (last visited on 20.01.2020).

59 Under this Regulation, the Member States of the European Union are required to produce a two-yearly estimate of how their respective greenhouse gas emissions are expected to develop over the next 20 or so years or so. The German report is based on the so-called "Mit-Maßnahmen-Szenario (MMS)" for the development of greenhouse gas emissions in Germany for the period 2020 to 2035. The climate protection programme for 2030 would have to be depicted in the so-called "Mit-Weiteren-Maßnahmen-Szenario (MWMS)", which has not been modelled. For example: "Since the results of the Commission for Growth, Structural Change and Employment were only available after the MMS was completed and have not yet been converted into adopted instruments, they are not part of the MMS. (Projection Report 2019, p. 152).

coal and the expansion of renewable energies, the promotion of building renovation, electromobility and cheaper train tickets. The measures are partly implemented in legislation:

- Act on National Certificate Trading for Fuel Emissions, Federal Law Gazette Part I, 2728 of 12.12.2019
- Act on the Implementation of the Climate Protection Programme 2030 in Tax Law, Federal Law Gazette Part I, 2886 of 21.12.2019
- Act on further fiscal incentives for electric mobility and on the amendment of further fiscal regulations, Federal Law Gazette Part I, 2451 of 12.12.2019
- Act amending the Air Traffic Tax Act, BGBl Part I, 2492 of 12.12.2019

There is still no Coal Exit Act to implement the decisions of the Commission on Growth, Structural Change and Employment (WSB), the so-called Coal Commission, which has already been included in Annex 2 to Section 4 of the KSG in the energy sector. A political agreement was reached on 15.01.2019, a law was adopted by the Federal Cabinet on 29.01.2020,[60] but has not yet passed the German Bundestag. According to this, the decision of the coal commission for hard coal on the one hand and brown coal on the other hand will be implemented by law. For lignite-fired power plants a decommissioning path will be contractually defined, Sections 42 ff. of the draft law, for hard-coal-fired power plants a tendering model will be created similar to that of the EEG (Sections 10 ff).

The legislative procedure is expected to be completed together with the so-called Structural Strengthening Act Coal Regions.[61]

What specific contribution the respective laws and other individual measures will make to reducing emissions remains completely open. Neither the Climate Protection Programme 2030 nor the justifications for the various laws contain figures or prognosis bases on the savings potential of the measures or the long-

[60] Act on the reduction and termination of coal-fired power generation and on the amendment of other laws (Coal Exit Act).Draft law of the Federal Government, 31.01.2020 - BR-Drucksache 51/20.

[61] The draft law is available in Bundestags Drs. 400/19 (DIP Id. 19-252514)

term reduction path. Although these were still available in the unofficial original version of the Climate Protection Programme 2030, the figures were deleted before the official publication.[62] The selection of measures is not traceable or verifiable. Apart from the quantity structure of the KSG legally provided in Annex 2, an actual reduction path is not available, coherent or verifiable.[63]

5. Feasibility of additional measures

Climate protection is feasible and even cost-effective across generations. This is true for the past - it could thus have been acted much more consistently for decades - but also for the future.

Various studies show that and how much more ambitious climate protection goals can be implemented in Germany without this leading to serious disadvantages but in contrary even to advantages for industry or society.

a) RESCUE study

The current RESCUE study[64] by the Federal Environment Agency, for example, shows how a reduction rate of 70% (compared to 1990) can be achieved by 2030. This is a concrete scenario assuming various political and legislative measures.

Annex 21

According to this, greenhouse gas emissions can be reduced by 95% to 97% by 2050 compared to 1990. In conjunction with sustainable agriculture and forestry management, net zero emissions can be achieved.

According to the study, the implementation of such a reduction path requires considerable efforts, while it is not based on unrealistic assumptions. For example, low remaining greenhouse gas emissions are assumed in all industrial sectors (p. 73), with a comparatively low consumption of primary raw materials but a high level of technology and prosperity. Incidentally, this study also comes to the following conclusion:

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[62] ARD Tagesschau, Klimaschutzprogramm vorerst ohne Zahlen, 27 September 2019, online at https://www.tagesschau.de/inland/klimapaket-zahlen-101.html.

[63] So too in the result *Schwarze*, Das Klimapaket der Bundesregierung: Außen hui innen pfui?, ZUR 2019, 641.

[64] *Purr et al,* Wege in eine ressourcenschonende Treibhausgasneutralität, RESCUE-Studie, Climate Change 36/2019, p. 417 RESCUE study, Climate Change 36/2019.

> "For a development of Germany, that follows the Paris Climate Agreement, national greenhouse gas emissions must be reduced by at least 70 % by 2030 compared with 1990 levels".

At the level of measures, the RESCUE study proposes a phase-out of coal-fired power generation by 2030 and a complete phase-out of coal use (including heat and raw materials in industry) by 2040 at the latest.

The study "Energy Transition in Europe - Across Power, Heat, Transport and Desalination Sectors" shows in this context, that a sustainable energy system would be more cost-effective than the existing system, which is mainly based on fossil fuels and nuclear energy,[65] and the study "Coal Phase-Out-Pathway for Germany" points out complementarily that the energy transition will probably create more jobs than will be lost due to it.[66]

b) Measures from the dialogue on the Climate Protection Plan 2050

The set of measures drawn up in the course of the 2nd round of dialogue of the official participation process (organised by the Federal Environment Ministry) for the Climate Protection Plan 2050 contains descriptions of measures with quantified reduction potentials, most of which can be achieved without European participation, and most of which are not included in the Climate Protection Programme 2030 or only with a weakened climate impact. In addition to the effects of a rapid coal phase-out, special mention should be made of the measures in the field of transport, such as the speed limit and the mileage- and emissions-based car toll with a reduction potential of 7.3 million CO_2 per year, or the control measures to reduce livestock stocks with 5 million tonnes per year or the activation of bogs as carbon reservoirs with 37 million tonnes.

Annex 22

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[65] *Ram M. et al*., Global Energy System based on 100 % Renewable Energy - EnergyTransition in Europe Across Power, Heat, Transport and Desalination Sectors,2018, I, online at http://energywatchgroup.org/wp-content/uploads/2018/12/EWG-LUT_Full-Study_Energy-Transition-Europe.pdf. (last visited on 20.01.2020).

[66] *Climate Analytics*, Science based coal phase-out pathway for Germany in line with the Paris Agreement 1.5 °C warming limit: Opportunities and benefits of an accelerated energy transition, 2018, S. 20 online at https://climateanalytics.org/media/germany_coalphaseout_report_climateanalytics_final.pdf. (last visited on 20.01.2020).

The catalogue of measures of the entire dialogue process on the Federal Government's Climate Protection Plan 2050 is also submitted,

Annex 23

The main aim in this context was to develop strategic measures, i.e. measures that enable the implementation of a transformative path until 2030 (eliminating obstacles, setting incentives).

c) Further measures

In addition, some obvious individual measures with high additional savings potential are shown here as examples. With kind permission, reference is made at this point to the constitutional complaint **Yi Yi Prue et al** which is already available to this Court:

"An effective CO_2 tax could save an additional 83 million tonnes of CO_2 by 2030.

By introducing a speed limit on motorways, up to 3.5 million tonnes of additional CO_2 could be saved annually. This measure is particularly obvious, as it would be accompanied by at best very little interference with the basic rights of other people (such fast driving on motorways has a basic right quality at all). On the contrary, the protection of life and physical integrity would be significantly strengthened.

The abolition of tax breaks for diesel fuel and kerosene could contribute to an additional saving of at least 48 million tonnes of CO_2 by 2030. Reducing the CO_2 limits for new vehicles could mean an additional 20 million tonnes of CO_2 saved by 2030, and a ban on internal combustion engines could contribute 23 million tonnes of CO_2 saved (the latter compared to 2015).

An extension of the truck toll and the introduction of a car toll on all roads could save over 32 million additional tonnes of CO_2.

Energy standards for new buildings could contribute over 2.1 million additional tonnes of CO_2 saved, and the renovation of existing buildings could contribute an additional 3.2 million tonnes of CO_2 by 2030. Further essential measures in the building sector would be: a ban on oil heating from 2020, a ban on gas heating from 2025, an immediate ban on subsidies for fossil heating systems.“

The corresponding annex with the list of measures is attached here as

Annex 24

(Deutsche Umwelthilfe (DUH), Overview of missing individual measures with high CO_2 saving potentials, 13 November 2019).

This table is not exhaustive but refers to a wide range of studies from the technical and scientific fields, and partly repeats the measures and approaches already mentioned in the catalogue of measures of the Climate Protection Plan 2050.

In some cases, the implementation of these measures does not even interfere with basic rights, such as the anchoring of a speed limit or the elimination of subsidies for fossil fuels as a whole. It can also be assumed that comprehensive use of roofs and facades with solar energy will be able to cover Germany's electricity and heat requirements not only technically but also in terms of costs.[67] The provision of heat for buildings and processes requires about half of the final energy used in Germany.[68]

d) Current Coal Exit Act

80% of Germany's greenhouse gas emissions are generated to supply the country with energy (plus electricity exports). Coal-fired power generation accounts for about 30% of greenhouse gas emissions in Germany. It is therefore obvious to reduce greenhouse gases in this sector as quickly and decisively as possible.

A study by the *Fraunhofer Institute* - specifically on the implementation of the 1.5°C target - found that – concretely without endangering the security of supply- a rapid phase-out of coal-fired power generation by 2030 is feasible ("2030 kohlefrei – Wie eine beschleunigte Energiewende …").

Annex 25

The exit path developed there reduces emissions by 72% by 2030 – hence in line with the path of the RESCUE study.

In contrast, the so-called Coal Commission, the Commission for Growth, Structural Change and Employment (KWSB), made up of representatives from science, the energy industry, trade unions and other interest groups, had proposed in its report of January 2019[69] that a concrete roadmap be drawn up to end the

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[67] *Fath,* Technical and Economic Potential for Photovoltaic Systems on Buildings, KIT, 2018.

[68] C.f. *Maaß*, Wärmeplanung: Grundlagen einer neuen Fachplanung, ZUR 2020, 23.

[69] Available: https://www.bmu.de/themen/klima-energie/klimaschutz/kommission-wachstum-strukturwandel-und-beschaeftigung/ (last visited on 20.01.2020).

coal-fired generation by 2038 at the latest. This would obviously lead to significantly lower savings, but was viable as an initial compromise because the Commission's path for reducing capacity and emissions from coal-fired power plants from 2018 was set as a ***steady*** path and was provided with an interim target for 2025 (substantial emission reductions of a further 10 million tonnes of carbon dioxide from lignite-fired power plants in 2025).

The German government has now implemented this initial social compromise in the so-called Coal Exit Act, see above. The planned shutdowns of lignite-fired power plants represent a deterioration with regard to the compromise reached by the Coal Commission: Compared to the steady reduction path recommended by the KWSB, lignite-fired power plants alone will emit an additional 40 million tonnes by 2030.

This is pointed out in a statement of, among others, the scientific members of the Commission (although still on the preliminary draft),

Annex 26.

Overall, however, in accordance with the legally prescribed phased plan for the period 2018 to 2038 approx. 180 million t to 200 million t more of CO_2 will be emitted in the field of brown coal alone, compared with a *steady* reduction path. This can be partially compensated for by shutting down the hard coal segment, yet it is unclear to what extent.

It is also still unclear whether the implementation will have any relevant climate impacts at all with regard to the EU emissions trading scheme (immediately). This is mainly due to the slow phase-out path and the political intervention possibilities under the EU Emissions Trading Directive.

This concrete example makes it clear that measures with a considerable reduction potential are feasible and can be implemented without endangering the security of supply, and that a social agreement is reached which, while lagging behind, would at least follow an approximately reasonable path of steady reduction. The Federal Government (and probably the legislator as well, at least at the time of the hearing of this complaint the law will be in force) then decide nevertheless- without quantifying the effects and without weighing up the consequences for a sufficient reduction path and the remaining budget- for an even less climate-effective measure.

IV. EU law and EU budget

1. The Federal Climate Protection Act (only) implements EU law

The subject of the complaint, the Federal Climate Protection Act, cannot be classified and evaluated without taking into account the European legal framework of regulations and, above all, the EU total budget for greenhouse gases.

The German Climate Protection Act expressly pursues the goal of ensuring the implementation of the EU climate protection objectives and laws. From the official justification (Annex 1):

- "The annual national reduction targets are largely defined by European law" (p. 21).
- The national target of a greenhouse gas reduction of at least 55% by 2030 compared to the 1990 emission level is almost equal to the share of Germany in achieving the European climate protection target for 2030... of a 40% reduction compared to 1990..." (p. 27)

The fulfilment of the national climate protection targets by measures outside German territory is expressly provided for and permitted according to Section 3 of the Act: Section 3.2 and Section 7 of the Act permits the fulfilment of the national climate protection targets through the purchase of emission allowances abroad both within and outside the EU, provided that a legally binding regime exists, e.g. via Article 6 of the Paris Agreement.

2. The EU climate protection regime

The EU's share of global greenhouse gas emissions was around 9% in 2018, with the EU population accounting for around 6% of the world population. A decrease to 5.1% is forecasted for 2060. Due to the different development and consumption paths of the member states, per capita consumption in the EU as a whole is significantly lower than in Germany (8.4 t).

On the basis of Art. 191 TFEU, the EU or already the EC has set itself the target of reducing greenhouse gas emissions by 20% by 2020 and has implemented this target in various legal acts. This target is expected to be achieved but is also well below what the IPCC had already stated in the 4th Assessment Report 2007 as the necessary reduction in industrialised countries (25%-40% by 2020).[70]

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[70] In detail Hohe Raad, Annex 2.

Based on the EU Charter of Fundamental Rights and EU primary law, in particular Article 191 TFEU, the EU is obliged to maintain a "high level of protection, prevention and precaution" in its environmental and climate policy. It must prevent damage caused by climate change and the associated violations of fundamental human rights. As climate change is already causing damage, any target for reducing emissions must be set on the basis of an assessment of feasibility in the light of the EU's legal obligations and the threat posed by climate change.

The EU has increasingly taken over the competence for the field of climate change since the Lisbon Treaty (2009). It has legal personality under Art. 47 TEU and has, among other things, adopted the Paris Agreement on the basis of Art. 216 TFEU. Although this is a shared competence in relation to the member states, since the Lisbon Treaty of 2009 it has had extensive powers (Art. 3 f. TFEU). As a result, the EU has gained an extensive exclusive competence for external representation - which is one of the reasons why only the EU has made a declaration of commitment on the basis of the Paris Agreement (*nationally determined contribution*), but not Germany. The EU - at least since the last package of directives and regulations - has ultimately created a complete internal EU budget of maximum permissible greenhouse gas emissions that can be traded under certain conditions. The regulations explicitly allow further national tightening.

This is therefore a minimum harmonisation and member states can proceed more strictly, but further reductions in individual member states make no difference to the atmosphere and thus to the protection of the complainants' basic rights as long as these certificates or emission allowances are not completely taken "out of the market".

In detail:

Already since the Kyoto Protocol came into force in 1997, the EU has adopted several legal acts, which, among other things, allow trading with emission allowances within the EU (Directive 2003/87),[71] but also set concrete targets for the reduction of emissions outside the sectors covered by this trading system (Decision 406/2009), which are binding for the Member States. For the entire EU energy and industry sector (emissions emitted by EU member states in the

[71] As to the fact that the targets in the context of emissions trading are only a matter of minimum harmonisation, i.e. that they leave scope for implementation which must be measured by the Federal Constitutional Court against the standard of basic rights, see BVerfG, Nichtannahmebeschluss vom 5. März 2018 - 1 BvR 2864/13 -, juris - recital no. 23.

installations covered), the EU-wide reduction target of 21 % by 2020 compared to 2005 applies (cf. Directive 2009/29/EC[72]). For the other sectors, the Effort Sharing Decision 2020 (406/2009/EC) sets an EU-wide reduction target of 10% compared to 2005, whereby the Member States must make different contributions depending on their per capita gross domestic product. According to the recitals, the reason for this differentiation is that the relatively high economic growth of less prosperous countries leads to higher emissions and their investment opportunities are smaller. According to these criteria, Germany has to achieve a reduction of 14 % by 2020 compared to 2005, calculated according to absolute emission allowances based on Decision 406/2009, which corresponds to approximately -20 % compared to 1990. This target is not achieved by domestic measures. In the justification of the Federal Climate Protection Act (Annex 1) it is stated that emissions in these sectors have only been reduced by 3% by 2017.

Under the impression of the 4th Assessment Report of the IPCC and in preparation for the negotiations on a new international agreement to follow the Kyoto Protocol, the EU has set itself the target in 2014 to reduce GHG emissions in the EU in the period 2021-2030 in such a way that by 2030 emissions would be 40% below the 1990 level, i.e. the EU ultimately positively allows up to 60% of the 1990 level for the EU as a whole.

The three main legal instruments apply to three different categories of emission sources:

- Sources from power generation, heavy industry, and aviation; these are subject to the Directive on the Emissions Trading Scheme (the "ETS" Directive);[73]
- Sources outside the ETS, e.g. from buildings, transport, agriculture, etc.; they are subject to the regulation on effort sharing (Climate Change Regulation or "ESR");[74].

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[72] Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, OJ EC L 140, 5.6.2009, 63.

[73] Directive (EU) 2018/410 of the European Parliament and of the Council of 14 March 2018 amending Directive 2003/87/EC on the promotion of cost-effective emission reductions and low carbon investments and Decision (EU) 2015/1814,OJ L 76/3.

[74] Regulation 2018/842 of the European Parliament and of the Council concerning annual binding reductions of greenhouse gas emissions by Member States from 2021 to 2030 to contribute

- Sources and sinks from land use, land use change and forestry ("LULUCF"); they are subject to the LULUCF Regulation. [75]

As a whole, these implement the above-mentioned objective of reducing total emissions by at least 40% of 1990 levels by 2030 or allow total emissions of a margin of 60% of 1990 levels. The Emissions Trading Scheme (ETS) and its functioning is well known to the courts and has been the subject of several decisions.[76] The Federal Climate Protection Act subject here refers in particular to the targets under the ESR or Climate Protection Regulation 2018/842, which applies to emissions outside the ETS.

According to the decision of the VG Berlin (Annex 16), it is in any case certain in the first instance that the emissions covered by the previous decision on the Climate Protection Regulation, the so-called Effort-Sharing Decision No. 406/2009/EC, only fell by 3% between 2013 and 2020 instead of 14%. Nevertheless, the court could not find a violation of EU law because the Effort-Sharing Decision allows considerable margins for the fulfilment of obligations (transfer of annual emission allocations from other member states, saving of own emission allocations and later fulfilment in a subsequent year).

