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The 'Advance Interference-Like Effect' of Climate Targets: Fundamental Rights, Intergenerational Equity and the German Federal Constitutional Court

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ABSTRACT

Some climate lawsuits qualify as landmark cases, because they either mark an unexpected turning point in environmental jurisprudence, or they introduce a new conceptual analysis of the law vis-à-vis the global challenge of climate change. The decision of the German Federal Constitutional Court from March 2021 meets both criteria, it has already defined climate policy and law-making in Germany, and it revolutionised the traditional concept of 'interference' with fundamental rights under the German Basic Law. This article examines the order and its significance for climate litigation, legislation and constitutional doctrine, and it analyses how international law defines the state's objective to protect the climate pursuant to Article 20a Basic Law, including for future generations. On that basis, the article argues that the Court's approach towards intergenerational equity remains limited due to the perception of the carbon budget as 'freedom budget'.

KEYWORDS: Climate Litigation, Fundamental Rights, Climate Protection Act, Federal Constitutional Court, Intergenerational Equity

1. INTRODUCTION

In a decision published on 29 April 2021, the First Senate of the German Federal Constitutional Court held that the four constitutional complaints against the Federal Climate Change Act of 12 December 2019 (CCA) concerning the national climate targets and the annual emission amounts allowed until 2030 were partially successful.[1]

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1 Order of the First Senate of the Court (Beschluss des Ersten Senats), 24 March 2021, 1 BvR 2656/18—paras 1–270, published on 29 April 2021. The full German version is available at <www.bundesverfassungsgericht.de/SharedDocs/Entscheidungen/DE/2021/03/rs20210324_1bvr265618.html> accessed 22 November 2021; a shorter English version is available at <www.bundesverfassungsgericht.de/e/rs20210324_1bvr265618en.html> accessed 22 November 2021 (hereinafter BVerfG); references are made to the English translation. Decisions of the Federal Constitutional Court are available here <www.bundesverfassungsgericht.de/DE/Entscheidungen/Entscheidungen/Amtliche%20Sammlung%20BVerfGE.html> accessed 22 November 2021.

Some climate lawsuits qualify as landmark cases, they either mark an unexpected turning point in environmental jurisprudence coupled with a significant and lasting impact, or they introduce a new conceptual analysis of the law vis-à-vis the global challenge of climate change. A prime example of an impactful case is the decision of *Massachusetts v EPA*, and Richard Lazarus devoted an entire book to the discussion of the case and its legal implications.[2]

The decision of the Constitutional Court has already defined climate policy and law-making in Germany, and it introduced a new conceptual approach to the traditional understanding of the meaning of 'interference' in constitutional doctrine. It is arguably a momentous climate case; it marks a significant development for German constitutional law, the reception of international law at constitutional level and for the country's climate legislation. The interpretation of the Constitution through the Federal Constitutional Court is axiomatic for the country's entire legal order.[3] The German Constitutional Court has grasped the opportunity that the constitutional complaints presented to it, to create the doctrine of 'advance interference-like effect' and to apply the strict yardsticks that a constitutional justification of an interference with fundamental rights demands. In addition, the Court has interpreted the state's constitutional objective on climate protection in the light of the Paris Agreement's temperature target and the remaining national carbon budget.

This article examines the order within the context of German constitutional law and the complex relevant legal doctrines that the Court used and expanded, and on that basis, analyses the interlinkages between the state's objective to protect the climate pursuant to Article 20a Basic Law ('Grundgesetz')[4] and international law on climate change, and how the state's constitutional obligation to promote climate protection unfolds a concrete mandate for the state's international efforts.

One aspect of constitutional doctrine is important to note at the outset, it relates to the systematic approach of fundamental rights protection under the Basic Law. At the core of the case lies the differentiation between the two primary dimensions of fundamental rights that shape the relationship between the individual and the state. These dimensions concern the subjective and the objective functions of fundamental rights that form part of the doctrinal approach under the Basic Law.[5] The subjective function relates to the duty of the state to abstain from interferences with these rights (obligation to abstain, negative function, 'Abwehrfunktion').[6] The objective function dictates that the state

2 Richard J Lazarus, *The Rule of Five* (Harvard University Press 2020).

3 See further Gunnar F Schuppert and Christian Bumke, *Die Konstitutionalisierung der Rechtsordnung* (Nomos 2000); Christian Bumke, Andreas Vosskuhle and Andrew Hammel, *German Constitutional Law: Introduction, Cases and Principles* (OUP 2019) 26.

4 In German: *Staatszielbestimmung*, 'objective of the state'.

5 These are rooted in the system that was proposed by Georg Jellinek as the different forms of 'status' that define the relationship between the individual and the democratic state. The 'negative status' ensures freedom from the state in the sense of interferences that originate from the state. The 'positive status' means freedom through the state which can include participation in political processes and the provision of welfare means. It requires that the state adopts protective measures. Georg Jellinek, *System der subjektiven öffentlichen Rechte* (2nd edn, Mohr Siebeck 1905) 85.

6 BVerfGE 115, 320, 358. The duty of the state to protect the freedom of the individual from interferences of state power; Hans Dieter Jarass, Vorb. vor art 1 para 3 in Hans Jarass and Martin Kment (eds), *Jarass/Pieroth, Grundgesetz für die Bundesrepublik Deutschland, Kommentar* (16th edn, Beck 2020) (hereinafter Jarass).

protects fundamental rights (obligation to act, positive function or protective duty, 'Schutzpflicht').[7] Formative for this protective duty is the understanding that fundamental rights constitute not only individual rights against interferences but rather represent an *objective value order* in which the protective duty of the state is rooted.[8] This latter paradigm grants the state a wide margin of appreciation in choosing suitable concepts and measures in protecting individual rights and, correspondingly, the judicial review is limited in its scope.[9]

The Constitutional Court will regularly determine that a violation of the duty to protect has occurred in situations where protective measures are entirely missing, if they are evidently unsuitable or completely insufficient for achieving the desired objectives, or when they fall considerably short of the protective target.[10] Conversely, a much tighter standard of judicial review is applicable if fundamental rights are concerned in their subjective function, in cases where an interference with a protected right is at stake. Therefore, in introducing the notion of 'advance interference-like effect',[11] the Court re-imagined the doctrine of interference under the state's obligation to abstain, in the specific context of climate change, and thereby opened constitutional doctrine for an innovative approach towards protecting the future enjoyment of fundamental rights. This turn in the decision pertains to more than just nuances of the review threshold. It rather constitutes creative judicial reasoning that took calculations of a remaining national carbon budget into account and permitted the Court to examine the emission reduction targets until 2030 against the strict constitutional yardsticks that judicial review reserves for the state's undue interference with fundamental rights.

Furthermore, the advance effect of the current legislation and the emphasis on the intertemporal dimension of fundamental rights stress the significant function of a legal determination of emission amounts in directing transformational changes while protecting—to some degree—future generations. A theory of intergenerational equity is devised for a comprehensive analysis of the order's ramifications for future generations, starting with the theoretical framework that was first introduced by Edith Brown Weiss. On that basis, it is argued that while the Court has indirectly achieved some protection of future generations, its forbearance to fundamentally challenge the mean temperature target of 1.75°C for calculating the overall size of the national carbon budget and its focus on protecting emission-intensive freedom rights, does neither satisfy the mandate under Article 20a Basic Law nor can it reflect the full dimension of intergenerational and intragenerational equity. Therefore, the article offers an alternative reading that aligns the state's mandate to protect the natural foundations of life with an international principle of intergenerational equity.