The Climate Change Regulation sets reduction targets for the non-ETS sectors as a whole and for each Member State. According to Article 4 of the Regulation the Member States are obliged to reduce emissions in accordance with a linear reduction path of emissions from 2021, ranging from the average of emissions from 2016 to 2018 to the limit set for 2030 for each Member State. In other words, the Member States are allocated annual emission quantities for the period from 2021 to 2030 corresponding to the emissions allowed by this linear reduction path. Member States are given flexibility in complying with the rules, Art. 5: flexibility through anticipation, transfer to subsequent years and transfer to other Member States, and Art. 7 (crediting of quantities from LULCF).

In addition to the already existing central recording system for emissions from the emissions trading sectors, the Climate Protection Regulation continues the

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to the Paris Agreement commitments and amending Regulation (EU) No 525/2013 (OJ L 156/26). ESR is the abbreviation of "Effort Sharing Regulation".

[75] Regulation 2018/841 of the European Parliament and of the Council on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the climate and energy framework for 2030 and amending Regulation (EU) 525/2013 and Decision 529/2013/EU, OJ L 156/1.

[76] Cf. e.g. BVerfG, NVwZ 2007, 937.

Union registry by completing the recording of annual emission allocations. There is thus a complete EU greenhouse gas budget or "emission account" for each Member State.

For the other "green" sectors, the EU Regulation accounts for greenhouse gas emissions and sinks from land use, land use change and forestry (LULUCF). As with the ETS and ESR, LULUCF emissions were subjected to a "learning phase". However, Article 4 of the LULUCF Regulation 2018/842 now contains a reduction commitment for non-net emissions from the sector, the so-called no-debit rule.[77] According to this rule, the Member States must achieve a minimum neutral CO_2 balance in the LULUCF sector for the period 2021-2030, i.e. greenhouse gas emissions from LULUCF may not exceed the reduction of GHG emissions by vegetation.

3. The EU budget and the obligation to act

The EU climate protection target for 2030 with the resulting quantitative budget is not compatible with the best possible climate protection or the 1.5°C (and also not the 2°C) target.

The legal action currently pending before the European courts by 10 European and non-European families proves that the EU is not complying with its obligations under the EU Charter of Basic rights, the primary law in application of principles of international law. A German translation of the statement of claim is attached as

Annex 27.

Similarly, as calculated above for Germany, the greenhouse gas budget to which the EU is entitled according to population share will already be used up in the coming years. This would be the case even if a 2°C temperature target (which the complainants consider unreasonable from a basic rights perspective) were applied. This is explained in detail in the statement of claim.

Examining the technical and economic feasibility, the claim comes to the conclusion that greenhouse gas emissions in the EU must be reduced by at least 55-60% by 2030 compared to 1990.

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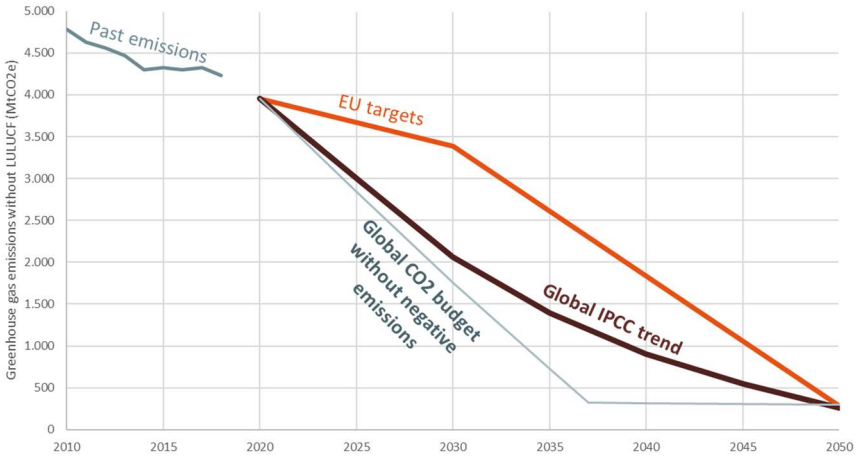
[77] The no-debit obligation applies only to emissions and removals that the Member State has to account for under the LULUCF Regulation. These are emissions and removals from the following land use categories: afforested land, deforested land, cultivated arable land, cultivated grassland and cultivated woodland.

A recent study commissioned by the Federal Environment Ministry[78] confirms this and comes to the following conclusion:

> "Also the target of a "minimum 40%" reduction by 2030 compared to 1990 is not consistent with the long-term temperature limit of the Paris Agreement. It is outdated because it relies on the information base of 10 years ago. In previous chapters we have shown that the EU's fair share is to reduce its emissions to zero almost immediately (2030 to 2040) and that a reduction to net zero by 2050 is only possible if this transition is initiated immediately. This would also require updating and improving the 2030 target.
>
> Global net CO_2 emissions would be 45% below 2010 levels in 2030 to meet the 1.5°C limit (IPCC, 2018). Applying this global trend for CO_2 (and the associated trend for other greenhouse gas emissions) would mean a 54% reduction in the EU's total greenhouse gas emissions below 1990 levels in 2030, even without taking into account the EU's greater responsibility and capability compared to other countries. Studies suggest that the potential could be even further in the dimension of 60% (Cornet et al., 2018). The position of the Federal Environment Agency is "60% or more"."

The obvious failure of the EU to follow a reduction path appropriate to the problem is illustrated by this graph by the *New Climate Institute*:

[78] *New Climate Institute* ,2019, A possible 2050 climate target for the EU, 2019, http://newclimate.org/publications/



The calculation and emission quantity assumptions (prepared by Prof. Niklas Höhne) stem from

Annex 28.

The light red line shows the currently valid EU targets, i.e. 20% reduction compared to 1990 by 2020 and 40% compared to 2030 and thereafter a linear path to greenhouse gas neutrality. The wine-red line represents the average of possible reduction paths resulting from the IPCC's special report on 1.5°C (see below in more detail in the context of the German protection obligations). The blue line shows the necessary reduction if negative emissions are not to be accepted. The deviation between the EU reality and the necessary path if the 1.5°C target is to be seriously adhered to or at least pursued is evident.

A further significant reprimand in the European climate claim is the fact that the European legislator has not given appropriate consideration to the reduction paths and the relevant temperature targets. This duty of vigilance is recognised in European law for the legislator and accepted in the human rights dimension by the Dutch courts, see below.

The European Parliament has repeatedly called for a tightening of the climate target for 2030. In the meantime, the European Commission has also fundamentally dealt with these questions,[79] and in its communication on the European Green Deal ("Green New Deal"),[80] it has now come to the conclusion that more stringent climate targets and reduction paths are necessary to conserve the foundations of life, as well as feasible in the context of the European economic and social order.

This document to a considerable extent contains statements on how not only is the technical viability for a significantly stricter reduction path of the European Union available, but that such a pioneering role would also be beneficial for future generations of Europeans.

V. The complainants

Complainant 1 is 23 years old, a geography student and co-founder of the network "Friday's For Future". She has been concerned with climate change for years, which now significantly influences her life due to the existential risks for her generation. From her point of view, there is no alternative to quick and conclusive action. For the complainant, the Federal Climate Protection Act means that the risk of existential effects on her life and health continues to increase without greenhouse gas reductions being achieved as far as possible. She is particularly concerned about her nephew, 3 years of age, and her niece, 0 years of age, whose options of action will be completely determined and used up over the next two decades. She and her family thus become objects without any real scope of action and decision-making. She claims a violation of articles 1, 2 and 20a GG.

The complainants 2-5 are children and potential heirs of a farm existing since 1703 (mainly cattle farming and agriculture) with a total of 180 ha on the North Sea island of Pellworm, which is already now affected by the consequences of anthropogenic climate change. They were all complainants in the action before

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[79] Cf. European Commission, In-Depth Analysis in Support of the Commission Communication, COM (2018) 773, 28 Nov. 2018.

[80] See Communication "The European Green Deal" of 11.12.2019 (COM(2019) 640) and Communication "Investment Plan for a Sustainable Europe - An Investment Plan for the European Green Deal" (COM(2020) 21.

the Administrative Court of Berlin, which was dismissed on 31.10.2019 (Annex 16) - inter alia on the basis of the Federal Government's decision on the Federal Climate Protection Act.

The organic farm, which is still managed by their 60-year-old father, incurred harvest losses of approx. 30% in the 2018 operating year due to the extreme summer. The summer of 2018 is within the forecasts for the over 1°C warming already observed. Similar conditions will become more frequent with further climate change and proportionally to the further warming - they will become the new norm to which farms will have to adapt. However, humidifying irrigation is not possible on Pellworm. Moreover, under the current climate scenarios and in view of the current forecasts of sea-level rise, existing coastal protection will reach its limits - but property protection is not legally guaranteed by a claim to coastal protection. In order to secure ownership and the business in the long term, only rapid and determined climate protection can be considered. The business also expects considerable operational difficulties as a result of the more difficult drainage of land following extreme events - which Pellworm also had to record in 2019.

The concrete operational affectedness and the effects of climate change today and in the future are described in detail in

Annex 29.

Complainant 2) is 21 years old and is currently studying agricultural sciences, complainant 3) is 20 years old and is in training to become a farmer. Complainant 4) (still 17 years old) is preparing for the Abitur, complainant 5) is a pupil and 15 years old. All of them can imagine running the family business alone or together. They all help out regularly in the parental business and take care of the house, the land and the animals. They want to keep the family business and are significantly concerned about their home Pellworm. They also claim violations of Articles 1, 2 and 20a and additionally Articles 12 and 14 of the Basic Law.

Complainant 6) is 32 years old and together with his parents he owns an agricultural business in Brandenburg. He was also one of the complainants in the action before the Berlin Administrative Court, which was dismissed on 31 October 2019.

The business is an organically producing dairy farm in southern Brandenburg, in the district of Oberspreewald-Lausitz in the southernmost part of Brandenburg. The farm has about 420 ha of agricultural land and about 100 ha of forest.

In 2018, the farm had to record a 50% harvest loss, and also in 2019, the result of, above all, a lack of precipitation are considerable losses and damage, inter alia in forestry. The farm has to adapt to this new standard, extensive irrigation from the groundwater is necessary in view of the already observed consequences of climate change but is not secured in the long term with climate change. Dairy cattle are also acutely endangered if temperatures continue to rise. According to current forecasts, it will become even hotter particularly on hot days and nights with further global warming, which poses health risks for dairy cattle. In the medium term, this could only be counteracted by air-conditioned stables - a considerable investment. All in all, only effective climate protection can provide effective protection here too. He also claims violations of Articles 1, 2, 20a, 12 and 14 of the Basic Law. Details on the current situation and the affectedness by the effects of climate change and forecasts for the farm can be found in

Annex 30.

Complainant 7 (27 years) and complainant 8 (29 years) are potential heirs to an ecologically farmed fruit farm in the Altes Land near Hamburg, which the father, Claus Blohm (born in 1957), still runs so far. Due to temperature increases caused by climate change (on average) in Northern Germany, he has to fight new pests (e.g. the apple winder and the cherry fruit fly), which he can only control to a limited extent as an organic biological farm. The availability of water is heavily dependent on the tidal Elbe - with rising sea levels, groundwater and surface waters are not protected against the influence of salt water. Above all, extreme weather events such as the already significantly increased number of hail and heavy rainfall events endanger the harvest and thus the farm. Here too, the only effective protection is to keep global warming as low as possible. The complainants regularly help out on the farm, mainly in spring and autumn. They also claim violations of articles 1, 2, 20a, 12 and 14 GG.

The concrete operational affectedness, as well as the effects of climate change today and in the future, are described in detail in

Annex 31.

Complainant 9 (18 years old) is currently still a pupil and lives with his family on the North Sea island of Langeoog. Together with his family, he is complainant in the European climate action currently pending before the European Court of Justice on appeal.[81]

The family owns and runs a restaurant and a hotel, which together provide for two families and employ approx. 50 staff (some of them seasonal). The complainant is already working in the business. The complainant would like to take over the family business after his training, if necessary, but is very concerned about it. The restaurant buildings are located on a dune, about 20 meters above sea level. The hotel is at a lower level, behind the dune. Both buildings are endangered by constant sea level rise and storm surges and the resulting erosion of the protective dunes. The beach between the sea and the dunes must now be artificially filled with sand every 2-3 years, in contrast to much longer intervals 20 years ago. Furthermore, the drinking water source of the island and thus the water supply of the complainant 9 is endangered when a storm surge floods the eastern lower part of the island where the source is located.

Observations show a local sea level rise of 3.6 mm - 4.2 mm per year. The state of Lower Saxony is taking steps to adapt to this risk, mainly by washing up dunes, although this cannot provide a long-term solution. Scientific analyses assume that the sea level in this region will rise by 33 to 75 cm by 2050. There is therefore a considerable risk that the property of the complainants' family will be over-flooded if the dunes lose their protective function, their livelihood be destroyed and their well-being endangered, and that this risk will further increase with higher emissions. He claims violations of Articles 1, 2, 20a, 12 and 14 of the Basic Law. Details about the business and the affectedness on the island can be found in

Annex 32.

Based on the emission scenarios of the IPCC and concrete scientific work with regard to the specific region, the **annexes 29-32** show damage caused by climate change for all four businesses already today, as well as the considerable interest in limiting further greenhouse gas emissions quickly and effectively. If an impact can be attributed to climate change, it would - simply put - not occur in the same

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[81] Annex 27. cf. *Winter*, Armando Carvalho et al. versus Europäische Union: Rechtsdogmatische und staatstheoretische Probleme einer Klimaklage vor dem Europäischen Gericht; ZUR 2019, 259

way without the impact of human activities on climate, i.e. without the anthropogenic emissions, or its occurrence would be much less likely.

Based on the best available science today, all complainants are potentially irreversibly affected already by past greenhouse gas emissions that remain in the atmosphere, especially if the occurrence of so-called *tipping points* can no longer be prevented. They must expect uncertain to poor prospects for life, as well as unmanageable costs for the necessary adaptation, which are already estimated today at €180 /t CO_2 according to the UBA method.

VI. The decisions in the *Urgenda* case in the Netherlands

Due to the considerable comparability and relevance of the decisions of the Dutch courts in the *Urgenda* case, these decisions precede the following legal arguments.

The "*Urgenda* Decision" of the Hague District Court (De Haagse Rechtsbank) from June 2015 is the first decision of a European court on the protection obligations of a government based on the ECHR in the context of global climate change. The complainant (on its own behalf and on behalf of 886 private complainants) was the Dutch private environmental foundation *Urgenda* (*Urgent Agenda*).

The legal basis was the basic provision on tort in the Dutch Civil Code. As *Saurer*[82] correctly points out, the Dutch Civil Code contains an independent legal remedy for private foundations and associations for the enforcement of public welfare interests, which enables actions to be brought against private individuals, but also against the state. The latter can be explained by the fact that the Dutch legal system does not provide for a constitutional complaint or does not establish a constitutional jurisdiction.

The Claim was that due to the specific time circumstances, the Dutch state's obligation to reduce its greenhouse gas emissions by 25% by 2020 compared to the base year 1990. The Supreme Court finally granted this in the decision already attached as Annex 2. In summary, the result of the action from three instances can be summarised with the following sentence: Climate protection is a

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82 *Saurer*, Strukturen gerichtlicher Kontrolle im Klimaschutzrecht – Eine rechtsvergleichende Analyse (ZUR 2018, 679)

human right, and the concrete duty of the state to act can be defined by courts if necessary.

For a better understanding of the case, the timeline is inserted here so that the court can classify the judgments of the instances and the highest court accordingly:

In the first instance:

- 12 November 2012 – Statement of claim addressed to the government
- 20 November 2013 – Claim
- 24 June 2015 – Decision of the Hague District Court

Annex 33
(official English version and own German translation)

It is of note that at the time of the 2013 action, the latest scientific basis was the IPCC's 4th Assessment Report of 2007, and that in the international framework, the negotiations for a new climate protection agreement, which then culminated in the Paris Agreement of 2015, had only just begun.

In the second instance, on 9 October 2018, the Court of Appeal issued a negative ruling on the appeal by the Dutch state, which again dealt extensively with the obligations to protect under the ECHR and the standard of care to prevent dangerous climate change:

Annex 34
(official English version and own German translation)

Following an application by the Dutch government for annulment of the appeal decision, the decision of the highest court of the Netherlands was finally issued on 20 December 2019, according to which the decision of the court of appeal in favour of the complainants was upheld in its entirety (already submitted as Annex 2)

All instances are based on international law and its interpretation (including the "no harm principle" under customary international law), but above all on the state's duty to protect, which arises from Art. 2 (right to life) and 8 (protection of the family) of the ECHR. To this, the relevant rulings of the European Court of Human Rights were analysed in detail and then taken into account in the interpretation of the obligations of vigilance applicable under Dutch law (tort under the Civil Code).

The legal systems of the Netherlands and Germany are - apart from the procedural enforceability - definitely comparable, as are the questions of content in the present proceedings and the proceedings there, namely, above all, whether in the absence of a higher authority to regulate the global problem of climate change, a state obligation can be derived by the courts from scientific statements together with the international law standards arising from human rights norms or obligations to protect. This is because a concrete obligation under international law to reduce greenhouse gases in the Netherlands or Germany by 2020 or 2030 is not contained in the Paris Agreement or in other international treaties.

In all instances, the question was of importance of whether there are any concrete obligations to protect with regard to climate change at all or whether the legislator's *margin of appreciation* or the principle of separation of powers prohibits a court decision on a standard of protection in this respect. The division of competences between the EU and the individual member state also played a role in all instances, as did the question of how to define obligations with regard to individual states in the case of a global problem such as climate change.

Based mainly on the decision of the highest court in the last instance, the following relevant statements have been made:

- the ECHR, as interpreted by the ECtHR, contains in Articles 2 and 8 obligations to protect in the light of global climate change: (Annex 2, summary of the judgment)

  "The European Convention on the Protection of Human Rights and Fundamental Freedoms (ECHR) requires the states which are parties to the convention to protect the rights and freedoms established in the convention for their inhabitants. Article 2 ECHR protects the right to life, and Article 8 ECHR protects the right to respect for private and family life. According to the case law of the European Court of Human Rights (ECtHR), a contracting state is obliged by these provisions to take suitable

measures if a real and immediate risk to people's lives or welfare exists and the state is aware of that risk."

Court of Appeal, Annex 34, Par. 41:
"Under Articles 2 and 8 ECHR, the government has both positive and negative obligations relating to the interests protected by these articles, including the positive obligation to take concrete actions to prevent a future violation of these interests (in short: a duty of care). A future infringement of one or more of these interests is deemed to exist if the interest concerned has not yet been affected but is in danger of being affected as a result of an act/activity or natural event. As regards an impending violation of an interest protected under Article 8 ECHR, it is required that the concrete infringement will exceed the minimum level of severity (see, among other examples, Öneryildiz/Turkey (ECtHR 30 November 2004, no. 48939/99), Budayeva et al./Russia (ECtHR 20 March 2008, nos. 15339/02, 21166/02, 20058/02, 11673/02 and 15343/02), Kolyadenko et al./Russia (ECtHR 28 February 2012, nos. 17423/05, 20534/05, 20678/05, 23263/05, 24283/05 and 35673/05), and Fadeyeva/ Russia (ECtHR 9 June 2005, no. 55723/00)."

This can be determined on the basis of the existing jurisprudence of the European Court of Human Rights, is "sufficiently clear" (Annex 2, para. 5.6.4) and therefore does not have to be answered by the ECtHR itself by way of a request for interpretation. This corresponds to the judgment of the VG Berlin (Annex 16), which also clearly assumes the existence of a duty to protect.

- Every state must contribute "its own share" to prevent dangerous climate change, even if it is a global problem (Annex 2, summary of the judgement):

  "While Articles 2 and 8 ECHR are not permitted to result in an impossible or disproportionate burden being imposed on a state, those provisions do oblige the state to take measures that are actually suitable to avert the imminent hazard as much as reasonably possible."

  "Each country is thus responsible for its own share. That means that a country cannot escape its own share of the responsibility to take measures by arguing that compared to the rest of the world, its own emissions are relatively limited in scope and that a reduction of its own emissions would have very little impact on a global scale. The State is therefore

obliged to reduce greenhouse gas emissions from its territory in proportion to its share of the responsibility. This obligation of the State to do 'its part' is based on Articles 2 and 8 ECHR, because there is a grave risk that dangerous climate change will occur that will endanger the lives and welfare of many people in the Netherlands. "

This also corresponds to the statement in the judgement of the VG Berlin on the 2020 climate protection target (Annex 16):

> "About 1.1 % of the world's population lives in Germany and about 2 % of global greenhouse gas emissions originate here (see Rahmstorf, Emissionsbudget, Spiegel-Online of 20 October 2019). The percentage by which the 2020 climate protection target is missed has a comparatively small share in annual emissions. Nevertheless, the state has a common but differentiated responsibility for mitigating climate change (cf. Art. 2 para. 2 of the Paris Agreement). A contracting state cannot evade its own responsibility by referring to greenhouse gas emissions in other states"

- In determining what each country has to do, reference is to be made to scientifically and internationally accepted standards, above all the assessments of the IPCC:

  "Under certain circumstances, there may also be such clear views, agreements and/or consensus in an international context about the distribution of measures among countries that the courts can establish what – in accordance with the widely supported view of states and international organisations, which view is also based on the insights of climate science – can in any case be regarded as the State's minimum fair share." (Annex 2, par. 6.3)

- There is an obligation to provide a conclusive explanation as to how the fair share can be fulfilled (paragraph 6.5 of the Supreme Court ruling, Annex 2):

  "This duty implies that, under certain circumstances, the State must properly substantiate that the policy it pursues meets the requirements to be imposed, i.e. that it pursues a policy through which it remains above the lower limit of its fair share."

Hereby the court even expressly applies a standard that is similar to the lower limit requirement ("Untermaßgebot") of the BVerfG.

In the actual determination of the standard of vigilance, or the fair share of the Netherlands in combating a dangerous climate change, the courts proceeded as follows:

After a detailed discussion of the scientific basis, and the finding that at the time of the proceedings a temperature target of 2° was (still) to be aimed at as sufficient to prevent dangerous climate change and that international consensus was reached (without this being explicitly laid down in an international treaty), the court of first instance described the role, tasks and standards of the IPCC's assessments and reports. In its application, *Urgenda* had referred significantly to a method of negotiation for emission reductions up to 2020, which had been evaluated by the IPCC and listed in the 4th Assessment Report. This is then the basis for all the judgements. The 4th Assessment Report of 2007 contained a table for the relevant question (reduction commitment until 2020) for the so-called Annex 1 countries under the Framework Convention on Climate Change. These are largely, but not completely, identical with the OECD member countries.

The first-instance decision summarises the IPCC's central requirement in para. 2.15 as follows:

> " Following an analysis of the various scenarios about the question which emission reductions are needed to achieve certain particular climate goals, the IPCC concluded that in order to reach a maximum of 450 ppm, the total emission of greenhouse gases by the Annex I countries (including the Netherlands, as explained below) must be lower than in 1990. In this scenario, the total emission of these countries will have to have been reduced by 80 to 95% compared to 1990. See the table below (box 13.7)".

This box is inserted here directly from the 4th Assessment Report of the IPCC and can also be found in the judgment:

Box 13.7 The range of the difference between emissions in 1990 and emission allowances in 2020/2050 for various GHG concentration levels for Annex I and non-Annex I countries as a group[a]

Scenario category	Region	2020	2050
A-450 ppm CO_2-eq[b]	Annex I	–25% to –40%	–80% to –95%
	Non-Annex I	Substantial deviation from baseline in Latin America, Middle East, East Asia and Centrally-Planned Asia	Substantial deviation from baseline in all regions
B-550 ppm CO_2-eq	Annex I	-10% to -30%	-40% to -90%
	Non-Annex I	Deviation from baseline in Latin America and Middle East, East Asia	Deviation from baseline in most regions, especially in Latin America and Middle East
C-650 ppm CO_2-eq	Annex I	0% to -25%	-30% to -80%
	Non-Annex I	Baseline	Deviation from baseline in Latin America and MIddle East, East Asia

Notes:
[a] The aggregate range is based on multiple approaches to apportion emissions between regions (contraction and convergence, multistage, Triptych and intensity targets, among others). Each approach makes different assumptions about the pathway, specific national efforts and other variables. Additional extreme cases – in which Annex I undertakes all reductions, or non-Annex I undertakes all reductions – are not included. The ranges presented here do not imply political feasibility, nor do the results reflect cost variances.
[b] Only the studies aiming at stabilization at 450 ppm CO_2-eq assume a (temporary) overshoot of about 50 ppm (See Den Elzen and Meinshausen, 2006).

Source: See references listed in first paragraph of Section 13.3.3.3

This was an evaluation of existing literature on the question of how a given concentration level in the atmosphere and thus ultimately a globally specified temperature target of 2° can be achieved with different emission paths and thus intermediate reduction targets.

This was based on various studies with emission scenarios for the entire world, i.e. aggregated climate models with assumptions regarding emission behaviour, technological development, population development etc., each with the aim of ensuring that the target values for greenhouse gas concentration in the atmosphere are not exceeded. In the corresponding table, the IPCC, also based on the literature available at the time, made assumptions for a globally equitable distribution of reduction burdens, and in this respect, the Annex I countries, as a group of countries with a historically significant responsibility (which was also reflected accordingly in the Framework Convention on Climate Change and the Kyoto Protocol), were assigned higher emission reductions than, for example, countries of the global South or emerging economies.

The IPCC did not introduce new methods or models at this point, but as always, only evaluated the best available science.

From this specification, i.e. ultimately from the best available science, the courts in all instances derived the minimum reduction commitment of the Netherlands for 2020, i.e. the necessary share of the globally necessary reduction path. In doing so, all instances discuss the fact that the temperature target was not provided legally or internationally binding.

With regard to the present case of the Federal Republic of Germany and the KSG respectively the future necessary reduction path, this approach is applied or further developed below within the legal subsumption.

It must be taken into account in this regard that the scenarios of the AR4 of 2007 were based on a completely different remaining budget or remaining possible emissions up to the maximum permissible concentration limit (in ppmv), and thus the reduction targets up to 2020 were still moderate to meet this budget. Since the scientific work on which the 4th progress report is based, the internationally available greenhouse gas budget has already been used up to a considerable extent, see already above.

This fact is also acknowledged by the Dutch Supreme Court, particularly in paragraph 2.1 (6), according to which climate science has long presented a consensus that the average global temperature should not rise by more than 2°, but has since become convinced that a "certain temperature increase must not exceed 1.5°". However, the scientific framework for the obligation to act in the *Urgenda* case referred to the year 2020 and thus to the scientific findings of that time.

Germany is currently on the way to achieving a maximum reduction of 32-35% by the end of 2020. The Administrative Court of Berlin (Annex 16) has taken this fact as a concrete reason to state, with reference to the *Urgenda* decisions, that so far and with regard to 2020 there has been no violation of the constitutional prohibition of insufficient measures (Untermaßverbot):

> "The 2020 climate protection target of a 40 % reduction compared to 1990 is thus an ambitious target at the upper end of the recommendations in an international comparison. Against this background, the complainants' view that this is the constitutionally required minimum is difficult to understand. "

The Administrative Court of Berlin, despite relevant submissions, did not take into account at this point the fact that the reduction commitment in the *Urgenda* case was only based on the 2°C temperature target and that the scientific consensus has developed considerably since 2007, the date of publication of the 4th Assessment Report, especially as emissions have further advanced since 2007.

VII. Legal Arguments

The constitutional complaint is admissible (see 1.), acceptable (see 2.) and also well-founded (see 3.).

1. Admissibility of the constitutional complaint

The constitutional complaint is admissible because the requirements of Article 93.1 No. 4a of the Basic Law and Section 90 of the BVerfGG are met.

a) Capability to complain

All complainants are entitled to lodge a complaint as natural persons. Minors also dispose of the participation and process capability in the constitutional complaint procedure and may appear as complainants. The minor complainants (complainants 4 and 5) are represented by the persons with custody.

b) Subject of complaint

The constitutional complaint is directed against individual provisions of the Federal Climate Protection Act (Bundesklimaschutzgesetz or "KSG") and against the legislative omission which the complainants reprimand for being contrary to basic rights due to the incorporation of insufficient protection and reduction targets in the objected provisions of the Federal Climate Protection Act.

aa) Application under 1.
In their application under 1., the applicants seek to

- declare that, by implementing a 55 % reduction rate for greenhouse gases for the target year 2030 in accordance with Section 3(1) of the KSG and setting annual reduction targets for the energy, industry, transport, buildings, agriculture, waste management and other sectors in Section 4(1) in conjunction with Annexes 1 and 2 to the KSG, the legislator has violated the basic rights of the complainants under Article 1 in conjunction with Article 20a of the Basic Law, Article 2(2), Article 12 and Article 14.

In the application under 1. it is submitted that, in view of the extremely serious consequences of the climate crisis, the legislature has, with the objected provisions in the KSG, violated the constitutional duties to protect arising from the basic rights complained of, which must also be observed in relation to the complainants (see below).

The complainants see the focus of their "complaint" in the failure in the KSG to provide for a level of protection in conformity with basic rights, i.e. essentially in an omission. Therefore, it may suffice here to point out that, according

to the established jurisprudence of the Federal Constitutional Court[83], omissions can also be the subject of a constitutional complaint, as also follows from Sections 92 and 95.1 sentence 2 of the Federal Constitutional Court Act (BVerfGG). Present is a case of "false" omission because the legislature did not remain completely inactive with the Federal Climate Protection Act, but only attended to its positive legislative obligation to an insufficient extend.[84]

At this point, it should already be pointed out that the provisions of the KSG complained of here have a Janus-faced character and therefore go beyond a mere omission. By setting completely inadequate climate protection targets and thus inadequate sector-specific reduction paths, the Act enables and sanctions, at the expense of the complainants, the emission of significantly excessive quantities of greenhouse gases which are capable of significantly impairing the complainants' sphere of protection of basic rights, both now and in the future. If the Federal Climate Protection Act opens up scope for greenhouse gas emitters which is likely/suitable to impair the basic rights-protected sphere of third parties, the omission complained of is already close to an interference from the complainant's point of view.

A comparable statement is not unknown in the case law of the Federal Constitutional Court. Thus, for example, the court recently expressly recognised that interference can also take place indirectly in that the state accepts the impairment of interests protected by basic rights by third parties:

> "The protection of basic rights is not limited to imperative interventions, i.e. to measures which lead directly and specifically (intended (final)) by means of an order or prohibition issued by the state, if necessary executed by force, to a shortening of interests protected by basic rights. Rather, basic rights can also be affected by indirect and factual impairments if these are equivalent to imperative interventions in terms of their objectives and effects. If the impairment of interests protected by basic rights depends on the behaviour of other persons or is based on a complex course of events, the affirmation of an intervention presupposes that the

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[83] BVerfGE 129, 124, 176; *Kleine-Cosack*, Verfassungsbeschwerden und Menschenrechtsbeschwerde, 3rd ed. 2013, recital 327 ff, with further references.
[84] See already BVerfGE 13, 248, 253.

state at least accepts this impairment as a foreseeable consequence for it."[85]

In the complainants' view, comparable conditions are also met in this case. As has already been outlined above, the reduction targets and paths set by the Federal Climate Protection Act fall far short of the reduction necessities and also miss the reduction potentials that could already be achieved today. Consequently, scope for emissions are continued to be opened up, that are likely to impair not only the complainants but the population as a whole within the life span of the complainants. By falling considerably short of the reduction potentials that are already possible today, the Federal Climate Protection Act at the same time accepts that the complainants may be impaired by third parties (greenhouse gas emitters) far beyond the unavoidable extent by the effects of excessive greenhouse gas emissions.

bb) Application under 2.

In their application under 1., the applicants seek to

- declare that the Federal legislator is obliged, within a period to be set by the Federal Constitutional Court, to ensure, by means of a new statutory regulation of the reduction quotas for greenhouse gases, that greenhouse gas emissions in the Federal Republic of Germany are kept as low as possible on the basis of more comprehensible forecasts and taking account of the principle of proportionality.

While the application under 1. is targeted at a declaration of violations of basic rights due to the reprimanded ("false") legislative omission, the declaratory application under 2. is about their elimination. Within the framework of the examination of the merits of the application, the complainants will demonstrate that the obligations to protect resulting from the basic rights complained of are evidently failed by the objected provisions of the Federal Climate Protection Act and, above all, that they do not comply with the prohibition of insufficient measures resulting from Article 1.1 and Article 2.2 of the Basic Law in conjunction with Article 1.1 and 2.2 of the Basic Law are not fulfilled. Art. 20a of the Basic Law. The path of reduction laid down in the KSG is objectively and evidently unsuitable to achieve the goal of the legislator.

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[85] BVerfG, Nichtannahmebeschluss of 15 March 2018 – 2 BvR 1371/13 –, juris, recital 29.

In the opinion of the complainants, due to the impairments of the basic rights of the complainants that have already occurred and their endangerment with regard to future GHG emissions, all available reduction potentials must be exhausted in order to avoid an aggravation of the climate crisis and to keep the consequences of climate change for the complainants as low as possible. The complainants consider this to be the relevant lower limit ("Untermaßgrenze") for the fulfilment of the protection obligations.

cc) Application under 3.

In their application under 3. the applicants seek to

- - declare that the Federal legislator is obliged to adopt, within the period laid down in no. 2, provisions prohibiting the Federal Republic of Germany from making transfers of emission the basis of Section 4(3) of the KSG in conjunction with Art. 5 of Regulation (EU) 2018/842 of 30 May 2018 to neighbouring European countries, as long as the EU climate protection law does not provide a level of protection that is adequate for basic rights.

With the Federal Climate Protection Act, the federal legislator intends, as has been explained (under IV.), to implement the climate protection goals of the EU. Firstly, it expressly provides for and permits the fulfilment of the national climate protection targets pursuant to Section 3 of the Act by measures outside German territory: Sections 3 (2) and Section 7 of the Act permit fulfilment by purchasing emission allowances abroad both inside and outside the EU.

Secondly, it results from the fact that the requirements of the European Climate Protection Regulation "remain unaffected" under Section 4 (3) sentence 2 KSG, that the Federal Republic of Germany is entitled to transfer "emission allowances" to other Member States in accordance with the requirements of Article 5 of Regulation (EU) 2018/842 of 30 May 2018. With the application under 3., the complainants want to ensure that climate protection efforts that go beyond the requirements of the European Climate Protection Regulation do not de facto lose their effect by transferring emission allocations for the further-reaching savings achieved in Germany to other Member States.

c) Standing to file a constitutional complaint

The complainants have the standing to complain. They are concerned directly, currently and themselves in their basic rights by the challenged inadequate statutory provisions respectively by the challenged legislative omission.[86]

The complainants will explain this in the following in the depth necessary for the presentation of the standing to complain and apart from that refer to the submissions in the context of the examination of the merits,

aa) Violation of basic rights

The complainants can assert that their basic rights under Article 1 and Article 2.2, in each case in conjunction with Article 20a of the Basic Law, as well as Article 12 and Article 14 have been affected by the legal provisions that are challenged as insufficient or by the alleged legislative omission. They thus complain about specific constitutional law.

aaa) Basic rights as duties to protect

It is recognised in the jurisprudence of the Federal Constitutional Court that from basic rights can also be derived duties to protect. In particular, since the first judgment on abortion,[87] the court has interpreted basic rights also as guarantees that are capable of conferring rights on an entity holding basic rights vis-à-vis the state to be protected from interference by third parties. This corresponds to the statement here, namely the impairment of the complainants by GHG emissions caused by third parties. The case-law, which was initially based primarily on Article 2.2 of the Basic Law, has been consolidated by the Federal Constitutional Court in numerous decisions, which in particular also concern protection against risks in the environmental field.[88] However, duties to protect also follow from other basic rights, in particular from Article 12 of the Basic Law[89] and Article 14 of the Basic Law[90].

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86 Cf. e.g. BVerfGE 97, 157, 164; 102, 197, 206.

87 BVerfGE 39, 1, 42 ff; see further BVerfGE 88, 87, 363 – Schwangerschaftsabbruch II.

88 BVerfGE 49, 89 – Kalkar I; BVerfGE 53, 30 – Mühlheim-Kärlich; BVerfGE 56, 54 – Fluglärm; BVerfGE 77, 170 – Lagerung chemischer Waffen; BVerfGE 77, 381 – Gorleben; BVerfGE 79, 174 - Straßenverkehrslärm; BVerfG NJW 1996, 651 – Ozon.

89 BVerfGE 92, 26, 46 f - Zweitregister; BVerfGE 92, 140, 150 – Sonderkündigungsrecht.

90 BVerfG NVwZ 2010, 114 – Schacht Konrad; *Jarass*, Jarass/Pieroth, 15. Aufl., 2018, Art. 14, recital 33.

The complainants do not misjudge that the Federal Constitutional Court has in the past granted the state a wide scope of action in the fulfilment of its duties to protect. According to this, within the framework of the functional order of the Basic Law, it is the primary task of the legislature to make the necessary assessments to implement them into action under political accountability.[91] However, the Federal Constitutional Court has also made it clear that the prerogative of the legislature is not unlimited. Legislative measures that serve the realisation of duties to protect basic rights must in any case not be completely unsuitable or completely insufficient.[92] In addition, the prohibition of measures below the minimum level, as developed by the Federal Constitutional Court in its second judgment on abortion,[93] must be observed. Accordingly, adequate protection is necessary - taking into account conflicting legal interests. What is decisive is that it is effective as such.[94]

According to the now established case-law of the Federal Constitutional Court, the rights and duties arising from the ECHR must also be observed in this context and must at least be taken into account in the interpretation of the basic rights of the Basic Law.[95] The necessary interpretation accommodating international law must also be taken into account in the question of the existence and scope of duties to protect. According to the case-law of the European Court of Human Rights, environment-related duties to protect arise from Articles 2 and 8 (see the corresponding summary of the case-law of the ECtHR in the *Urgenda* case, see above).