7 BVerfGE 117, 202, 227; Jarass (n 6) Vorb. vor art 1 para 8.

8 BVerfGE 125, 39, 78.

9 This is established case law of the Court, see BVerfGE 96, 56, 64; BVerfGE 125, 39, 78; even though it leads to an asymmetrical relation between the state's duty to actively protect rights and its duty to abstain from an interference with rights, see for a further discussion Christoph Möllers und Nils Weinberg, 'Die Klimaschutzentscheidung des Bundesverfassungsgerichts' (2021) 76 Juristen Zeitung 1069, 1072.

10 BVerfGE 142, 313, 337; BVerfGE (n 1) para 152.

11 In German: *Eingriffsähnliche Vorwirkung*, BVerfG (n 1) para 183.

2. CLIMATE LEGISLATION IN GERMANY

The Federal Climate Change Act (CCA) in its original version was enacted in December 2019 and represented the country's first comprehensive climate statute.[12] Prior to its amendment (this will be explained below) and at the time when the constitutional complaints were decided, it set as a target to reduce greenhouse gas (GHG) emissions by at least 55% by 2030 relative to 1990 levels.[13] The objective of the CCA explicitly incorporates the temperature target of the Paris Agreement of 'holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels',[14] and it prescribes the long-term goal of pursuing climate neutrality by 2050.[15]

The CCA thereby responds to the requirement of greater climate action and the pertinent policy objectives of the German Federal Government. It aims 'to provide protection from the effects of worldwide climate change by ensuring achievement of the national climate targets and compliance with the European targets'.[16] Before December 2019, the national climate targets had only been determined in a cabinet decision, without any legally binding effect towards the individual as stated by the Berlin Administrative Court in the first climate case against the Government.[17]

In order to achieve the interim target of at least 55% emission reductions relative to 1990 levels by 2030, section 3(1) CCA specified that GHG emissions must be gradually reduced across all sectors. The CCA prescribes concrete annual emission amounts for each sector and it determines that setting an overall reduction target as well as sector-specific targets in combination with a periodical review of the reached emission reductions, are measures without alternative to ensure a consistent and efficient course of action.[19]

According to the complainants, the provisions in the CCA that defined the concrete sectoral targets were nevertheless insufficient to ensure the required protection of fundamental rights. Moreover, the approach of setting concrete targets in the CCA itself was only followed until 2030, for the years after that the original version of the CCA authorised the German Government to update emission reductions

12 Bundes-Klimaschutzgesetz of 12 December 2019 (CCA), the new version includes the amendment(s) to the Act by Article 1 of the Act of 18 August 2021 (Federal Law Gazette I, p. 3905) <https://www.gesetze-im-internet.de/englisch_ksg/index.html> accessed 15 December 2021.

13 CCA, ibid s 3(1).

14 The Paris Agreement, opened for signature 16 February 2016, UNTS I-54113 (entered into force 4 November 2016) art 2(1)(a).

15 CCA (n 12) s 1.

16 ibid, s 1 first sentence. It should be noted that the CCA does not include any provision on adaptation.

17 *German Farmers v Germany, Berlin Administrative Court* (Verwaltungsgericht Berlin) VG 10 K 412.18. The judgment was delivered on 31 October 2019 and is only available in German. For a discussion of the case see Petra Minnerop, 'The First German Climate Case' (2020) 22 Environmental Law Review 215–26.

18 Paris Agreement (n 14) art 2(1)(a).

19 CCA (n 12) ss 3(1) and 4(1) third sentence CCA in conjunction with Annex 2; CCA under C ('Alternativen'): 'Keine. Um die Klima-und Energieziele der Bundesregierung zu erreichen, ist eine sektorübergreifende Regelung erforderlich, die sowohl die Zielerreichungspfade für die einzelnen Sektoren als auch eine zeitnahe Erfassung des jeweils erreichten Standes der Minderung umfasst. Nur so ist ein konsistentes und damit effizientes Vorgehen zur Erreichung der vorgegebenen Ziele gewährleistet.'

targets by means of an ordinance ('Rechtsverordnung'), albeit with consent of the Bundestag.[20] The CCA did not provide criteria for these further reductions, or a regular timeframe for re-visiting the required interim targets. It only prescribed that once, in 2025, the Federal Government had to set annually decreasing emission amounts for further periods.[21]

For the political background of the case, it is important to note that general elections took place in Germany in September 2021 and climate protection was among the key themes of the election campaigns.[22] Not surprisingly, the Government announced new targets after the release of the Court's order, the so-called 'Contract for Generations' ('Generationenvertrag') as an amendment to the CCA on 12 May 2021.[23] The amendment was adopted by the Bundestag on 24 June 2021, passed by the second Chamber of the Federal Parliament, the Bundesrat, on 25 June 2021, and entered into force on 31 August 2021.[24] It replaces the previous objective of achieving net-GHG neutrality with an earlier target year of 2045, it increases the 2030 target to 65% GHG emission reductions compared to 1990 levels, it defines a target of 88% reductions of GHG emissions by 2040, and it reduces annual emissions allowances for individual sectors.[25] After 2050, negative GHG emissions are to be achieved, according to section 3(2) second sentence CCA.

The CCA explicitly concretises the Paris Agreement's ratchet mechanism. If higher national climate targets are required for compliance with European or international climate targets, the Federal Government is under the obligation to initiate the necessary steps for increasing the 'target values', and climate targets may be raised but not lowered.[26] The first annual review of March 2021, required by the CCA, indicated that the country achieved its climate targets for 2020.[27] In 2020, GHG emissions were 40.8% lower than in 1990 and 8.7% lower compared to 2019.[28] Five of the six sectors met their individual reduction objectives, with the sector 'buildings' remaining below target. As a result of reducing the amount of electricity generated using coal, the energy sector yielded the most significant reductions of approximately 33 Mio. tonnes of CO_2.[29]

20 CCA (n 12) s 4(5).

21 ibid, s 4(6).

22 The election took place on 26 September 2021, see order of 8 December 2020 (Anordnung über die Bundestagswahl 2021 vom 8. December 2020), BGBl I 2020, 2769; see also <www.bundestagswahl-2021.de/datum> accessed 22 November 2021.

23 The starting point—targets of the German Federal Government ('Die Ausgangslage—und die Ziele der Bunderegierung') <www.bundesregierung.de/breg-de/themen/klimaschutz/bundesregierung-klimapolitik-1637146> accessed 22 November 2021.

24 *Generationenvertrag für das Klima* <www.bundesregierung.de/breg-de/themen/klimaschutz/klimaschutzgesetz-2021-1913672> accessed 19 November 2021; see further <https://www.bundestag.de/dokumente/textarchiv/2021/kw25-de-klimaschutzgesetz-846922> accessed 11 December 2021.

25 The new climate targets, ibid. Greenhouse gases under the CCA include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3) as well as the hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) listed in Annex V, Pt 2 of the European Governance Regulation, see s 2(1).

26 CCA (n 12) s 3(4).

27 For the data, see <www.bundesregierung.de/breg-de/themen/buerokratieabbau/klimaschutzziel-2020-erreicht-1876954> accessed 19 November 2021.

28 ibid.

29 ibid.