In the opinion of the complainants, as has already been explained, in view of the existential dangers to humanity and the complainants, the prohibition of measures below the minimum level in the present case must be filled out by the irrefutable imperative that all available mitigation potentials be exploited in order to avoid a worsening of the climate crisis and to keep the consequences of climate change for the complainants as low as possible.

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91 BVerfG NUR 1996, 507, 508 – Ozon.

92 E.g. BVerfG NVwZ 2011, 99, 993 f.

93 BVerfGE 88, 203 – Schwangerschaftsabbruch II.

94 Ibid. p. 254

95 Since BVerfGE 111, 307ff.

bbb) Art. 1 Basic Law: Human Dignity

All complainants can claim a violation of the principle of human dignity enshrined in Article 1 of the Basic Law.

State action or omissions must not destroy the foundations of the self-development of others and the preservation of the conditions of existence of future generations. It follows from Article 1 of the Basic Law that people must continue to have a humane future.[96] A central function of the principle of human dignity is to be seen in the "safeguarding of bases of life in accordance with human dignity"[97]. In the case law of the Federal Constitutional Court, this insight has so far led above all to the recognition of a basic right to a minimum subsistence level in human dignity.[98]

In the opinion of the complainants, it follows from the principle of human dignity in conjunction with Article 20a of the Basic Law (see below), in view of the above-mentioned damage that has already occurred and the threat scenarios associated with climate change, that there is already today the obligation to guarantee living conditions in which the subject quality of human beings and of the complainants can continue to develop in future. Climate-protecting regulations that do not allow the expectation that the categorically required goal of "securing humane bases of life" will be achieved, violate Article 1 of the Basic Law from the complainant's point of view.[99] This is because they negate the complainants' subject quality, as people without secure livelihoods become mere objects of a development that they can no longer influence themselves.

In the recently published joint declaration of five UN human rights bodies on "Human Rights in Climate Change"[100], inter alia, it is pointed out that climate change poses one of the most important and serious threats to the lives of future generations (see II.1.c above). Climate change is already threatening the natural base of life of humanity, as the courts have stated in the *Urgenda* case. Nothing less than the existence of the genus "human" is at stake, as is clearly evident from Annex 6, among others. It is also recognised that, in view of the pressure of

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[96] Correct *Frenz*, Klimaschutz und Menschenwürde, UPR 2020, 1.

[97] *Höfling*, in: Sachs, Grundgesetz 8th ed. 2018, GG Art. 1 recital 19, 30 ff.

[98] BVerfGE 125, 175; most recently BVerfG, Judgement of 05 November 2019 – 1 BvL 7/16 –, juris).

[99] See also *Frenz*, Klimaschutz und Menschenwürde, UPR 2020, 1, 4.

[100] 16.09.2019, Joint Statement on "Human Rights and Climate Change" https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24998&LangID=E (last visited 20.01.2020).

problems that has increased above all through inactivity, only rapid action can help to avoid catastrophic consequences.

ccc) Article 2(2) of the Basic Law: Right to life and physical integrity

In view of the consolidated case-law of the Federal Constitutional Court cited under aaa), all complainants can also claim that the challenged provisions or the challenged omission of the legislator impairs their rights under Article 2.2 sentence 1 of the Basic Law in conjunction with Article 20a of the Basic Law, because, as has been explained above, every avoidable emission of GHG gases is likely to increase the risk of becoming a victim of climate-related health damage.

In the already negotiated and decided climate complaint before the VG Berlin (Annex Bf. 16), the latter states:

> "Indeed, mere threats to basic rights generally lie in advance of constitutionally relevant impairments of basic rights. However, under special circumstances they can be equated with violations of basic rights... A risk provision related to a threat to basic rights can be covered by the duty of protection of state organs ...".

As has already been explained, it is already today clearly visible that the morbidity and mortality risk of the population (see II. 1. C bb)) - and thus also that of the complainants - is increasing considerably as a result of climate change. If an individual right of a third party affected follows from a state duty to protect that is anchored in basic rights, this right is by no means lost in a population risk or collective risk, because at the same time a large number of other persons or even the population in general is equally affected.[101] The mere fact that a very large number of people are affected by the effects of climate change does not from the outset exclude the effects of climate change on an individual[102] The risks to be impaired in their lives and health by climate change (through weather disasters, heat waves, allergens, asthma, new types of diseases) thus also affect the complainants, as has been explained in detail above.

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[101] Similarly BVerwG, Judgement of 10 April 2008 – 7 C 39/07 –, BVerwGE 131, 129-147, recital 23, regarding the nuclear damage precaution.

[102] VG Berlin, Annex Bf. 16, p. 21, as well as the courts at all instances in the *Urgenda* case, see above VI.

ddd) Article 12 and Article 14 of the Basic Law: Freedom of occupation and property

The complainants under 2) - 8) who are farmers or are in training to become farmers, are respectively prepared to take over the farms of their parents in the future. As far as they are not yet farmers themselves, they work on their parents' farms and are in this sense "co-possessors" of their parents' farms. As already shown, the farms are already today considerably impaired in their management due to climate-related events. It is clearly recognisable that climate-induced difficulties are likely to severely impair the exercise of the complainants' profession. The complainants are thus also impaired in their freedom of occupation under Article 12.1 of the Basic Law by the inadequate provisions in the KSG. Complainant 9) is similarly affected because the suitability of the island as a whole for tourism is at risk, and thus also the parental business.

As is known, the original sharp distinction within the three-step dogma in the case-law of the Federal Constitutional Court has increasingly been transformed into a step-specific proportionality examination by the postulation of a uniform basic right of freedom of occupation.[103] Factual impairments of the freedom to exercise an occupation, which in their intensity are equivalent to a regulation of the selection of occupation, must therefore be subjected to a stringent examination.[104] It must therefore be taken into account here that a stringent examination standard must be applied in view of a possible compulsion to give up the business because of climate-related damage.

Complainant 6) is the co-owner of an agricultural enterprise in Brandenburg (Spreewald) which - see Annex 30 - is already today considerably affected by the consequences of climate change, both with regard to agriculture and forestry. The complainant has already suffered damage due to inadequate legal measures for climate protection and must calculate with even greater damage in the future due to the inadequate regulations in the KSG. Regarding the implementation of a completely inadequate level of climate protection, which is not suitable for reducing greenhouse gas emissions to a minimum, further damage is foreseeable. They will have the effect of making operations considerably more difficult and may even lead to a compulsion to shut down the business.

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[103] *Mann*, in: Sachs, Grundgesetz, 8th edit. 2018, Art. 12 recital 137, 138

[104] E.g. BVerfGE 30, 292 (311); 30, 336 (351); 44, 103 (104); 50, 290 (365); cf. also BVerfGE 86, 28 (38 f.); 99, 202 (211).

These impacts on the complainant's business, which are induced by greenhouse gas emitters, also affect the scope of freedom of ownership. It is recognised that the guarantee of ownership, like the freedom of occupation, also gives rise to state duties to protect.[105]

According to the general opinion, the scope of freedom of ownership can also be impaired by "factual, influencing and indirect impacts on the use, disposal or exploitation of property positions. "[106] In the complainants' view, this also applies if third-party effects in the form of avoidable GHG emissions, which are tolerated by the state by setting inadequate climate protection targets, are at issue. Although the situation is not identical to that of a neighbouring complaint, it is nevertheless comparable. Art. 14 of the Basic Law is acknowledged to offer protection against the granting of a permit that has adverse side effects for a neighbour.[107]

Also the complainants under 2 - 5 as well as 7) to 9) can claim the guarantee of property. They are already preparing for taking over the business today by completing appropriate training courses and by working in the company of their parents. They are therefore already to be considered to be co-possessors of the company. According to the case law of the Federal Constitutional Court, they can rely on Article 14 of the Basic Law[108] as owners of the enterprise. The island inhabitants are also threatened with the loss of the "home“ (“Heimat”) as a result of climate change, rising sea levels and the considerably increasing storm surge risks.[109]

In addition, the position of heir to a family agricultural business has a pre-effect relevant to basic rights in the form of an expectant right (“Anwartschaft”), which is also protected under Article 14.1 of the Basic Law. There is an internal connection between ownership and the right of inheritance under the Basic Law.[110] In the opinion of the complainants, a "devaluation" of the inheritance based on the possible violation of a duty to protect cannot be based on a eligible definition

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[105] Cf. BVerfGE 114, 1 (37 ff., 56 ff.); 73 (89 ff.); BVerfG NJW 2006, 1783 ff.; NJW 1998, 3264 ff.; NJW 1983, 2931 ff; Maunz/Dürig/Papier/*Shirvani*, 88. EL August 2019, GG Art. 14 recital 134.

[106] *Wendt*, in: Sachs, Grundgesetz, 8th edit. 2018, Art. 14, recital 52.

[107] BVerwGE 32, 173 (178 f.); 50, 282 (286 ff.).

[108] BVerfG, decision of 26 May 1993 – 1 BvR 208/93 –, BVerfGE 89, 1-14.

[109] See BVerfG, Judgement of 17 December 2013 – 1 BvR 3139/08 –, BVerfGE 134, 242-357, recital 248 – Garzweiler II.

[110] *Wendt*, in: Sachs, Grundgesetz, 8th edit. 2018, Art. 14, recital 193.

of the content and limits (“Inhalts- und Schrankenbestimmung”) of the right to inheritance and can therefore be regarded as an unallowable preceding impairment (“Ingerenz”) in the right of inheritance protected by Article 14.1 of the Basic Law even before the occurrence of the inheritance.

bb) Concern

The complainants are furthermore concerned themselves, currently and directly in their basic rights under Article 1 in conjunction with Article 20a of the Basic Law, Article 2, Article 12, Article 14 of the Basic Law by the contested "false" omission in the form of the Federal Climate Protection Act.

aaa) Self

The complainants are themselves concerned.

They are initially concerned *de facto* by the effects of climate change that can already be observed today, as well as by the considerable risk potential of further global warming. This is explained with regard to the businesses in Annexes 29-32, and with regard to health and other global risks in Section II.1.c).

However, they are also *legally* "themselves" concerned. The self-concern is to be seen in the omission complained of. It cannot be denied with the argument that the complainants are not "addressees" of the Federal Climate Protection Act, because this would ignore that the complainants claim to have been violated in the basic rights complained of by a (false) legislative omission in the form of the inadequate provisions of the Federal Climate Protection Act and the failure to implement a sufficient reduction path through measures. The required "sufficiently close connection"[111] between the complainants' basic rights positions and the legislative omission challenged by the constitutional complaint is present here in all complainants. As explained above, it is above all with regard to the triggering of so-called *tipping points* that every tonne of CO_2 and every hundredth of a degree of warming is at stake.

bbb) Currently

The complainants are also currently concerned.

By the alleged violation of duties to protect arising from basic rights, in particular by disregarding the prohibition of measures below the minimum level, the

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[111] *Kleine-Cosack*, Verfassungsbeschwerden und Menschenrechtsbeschwerde, 3. Aufl. 2013, recital 361.

Federal Republic of Germany's contribution to the climate crisis and to an accelerated rise in temperature has in the past gone far beyond what is constitutionally permissible. The consequences of the omission are already perceptible to the complainants today at a global warming of about 1.1°C and, if the reprimanded omission is perpetuated, the still young complainants will be robbed of a humane future, and the dangers to life and limb, dangers to their property and their professional development opportunities will be induced.

Moreover, case law does not require that a threat must be realised immediately with the passing of a challenged law. Rather, it is sufficient that a challenged law or a challenged omission is associated for the complainants with a threat to their basic rights that is to be seriously concerned. According to the case-law of the Federal Constitutional Court, for instance even regulations that in the course of their implementation lead to a not inconsiderable threat to basic rights may conflict with the Basic Law.[112]

As has already been shown, it must be assumed that in order to avoid catastrophic consequences of climate change, it is important to avoid any unnecessary emission of greenhouse gases already today. Referring the complainants to a later point in time would be connected with the possible consequence that irreversible effects (by exceeding *tipping points*) could already have occurred at this point in time. It is not realistic or feasible to remove GHGs from the atmosphere on a large scale (see II.2.c above). It must thus currently be complied with the obligation to protect, i.e. here and now.

In the opinion of the complainants, a persistent omission, which is associated with threats to high-ranking legally protected rights, is therefore always also current.

ccc) Directly

The complainants are also directly concerned.

Directness is given if a violation of rights results directly from the law or from a legislative omission, i.e. no independent judicially contestable enforcement act is required for the occurrence of a violation of rights.[113] This also applies in principle when legislative omission is at issue.[114]

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[112] BVerfGE 49, 89, 141 – Kalkar I.

[113] BVerfGE 110, 370, 381 f; 87, 157, 164.

[114] BVerfGE 77, 170, 219/220.

The Federal Climate Protection Act does not provide for special implementation steps in the form of enforcement acts. It defines interdepartmental reduction targets which - as has been explained - fall far short of what is possible and necessary to protect the complainants and to ensure a realistic contribution by Germany to meeting the 1.5°C temperature target. The reduction obligations, which are set far too low in disregard of basic rights obligations to protect, or the lack of a coherent reduction path, together with the lack of measures which pursue and implement the goals of the KSG, let alone a conclusive reduction path beyond that, determine the permissible emission framework for GHG emissions without further acts of implementation being necessary. The impermissibly high emissions framework will mean that all legislative or executive action will be oriented towards it, with the consequence that the greenhouse gas budgets still available for containing the rise in temperature according to conclusive distribution methods will inevitably be far exceeded.

The Federal Climate Protection Act programmes, so to speak, all future action by the state towards a goal that disregards the protection obligations to be observed with regard to the complainants. The associated threats to basic rights already directly concern the complainants today.

d) Deadline

The constitutional complaint is also in due time.

The one-year deadline under Section 93.3 of the BVerfGG has been met. Insofar as statutory omission is at issue, the provisions on time limits of Section 93 of the BVerfGG do not apply.[115]

e) Exhaustion of remedies and subsidiarity

The constitutional complaint is also without prejudice to the principle of exhaustion of remedies and subsidiarity.

First of all, it is of note that no legal recourse is open to the complainants to the extent that they challenge the Federal Climate Protection Act. This would be in conflict with the Federal Constitutional Court's exclusive power to reject illegal provisions (“Verwerfungsmonopol”, Article 100 of the Basic Law).

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115 BVerfGE 77, 170, 214.

The subsidiarity of the constitutional complaint is also respected since subject-specific judicial relief is not possible here. The principle of subsidiarity requires that, before lodging a constitutional complaint, all procedural possibilities available must be used to obtain a correction of the alleged violation of the constitution or to prevent a violation of basic rights. This applies even if it is doubtful whether a corresponding legal remedy is admissible and can be lodged in an admissible manner in a specific case.[116] However, such a remedy is not apparent prima facie here.[117]

In this context, one might at best think of a declaratory action that has recently been increasingly brought into play by the Federal Constitutional Court.[118] Such a declaratory action would, however, be hopeless here, because an action for a declaratory judgment under § 43.1 of the VwGO would obviously be inadmissible. Such an action presupposes the existence of a determinable legal relationship between the entity *implementing* a law and the law's addressee. Such a relationship is not apparent here, however.

In the case of the complainants, a legal relationship exists exclusively in relation to the legislator. Although an action for an adoption of provisions in respect of subsidiary law is recognised,[119] it is not recognised in respect of legislative omissions which relate to formal laws.

2. Capability of admission under Section 93a BVerfGG

The constitutional complaint is to be admitted for decision both under Section 93a.2 a) and Section 93a.2 b) of the BVerfGG.

a) General significance

A constitutional complaint is of general significance if it raises a constitutional question that cannot be answered without further ado from the Basic Law and

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[116] Consistent jurisprudence BVerfGE 16, 1, 2 f.; 145, 20, 54, recital 85.

[117] See also *Volland*, zur Reichweite von Menschenrechten im Klimaschutz, ZUR 2019, 114, 118.

[118] BVerfG, decision of 18 December 2018 – 1 BvR 2795/09 –, BVerfGE 150, 309-345, recital 44 f.

[119] BVerwG NVwZ 2002, 1505 ff; BVerwGE 80, 355, 361; BVerwG NVwZ 1990, 162 f; *Sodan*, Der Anspruch auf Rechtsetzung und seine prozessuale Durchsetzbarkeit, NVwZ 2000, 601, 608 f.

has not yet been clarified by the constitutional jurisprudence, or if the changed circumstances have made it necessary to clarify it again.[120]

These conditions are present here. Climate change represents a unique challenge in the history of mankind, which - as has already been mentioned - calls into question the existence of the human species. In the opinion of the complainants, the legal questions raised by this about the purport of the principle of human dignity (Article 1 of the Basic Law) and the principle of intergenerational justice (Article 20a of the Basic Law), as well as the scope of the duty to protect the other fundamental personal rights complained of (Article 2.2, Article 12, Article 14 of the Basic Law), cannot be answered without further ado from the Basic Law, nor have they been clarified to date. In view of the legislature's inadequate responses to the climate crisis, which have been ongoing for decades, there are serious doubts as to whether the continuation of an inadequate protection level, as happened with the contested provisions, can be accepted constitutionally.

In addition, the complainants are of the opinion that the previous case law of the Federal Constitutional Court on the violation of the duty to protect basic rights in the field of environmental protection must be readjusted with regard to changed circumstances in view of the climate crisis. The correct conclusion of the former President of the Federal Constitutional Court, that so far no violation of the duty to protect by the state has been assumed in any environmental law case,[121] indicates that the previous jurisprudence has a too low capability of resonance for threats to basic rights in the environmental field. Especially in view of the unique dangers associated with the climate crisis, there is, in the opinion of the complainants, reason to review the previous standards.

There is obviously also an objective interest in clarifying the subject matter of the complaint, which is of importance to society as a whole, i.e. beyond the circle of the complainants. The KSG is designed in such a way that it defines the climate obligations of the Federal Republic of Germany for decades to come - in addition to its function of implementing EU secondary law. Even though the KSG allows the sector objectives to be updated by means of legislative decrees, the Act itself does not contain any reference to the level of protection that is to be achieved in the long term in terms of budget or reduction path.

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[120] fundamentally BVerfG, Decision of 8 February 1994 - 1 BvR 1693/92 -, BVerfGE 90, 22-27, recital 11; BVerfG, Non-acceptance decision of 5 March 2018 - 1 BvR 2926/14 -, recital 15, juris.

[121] *Voßkuhle*, Umweltschutz und Grundgesetz, NVwZ 2013, 1, 7.

b) Enforcement of basic rights

The constitutional complaint is also appropriate to enforce the complainants' basic rights.

This is the case if the asserted violation of basic rights or rights equivalent to basic rights carries particular weight or affects the complainant in an existential way. A violation of basic rights is of particular weight that indicates a general neglect of basic rights or is suitable, because of its effect, to prevent from the exercise of basic rights. An asserted violation is also of particular weight if it is based on a gross disregard for the protection guaranteed by a basic right or an almost careless handling of positions protected by basic rights, or if it blatantly violates principles of the rule of law. The complainants may be existentially affected above all by the subject-matter of the challenged decision or the burden it places on them.[122]

Measured by these standards, the admission of the constitutional complaint is indicated here. As has been shown, the asserted violation of duties to protect by legislative omission has an existential dimension not only for the complainants. Moreover, it is not apparent that the legislature has at all weighed the effects of the established level of protection that is relevant to basic rights against other constitutional goods. The fact that the measures submitted so far cannot even achieve the (inadequate) objectives of Section 3 and Annex 2 of the KSG, or that no prognostic assessment is made in this regard, shows the legislature's particular carelessness and disregard of its commitment to basic rights ("Grundrechtsbindung").

3. Merits of the constitutional complaint

The constitutional complaint is also well-founded. The challenged provisions of the Federal Climate Protection Act and the challenged legislative omission violate the complainants' basic rights under Article 1 of the Basic Law and Article 2.2 of the Basic Law, in each case in conjunction with Article 20a of the Basic Law, and Articles 12 and 14 of the Basic Law.

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[122] BVerfG, Decision of 08 February 1994 – 1 BvR 1693/92 –, BVerfGE 90, 22-27, recital 13.

a) Violation of Article 1 of the Basic Law in conjunction with Article 20a of the Basic Law

The complainants‘ basic right under Article 1 of the Basic Law in conjunction with Article 20a of the Basic Law is violated.

aa) Preliminary remark

The complainants will argue that the principle of human dignity enshrined in Article 1 of the Basic Law, in conjunction with Article 20a of the Basic Law, entails an obligation on the state to enable people to lead a life in keeping with their dignity in the long term by protecting the natural foundations of life. Against the background of the existential dimension of the climate crisis this obligation is currently not fulfilled based on the provisions of the Federal Climate Protection Act and the objected legislative omission. The contested provisions fail to provide the required protection because they are evidently unsuitable, do not reach the appropriate level of protection and thus violate the prohibition of measures below the minimum level (“Untermaßverbot”).

Because of the many years of deficient state action and the resulting exacerbation of the climate crisis, state action is required that can be expected with sufficient certainty to reduce further greenhouse gas emissions to a minimum. Only through decisive action can the state's duty to protect be met.[123] Against this background, the complainants are entitled to the declarations and decisions sought by the constitutional complaint.

bb) Guarantee scope of Article 1 (1) of the Basic Law

According to the case law of the Federal Constitutional Court, the guarantee of human dignity has the character of a "fundamental constitutional principle"[124] within the constitutional legal system. It cannot be restricted ("is inviolable") by any other constitutional provision, is resistant to weighting and is even exempt from amendment by the constitutional legislature (Article 79.3 of the Basic Law).

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[123] Similar *Groß*, Welche Klimaschutzpflichten ergeben sich aus Art. 20a GG, ZUR 2009, 364, 367.
[124] BVerfGE 87, 209/228.

The intrinsic value of the human being is at the centre of the guarantee of human dignity. It is violated when a human being is made a mere object of state action, i.e. when its subject quality is fundamentally called into question.[125] Accordingly, human action must be oriented towards generalisable maxims which do not reduce people to mere means, but always also respect them as an end in themselves. The guarantee of human dignity thus includes in particular the preservation of personal individuality, identity and integrity as well as the elementary equality of rights. It is based on an idea of man, which understands him as a person in freedom of self-determination who is capable to self-responsibly shape his own destiny.[126] In the complainants' view, the destruction of the basis for the self-development of others is accordingly incompatible with the principle of human dignity.[127]

The guarantee of human dignity by the Basic Law is not reduced in this context to the defence against the state's interference. From Article 1.1 sentence 2, 2nd alternative of the Basic Law rather follows directly from its wording an obligation to protect. The state is obligated according to the Basic Law to also positively protect human dignity.[128] The proximity of the here reprimanded omission of sufficient protection to an (indirect or factual) intervention is emphasized. Although the legislator does not emit itself - the concrete statement of the permissibility of total emission quantities in Appendix 2, however, is equivalent to a permission of exactly these (excessive) quantities of GHG emissions from the complainant’s point of view.

The guarantee of human dignity here constitutes - to put it pointedly - the obligation of all state authority to secure the conditions of a humane existence and to take precautions against violations of dignity by private persons.[129]

This objective duty corresponds to a subjective right to protection of potentially impaired persons. It would be wrong and would not do justice to the significance of the basic right to ascribe to the dimension of the duty to protect merely an objective-law content.[130] As *Alexy* rightly noted, this ultimately follows from the

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[125] BVerfGE 9, 89, 95; E 72, 105, 116; E 115, 118, 153 – Luftsicherheitsgesetz.

[126] BVerfGE 144, 20-369, Rn. 539 – NPD Verbot; BVerfGE 45, 187, 227; 49, 286, 298.

[127] In this sense *Frenz*, Klimaschutz und Menschenwürde, UPR 2020, 1.

[128] Sachs/*Höfling*, Grundgesetz, 8th edit. 2018, GG Art. 1 recital 49.

[129] Maunz/Dürig/*Herdegen*, 88. EL August 2019, GG Art. 1.1 recital 78.

[130] Correct *Alexy*, Theorie der Grundrechte, Frankfurt1986, S. 414; *Ekardt*, Menschenrechte und Umweltschutz, ZUR 2015, 579, 582; *Epping*, Grundrechte, 8th edit. 2019, recital 138 f; *Kahl/Gärditz*, Umweltrecht, 11. Aufl. 2019, § 3, recital 26.

liberal understanding of basic rights, which is often wrongly opposed to the idea of a duty to protect. The liberal understanding of basic rights can be traced back in the history of ideas to the modern founding of the state within the framework of a contractual model. According to this model, the transition from the pre-state to the state condition is associated with the renunciation by the individual of effective self-protection.[131] However, such a renunciation can only be rationally justified if the individual is given a right to comprehensive state protection in return for his or her renunciation.[132] This idea is also found in the case law of the Federal Constitutional Court, for instance, when a duty to prosecute violent crimes and comparable offences is established by invoking the idea of a duty to protect and referring to the state monopoly of violence.[133]

Constitutional case law considers protection against social deprivation to be an important guarantee dimension of the guarantee of human dignity. The Federal Constitutional Court has derived from the guarantee of human dignity (Article 1 of the Basic Law) in conjunction with the principle of the welfare state (Article 20.1 of the Basic Law) a claim to the guarantee of the material minimum subsistence level.[134] Already In the first commentary of the standard commentary on the Basic Law (Maunz/Dürig 1958), *Dürig* formulated that human dignity is also affected "when man is forced to exist economically under living conditions that degrade him to an object".[135] Without the guarantee of minimum conditions of economic subsistence, not only "degradation" is threatened, but also the loss of the freedom to determine one's own destiny and fate. On the basis of Article 1.1 of the Basic Law in conjunction with the principle of the welfare state, physical and socio-cultural existence must therefore be consistently safeguarded.[136] The lower limit of a humane subsistence level must accordingly categorically not be undercut. This also includes the obligation to provide a viable overall justification for the amount of benefits that are to fill the subsistence level.[137] In this respect, the state has a strict burden of proof. Similarly, the highest court in

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[131] See also *Callies*, Handbuch der Grundrechte, Vol. II, Allgemeine Lehren, 2006, § 44 Schutzpflichten, p. 984.

[132] *Alexy*, ibid., p. 415.

[133] Most recently BVerfG, Decision of 15.1.2020, 2 BvR 1763/16, juris, recital 36, with further references

[134] BVerfGE 82, 60, 85; 125, 175; also BVerwGE 82, 364, 367/368.

[135] Quoted from VonMünch/Kunig-*Kunig*, Commentary on the Basic Law, Vol. 1, 6th ed. 2012, Art. 1 para. 36 - subsistence minimum.

[136] BVerfG, Judgement of 0. November 2019 – 1 BvL 7/16 –, juris.

[137] BVerfGE 137, 34, 74 f. recital 80, with further references

the Netherlands argues in the context of the guarantee from Art. 2 and Art. 8 ECHR, according to which the state must demonstrate that and how it fulfils its duty to protect (see above under VI.).

In the opinion of the complainants, this case-law can also be taken up in the context that is the subject of the dispute here, especially if one adds the obligation of the state to protect the natural foundations of life also in responsibility for future generations.

cc) Article 20a of the Basic Law: Protection of natural foundations of life in responsibility for future generations

The objective for the protection of the natural foundations of life anchored in Article 20a of the Basic Law contains a binding constitutional objective intended by the constitutional legislator[138]. In the Schacht-Konrad decision, the BVerfG left open whether a subject of basic rights can invoke a violation of the state objective provision of Article 20a of the Basic Law.[139] The prevailing opinion, however, assumes that, in contrast to a basic right, Article 20a of the Basic Law does not guarantee a subjective claim of the individual, but merely establishes an objective obligation of the state.[140]

It is undisputed, however, that it is a legal obligation and not merely a non-binding programme-proposal.[141] Similar to the principle of the welfare state, Article 20a of the Basic Law establishes a legal principle from which, according to the prevailing opinion, a constitutional value decision in favour of environmental protection can be derived.[142] Other authors go even further. *Kloepfer* recognises in the constitutional norm a "state structure provision" which is to be regarded as a decisive step towards the environmental state.[143] According to *Murswiek*, environmental protection is not only to be qualified as a state objective, but - independent of any regulation - as a fundamental state's end, because the legitimacy of the state depends on its ability to fulfil this task to a sufficient degree.[144] This is because, according to *Murswiek*, a violation of the duty to preserve the

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[138] BT-Drs-12/6000, 47.

[139] BVerfG, decision of non-allowance of 10 November 2009 – 1 BvR 1178/07 –, juris.

[140] E.g. BVerwG NVwZ 1998, 1080 (1081).

[141] Sachs/*Murswiek*, 8th edit. 2018, GG Art. 20a recital 12

[142] Jarass/Pieroth-*Jarass*, Grundgesetz für die Bundesrepublik Deutschland, 15th edit.., 2018, Art. 20a, recital 1.

[143] *Kloepfer*, Umweltrecht 4th edit., 2016, § 3, recital 23.

[144] Sachs/*Murswiek*, 8th edit. 2018, GG Art. 20a recital 14.

natural foundations of human life threatens to call into question the legitimacy of the state and the liberal constitution.[145] This is to be agreed in principle. Without precaution that safeguards the natural foundations of life in a future-oriented manner, the scope for action that actually exists could become so limited that no real scope for decision-making remains.[146] Such a situation erodes both spheres of freedom and the foundations of the legitimacy of the state.

Objects of protection under Article 20a of the Basic Law are the natural foundations of life and animals. The obligation of the state consists primarily in refraining from or averting impairments of these objects of protection.[147] It is undisputed that the protection does not only refer to the classical environmental media such as air, water and soil, but also to the climate.[148] With regard to the protection of the climate, it is of considerable importance that environmental goods outside Germany are also covered by Article 20a of the Basic Law, provided that there is a connection to the environment in Germany or that environmental goods are affected by conduct under German jurisdiction.[149] Therefore, Article 20a of the Basic Law also obliges the Federal Republic of Germany to cooperate internationally to protect the climate or - as the courts in the Netherlands put it - to fulfil "its share" of the necessary climate protection.

This broad territorial approach of Article 20a of the Basic Law is complemented by a future-oriented approach. The resulting dimensions of protection include, according to the widely agreed view

- the requirement of preventing damage (principle of averting danger).
- the requirement of eliminating or at least compensating for damage that has occurred.
- the requirement of minimising risks (risk precaution).
- the requirement of conserving resources sustainably and

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[145] *Murswiek*, Umweltschutz als Staatszweck, Die ökologischen Legitimationsgrundlagen des Staates, 1995, p. 85.

[146] *Appel*, Staatliche Zukunfts- und Entwicklungsvorsorge, 2005, 533.

[147] *Sachs/Murswiek*, 8. Aufl. 2018, GG Art. 20a recital 20.

[148] BVerfGE 118, 79,110; *Heselhaus*, in: Hansmann/Sellner (ed.), Grundzüge des Umweltrechts, 2012, § 1, recital 19, with further references; *Gärditz*, in: Landman/Rohmer, Umweltrecht, 90. EL June 2019, recital 9; *Groß*, Welche Klimaschutzpflichten ergeben sich aus Art. 20a GG? ZUR 2009, 364, 366.

[149] *Heselhaus*, ibid.

- the prohibition of substantial deterioration of the environment.[150]

A progressing, unrestricted climate change predictably affects the requirement of preventing damage, the requirement of minimising risks, the prohibition of substantial environmental degradation and, not least, the requirement of eliminating or compensating for damage that has occurred.[151] Above all, the precautionary principle, as one of the core elements of the national goal of environmental protection, requires immediate and effective measures to be taken to reduce greenhouse gas emissions.[152] Without effective exercise of this responsibility to avert dangers and take precautions against the dangers of climate change, the survival of humanity will be at stake according to the submissions under II, and recently also an official statement by the Secretary-General of the United Nations *Guterres* at the World Economic Forum in Davos 2020 ("Humanity must act, otherwise it is doomed to perish"[153]).

For the complainants, being young people aged between 15 and 32, the future-orientated nature of the guarantee is naturally of particular relevance. Article 20a of the Basic Law permanently protects the environment, also with regard to the preservation of the natural foundations of life, in responsibility for future generations.

By referring to future generations, the provision expressly requires a long-term consideration of the harmful effects of environmental changes.[154] The main issue addressed is that of posterity and future responsibility, which can result from the complete or partial irreversibility of environmental pollution. This is particularly relevant, as has been shown, for climate change. In the case of the leaders, as has been pointed out, effects are already present today (the businesses are already exposed to considerable damage, local sea levels are rising, extreme weather conditions are becoming the new norm), are clearly discernible for the future, and further serious consequences for their living environment and for their own lives can already be expected during their lifetime. They are also the ones who

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150 See *Sparwasser/Engel/Voßkuhle*, Umweltrecht, 5th edit. 2003, § 1, recital 151.

151 Cf. *Verheyen*, Climate Change Damage and International Law – Prevention Duties and State Responsibility, 2006.

152 *Groß*, Welche Klimaschutzpflichten ergeben sich aus Art. 20a GG?, ZUR 2009, 364, 367.

153 https://www.kleinezeitung.at/politik/aussenpolitik/5757316/Davos_UNGeneralsekretaer_Wir-verlieren-den-Kampf-gegen-den. (last visited on 20.01.2020).

154 *Groß*, Welche Klimaschutzpflichten ergeben sich aus Art. 20a GG?, ZUR 2009, 364, 367.

"pay" for the consequences of climate change. This has been explained in detail under II. 1c) bb).

The aspect of intergenerational justice has played a not inconsiderable role above all in the debate on the constitutionality of the use of nuclear energy.[155] The topic has been the subject of discussion in case law[156] and literature, particularly with regard to the long-term consequences of the final disposal of nuclear waste. In the meantime, the legislator has recognised in the Site Selection Act with the provision in Section 1 para. 2 sentence 3 StandAG (Standortauswahlgesetz) that, in finding a site for a final repository with the best possible safety, unreasonable burdens and obligations for future generations must be avoided.[157] In the opinion of the complainants, the obligation to "intergenerational justice" recognised in this regulation is to be applied here as well.

The complainants as well can invoke the principle of intergenerational justice enshrined in Article 20a of the Basic Law.[158] As has been shown, the climate objectives incorporated in the KSG with the concrete permissible emission quantities in Annex 2 to Section 3 lead to the fact that the remaining CO_2 budget will be used up hastily in their lifetime and the rise in temperature will only be insufficiently slowed down. A reduction path that is even approximately compatible with compliance with the 1.5°C target cannot be identified with the KSG. The complainants will probably have to accept very drastic deteriorations in their living environment during their lifetime, which result from the fact that previous generations have profited considerably from the emission of greenhouse gases and have thereby seriously damaged the ecosystem. As also explained, the existing greenhouse gas budget is so decimated precisely because the German federal legislator has also failed to act or has acted inadequately since the problem was recognised. This is clearly shown, inter alia, by the genesis of the climate target for 2020 (III.2 above), but also overall by the smaller scope for action due to the "lost time" and the necessarily steeper reduction curve, cf. above III.

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155 *Wollenteit*, Zur Langzeitsicherheit von Endlagern, in: Koch/Roßnagel (ed.), 10. ATRS, 2000, 333 f, with further references.

156 OVG-Lüneburg, Judgement of 8.3.2006 – 7 KS 145/02, recital 1002; BVerfG, Decision of non-admission of 10 November 2009 – 1 BvR 1178/07 –, juris.

157 *Wollenteit*, in: Frenz (ed.), Atomrecht, Atomgesetz und Ausstiegsgesetze, StandAG, § 1, recital 15.

158 See further *Saurer*, Strukturen gerichtlicher Kontrolle im Klimaschutzrecht – Eine rechtsvergleichende Analyse, ZUR 2018, 679, 685 with further references.

dd) Article 1 of the Basic Law in conjunction with Article 20a of the Basic Law: Right to a humane future

In the opinion of the complainants, the state objective of Article 20a of the Basic Law is comparable to Article 20 of the Basic Law not only because of its position and wording, but also because of its meaning.[159] This suggests to establish a reference to the guarantee of human dignity. As is well known, the Federal Constitutional Court has derived a basic right to a guarantee of a humane minimum subsistence level from the guarantee of human dignity in conjunction with the principle of the welfare state. Correspondingly, the guarantee of human dignity in conjunction with Article 20a of the Basic Law can also be used to derive a claim to the preservation of "foundations of life in accordance with human dignity", i.e. such natural foundations of life[160] that permit an existence without inhumane deprivation. Partly this minimum is also called "ecological minimum"[161]. One can also paraphrase it a "right to a humane future".