3. THE CONSTITUTIONAL COMPLAINT

The complainants asserted that the CCA from 2019, with its reduction targets up to 2030 and the lack of concrete interim targets beyond 2030, violated several fundamental rights. They primarily claimed that the state, in enacting sections 3(1) and 4(1) third sentence CCA in conjunction with Annex 2, had failed to introduce a legal framework that ensured a sufficient and timely reduction of greenhouse gases, especially carbon dioxide (CO_2), to limit the increase in the Earth's temperature to 1.5°C, or at least to well below 2°C. The complainants—some of whom live in Bangladesh and Nepal—relied primarily on the alleged omission of the state to adopt suitable measures that comply with the objective function of the fundamental rights (the duty to protect) under Article 2(2) first sentence and Article 14(1) Basic Law. They argued that the emission thresholds of the CCA were too high to meet the temperature target of 1.5°C and that exceeding this temperature would increasingly endanger lives and livelihoods as well as risking that crucial ecological tipping points with unpredictable consequences for the climate system were reached. They based their claim on the required reductions of CO_2 emissions in line with the so-called 'carbon budget' approach of the Intergovernmental Panel on Climate Change (IPCC).[30] In addition, they argued that their fundamental right to a future consistent with human dignity and a right to an 'ecological minimum standard of living' ('ökologisches Existenzminimum') was violated.[31] They derived this right from Article 2(1) in conjunction with Article 20a and Article 1(1) first sentence Basic Law.

With regard to future burdens arising from the obligation to drastically reduce emissions for periods after 2031—which was described as a potential 'full break'—the complainants relied on the omission of the legislator to define targets in the CCA beyond 2030, thereby violating the rule of materiality reservation ('Wesentlichkeitsvorbehalt') that demaned a determination of future targets in a statutory provision.

Finally, the two environmental associations asserted that as 'advocates of nature', they could bring a claim on the basis of Article 2(1) in conjunction with Article 19(3) and Article 20a Basic Law, in the light of Article 47 of the EU Charter of Fundamental Rights. They argued that the legislator had failed to take suitable measures to limit climate change and thereby disregarded binding requirements under EU law to protect the natural foundations of life.

3.1 Admissibility of the Case

The Court held that the complainants had, in so for as they were presenting the claims in their capacity as natural persons, legal standing. The requirement of legal

30 IPCC, 2018: Summary for Policymakers in Valerie Masson-Delmotte and others (eds), *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways*', at 18, D 1.1. <www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf> accessed 22 November 2021.

31 See already Hans H Rupp, 'Die verfassungserchtliche Seite des Umweltschutzes' (1971) 26 Juristen Zeitung 401, 404; for the historical dimension of this discussion see Ines Härtel, 'Klimaschutzverfassungsrecht: Klima-Staatszielbestimmungen im Föderalismus' (2020) 42 Natur und Recht 577, 579.

standing demands that a violation of a fundamental right is *at least possible*.[32] Furthermore, complainants must be concerned in their own rights ('selbst'), they must be directly ('unmittelbar') and presently ('gegenwärtig') affected, which includes already existing but also imminent ('bevorstehende') violations.[33] Firstly, the Court explained that the legal duty to protect fundamental rights ('Schutzpflichten') under Articles 2(1) and 14(1) Basic Law could be violated because the CCA until 2030 allowed the country to produce a too generous amount of GHG emissions until that point in time.[34] Secondly, the possibly very deep emission reductions required after 2030 could constitute an unconstitutional future threat for the enjoyment of fundamental rights. Accordingly, at this point, the Court did not exclude that the possibility of a rights violation existed under any of the two dimensions of fundamental rights (the duty to protect and the duty to abstain from interferences) discussed above, and it found that a violation of fundamental rights of the complainants living in Bangladesh and in Nepal was possible. The Court held that thus far, it had never clarified if fundamental rights protected under the Basic Law obliged the German State to protect people living abroad, from negative consequences caused by climate change, and under which circumstances such a duty to protect could be violated.[35]

In relation to the admissibility criteria that fundamental rights had to be affected at present, ie 'currently', the Court noted that the CCA's targets could unfold an 'advance interference-like effect' for the enjoyment of fundamental freedoms in the future.[36] This advance interference-like effect already determined future limitations for fundamental rights, not just factually but legally.[37] The Court finally found that the mere fact that a very large number of people were affected by this advance interference-like effect, did not prevent it from concluding that individual fundamental rights of the complainants could possibly violated.[38]

The Court considered that after 2030, drastically deeper reductions at very short notice could be required by Article 20a Basic Law which defines climate protection as one of the general constitutional objectives of the state ('Staatszielbestimmung').[39] This objective was introduced into the Basic Law in 1994 and while it does not provide a subjective right, it is a constitutionally binding objective for the state and a justiciable

32 Act on the Federal Constitutional Court, *Bundesverfassungsgerichtsgesetz* (BVerfGG) art 93 I Nr 4a <https://www.gesetze-im-internet.de/englisch_bverfgg/englisch_bverfgg.html> accessed 13 December 2021.

33 BVerfGE 77, 170, 220; Jarass (n 6) art 20a, paras 27–29.

34 BVerfG (n 1) paras 99–102.

35 ibid. para 117.

36 ibid, para 116; an in-depth investigation of this issue is reserved for the merits.

37 ibid, para 130.

38 ibid, para 110, the Court referred to the VG Berlin (n 17).

39 ibid, paras 117, 118. The provision reads: 'Article 20a [Protection of the natural foundations of life and animals] Mindful also of its responsibility towards future generations, the state shall protect the natural foundations of life and animals by legislation and, in accordance with law and justice, by executive and judicial action, all within the framework of the constitutional order.' <www.gesetze-im-internet.de/englisch_gg/englisch_gg.html> accessed 22 November 2021. See further Martin Kment, *Die Neujustierung des Nachhaltigkeitsprinzips im Verwaltungsrecht* (Mohr Siebeck 2019).

norm that aims at the protection of the natural foundations of life, including for future generations.[40] The Court explained that complainants living in Bangladesh and Nepal could not be affected in their own rights as far as these future climate protection measures in Germany would be concerned, because they would not be affected by constraints placed upon their freedom rights through deeper emission cuts.[41] Furthermore, the two environmental associations had no standing to make a constitutional complaint. The Basic Law and constitutional procedural law make no provision that affords environmental associations legal standing in this situation.[42]

The admissibility of the constitutional complaint against the legal provisions of the CCA did not require to exhaust other remedies.[43] Furthermore, the fact that the CCA implemented EU law in the sense of Article 51(1) first sentence of the Charter of Fundamental Rights of the European Union did not prevent the Court to assess the provisions against the German Constitution and its yardsticks, in line with the established case law of the Constitutional Court[44] and the Court of Justice of the European Union.[45]

3.2 The Merits of the Case

3.2.1 Defining the constitutional yardstick

The Court found that as a result of the dangers posed by climate change, duties to protect arise from Article 2(2) first sentence and Article 14(1) Basic Law in relation to the complainants who live in Germany, and that such duties could, in principle, also apply vis-à-vis the complainants living in Bangladesh and Nepal, albeit with a different content than within Germany.[46]

The protection of life and physical integrity under Article 2(2) first sentence Basic Law encompasses protection against impairments caused by environmental pollution, regardless of the circumstances or the source of the impairment.[47] This clarifies for the first time in constitutional jurisprudence in Germany that the state's duty to protect under Article 2(2) first sentence Basic Law includes the duty to

40 Federal Administrative Court, *Bundesverwaltungsgericht* (BVerwG), Neue Zeitschrift für Verwaltungsrecht 98, 399; BT-Drs. 12/6000, 67. See also art 37 Charter of Fundamental Rights of the European Union <https://www.europarl.europa.eu/charter/pdf/text_en.pdf> accessed 13 December 2021; the Weimar Constitution provided in its art 150 protection of the environment, it stated that 'the landscapes enjoy the protection and care of the state'; <https://www.gdw-berlin.de/fileadmin/bilder/publikationen/Materialien_zur_Demokratiegeschichte/GDW_Weimarer_Reichsverfassung_2018web.pdf> accessed 13 December 2021; Jarass (n 6) art 20a, para 1.