It is not only a matter of guaranteeing a minimum in the sense of non-depriving living conditions that may occur due to irreversible environmental damage caused by climate change. Rather, the guarantee of human dignity is also intended to guarantee living conditions in which the subject quality of the human being and the complainants can develop further in the future. It has been correctly stated that human dignity cannot be safeguarded without the protection of the natural foundations of life.[162] If, in the face of exacerbated global problems, the scope for new developments is narrowed in such a way that the future can only bring what is forced by punishment for its demise,[163] not only the range of democratic participation and freedom rights, but also their quality as subjects is increasingly at stake for present and future generations. Such restrictions of policy-making possibilities is also, comparable to the restriction of the policy-making possibilities through excessive borrowing,[164] highly questionable with regard

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[159] Correct *Gassner*, die verfassungsrechtliche Profilierung des Schutzes der natürlichen Lebensgrundlagen, NVwZ 2020, 29.

[160] See already *Steinberg*, Verfassungsrechtlicher Umweltschutz durch Grundrechte und Staatszielbestimmungen, NJW 1996, 1985, 1987.

[161] E.g. *Luthe*, Das ökologische, gesundheitliche und soziale Existenzminimum und das Vorsorgeprinzip, in: Festschrift für Frank Götz, 77; *Köck/Dilling*, Was bleibt? Deutsches Umweltrecht in vergleichender Perspektive, DöV 2018, 594, 595 with further references.

[162] *Gassner*, die verfassungsrechtliche Profilierung des Schutzes der natürlichen Lebensgrundlagen, NVwZ 2020, 29, 30.

[163] See further *Appel*, Staatliche Zukunfts- und Entwicklungsvorsorge, 2005, 535.

[164] BVerfG, Judgement of 07 September 2011 – 2 BvR 987/10 –, BVerfGE 129, 124-186, recital 104 – Euro-Rettungsschirm.

to the principle of democracy (Article 20 of the Basic Law). Proceeding along the present path robs the complainants and future generations of their prospects for shaping the future to an unprecedented extent.

In the opinion of the complainants, climate-protecting regulations that do not give rise to the expectation that the categorically required goal of "securing the foundations of life appropriate to human dignity" will be achieved therefore violate Article 1 of the Basic Law in conjunction with Article 20a of the Basic Law. Fellow human beings must continue to have a humane future.[165] A life without a humane future negates the subject quality of human beings and the complainants, because people without secured natural foundations of life not only have to face depraving living conditions (for example as a result of natural catastrophes), but also become mere objects of a development that they can influence only to a limited extent or no longer themselves.

In the opinion of the complainants, the normative obligation of the state to guarantee foundations of life in accordance with human dignity also in the future implies the necessity of limiting greenhouse gas emissions in such a way that the "1.5° target" can still be maintained if all states would act accordingly ("its share"). The Dutch jurisdiction in the *Urgenda* case also tends to agree with this, even though this did not have to be decided. Incidentally, this also corresponds to the obligation under international law under the Paris Agreement, according to which adherence to objectives based on a 2°C target already is obviously insufficient. Even by purely international law standards, the legislator must "make efforts" to limit the temperature increase to 1.5°C – nothing in this regard is apparent from the KSG or otherwise in the behaviour of the legislator.

When setting climate protection targets, the legislator must, in view of the protection mandate under Articles 1 and 20a of the Basic Law, be guided in principle by this scientific state and thus base its actions on a reduction path that corresponds to the necessary level of protection. This is based on the assumption that a rise in global temperatures above 1.5° (with the physical and mathematical uncertainties entailed) actively accepts the risk of millions of human lives and the crossing of uncontrollable *tipping points* with unforeseeable consequences for the climate system. The emission paths of the IPCC have also been used as the best scientific standard to justify the decision in the three court decisions in the *Urgenda* case, see above VI.

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[165] *Frenz*, Klimaschutz und Menschenwürde, UPR 2020, 1.

In the opinion of the complainants, a less ambitious protection goal is not suitable for fulfilling the obligation to protect under Article 1.1 of the Basic Law in conjunction with Article 20a of the Basic Law. The necessity of achieving this climate protection target in order to avoid potentially catastrophic consequences for humanity, the population of the Federal Republic of Germany and the complainants is, as has been explained, scientifically largely uncontroversial.

The legislator has further not explained why it might wish to apply a different level of protection.

ee) Violation of the duty to protect under Article 1.1 of the Basic Law in conjunction with Article 20a of the Basic Law, also taking into account the legislator's scope for design

The objected provisions of the Federal Climate Protection Act and the objected ("false") legislative omission do not comply with the duty to protect arising from the guarantee of human dignity in Article 1 (1) of the Basic Law in conjunction with Article 20a of the Basic Law for the above-mentioned reasons, even taking into account the freedom of the legislator to design legislation respected by the Federal Constitutional Court.

aaa) The legislator's scope for assessment and design

In the fulfilment of duties to protect, constitutional case law generally grants the legislature a wide scope for assessment, evaluation, and design. Accordingly, a violation of duties to protect only exists if the public authority has either not taken any protective measures at all or if the regulations and measures taken are obviously completely unsuitable or completely insufficient to achieve the protection objective (evidence formula).[166] In principle, a scope for assessment and design is also to be taken into consideration for the duty to protect under Article 1 para. 1 in conjunction with Article 20a of the Basic Law. According to the constitutional court's case law, however, the legislator's scope for designing the social "subsistence minimum" is limited.[167]

Moreover, in the opinion of the complainants, the evidence formula is not absolute. In addition to the frequently criticised[168] "evidence formula" that dominates

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[166] BVerfGE 56, 54, 80 f - Aircraft noise; BVerfGE 79, 175, 202 - Road noise; BVerfGE 77, 170, 214f - Storage of chemical weapons; BVerfG NuR 1996, 507, 508 - Ozone

[167] BVerfG, Judgement of 05 November 2019 – 1 BvL 7/16 –, juris.

[168] *Appel*, § 2 Europäisches und nationales Umweltverfassungsrecht, Koch/Hofmann/Reese (ed.), Handbuch Umweltrecht, 5th edit., § 2, recital 129, with further references; *Winkler*, Klimaschutzrecht, 2005, p. 102 ff.

constitutional court case-law,[169] the Federal Constitutional Court too has already suggested in other decisions the possibility that a stricter standard of review may be considered on account of particularities of the facts at issue. In individual cases, the freedom of design can even be restricted in such a way that the duty to protect can only be satisfied by one specific measure.[170] This already follows from the fact that the extent of the legislature's scope for prognosis and design can only be determined by reference to the basic rights principles affected in each case and must depend decisively on their weight in each case to be decided.[171]

The "the - the formula" (je-desto formula") developed for the area of technical safety law and anchored in the precautionary principle can also be used here.[172] The greater the hazard or risk potential for the supreme legal interests, the lower the threshold of probability for the prognosis of a damage occurrence, above which effective state protective measures are required.[173] This formula also applies to possible threats to human dignity in the context of the climate crisis. To break it down, this means that the legislator's scope for design, such as that of the executive in nuclear law,[174] may already be limited by a potential for concern[175] if a particularly high extent of damage is at stake without fulfilment of the duty to protect.

This view also corresponds to that of the BVerfG in the Kalkar-Decision, according to which protection against the risks of nuclear power use is required up to the limit of the residual risk.[176] From this, the general standard can be derived that whenever hazards and risks with a particularly high damage potential are at issue, an existing duty to protect in principle requires "the best possible hazard and risk prevention".

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169 See *Voßkuhle*, Umweltschutz und Grundgesetz, NVwZ 2013, 1, 7.

170 BVerfGE 77, 170, 215 - Storage of chemical weapons; BVerfGE 115, 118, 159 f - Air Security Act.

171 Correct *Alexy*, Theorie der Grundrechte, Frankfurt 1986, p. 427, with further references *Epping*, Grundrechte, 8th edit. 2019, recital 128 ff.

172 See further *Kahl/Gärditz*, Umweltrecht, 11th edit. 2019, § 3, recital 21.

173 BVerfG NVwZ 2010, 702. 703f - Apocalypse before the BVerfG.

174 BVerwGE 72, 300, 315f.

175 BVerfG NVwZ 2010, 702. 703f - Apocalypse before the BVerfG.

176 Decision of 8.8.1978, 2 BvL 8/77, BVerfGE 49, 89, 141.

The considerations relevant for nuclear law can be applied to anthropogenically caused climate change.[177] With regard to climate change, it already has to be spoken of a danger as the complainants have shown, against the background of the inadequate provisions of the KSG, that if the causal process is unhindered, damage in the sense of a violation of basic rights will occur with sufficient probability. Moreover, with regard to the businesses of the complainant under 6. and the parental businesses of the 2nd, 5th and 7th, 8th complainants, damage has already occurred.

However, this case law can hardly be transferred 1:1 to the climate crisis in the sense that damage must be practically excluded, because that would mean that greenhouse gas emissions, for example to avoid the risk of catastrophic consequences by exceeding tipping points, would have to be stopped immediately. It is obvious that such a drastic cutback could lead to a possible collapse of the economic system and hereby to a general distress and in consequence to various other violations of basic rights. Therefore, in the context of the climate crisis, the best possible prevention of hazards and risks means no more and no less than that the legislator is obliged to ensure today that in future - as far as possible - no more greenhouse gases are released, i.e. that GHG emissions are kept as low as possible, taking into account the principle of proportionality. In the opinion of the complainants, the fulfilment of the duty to protect categorically requires in this sense the provable observance of this minimisation requirement.

This is already apparent from the warming that is already taking place today and the fact that the possibility cannot be excluded that a temperature increase of up to 1.5° C compared to pre-industrial values will occur solely as a result of past GHG emissions that continue to have an effect in the atmosphere for hundreds of years. The secured knowledge on the significant effects resulting from further warming (difference between the temperature targets of 1.5°C and 2°C) have been presented in detail above. It is a matter of "every hundredth of a degree" and thus every ton of greenhouse gases that can be avoided in order to avoid further negative effects on the complainants and their generation.

The prohibition of insufficient measures (“Untermaßverbot”) is to be determined in the present case in accordance with this.

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[177] Correct *Frank*, Staatlich Klimaschutzpflichten, NVwZ – Extra 22/2016, 1, 6.

The “Untermaßverbot” in concretization of the long-term responsibility of the state following from Article 20a of the Basic Law, requires a suitable and effective protection concept.[178] The Federal Constitutional Court developed the “Untermaßverbot” in its second decision on abortion[179]. According to this decision, measures that are not completely unsuitable or completely inadequate are not yet sufficient to fulfil the state's duty to protect human life. Rather, the legislator must take appropriate and effective protective measures that are based on a careful investigation of the facts and reasonable assessments.[180] It has already been rightly demanded in the past that the “Untermaßverbot” should be stronger activated also in environment-related case law by a modification of the evidence formula.[181] In view of the aggravation of the climate crisis and the associated risks to human dignity and the natural foundations of life, a climate protection act must, in responsibility for future generations, at least be expected to take precautions to ensure that - as far as possible and proportionate - no more greenhouse gases are released as of now.

Finally, and further, constitutional court case law on guaranteeing the social minimum standard of living can be cited as a justification for determining the “Untermaßverbot” using this standard. This is because here too, case law demands stringent justifications and measures. The legislator's scope for design is narrow and the need for constitutional court review is great as the safeguarding of the minimum subsistence level is about the physical existence of human beings.[182] This converges with the existential dimension that humanity and the complainants face with the climate crisis.

In this respect, the requirements of the case law on the legislator's duties of disclosure and of stating reasons which are generally considered to be rather low when it is not a matter of the minimum subsistence level, are also to be considered. Because supreme constitutional values are at issue, the legislator has the obligation to disclose in detail and in a comprehensible manner the methods and calculation steps used to determine the minimum subsistence level in accordance

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[178] *Callies*, Abstand halten: Rechtspflichten der Klimaschutzpolitik aus planetaren Grenzen, ZuR 2019, 385, 386.
[179] BVerfGE 88, 203.
[180] BVerfGE 88, 203, 254, 263.
[181] Correct *Appel*, § 2 Europäisches und nationales Umweltverfassungsrecht, Koch/Hofmann/Reese (Hrsg.), Handbuch Umweltrecht, 5th edit., § 2, recital 129, m.w.N.; *Wolleneit/Wenzel*, Das Bundesverfassungsgericht und das Ozongesetz, NuR 1997, 60, 63.
[182] BVerfGE 125, 175, 224 f.

with human dignity.[183] Because of the unique character of the climate crisis and the resulting duty to protect, the same applies here as well. This corresponds to the duty of disclosure that the highest court of the Netherlands has demanded in the context of Art. 2 and 8 ECHR.

The climate crisis has a unique character in several respects. Should it not be possible to limit global warming to 1.5°, ubiquitous risks of a life-threatening nature and a numerically incalculable extent are to be expected. Parts of the earth could become uninhabitable. Island residents, including the complainants affected here or their descendants, are threatened with considerable dangers - such as the loss of their homes - through storm surges and other extreme weather events of hitherto unknown extent.[184] The impairments of the complainants, which have already been shown, may considerably deteriorate during their lifetime. Supreme constitutional values are in disposition in the event of a violation of the duty to protect. Greenhouse gas emissions must therefore imperatively be kept to a minimum, as was shown above.

The legislator's scope for design is not extended by the fact that, due to the ubiquitous nature of the climate crisis, it cannot be prevented by effective measures of the German legislator alone. As the highest Dutch court has also correctly recognised, the climate crisis can - if at all - only be prevented if other states follow the example of individual states that reduce their greenhouse gas emissions to a minimum. As has already been explained, Article 20a of the Basic Law also obliges the Federal Republic of Germany to cooperate internationally to protect the climate. This is made considerably easier by an example which the Federal Republic of Germany is able to set. A "bottom up approach" to climate protection, in which individual states take the lead, is seen in the international discussion as necessary and indeed potentially successful.[185] The Federal Republic of Germany cannot evade its duty to protect by pointing to necessary activities of other states. Additionally, according to the constitutional court's case law, the assessment of the suitability of a law is primarily based on the promotion of the achievement of ist objectives in the country's own sovereign territory.[186]

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[183] Ibid.

[184] Cf. *Frank*, Staatlich Klimaschutzpflichten, NVwZ – Extra 22/2016, 1, 6.

[185] E.g. *Bodansky*, A Tale of two Architectures: The Once and Future U.N. Climate Change Regime, in: Koch/König/Sanden/Verheyen (Hrsg.), Climate Change and Environmental Hazards Related to Shipping, Leiden Boston 2013, 35, particularly 50 f.

[186] BVerfG, judgement of 6 December 2016 - 1 BvR 2821/11 -, BVerfGE 143, 246-396, recital 287 - nuclear phase-out.

bbb) Violation of the "Untermaßverbot" by setting insufficient climate protection targets respectively an insufficient reduction path

The national climate protection target (55 % by the target year 2030) set out in Section 3(1) of the Federal Climate Protection Act and the sector-specific reduction targets laid down in Section 4(1) in conjunction with Annex 1 and Annex 2 accordingly fail to meet the level of protection required by the guarantee of human dignity in conjunction with Article 20a of the Basic Law. The approach of the KSG is already evidently unsuitable to limit the temperature increase to 1.5°C (i)) and does not meet the requirement of keeping GHG emissions as low as possible ("Untermaßverbot") (ii)).

i) Approach of the Federal Climate Protection Act evidently unsuitable according to the state of climate science

Already the suitability of the approach of the KSG (55 % GHG reduction by the target year 2030) must be questioned. According to Section 1 sentence 3 KSG, the provisions of the Act are intended to contribute to limiting the rise in the global average temperature preferably to 1.5° C on the basis of the Paris Agreement. However, minimising greenhouse gas emissions to 55% by the target year 2030 (base year 1990) cannot, as has been explained, ensure a limitation of the rise in temperature to 1.5° C, since the greenhouse gas budget still due to the Federal Republic of Germany on the basis of a reasonable global assessment (equal per capita emission rights) would already be used up in the next few years. In the context of the global commitment, according to which - as expressed by the highest court in the Netherlands - each country must at least fulfil "its share", the achievement of the target is impossible. To this extent, the conditions for the assumption of a breach of the duty to protect would even exist on the basis of the Federal Constitutional Court's evidence formula.

The inappropriateness of the KSG approach can also be properly understood along the lines of the arguments of the Dutch courts in the *Urgenda* case as set out under VI. Measured by the standards set by these courts, Germany is evidently not on a reduction path that is even remotely compatible with the 1.5°C target. Rather, it is far away from a path that is globally only required on average and therefore obviously does not fulfil "its share", as the Dutch courts argue:

- Under the assumption that a rise in global temperatures above 1.5° (with the physical and mathematical uncertainties) actively accepts the risk of

millions of human lives and the passing of uncontrollable tipping points in the climate system, and that a less ambitious level of protection is therefore unlawful in any case, the IPCC's emission paths in the 1.5° C Special Report offer the best scientific benchmark. The Federal Climate Protection Act recognises this implicitly, at least in the provision in Section 1 sentence 3 of the Federal Climate Protection Act, as accordingly the rise in the global average temperature is to be limited to preferably 1.5°C on the basis of the Paris Agreement.

As has already been explained, in the *Urgenda* case, all instances have applied the table found in the IPCC 4th Assessment Report of 2007 for the national reduction targets up to 2020 as "best science" or estimate.

- Since then, the IPCC has not been content to justify a reduction target (1.5° C) and the requirement of unconditional compliance with it, but has above all, with considerable effort, shown ways to achieve this target. As already described, the IPCC Special Report on 1.5°C (Annex 3) evaluates feasible reduction paths (in the past referred to as emission scenarios), as it has already done in the 5th Assessment Report. Such reduction paths also form the basis of the table in the 4th Assessment Report used as a benchmark in the *Urgenda* case. In Annex 3, Chapter C deals with the emission paths that are compatible with the 1.5° C target.

  They are there defined as follows:

  > "In this summary for policymakers, the modelled development trajectories of global anthropogenic emissions over the 21st century are referred to as emission paths. Emission paths are classified according to their temperature development in the 21st century: Paths that, based on current knowledge, limit global warming to below 1.5°C with a probability of at least 50% are classified as "no exceedance", those that limit warming to below 1.6°C and return to 1.5°C by 2100 are classified as "minor exceedance", while those that exceed 1.6°C but still return to 1.5°C by 2100 are classified as "major exceedance".

  The assumption of "compatibility with the 1.5° target" is based on the physically possible concentration of greenhouse gases in the atmosphere (in ppmv), as already described.

- Complex modelling is used for this purpose. Emission respectively reduction paths are developed and mapped by large Integrated Assessment Models (IAMs). They contain assumptions on the future development of population, consumption, goods and services (including food), economic growth, behaviour, technology, policies and institutions, and thus allow an estimation of domestic reduction contributions in all geographical regions and for all sectors, with the aim of ensuring compliance with the set climate target at the lowest possible cost.
  In this way, IAMs can take into account interactions between economic development, energy consumption and emissions, under "idealized" conditions (for example, assuming a global carbon price or emission trading system). Like any model, but also any forecast, these models underlie limitations, partly because they depend on certain assumptions. However, they are quite capable of ejecting reduction paths of individual regions and countries without making unrealistic or impossible assumptions. The result is an estimate of the "economically optimal" domestic contributions.