41 BVerfG (n 1) para 132.

42 ibid, para 136; art 19(3) Basic Law prescribes that legal persons can be bearer of fundamental rights to the extent that the nature of such rights permits ('im Wesen anwendbar'). This demands that the formation and activity of the legal person constitutes an extension of the use of fundamental rights through natural persons. See Bumke, Voßkuhle and Hammel (n 3) 38, para 21. However, the Basic Law makes no provision for *actio popularis* claims.

43 BVerfG (n 1) para 138.

44 BVerfGE 152, 152, 168 para 39—Recht auf Vergessen I (Right to be forgotten I).

45 Court of Justice of the European Union (CJEU), Judgment of 26 February 2013—Åkerberg, C-617/10, EU:C:2013:105, para 29.

46 BVerfG (n 1) para 174.

47 ibid, para 147.

protect life and health against the risks posed by climate change.[48] Furthermore, this duty also encompasses protecting future generations from the adverse effects of our changing climate.[49] This specific obligation to protect future generations assumes an objective-legal nature, since future generations 'either as a whole or as a sum of individuals' cannot hold rights at present.[50]

The protective duty comprises mitigation of and adaptation to climate change. The state is under a constitutional obligation to mitigate the significant risks of climate change through measures embedded in the international context, and climate adaptation measures are necessary, including the protection against climate-related extreme weather events such as heat waves, floods or hurricanes.[51] Notably, the Court acknowledged that climate change is taking place today and that further climate change is no longer preventable.[52] Therefore, adaptation measures are crucial to limit the risks posed by the actual impacts to 'levels that are tolerable under constitutional law'.[53]

Since climate change can moreover result in damage being caused to property such as agricultural land or real estate (eg due to rising sea levels or droughts), the fundamental right to property under Article 14(1) Basic Law also imposes a (separate) duty of protection on the state. The Court referred to the case law of the European Court of Human Rights to explain that the European Convention on Human Rights demanded the fulfilment of a positive obligation to protect against health hazards arising from environmental harm, albeit without stipulating a higher standard of protection than under the Basic Law.[54]

The global character of climate change did not in diminish or otherwise interfere with this standard of the protective duty of the state.[55] In the contrary, the Court employed the global nature of climate change to concretise the content of the duty to protect fundamental rights. The global character of climate change obliged the state to actively seek a solution *at the international level*.[56] The duty to protect demanded internationally orientated actions of the state for global climate protection and that included working towards climate protection in international fora (including negotiations, treaty frameworks and international organisations) in conjunction with national measures that were suitable to contribute to halting climate change.[57]

48 ibid, para 143.
49 ibid, para 146.
50 ibid.
51 ibid, para 148.
52 ibid, para 150.
53 ibid.
54 ibid, para 147; *Öneryildiz v Turkey*, App no 48939/99 (ECtHR, 30 November 2004) para 89; *Budayeva and Others v Russia*, App no 15339/02 (ECtHR, 20 March 2008) para 128; Silja Vöneky and Felix Beck 'Vierzehnter Abschnitt. Schutz der antarktischen und arktischen Umwelt' in Alexander Proelß (ed), *Internationales Umweltrecht* (De Gruyter 2017) 133, 146.
55 BVerfG (n 1) para 178: 'The fact that the German state cannot prevent climate change on its own but can do so only in the context of international involvement would not, in principle, rule out a duty of protection arising from fundamental rights here . . .'.
56 BVerfG (n 1) para 179.
57 ibid, para 197.

3.2.2 No violation of the duty to protect

After dedicating considerable effort to concretising the state's duty to protect, the Court held that its judicial capacity to assess the suitability of the measures taken in the fulfilment of this duty was limited.[58] This might be a surprising turn in the Court's reasoning, however, it relates to the differentiation between the two main dimensions of fundamental rights as discussed at the beginning. It is established case law of the Court that the duty to protect fundamental rights is generally indeterminate and affords a wide margin of appreciation to the state.[59] Accordingly, the legislator has discretion concerning the *concept of protection* and the *concrete measures* that are adopted. The constitutionally required minimum standard is only violated if protective measures are completely missing, the measures are evidently unsuitable to meet the aim of the duty to protect, or when the measures fall significantly below the required standard of protection.[60]

Given the leeway of the legislator, no violation of the duty to protect was found in the present case. However, it is noteworthy that the Court took the opportunity to explicate different scenarios that it *would* regard as insufficient. From a constitutional-law point of view, this elaboration of scenarios was not necessary but it nevertheless served to define a baseline for lawful action, almost in the form of guidance for the legislator. For example, a violation could occur in a situation where the concept of climate protection would aim at the reduction of GHG emissions but without pursuing the objective of climate neutrality.[61] Any protection strategy that failed to pursue the goal of climate neutrality would have to be qualified as manifestly unsuitable to protect against the risks of climate change—as required by fundamental rights. Global warming would then be impossible to stop, given that every increase in the concentration of CO_2 in the atmosphere contributes to global warming and, once CO_2 is released into the atmosphere, it mostly stays there and is unlikely to be removable in the foreseeable future. Another entirely inadequate approach would be to allow climate change to simply run its course, and to rely exclusively on adaptation measures. Furthermore, if the CCA would only include a reduction objective for 2030 without setting interim targets,[62] it would not be suitable to guarantee a certain temperature threshold, given that this would fail to determine how much GHG emissions could be emitted in the meantime.[63] Therefore, the goal of net-zero GHG emissions demands that emissions are continuously reduced, and until climate neutrality is achieved.[64]

58 ibid, para 152.

59 BVerfGE 79, 172, 202.

60 BVerfG (n 1) para 152, BVerfGE 142, 313, 337 para 70.

61 The provision in s 2 No 9 CCA (n 12) describes net greenhouse gas neutrality as 'an equilibrium between the anthropogenic emissions of greenhouse gases from sources and the reduction in the volume of such gases by means of sinks.'

62 CCA (n 12), s 3(1) second sentence.

63 This concerns the differentiation between single-year and multi-year targets. Adopting multi-year targets is important for achieving the Paris Agreement's temperature target and, in particular, for the functioning of the market instruments under art 6 Paris Agreement. If states only commit to single-year targets in their nationally determined contributions, calculating the overall mitigation outcomes that are achieved is challenging.

64 BVerfG (n 1) para 156 speaks of the 'goal of neutrality'.

The complainants had argued that the Paris Agreement would be insufficient to fulfil the state's duty to protect.[65] They asserted that only the objective of limiting warming to 1.5°C would be suitable to fulfil the state's duty.[66] The Court acknowledged that the more recently published scientific evidence, especially the 1.5°C IPCC Special Report, concluded that the climate-related risks for natural and human systems would be lower in a 1.5°C than in a 2°C warming scenario.[67] The Court also acknowledged that the IPCC had intensified its warnings based on this new data and risk analysis.[68] However, while adopting a target of 2°C and pursuing the objective of 1.5°C could be considered as being not ambitious enough from a political perspective, the Court did not find that the legislator exceeded the considerable discretion it had from a legal point of view, in adopting measures that were based on calculating the national carbon budget in line with the arithmetical mean of 1.75°C of the target-range of the Paris Agreement.