  Already in its 5th Assessment Report, the IPCC has established a fundamental concordance between the scenarios presented by the IAM and concrete sector-specific studies, i.e. concrete forecasts of technology development, for example in the field of renewable energies. In contrast to the calculation of a global CO_2 budget using distribution keys (equity, such as equal per capita emission rights), the IAM focuses on the technical and economic feasibility of reducing greenhouse gas emissions while avoiding a collapse of the economy and society as a whole. It is therefore by definition not about an immediate cessation of all emissions or at least from a certain point on, when a defined budget has been used up.

  Thus the reduction paths reviewed and presented by the IPCC already constitute a *proportionality assessment*. Any reduction path presented by the IPCC is by definition feasible - even if only at the abstract model level.

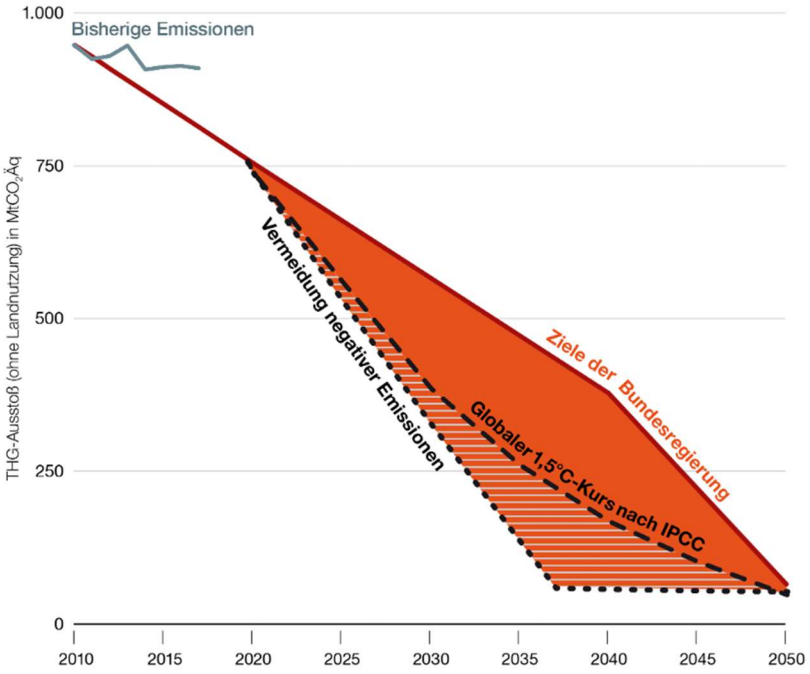
  These paths are also realistic in themselves: the reduction paths considered, which are at least to some extent compatible with the 1.5° target, show remaining CO_2 emissions from fossil fuels (especially oil and gas)

even with the full extent of energy efficiency improvements and decarbonisation of most sectors, for example in the transport sector, from aviation and especially in industries where full electrification would be possible but very expensive, such as steel production and other industrial high-temperature processes. None of the scenarios examined by the IPCC, for example, assumes that the global energy system will be 100% converted to renewable energies before 2050. They do not therefore describe an "impossible" future.

- For the IPCC Special Report, the reduction paths were divided into 4 types, named P1-P4, Figure SPM 3b in Annex 3. None of these scenarios or emission reduction paths completely renounces negative emissions, i.e. either through active sink measures (afforestation etc.), see above under II.2.c) or non-existing technologies for removing CO_2 from the atmosphere.

  The group of scenarios that fall into category P4, however, rely heavily on these negative emissions in the second half of the century. These scenarios are therefore marked grey in the IPCC summary for decision-makers. The P1-P3 paths are characterised by the fact that they depict emission paths, distributed over the entire world, which allow no or only slight overshooting of the global temperature target ("no overshoot" or "low overshoot"), but at the same time all make assumptions for an active removal of CO_2 from the atmosphere through afforestation or other, in any case existing, techniques ("negative emissions").

- If one now considers the scientific findings examined by the IPCC on the feasibility and necessity of reductions to greenhouse gas neutrality in order to meet or even aim for the 1.5° target, Germany would have to reduce significantly more by 2030, namely at least and ignoring actual historical responsibility 70% compared to 1990, in order to do "its part", in any case the minimum of what is globally necessary. However, Germany will - determined by the Federal Climate Protection Act - reduce its emissions far below the global average of what is necessary according to the IPCC paths. This is illustrated in the following chart.



Source: adapted from New Climate Institute, 1.5°C: What Germany must do, 2019 (https://newclimate.org/2019/03/14/15c-was-deutschland-tun-muss/) courtesy of Prof. Niklas Höhne

If one aggregates the many emission paths of the P1-P3 groups, which the IPCC assessed in its special report of 2018 on 1.5° C warming, one obtains an average reduction line as an emission path that would be *globally* suitable for at least nearly maintaining the 1.5° target. The dotted line in the following graph (global 1.5° course according to the IPCC) shows the course of German emissions if they were to roughly follow this global path from 2020.

If one now regards the actual emissions in Germany up to 2019 (data from the Federal Environment Agency), as well as Germany's annual emissions planned under Annex 2 of the Federal Climate Protection Act up to 2030 and then a linear path towards greenhouse gas neutrality up to 2050, as aimed for in Section 1 of the Act,[187] the red line arises (targets of the Federal Government).

[187] This is congruent with the goals and assumptions of the Climate Plan 2050, which according to public statements of the Federal Government is to be further implemented and which serves as the basis for the challenged Climate Protection Act.

The deviation between the two lines shows the evident unsuitability of the reduction path aimed for by the legislator. In contary, it shows that Germany would have to achieve a reduction of roughly -70% by 2030, -85% in 2040 and -95% in 2050, each compared to 1990.

The estimate is not even particularly conservative. As explained, the scenarios of the emission paths evaluated in the IPCC report include negative emissions to varying degrees. If these were omitted completely, the result would be the dotted emission path (avoidance of negative emissions). This is simply explained by the lower greenhouse gas budget that then has to be assumed. If one wanted to be on the safe side, the reduction efforts would have to be intensified once again. The Dutch courts have also seen it that way and rejected the objections of the Dutch government that it should be increasingly relied on the possibility of negative emissions.[188] The approach is conservative also because the reduction paths only provide 50% -66% certainty that the 1.5°C target can be met globally.

- This type of approach to the globally averaged path required to avoid further damage continues - in addition to the proof of the evident unsuitability in the sense of the dogma of the duty to protect - the legal principle established in the *Urgenda* case, according to which the amount of what each country must achieve in order to adequately fulfil duties to protect must be oriented to the scientifically available knowledge or the best scientific knowledge and consensus. In the opinion of the complainants, this demand for orientation of adequate climate protection legislation to a recognised level of scientific knowledge can be justified by the requirements that are imposed by the constitutional court's case-law on the legislature's obligations to explain and justify when it comes to guaranteeing the minimum subsistence level.

  The approach described above is even more objective and conservative than the one used in the *Urgenda* decision insofar as the percentage obligations for Annex I states from the Fourth Assessment Report were also

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[188] See instance of appeal, Annex 34, paragraph 49: "... The State has failed to contest this by not providing sufficient evidence to support it. The court therefore assumes that the option of removing CO_2 from the atmosphere in the future with certain technologies is very uncertain and that climate scenarios based on such technologies are not very realistic at the current state of affairs."

calculated globally from similar emission paths, but additionally with a distribution or equity key. If Germany's special responsibility as a developed country with high emissions and strong economic power were included, Germany would have to reduce its emissions considerably faster than the global average.

Taking the above findings into account, it must be stated that the reduction target adopted (55% reduction of GHG by the target year 2030) is obviously completely unsuitable or wholly insufficient to achieve the necessary protection target (limitation of the temperature rise to preferably 1.5°C), which is implicitly incorporated in the law. In this respect, the reduction target provided in the KSG is even already disqualified on the basis of the evidence formula of the Federal Constitutional Court. The reduction path, which is not sufficiently ambitious, is thus prima facie already not suitable to guarantee the complainants a future that respects human dignity.

ii) Breach of the requirement to minimise GHG emissions as far as possible

Not only does the Federal Climate Protection Act fail to meet the objective of limiting the rise in temperature to preferably 1.5° C, but it also fails to meet the requirement to keep GHG emissions as low as possible. As was explained (under VII. 3. A) ee) aaa)), this commandment defines the minimum level that is decisive here.

This was derived from the undeniable finding that the risks associated with climate change can only be effectively combated on the basis of a concept that focuses on the best possible averting of hazards and prevention of risks. From this follows the obligation to stop releasing greenhouse gases as far as possible and proportionately, i.e. to reduce GHG emissions as strongly and as quickly as possible, taking into account the principle of proportionality. This approach also takes into account the fact that even the IPCC's emission reduction paths are not significantly conservative at all and that, in the opinion of recognised climate experts, the most important thing for averting the worst effects of the climate crisis is to make use of all reduction potential (Prof. Dr. Hans Joachim Schellnhuber: "every hundredth of a degree" of warming must be avoided). In addition, the IPCC reduction paths are already subject to a sort of proportionality test; they are feasible and partly accept on a large scale that technologies and

methods will be used (negative emissions) which do not exist today or which are uncertain in terms of their effect.

The setting of objectives in Section 3 and Section 4 para. 1 in conjunction with Annex 2 KSG and the rest of the Act do not in any way indicate that the legislator has taken precautions to ensure that - as far as possible and proportionately - no more greenhouse gases are released in order to protect the climate. It is in no way on a nearly sufficient reduction path. On the contrary, it has implemented a reduction target that falls far short of it and has currently made no efforts to increase the level of protection through the laws in the context of the Climate Programme 2030. In particular, the level of ambition is - probably - even lowered, for example with regard to the coal phase-out. There is also a lack of justifications that would allow conclusions to be drawn about such efforts.

In view of the fact that supreme legal interests are put at risk by climate change, the legislator has thus also failed to meet its duties of disclosure. In view of the legal interests affected, it would have had to explain the reduction measures it intends to take to reduce GHG emissions as far as possible in order to secure dignified foundations of life in the future. It is not apparent that the legislator even asked himself the question of how greenhouse gas neutrality can be achieved as quickly as possible, whether and which reduction paths and interim targets are technically feasible and what effects such a reduction path would have on the economy and society in Germany. Appropriate, sufficiently effective protective measures based on careful fact-finding and reasonable assessments are nowhere to be found.

Rather, the explanatory statement essentially only states that the legislator wanted to implement the European legal requirements from the European Climate Protection Regulation, also in order to avoid the resulting "considerable payment obligations"[189]. In doing so, it has already failed to recognise that mere compliance with the EU climate protection targets does not meet the requirements of Art. 1 (1) in conjunction with Article 20a of the Basic Law and the constitutionally required level of protection.

This is because the EU climate protection target for 2030, with the resulting quantitative budget, is, as has been shown (IV.3 above), incompatible with the requirements to be made on the best possible climate protection and the "1.5°C

[189] BT-Drs. 19/14337, p. 1.

target". As the complainants have pointed out, and in some cases also argue before European courts, the EU is failing to comply with its obligations under the EU Charter of Fundamental Rights and primary law applying principles of international law. The European Climate Protection Regulation is also not suitable for determining the scope of the German legislator, because it is merely a minimum harmonisation that expressly permits stricter national regulations. Claims for protection arising from German basic rights must therefore continue to be taken into account in full.

In order to ensure that the natural foundations of life compatible with human dignity are safeguarded in a manner that complies with the duty to protect, the legislator would have had to consistently embark on a path in the Federal Climate Protection Act that guarantees greenhouse gas neutrality as quickly as possible. This is obviously not the case - measured against the feasible IPCC reduction paths. The path taken with the KSG allows significantly too high emission levels until the target of complete decarbonisation is reached and is therefore jointly responsible for the fact that the earth will continue to warm up beyond the level that is just about bearable according to the current state of scientific knowledge, thus accepting risks for millions of human lives and for the climate system (by exceeding uncontrollable tipping points).

The complainants have also argued that climate protection is feasible in an ambitious way and that, according to recognised studies, a reduction of more than 70 % by 2030 would be possible even in weighing it against other legal interests. In addition to a much faster phase-out of coal-fired power generation, numerous other measures are also possible which are not being taken. From the point of view of the complainants, it is not even recognisable in some cases that the proposed measures intervene at all in the relevant scope of third parties' basic rights (for example with regard to a speed limit).

As explained, the feasibility and proportionality of steeper reduction paths compatible with 1.5°C are also indicated by the reduction paths examined by the IPCC on the basis of the IAMs. These are inherently feasible and cost-efficient - even if they sometimes require significant changes in the economic structure.

The demand to exhaust possible reduction potentials has rightly also been made by the Dutch Supreme Court to its national legislator in view of the human rights background of the ECHR to be considered in the proceedings there. For the reasons outlined above, this obligation also exists for the German legislator. In defining the level of protection via the KSG, the German legislator did not ensure

that, with immediate effect, a path would be taken according to which - as far as possible and proportionately - no more greenhouse gases may be released, and thus at least the global average of a 1.5°C compatible reduction path.

The challenged provisions of the Federal Climate Protection Act thus blatantly fail to comply with the prohibition of insufficient measures “Untermaßverbot”

ccc) Violation of the “Untermaßverbot” by enabling the transfer of emission allocations

In addition to the parallel continuation of the EU emissions trading scheme, KSG adopts the flexible approach of the European climate protection regulation, which in principle allows climate protection commitments to be fulfilled abroad and emission allocations to be transferred to other Member States.

In this sense, Section 3 (3) KSG makes it clear that the possibility of achieving national climate protection targets partly within the framework of transnational mechanisms for reducing GHG emissions remains unaffected. In addition, according to Section 4 para. 3 sentence 2, the requirements of the European Climate Protection Regulation in connection with exceeding and falling below greenhouse gas emissions remain unaffected. This may also mean that emission allocations are purchased from other member states or sold to other member states. The fact that the legislator apparently had primarily the purchase of emission allocations in mind is suggested by the provision in § 7 KSG.

Even if, for reasons of cost efficiency, the fulfilment of reduction obligations abroad may be desirable, the complainants are critical towards these provisions. They enable a further weakening of reduction targets in Germany, which are in any case not sufficiently ambitious in view of the historical responsibility. For they enable the Federal Republic of Germany to realise abroad reduction quotas that have to be achieved at home. This possibility of shifting is highly suitable for setting false incentives and thus weakening the "minimization requirement", which according to the above explanations concretises the “Untermaßverbot” in the interior. It also misses elementary principles of justice, since there is a risk that reduction commitments will be shifted at the expense of regions of the globe that have not profited from the "blessings" of CO_2 emissions in the past.

In the view of the complainants, however, a need for the Federal Republic of Germany to provide climate protection commitments abroad or to purchase

emission allocations appears to be excluded if - as is required under constitutional law and suggested by the complainants - adequate climate protection targets are consistently set and adequate reduction paths are taken which ensure that - as far as possible and proportionate - no more greenhouse gases are released. Germany would then - unlike the EU as a whole - fulfil its share of the necessary climate protection. For this reason, it must above all also be ensured that the further reduction measures to be carried out in Germany are not transferred to other EU countries and are thus lost in the overall EU budget. If the reduction measures carried out domestically that go beyond the requirements of Regulation (EU) 2018/842 of 30 May 2018, which are required by the "Untermaßverbot" in the sense of a "minimisation requirement", were to be included in the overall EU budget, their contribution to the protection of the complainants' basic rights would have to be regarded as unsuitable.

The complainants therefore seek the Federal Constitutional Court to declare that the legislator is obliged to create regulations within the period of time to be set by the court which prohibit the Federal Republic of Germany from permitting transfers of emission allocations on the basis of Section 4.3 of the KSG in conjunction with Article 5 of Regulation (EU) 2018/842 of 30 May 2018 to neighbouring European states. Such regulations will no longer be necessary, however, once a climate protection regime has been established throughout the EU that conforms to basic rights and ensures that the EU as a whole follows a path whereby - as far as possible and proportionate - no more greenhouse gases may be emitted.

ff) Conclusion on Art. 1(1) in conjunction with Article 20a of the Basic Law

After all, it must be noted that the legislator has failed to comply with its duty to protect under Article 1(1) in conjunction with Article 20a of the Basic Law by setting a reduction rate of 55 % for greenhouse gases (target year 2030) in Section 3(1) KSG and by setting annual reduction targets for the energy, industry, transport, buildings, agriculture, waste management and other sectors in Section 4(1) in conjunction with Annexes 1 and 2. A reduction rate of 55% is already evidently unsuitable to limit the temperature rise to 1.5° C. In view of the threat to highest legal interests, the protection of humane natural foundations of life with responsibility for future generations requires effective legal reduction targets and reduction paths that are suitable, in accordance with the "Untermaßverbot" of relevance here, to keep GHG emissions as low as possible while observing the principle of proportionality. If this obligation were to be complied with,

the target in Section 3 would not be 55% reduction, but rather 70%. Only then would Germany contribute "its share" to effectively protect the basic rights of the complainants.

For this reason, not only - as is requested in the application under 1. - is the declaration well-founded that the deficient provisions violate the complainants in their basic right to a guarantee of human dignity in accordance with Article 1.1 in conjunction with Article 20a of the Basic Law, but also to declare, as is requested in the application under 2., that the legislator is obliged to provide for corresponding provisions within a period of time to be set by the Federal Constitutional Court.

Finally, the declaration requested in the application under 3 is required. The establishment of a climate protection regime that limits GHG emissions to a level that is as low as possible in accordance with the principle of proportionality must not be undermined by the transfer of the resulting GHG emission savings to other Member States, so that the obligation to protect does not lose its effect.

b) Violation of Article 2(2) of the Basic Law in conjunction with Article 20a of the Basic Law

Furthermore, the complainants' basic right under Article 2.2 sentence 1 of the Basic Law (right to life and physical integrity) in conjunction with Article 20a of the Basic Law is violated.

As has already been set out (VII. 1. c) aa) aaa)), the character of Article 2.2 of the Basic Law as a duty to protect under has been undisputed since the first judgment on abortion[190] and has been confirmed by numerous decisions, which in particular also concern protection against risks in the environmental field.[191]

As set out under II. above, it must be assumed on the basis of the currently best available science that past and remaining GHG emissions in the atmosphere, as well as additional further emissions, have already induced and may further cause potentially irreversible changes in the foundations of life. Due to a persistent

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[190] BVerfGE 39, 1, 42 ff; see also BVerfGE 88, 87, 363 – abortion II.