The Court recognised that achieving 2°C with the current emission amounts in the CCA seemed more likely, and that there were signs that the 55% reduction target for 2030 had been modelled already in 2010 and in accordance with a 2°C temperature target, which would not be compatible with the constitutional obligation to take climate action.[69] Even for achieving a 1.75°C target with a likelihood of 67%, the German Advisory Council on the Environment (Advisory Council, 'Sachverständigenrat für Umweltfragen') had calculated a concrete national rest-budget of 6.7 gigatonnes of CO_2 starting from 2020 until achieving climate neutrality,[70] which would require deeper emission cuts post-2030. This calculation was based upon a per-capita-right to emissions world-wide, in other words, a pro-rata distribution of the remaining global carbon budget pursuant to the actual population.[71] Using a mean value of the Paris Agreement's temperature range as temperature target, albeit not being politically the most ambitious one,[72] was according to the Court still within the margin of discretion of the state. However, an important aspect in this context was the fact that adaptation measures in Germany could be adopted to ensure the protection of the right to health, as this would make it possible to meet the pertinent constitutional standard of protection.[73] However, it was clear at this point, and this will be discussed further below, that the current calculations were not suitable for realising the mandate to pursue efforts of limiting the temperature increase to 1.5°C.[74]

65 BVerfG (n 1) para 158.

66 ibid, para 159.

67 ibid, paras 160, 161.

68 ibid.

69 ibid, para 166: 'The history behind the reduction quota set down in § 3(1) second sentence KSG indicates that it was originally linked to a 2°C target.'.

70 ibid, para 219.

71 ibid, para 225.

72 ibid, para 162: 'If the legislator has nonetheless based the national climate change legislation on the commitment undertaken by the Parties to the Paris Agreement to limit global warming to well below 2°C and preferably to 1.5°C, this may be regarded as politically too unambitious'.

73 BVerfG (n 1) para 167.

74 ibid, para 235, acknowledging that this was not a 'particularly stringent approach'.

3.2.3 The 'advance interference-like effect' of climate targets

After explaining that the legislator's measures had not violated the duty to protect, the Court turned to the effect of the legally determined amounts of sectoral emissions in the CCA and, crucially, their already foreseeable effects of requiring deeper reductions in the future. As mentioned earlier, the Court devised the new doctrine of 'advance interference-like effect' in order to link the current legislative decision on the emission allowances per sector with emission reductions that would be necessary post-2030.

In the light of emission reductions that would be required after 2030 to meet the 2050 target of net-zero emissions, the CCA's interim targets unfolded an effect, not just *de facto* but also *de jure*, that was comparable to an interference with fundamental rights that protect the various forms of daily activities. These activities are, and for the foreseeable future continue to be, predominantly still linked with producing CO_2 emissions. These activities are protected in specific fundamental rights provisions, and in addition, the Basic Law guarantees in Article 2(1) the general right to freedom of action ('Allgemeines Freiheitsrecht').[75] A generous approach to reducing CO_2 emissions before 2030 would demand more drastic reductions post-2030, since the legislator was required to halt climate change under constitutional law (through the duty to protect fundamental rights and under Article 20a). The state would be required to achieve carbon neutrality soon after 2030 and it was not likely that this could be achieved.[76] Under current emission trends and as foreseeable in accordance with the CCA's targets, the CO_2 rest-budget after 2030 would be less than 1 gigatonnne CO_2 in accordance with the calculations of the Advisory Council.[77] In the light of the expected amount of emissions for 2031, the rest budget at that point would barely be 'enough' for a further year.[78] Granting a freedom today will therefore limit future opportunities to exercise such CO_2 related freedom rights under constitutional law.

In addition, the Court stressed that particularly a fast consumption of the remaining CO_2 budget until 2030 increased the risk of grave limitations to be placed on fundamental freedoms, because it would reduce the available time for technological and social developments that could enable a transition towards a climate neutral way of life.[79]

Consequently, the challenged provisions of the CCA fell into the (now extended) category of 'interference' with fundamental rights. An interference with rights can, however, only be justified under strict constitutional standards.[80] The concrete cause for this risk of future interferences were the provisions that established the allowed CO_2 emissions in accordance with section 3(1) second sentence and section 4(1) third sentence CCA in conjunction with Annex 2. These provisions decided irreversibly how much of the CO_2 budget could be emitted after 2030 and they defined the

75 BVerfGE 67, 157, 171; Robert Alexy, *Theorie der Grundrechte* (Suhrkamp 1985) 309; Jarass (n 6) art 2, paras 1–5.
76 BVerfG (n 1) para 234.
77 ibid, para 233.
78 ibid, para 246.
79 ibid, para 248.
80 ibid, paras 184-187.

time that was available for those transformations that are necessary. While the legislator was hardly able to define the concrete developments of climate-neutral alternatives and innovations in detail, it was a constitutional obligation to create the underlying conditions and incentives so that these developments can take place.[81]

To trigger the transitional changes, the CCA itself must either define the size of the annual emission amounts, or it must set out further criteria for the definition of these amounts through the Federal Government.[82] For example, the CCA could define the emission reduction amounts for certain target years.[83] These determinations are so material for the protection of fundamental rights, that they fall into the category of decisions that the legislator must adopt in form of a statutory provision (materiality reservation or 'Wesentlichkeitsvorbehalt'), they cannot be delegated to the Executive in accordance with Article 80(1) Basic Law,[84] the mere fact that the German Bundestag must give its consent to an ordinance of the Government cannot replace the democratic function of parliamentary debate which is precisely the reason for the requirement to set the emission reductions in law.[85]

The Court did not declare the provisions as being void, even though this would be the expected outcome in cases where the constitutional complaint is successful in accordance with section 95(3) first sentence BVerfGG. However, if the voidance of a provision leads to a situation that sets it even further apart from the constitutional standard, the Court can simply declare that provision as being irreconcilable with the Constitution and order its temporary application, coupled with the mandate to rectify the identified flaws. The legislator was granted a period until 31 December 2022 to determine the emission reduction targets post-2030 in line with the reasoning of the Court.[86]

4. OPENNESS OF THE CONSTITUTION TO INTERNATIONAL LAW ON CLIMATE CHANGE

Legal orders, constitutional doctrine and legal imagination are continuously challenged by climate change and the rapidly evolving and firming climate science. The Federal Constitutional Court has grasped the opportunity that the constitutional complaints presented to it, to create the novel doctrine of the advance interference-like effect and cohere it with the stricter requirements that constitutional law establishes for any restriction placed upon fundamental rights. In addition, the Court made some impactful statements on the role of fundamental rights in their objective dimension (the basis for the duty to protect) and the state's obligation of climate protection under Article 20a Basic Law.

81 ibid paras 187, 194 and 248: '...the state itself has neither the capacity nor the sole responsibility for providing all the technological and social developments to replace and avoid greenhouse gas-intensive processes and products, and for setting up the necessary infrastructure.'.

82 ibid, para 261.

83 ibid, para 264, please note that this is a reference to the German decision, not the entire order was translated into English.

84 That provision allows the legislator to authorise the Federal Government, the Federal Minister or the Land Governments to issue statutory instruments.

85 ibid, para 265.

86 ibid, para 268 (omitted from the English translation). The legislator amended the CCA on 24 June 2021, see (n 24) .

The decision undoubtedly tests conventional constitutional boundaries, it translates the IPCC's emission pathways into a national carbon budget approach that is judicially reviewable, and it applies the 'moral code'[87] that the Basic Law represents for the first time in the context of climate change. This strengthens the Court's role as guardian of the Constitution in a scientifically and legally complex area. The following reflects on three legal developments where the Court expanded constitutional doctrine and it points out where further explanations of the Court's reasoning are desirable, in the light of these newly developed constitutional standards for effective climate action.

4.1 Climate Change as Matter for the Basic Law

The Court confirmed for the first time that climate change has become a reality for which the Basic Law offers fundamental safeguards. Emission reductions are required until climate neutrality is achieved, and while it is important for the state to adopt adaptation measures, no alternative to mitigation and thus, reducing GHG emissions, exists. Especially in defining the standard for the state's protective duty—and despite the fact that no violation of this duty had occurred thus far—the Court elaborated a constitutional threshold for review that resembles a 'constitutional rulebook' to guide future legislative measures in the context of climate change. This is particularly significant because it is coupled with the general acknowledgment that scientific evidence dictates the permanent and, therefore, dynamic duty of the legislator to shape environmental legislation pertaining to the latest scientific findings, and it strengthens the Court's own function in exercising constitutional oversight.

4.2 The 'Advance Interference-like Effect' and the Principle of Proportionality

After establishing that an interference existed, the Court had to examine whether the interference was constitutionally justified. The constitutional justification presupposes that the challenged provisions of the CCA are compatible with objective constitutional law, including Article 20a Basic Law,[88] and that they satisfy the criteria of the principle of proportionality.[89] Introducing the doctrine of 'advance interference-like effect' and placing it on equal footing with the traditional understanding of the doctrine of 'interference' with fundamental rights, enabled the Court to apply the stricter constitutional yardsticks that are applicable if the subjective function of fundamental rights is concerned, rather than the limited scope of review that flows from the state's discretion to fulfil the duty to protect. Thus, only by devising the advance interference like-effect was the Court in a position to apply the strict standard of the proportionality test.

The new doctrine of 'advance interference-like effect' is evidence of creative judicial reasoning that ushers in an unprecedented constitutional focus on the future

87 David Robertson, *The Judge as Political Theorist. Contemporary Constitutional Review* (Princeton University Press 2010) 81, 82, see also Stone Sweet, 'Constitutional Courts' in Michel Rosenfeld and András Sajó (eds), *The Oxford Handbook of Comparative Constitutional Law* (OUP 2012) 816, 829.

88 BVerfG (n 1) paras 189, 196, 197.

89 ibid, paras 189, 192, 243.

effect of current legislative determinations, in response to climate change. However, it is not clear how the Court could be satisfied that a legal determination of the reduction pathway post-2030, or a proportionate distribution of reduction efforts, could alleviate the consequences of a rapid consumption of the national carbon budget where the emission amounts for even achieving a rather generous 1.75°C target will be largely used by 2030, let alone for the 1.5°C target. This is neither suitable to protect the exercise of future (CO_2 intensive) freedom rights from more drastic reductions, nor does it sufficiently control or limit overall emission levels.[90]

Given that the calculations of the national carbon budget include considerable scientific uncertainties and an exact size of the remaining budget could not be ascertained, Article 20a Basic Law afforded the legislator discretion to make a value judgment. However, this discretion cannot be exercised in accordance with political preferences ('nach politischem Belieben'). In contrast, as the Court stated, '...if there is scientific uncertainty regarding causal relationships of environmental relevance, Art. 20a Basic Law places constraints on the legislator's decisions—especially those with irreversible consequences for the environment—and imposes a special duty of care, including a responsibility for future generations'.[91]

The legislator must therefore consider 'mere indications' that point towards 'serious or irreversible impairments', 'as long as they are sufficiently reliable' ('Belastbarkeit'),[92] especially when they suggest a 'possibility of exceeding the constitutionally relevant temperature limit',[93] in accordance also with Article 3(3) of the United Nations Framework Convention on Climate Change (UNFCCC).[94]

In addition, in applying the principle of proportionality, it was of particular importance that Article 20a Basic Law included the mandate to protect the natural foundations of life for future generations as well. The Court found that the provisions of the CCA were not justified under the proportionality principle. A proportionate approach would demand 'to ensure that the reduction of CO_2 emissions to the point of climate neutrality that is constitutionally necessary under Art. 20a GG is spread out over time in a forward-looking manner that respects fundamental rights'.[95] This means that not one generation can use large amounts of the remaining carbon budget while carrying a relatively small reduction burden, impliedly demanding that subsequent generations carry a far greater burden of deeper reductions and significant losses of freedoms. In other words, it excludes to 'off-load' the burden of emission reductions mainly to the future.[96]

While the Court fully accepted the scientific evidence that 'the amount of CO2 emissions that can be released into the Earth's atmosphere while still complying with

90 ibid, para 244, this was recognised by the Court, para 196: '...the legislator does remain obliged to limit the temperature increase to preferably 1.5°C – a target that it formulated when specifying Art. 20a GG.'

91 ibid, para 229.

92 ibid.

93 ibid.

94 United Nations Framework Convention on Climate Change, 1771 UNTS 177 (entered into force 21 March 1994).

95 BVerfG (n 1) para 243; see also para 192.

96 Stephan Meyer, 'Grundrechtsschutz in Sachen Klimawandel?' (2020) 73 NJW 894, 896; Klaus-Ferdinand Gärditz, art 20a GG para 24, in Landmann/Rohmer (eds), *Umweltrecht* (Beck, 93. EL August 2020).

the constitutional obligation to take climate action is limited',[97] it did—rather surprisingly—not question the lawfulness of the rather generous calculation of the national share of emissions. However, international and constitutional law provide a framework for that determination as the Court had explained at length. While the distribution of the carbon budget *over time* was scrutinised, neither the overall size of the national carbon budget, let alone the inter-temporal dimension, nor the generous median value of a temperature reference target of 1.75°C, or the full dimension of intergenerational equity, were considered in depth, and these points will be revisited in the following section and the final part below.

4.3 Concretising Article 20a Basic Law

In Article 20a Basic Law, the aim of environmental protection is elevated to the level of constitutional law, as an objective of the state.[98] The protection of the natural foundations of life includes the global climate.[99] As such, the provision can legitimise limitations placed upon fundamental rights and, similarly, fundamental rights can define the scope of Article 20a Basic Law.[100] The nature of Article 20a Basic Law as state objective ensures long term environmental protection, as otherwise the provision would be 'at a structural risk of being less responsive to tackling the ecological issues that need to be pursued over the long term'.[101] This prevents an 'ad infinitum' development of climate change under constitutional law.[102] In addition, it guarantees the protection of future generations that cannot hold rights at present. As the Constitutional Court explained, those will be most affected but have 'no voice of their own in shaping the current political agenda'.[103]

The Court found that the Paris Agreement as a legally binding international treaty had a distinct bearing for Article 20a since the globally effective climate protection efforts were mainly determined through the Paris Agreement, and the legislator had chosen to define the climate protection obligation of Article 20a Basic Law in line with the temperature target of the Paris Agreement.[104] This fell within the prerogative of the legislator and aligning climate action under the Constitution with the Paris Agreement's temperature target did not exceed the legislator's discretion.[105]

However, it is significant that the Court proceeded to state that new scientific evidence on climate change and the ability to limit and control global warming, could require the Court to re-consider the adequacy of defining the constitutional mandate

97 BVerfG (n 1) para 246.

98 See for the role of general objectives of the state, Wolfgang Kahl, *Nachhaltigkeitsverfassung. Reformüberlegungen* (Mohr Siebeck 2018) 26 and Christian Calliess, *Rechtsstaat und Umweltstaat* (Mohr Siebeck 2019) 9, 10.

99 BVerfGE 118, 79, 110; Astrid Epiney, art 20a para 18 in Herrman von Mangoldt, Hans-Hugo Klein and Christian Starck (eds), *v. Mangoldt / Klein / Starck, Kommentar zum Grundgesetz* (Bd. 2, 7th edn, Beck 2018); Ines Härtel, 'Klimaschutzverfassungsericht: Klima-Staatszielbestimmungen im Föderalismus' (2020) 42 Natur und Recht 577, 578.