[191] BVerfGE 49, 89 - Kalkar I; BVerfGE 53, 30 - Mühlheim-Kärlich; BVerfGE 56, 54 - aircraft noise; BVerfGE 77, 170 - storage of chemical weapons; BVerfGE 77, 381 - Gorleben; BVerfGE 79, 174 - road traffic noise; BVerfG NJW 1996, 651 - ozone; BVerfG, non-adoption decision of 02. July 2018 - 1 BvR 612/12 -, juris, marginal 41 = NVwZ 2018, 1555 - aircraft noise.

omission of the legislator and the associated increase in risk, the complainants are already today considerably affected negatively in their right to life and physical integrity – inter alia because the inaction of the legislator has led to an excessively high level of emissions and the global budget has been further exhausted despite clearer findings on climate change. The expected consequences include, above all, significantly increasing morbidity and mortality risks, which have already been described in more detail above (II.1. c) bb)). The risk of their lives and health being impaired by climate change (through weather disasters, heat waves, allergens, asthma, new types of diseases) affect the complainants already in their lifetime.

Moreover, without a regulatory approach that is committed to a reduction path that reduces GHG emissions to a minimum, there is already the imminent threat that the occurrence of so-called *tipping points* can no longer be prevented. Related changes in the environment can become life-threatening in the form of environmental disasters of unknown dimensions, not only for the complainants but also for humanity as a whole. In principle, this is undisputed - the only question is when the tipping points will be reached.

The violation of basic rights by legislative omissions asserted here cannot be countered by the argument that impairments of health (in the sense of an occurrence of damage) must already exist today in order to activate duties of action on the part of the legislator. It is recognised in the case law of the Constitutional Court that duties to protect are already considerable in the preliminary stage before damage occurs. Where risks with considerable damage potential are concerned, which is undoubtedly the case in the climate crisis, mere threats to fundamental rights are sufficient to activate the duty to protect.[192] With regard to climate protection, the VG Berlin has also confirmed this in principle (Annex 16). The duty to protect under Article 2.1 sentence 1 of the Basic Law must also be understood in a future-oriented way, taking into account Article 20a of the Basic Law. The relevant submissions and arguments on the guarantee of human dignity (under VII 3. a) cc) - ee)) can therefore be applied accordingly here. To activate the duty to protect only when irreversible chains of damage have already been set in motion would be simply pointless for the prevention of damage.

In this sense, Article 2 (2) of the Basic Law in conjunction with Article 20a of the Basic Law has protective effects in particular also when the controllability

[192] BVerfGE 49, 89, 141– Kalkar I.

of future hazards is in question.[193] Whether it is still possible at all to control the consequences of the climate crisis already seems questionable today, as has been demonstrated. Constitutional duties to protect therefore categorically require that legal regulations be designed already today in such a way that the danger of fundamental rights violations remains contained.[194] Insofar, the principle of the best possible averting of danger and risk provisioning[195] applies here as well, to which not only the constitutional case law with regard to technological risks with considerable damage potential with reference to Article 2.2 of the Basic Law attaches constitutional level.[196]

As has already been stated (VII. 1. c) aa) ccc)), the need for protection is also not justified by the fact that a large number of other persons or even the population in general is equally affected.[197] The mere fact that a very large number of persons are affected by the effects of climate change does not in any way rule out an individual concern.[198] It would be absurd to deny protection of basic rights in precisely those cases where a particularly large number of people are concerned.[199]

With regard to the fulfilment of the legislator's consequently existing obligation to protect, it has already been explained that the “Untermaßverbot” must be observed. Accordingly, adequate protection is required - taking into account conflicting legal interests - which is effective as such.[200] Consequently, the legislature's scope for designing and prognosis has been narrowed in such a way that all possible and proportionate reduction potentials must be exploited in order to

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193 BVerfGE 77, 170, 223 – Storage of chemical weapons.

194 Ibid. p. 142

195 ibid, p. 139; BVerfG, Decision of 20 December 1979 - 1 BvR 385/77 -, BVerfGE 53, 30-96, recital 55 - Mühlheim-Kärlich; BVerfG, Non-admission Decision of 12 November 2008 - 1 BvR 2456/06 -, recital 27, juris.

196 E.g. BVerwG, judgment of 22 March 2012 - 7 C 1/11 -, BVerwGE 142, 159-179, para. 25 - Unterweser interim storage facility.

197 Similarly e.g. BVerwG, judgment of 10 April 2008 - 7 C 39/07 -, BVerwGE 131, 129-147, marginal no. 23, for nuclear damage precautions.

198 VG Berlin, Annex 16, reprint p. 21

199 Also *Hoffmann-Riem/Rubbert*, Atomrechtlicher Erörterungstermin und Öffentlichkeit, 1984, S. 41.

200 BVerfGE 88, 203, 254 –abortion II.

avoid a deterioration of the climate crisis and to mitigate the possible consequences of climate change for the complainants as low as possible. In this respect, reference can be made to the explanations under VII. 3. a) ee).

Nor can it be argued against this duty to protect that Germany alone cannot solve the problem. The duty to protect applies to the extent that each state must do its part, its own share. As shown in the graph above, Germany is not even doing the global minimum, let alone implementing a particularly progressive reduction path or one that is appropriate to its historical responsibility for the use of the global carbon budget. The complainants refer to the convincing arguments of the courts in the *Urgenda* case, above VI.

c) Violation of Article 12(1) of the Basic Law and Article 14 of the Basic Law

The complainants under 2-9 are also violated in their fundamental rights under Article 12 of the Basic Law and Article 14 of the Basic Law by the objected provisions of the Federal Climate Protection Act and by the objected legislative omission.

aa) c) Violation of Article 12(1) of the Basic Law

Article 12 (1) of the Basic Law guarantees the free choice and practice of an occupation. As German nationals, all complainants can invoke this basic right. Age limits are not inherent in the scope of protection.[201] Every activity that serves to create and maintain a livelihood is protected.[202]

It is undisputed in principle that the state can also have duties to protect with regard to guaranteeing freedom of occupation.[203] The hypocritical approach already mentioned (VII. 1. b) bb)), which is to be seen in the fixing of completely inadequate climate protection targets and inadequate sector-specific reduction paths, must also be taken into account here. In this way, the Act enable for third

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[201] von Münch/Kunig-*Kämmerer*, Grundgesetz-Kommentar, Vol. 1, 6th edit. 2012, Art. 12 recital 11.

[202] Ibid. recital 19.

[203] BVerfG, Decision of Non-admission of 15 November 2018 – 1 BvR 1572/17 –, recital 16, juris, with reference to BVerfGE 59, 231, 262; 84, 133, 146 f.; 92, 140, 150; 97, 169, 175; 128, 157, 176 f.).

parties to emit significantly excessive quantities of greenhouse gases at the expense of the complainants, which are likely to significantly impair the complainants' freedom to practice their occupation, which is protected by basic rights, already today and in the future. If the KSG, by omission to provide consistent guidelines, opens up scope for greenhouse gas emitters which is likely to impair the complainants' sphere of basic rights, this already brings the omission complained of close to an intervention, even if there is no tendency to regulate the occupation in this respect.[204] In any case, the Federal Republic of Germany bears considerable joint responsibility for an occurrence that is likely to considerably impair the complainants' sphere of basic rights, as it is to be expected that the emission quantities permitted by the Federal Climate Protection Act will also be exhausted by corresponding authorisation decisions.

The complainants under 2) - 8) are, as has been submitted (V.), farmers or are in training to become farmers in order to take over their parents' business in the future, or are basically continuing to strive for this. As far as they are not yet owners of the businesses themselves, they work in their parents' businesses and in this sense are already "co-owners" (“Mitbesitzer”) of their parents' businesses. By starting a traineeship and working in their parents' business, they are already engaged in an activity that is intended to create and maintain their livelihood. They can therefore already today invoke the protection of basic rights. This applies equally with regard to the parental business of the complainant under 9), even if it concerns the hotel industry and restaurant.

As has already been shown, the farms of complainants 2-9 are already today considerably impaired in their management due to climate-related events. It is clearly recognisable that climate-induced difficulties are capable of seriously impairing the practice of the complainants' occupation. Insofar as farms are established on islands at risk of flooding, it may even happen that the complainants' current choice of occupation to take over their parents' business is subsequently completely devalued. This can also be stated as a reason for the fact that the complainants may also be impaired in their freedom of occupation under Article 12.1 of the Basic Law due to the inadequate provisions in the KSG.

As is well known, the initial high degree of selectivity of the three-step dogma (“Drei-Stufen-Dogmatik”) in the case-law of the Federal Constitutional Court

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[204] BVerfGE 95, 267, 302.

has increasingly been transformed into a step-specific proportionality assessment by the postulation of a uniform basic right of freedom of occupation.[205] Factual impairments of the freedom to practice an occupation, which in their intensity are equivalent to a regulation of the choice of occupation, must therefore be subjected to a stringent examination.[206] It must therefore be taken into account here that a stringent examination standard must be applied because of a possible compulsion to cease the business due to climate-related damage.

Complainant 6.) is himself a co-owner of an agricultural business in Brandenburg (Spreewald) which - as has been demonstrated- is already today considerably affected by the consequences of climate change, both with regard to agriculture and forestry. The complainant has already suffered damages due to inadequate legal measures for climate protection and must expect an increase of such damages in the future due to the inadequate regulations in the KSG.

With the implementation of a completely insufficient climate protection level, which is not suitable to reduce GHG emissions to a minimum, further damage is almost pre-programmed. They will impact as a considerable obstructions of operations up to a possible compulsion to completely cease operations of the business.

The complainants under 2) - 9) are therefore also violated in their freedom of occupation under Article 12.1 of the Basic Law.

bb) Violation of Article 14 of the Basic Law

These impacts, induced by greenhouse gas emitters, on the property and agricultural businesses of the complainants under 2) - 9) also affect the scope of the freedom of property. It is recognised that the guarantee of property, like the freedom of occupation, also gives rise to state obligations to protect.[207]

According to constitutional case law, constitutionally guaranteed property is characterised by private benefit and the owner's fundamental power of disposition over the object of property.[208] Property is supposed to be of use as a basis

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[205] *Mann*, in: Sachs, Grundgesetz, 8th edit. 2018, Art. 12 recital 137, 138.

[206] E.g. BVerfGE 30, 292 (311); 30, 336 (351); 44, 103 (104); 50, 290 (365); cf. further BVerfGE 86, 28 (38 f.); 99, 202 (211).

[207] Cf. BVerfGE 114, 1 (37 ff., 56 ff.); 73 (89 ff.); BVerfG NJW 2006, 1783 ff.; NJW 1998, 3264 ff.; NJW 1983, 2931 ff; Maunz/Dürig/Papier/*Shirvani*, 88. delivery August 2019, GG Art. 14 recital 134.

[208] Settled case law, see BVerfGE 31, 229, 240; 100, 226,241; 143, 246, 323 Rn. 216.

for private initiative and in self-responsible private interest.[209] It enjoys a particularly strong protection as far as the securing of personal freedom of the individual is concerned.[210]

It is indisputable that the scope of freedom of property described in this way can also be impaired by "factual, influencing and indirect impacts on the use, disposition or exploitation of property positions"[211] if this challenges the private benefit of property. It therefore seems plausible to regard third party impacts in the form of avoidable GHG emissions, for which the state is jointly responsible by setting inadequate climate protection targets, as impairments of property. The scope for action opened up for third parties and the associated impairment of fundamental rights are attributable to the state.

As has already been pointed out above, this situation is not identical with that of a neighbouring action in which Article 14 of the Basic Law offers protection, as is acknowledged.[212] However, it is imperative to activate a control of basig rights by means of the state's duties to protect also in the situation subject here,[213] because impairments of basic rights which affect the scope of guarantee under Article 14 of the Basic Law can also be based on the scope of action which the legislature opens up to third parties and which they will foreseeably exploit to the detriment of those whose basic rights are concerned.

In its Forest-damage-decision, the Federal Constitutional Court in principle suggested the possibility that Article 14.1 of the Basic Law may also be violated by legislative omission on the basis of an existing duty to protect. In the forest-damage-decision, however, the court granted the legislature an appropriate scope for experience and adaptation with regard to the recognition of a possible violation of a duty to protect because of existing gaps in knowledge.[214] This cannot be taken up here. Which climate protection targets are to be pursued in order to avert possible catastrophic consequences of climate change is ultimately not scientifically disputed. As has been outlined, there can also be no serious doubt that the Federal Climate Protection Act fails to provide the required level of protection. The Federal Constitutional Court is therefore not hindered, in the situation

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[209] Cf. BVerfGE 100, 226, 241.

[210] Cf. BVerfGE 50, 290, 340; 143, 246, 323 recital 216.

[211] *Wendt*, in: Sachs, Grundgesetz, 8th edit. 2018, Art. 14, recital 52.

[212] BVerwGE 32, 173 (178 f.); 50, 282 (286 ff.)

[213] Similar *Epping*, Grundrechte, 8th edit. 2019, recital 394.

[214] Decision of Non-admission of 26.05.1998, – 1 BvR 188/88 –, recital 16, juris, recital 23 ff, NJW 1998, 3264 ff.

given here, from also declaring a violation of the duty to protect with regard to Article 14.1 of the Basic Law.

Agricultural businesses are particularly endangered by climate change. By extreme weather events, floods, periods of drought etc., agricultural enterprises are particularly exposed to the consequences of climate change, e.g. in the form of crop failures or loss of yield in dairy farming etc. However, it is unclear how far possible property protection extends to businesses. With regard to the right to the established and practised business ("Recht am eingerichteten und ausgeübten Gewerbebetrieb," here: agricultural businesses), the BVerfG has regularly left open whether the right to the established and practised business recognised under civil law enjoys property protection under Article 14 (1) of the Basic Law.[215]

However, the guaranteed protection of the business includes at least the protection that its economic basis enjoys and covers the concrete inventory of rights and goods.[216] Protected is the right to continue the business to the previous extent in accordance with the operational measures already taken, irrespective of only future earning possibilities or opportunities.[217] However, the continuation of the businesses appears to be highly endangered due to the considerable risks resulting from climate change.

The complainants under 2) - 5) as well as 7) to 9) can also invoke the guarantee of property. They are already preparing for taking over the business by completing the relevant training and by working in the company of their parents. They are therefore already considered to be co-possessors (and through farm succession or inheritance as aspirants) of the enterprise. As possessor of the business, they can invoke Article 14 of the Basic Law according to the case law of the Federal Constitutional Court[218].

Insofar as the complainants under 2) - 5) and 9) have the centre of their lives on flood-prone islands, they can also claim that their basic right under Article 14 (1) of the Basic Law is violated by the possible loss of their homes due to advancing excessive GHG emissions. According to the Garzweiler II-judgement of the Federal Constitutional Court, a certain protection of the grown social environment, which is partly located under the term "Heimat" in Article 11 of the

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[215] E.g. BVerfG, judgment of 6 December 2016 - 1 BvR 2821/11 -, BVerfGE 143, 246-396, marginal no. 240 - nuclear phase-out.

[216] *Wendt*, in Sachs, GG, 8th edit. 2018, Art. 14 recital 47.

[217] *Jarass*, Jarass/Pieroth, 15th edit. 2018, Art. 14, recital 26.

[218] BVerfG, decision of 26 May 1993 – 1 BvR 208/93 –, BVerfGE 89, 1-14.

Basic Law, is ultimately guaranteed by Article 14.1 of the Basic Law. In this context, the intervention in Article 14.1 of the Basic Law is all the more serious the more extensive and severe the impairment or even destruction of the living environment associated with the withdrawal of residential property is for the exercise of freedom.[219]

In the opinion of the complainants, the position of heir to an agricultural family business develops preliminary effects relevant to basic rights in the form of an expectant right (Anwartschaft, which is also protected under Article 14.1 of the Basic Law. Under the Basic Law there is an internal coherence between property and the right of inheritance.[220] In the opinion of the complainants, a "devaluation" of the inheritance, which is based on the possible violation of a duty to protect, cannot rely on a permissible definition of the content and limits of the law of inheritance and can therefore be regarded as an inadmissible preliminary intervention (Ingerenz) in the right of inheritance protected by Article 14.1 of the Basic Law even before the occurrence of the case of inheritance. The right of relatives to inherit as a structural feature of the German inheritance law system falls within the scope of protection of Article 14.1 of the Basic Law.[221]

The complainants under 2) to 9) are after all also violated in their fundamental right under Article 14.1 of the Basic Law.

4. Total result

The admissible (VII. 1.) constitutional complaint, which is capable of admission (VII 2.), is well-founded after all (VII 3.).

With the challenged provisions of the Federal Climate Protection Act, the legislator does not comply with its duties to protect. The reduction quota of 55 % for greenhouse gases (target year 2030) set in Section 3.1 of the Federal Climate Protection Act and the setting of annual reduction targets for the energy, industry, transport, buildings, agriculture and waste management and other sectors in Section 4.1 in conjunction with Annexes 1 and 2 are evidently unsuitable to provide the complainants with the protection required by the Basic Law with regard

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[219] BVerfG, judgement of 17 December 2013 – 1 BvR 3139/08 –, BVerfGE 134, 242-357, recital 265.

[220] *Wendt*, in: Sachs, Grundgesetz, 8th edit. 2018, GG Art. 14 recital 193.

[221] von Münch/Kunig-*Bryde*, Grundgesetz-Kommentar, Vol. 1, 6th edit. 2012, Art. 14, recital 45.

to the basic rights complained of and constitute a breach of the "Untermaßverbot" (TN: prohibition of insufficient measures).

This violates all complainants in their basic rights

- under Article 1 (1) in conjunction with Article 20a of the Basic Law to guarantee humane foundations of life.
- under Art. 2 (2) in conjunction with Article 20a of the Basic Law to guarantee the right to life and physical integrity

and in addition, the complainants No 2) - 9)

- in their freedom of occupation under Article 12 of the Basic Law and their freedom of property under Article 14 of the Basic Law.

At the same time, they reprimand the violation of these basic rights in conjunction with Article 20 (3) GG with regard to Articles 2 and 8 of the ECHR.

The legislator is therefore obliged to ensure, within a period of time to be set by the Federal Constitutional Court, that GHG emissions in the Federal Republic of Germany are kept as low as possible on the basis of comprehensible forecasts and in due consideration of the principle of proportionality.

In addition, the federal legislator must create legal provisions within the period of time to be set by the Federal Constitutional Court that prohibit the Federal Republic of Germany from permitting the transfer of emission allocations to neighbouring European countries on the basis of section 4 (3) of the KSG in conjunction with Article 5 of Regulation (EU) 2018/842 of 30 May 2018, for as long as EU climate protection law does not provide a level of protection adequate to basic rights.

The complainants are therefore entitled to the requested declarations.

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