100 Jarass (n 6) art 20a, paras 15–17.

101 ibid, para 206 (English translation).

102 BVerfG (n 1) paras 118, 121.

103 ibid.

104 ibid.

105 BVerfG (n 1) para 211.

through the Paris Agreement's goals. In other words, a stricter temperature target could be adopted in the future, if scientifically required. Consequently, the legislator is under a continuous obligation to adapt environmental and climate law to the newest scientific evidence[106] and these further determinations could again be subject to constitutional review.

The temperature target was operationalised by translating it into amounts of emission reductions, in line with the emission pathways outlined by the IPCC and the national carbon budget calculations of the Advisory Council.[107] The Advisory Council's calculations use 'verifiable figures and sound calculations methods', based on the IPCC's 'scientifically justified assumptions, which were reached using a quality assurance process'.[108] The Court recognised that these calculations included considerable uncertainties in both directions, the carbon budget could be larger, but it could also be smaller. The mere fact that these uncertainties remained, could mean that the carbon budget was possibly much smaller than assumed by the Advisory Council.[109]

The German Government had argued that concrete emission reduction targets would need to be determined at the international level, an argument that the Court could not accept.[110] Internationally agreed emission reduction targets would equally demand to take the global carbon budget as the point of departure for these calculations. Therefore, this would only confirm the viability of the carbon budget approach. Only a climate policy that was not orientated towards achieving a concrete temperature target could afford to use the method of 'trial and error'.[111] However, if a concrete temperature target was pursued, the carbon budget approach offered a suitable approach for translating the temperature target into concrete national contributions.[112]

Since the state is required to implement the international legal framework to which it has consented, in full, one may be forgiven to wonder if the Court should not have gone further in its scrutiny of the state's ambition, in applying the constitutional standard it had developed, instead of accepting that modelling the budget calculations in line with a median temperature target was lawful, albeit 'politically not ambitious'. The choice of a 1.75°C pathway remains unfathomable in the light of constitutional and international law, as well as the scientific evidence. With such a reference point for the national carbon budget, the state is not implementing the Paris Agreement's temperature target as the CCA aspires to do, because this would require pursuing efforts of achieving pathways corresponding to a temperature limit of 1.5°C rather than 1.75°C. Not even attempting to follow the lower temperature

106 ibid, para 212.

107 BVerfG (n 1) para 215: 'The IPCC has defined specific remaining global CO2 budgets for various temperature limits and different probabilities of occurrence. On this basis, the Advisory Council has calculated a specific remaining national budget for Germany. This can be used to measure whether the emission amounts allowed in s 3(1) second sentence and s 4(1) third sentence KSG are compatible with the temperature limit.' see paras 220, 231.

108 BVerfG (n 1) para 220.

109 ibid, para 228.

110 ibid, paras 69, 217.

111 ibid, para 218.

112 ibid, para 218.

point of the range that the Paris Agreement sets forth, does not give full effect to the Paris Agreement. It settles on a solution that risks fundamental rights and falls short of fulfilling the mandate under Article 20a Basic Law. A constitutional obligation that demands full implementation of the international law on climate change entails that the state at least elaborates on constitutionally valid reasons that prevent it from following a reduction pathway that is consistent with a 1.5°C pathway.

Furthermore, the Paris Agreement requires states to demonstrate 'highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances'.[113] Accordingly, ambition is a normative expectation that supports the clear wording of Article 2(1)(a) Paris Agreement on the preferable temperature target. Ambition is to be defined and articulated by states in the context of their own individual capacity, not compared with that of other countries. Admittedly, the investment in own ambition presupposes trust, embodied in the confidence in other states' ambition. This could lead to a 'wait and see' approach, yet the Paris Agreement establishes safeguards in an attempt to avoid that course of action. It stipulates that developed countries take the lead on climate action, they must invest in own ambition before they can reasonably expect that other states, especially developing countries, follow suit and are equally ambitious.[114] This excludes that developed countries pursue an average temperature target approach.

Therefore, the questions to be posed to the state, and in the judicial review, are not whether the remaining emission amounts, calculated using the arithmetic mean of the Paris Agreement's temperature target range, can be evenly distributed to guarantee the enjoyment of freedom rights after 2030, and if it is lawful to compensate lack of ambition now with deeper emission reductions after 2030. The crucial question is if the state is making its best efforts in emitting as little as possible and claiming the smallest national carbon budget within its economic capacity, to protect its own nationals, thereby complying with international and constitutional law. It is not entirely clear how the Court could be content this was the case.[115]

5. THE CARBON BUDGET AS FREEDOM BUDGET AND INTERGENERATIONAL EQUITY

5.1 A Theory of Intergenerational Equity

The Court referred frequently to the protection of future generations in Article 20a Basic Law and their rights to enjoy carbon-intensive freedoms while the state was transitioning to a decarbonised economy. To which extent then, has the Court

113 Paris Agreement (n 14) art 4(3).

114 ibid, art 4(4).

115 After defining the framework for assessing the current emission amounts, the Court stated that s 3(1) second sentence and s 4(1) third sentence CCA in conjunction with Annex 2 satisfy this requirement. Taking the leeway afforded to the legislator into account, the Federal Constitutional Court cannot presently ascertain that these provisions violate the constitutional obligation to take climate action arising from art 20a GG, the German version includes the word 'noch': 'Dem werden § 3(1) zweiter Satz und § 4(1) dritter Satz CCA in Verbindung mit Annex 2 noch gerecht', BVerfG (n 1) para 230. The Court continues to find: 'a) Nonetheless, it does not seem certain that the remaining budget can be complied with on the basis of these provisions.', para 231.

contributed to clarifying how future generations ought to be protected in the climate change context? While the focus on future *freedom* rights enabled the Court to conceptualise an advance effect of targets that amounted to an undue interference, bringing one dimension of intergenerational equity to the surface, it is argued here that this fails to make the entire spectrum of intergenerational equity as an international principle visible, one that Article 20a Basic Law could incorporate. The following therefore extends the Court's reasoning into a fuller reflection on the potential that a constitutional mandate such as Article 20a Basic Law carries for the protection of future generations, including beyond national boundaries.

Article 20a Basic Law speaks of a responsibility of the state towards future generations through protecting the natural foundations of life and animals. The provision aims at environmental protection at present and in the future, taking into consideration potential long-term risks, a precautionary approach and the principle of sustainability.[116] The principle of intergenerational equity is indeed a foundation for the concept of sustainable development.[117] It is summarised in the understanding that 'humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs'.[118] Intergenerational equity links the present with the future generation in the attempt to manage and ultimately reduce the impact of each generation on the environment. It requires to evaluate the benefit and burden sharing, and no – within countries in an inter-temporal perspective and for the protection of all future generations,[119] it intersects with other principles of international environmental law[120] that together fill some normative gaps[121] and direct the systemic interpretation of 'hard' obligations in the field. The UN General Assembly adopted in 2019 a resolution on the theme of 'Protection of global climate for present and future generations of humankind'.[122] The United Nations Framework Convention on Climate Change

116 Jarass (n 6) art 20a, para 6.

117 Edith Brown Weiss, 'Intergenerational Equity' in Rüdiger Wolfrum (ed), *Max Planck Encyclopedia of Public International Law*, para 12 <https://opil.ouplaw.com/home/MPIL> accessed 22 November 2021.

118 Report of the World Commission on Environment and Development, *Our Common Future*, 27 <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf> accessed 22 November 2021.

119 Eg the Preamble of the UN Charter aspires to safe succeeding generations from the scourge of war.

120 Eg the rule of harm prevention, see Jutta Brunnée, 'International Environmental Law and Climate Change: Reflections on Structural Challenges in a "Kaleidoscopic" World' (2020) 33 The Georgetown Envtl Law Review 113, 119; see further Barbara Cosens and others, 'Governing Complexity: Integrating Science, Governance, and Law to Manage Accelerating Change in the Globalized Commons' (2021) 118 Proceedings of the National Academy of Sciences (7 September 2021) <https://www.pnas.org/content/118/36/e2102798118> accessed 13 December 2021.

121 UN Secretary-General, *Gaps in International Environmental Law and Environment-Related Instruments: Towards a Global Pact for the Environment*, UN A/73/419, 30 November 2018; for a recent evaluation of nationally determined contributions in the light of states' own fairness approaches, see Lavanya Rajamani and others, 'National "fair shares" in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law' (2021) Climate Policy 1, 4, DOI: 10.1080/14693062.2021.1970504 <https://www.tandfonline.com/doi/full/10.1080/14693062.2021.1970504> accessed 13 December 2021.

122 UN A/RES/73/232 of 20 December 2018, <https://undocs.org/en/A/RES/73/232> accessed 13 December 2021.

acknowledges the requirement that 'Parties should protect the climate system for the benefit of present and future generations of humankind'.[123] The Paris Agreement includes in its preamble a reference to the principle of 'equity' more generally and the specific notion of 'intergenerational equity'. In the operational part, it refers on three further occasions to 'equity' and defines that the Agreement 'will be implemented to reflect equity',[124] that greenhouse gases will be stabilised 'on the basis of equity',[125] and the central oversight mechanism of the Paris Agreement, the Global Stocktake, refers to the implementation of the mechanism in the light of equity.[126]

This terminological differentiation in the Paris Agreement suggests that equity in the context of climate change, first and foremost, applies among nations, and that intergenerational equity is referenced in the preamble to add a long-term time horizon to the Agreement, albeit without this being reflected in any of the operational provisions. This is in contrast to the constitutional mandate, where the focus is on equity in the inter-temporal perspective. There is no conceptual clarity on the differentiation between intragenerational equity and intergenerational equity.[127] The following demonstrates that while both principles are distinct foundational elements of the notion of equity, the constitutional mandate to seek international cooperation, now and in the future, shapes and informs an understanding of intergenerational equity that encompasses intragenerational equity. In other words, the mandate to protect the foundations of life for future generations forms part of the obligation of the state to seek international cooperation, it is, therefore, an *international* principle of intergenerational equity that Article 20a Basic Law enshrines.

Given that the legal status of the principle of equity as such and in its two variations is, to date, unclassified, the principle of intergenerational equity is equally at risk of continuing to live in the shadow of the international climate regime, especially in the absence of a clear legal 'hook' that could turn it into an operational rule. Some courts have, however, used intergenerational equity to bolster a conservationist approach to ecosystems for future generations.[128]

Meanwhile, the International Court of Justice has only paid in passing attention to intergenerational equity in the *Advisory Opinion on The Legality of the Threat or Use of Nuclear Weapons*,[129] indirectly in the *Gabčíkovo-Nagymaros* Case[130] and left

123 UNFCCC (n 94) art 3(1).

124 Paris Agreement (n 14) art 2(2).

125 ibid, art 4(1).

126 ibid.

127 Brown Weiss (n 117).

128 Eg the Colombian Supreme Court decided that the state had not effectively protected the rights of the future generation, STC4360-2018, 5 April 2018, *Tutela of Andrea Lozana Barragán et al v The President of the Republic of Colombia and Ministries*, English translation in parts <https://www.dejusticia.org/en/climate-change-and-future-generations-lawsuit-in-colombia-key-excerpts-from-the-supreme-courts-decision/> accessed 22 November 2021; *Gloucester Resources Limited v Minister for Planning* [2019] NSWLEC 7 [399]; see generally Brian J Preston, 'The Influence of the Paris Agreement on Climate Litigation: Legal Obligations and Norms (Part I)' (2021) 33 JEL 1.

129 The Court recognised the long-term effects of the use of nuclear weapons and the ionising radiation, as damaging to future generations and the environment, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Rep 1996, 226, 244 [35], 259 [86].

130 *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, ICJ Rep 1997, 7, 41 [53], where the International Court of Justice referred to the 'whole of mankind'.

further elaboration on the principle to Separate Opinions.[131] In his Separate Opinion in *Whaling in the Antarctic*, Judge Trinidade concluded that 'inter-generational equity marks presence nowadays in a wide range of instruments of international environmental law, and indeed of contemporary public international law'.[132] The Committee on the Rights of the Child has incorporated the rights of the younger generations and criticised Japan's and Belgium's climate policies for lacking attention to the rights of children.[133]

The Federal Constitutional Court has made the principle of intergenerational equity explicit and confirmed its status in constitutional doctrine, in line with Article 20a Basic Law,[134] in the specific context of climate change. This, on its own, is already remarkable progress in the operationalisation of the principle. Similar obligations in relation to future generations exist in the constitutions of other countries,[135] and this paves the way for reinforcing the principle in an inter-jurisdictional judicial discourse.[136]

While beneficial for future generations, however, these constitutional provisions tend to exclude the relationship that a generation of one country might have with the future generations of another country. Domestic provisions extend the time horizon of climate action and environmental protection measures, but they continue to limit the benefit and burden sharing within the jurisdiction of a single country.

The following section outlines parameters of intergenerational equity that address some of the structural limitations of environmental and climate harm avoidance in favour of protecting planetary rights, for generations yet to come as well as between nations. On that basis, it can be demonstrated that while the Constitutional Court has protected fundamental rights in an inter-temporal perspective, it has only indirectly contributed to the protection of the natural foundations of life and thus, planetary rights, for future generations, and largely treated the carbon budget as a 'freedom budget'. This approach, on its own, is not suitable to free the climate regime from its inherent inequities and inequalities. Instead, in the context of a global challenge, intergenerational equity must be devised in the light of international obligations that

131 *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, ICJ Rep 1997, 7 Separate Opinion of Judge Weeramantry 88, 95; *Pulp Mills on the River Uruguay (Argentina v Uruguay)* ICJ Rep 2010, 14, Separate Opinion of Judge Cançado Trinidade, 135, 181 [122]–[124].

132 *Whaling in the Antarctic (Australia v Japan: New Zealand Intervening)*, ICJ Rep 2014, 226, Separate Opinion of Judge Cançado Trinidade, 366 [47].

133 Committee on the Rights of the Child, 'Concluding observations on the combined fifth and sixth reports of Belgium' CRC/C/BEL/CO/5-6 11 (1 February 2019) <https://digitallibrary.un.org/record/3793448?ln=en> accessed 13 December 2021; Committee on the Rights of the Child, 'Concluding observations on the combined fourth and fifth periodic reports of Japan' CRC/C/JPN/CO/4-5 11 (5 March 2019) <https://digitallibrary.un.org/record/3794942?ln=en> accessed 13 December 2021.

134 While art 20a Basic Law refers to 'future generations', it does not mention the principle of intergenerational equity as such, the German version of the decision refers to 'future generations' (künftige Generationen) and the official translation includes reference to 'this duty to afford intergenerational protection', and explains that this has a 'solely objective dimension', because future generations do not 'yet carry any fundamental rights in the present', BVerfG (n 1) para 146.

135 Lydia Slobodian, 'Defending the Future: Intergenerational Equity in Climate Litigation' (2020) 32 The Georgetown Envtl Law Review 569, 572.

136 Petra Minnerop and Ida Røstgaard, 'In Search of a fair Share: Article 112 Norwegian Constitution, International Law, and an Emerging Inter-Jurisdictional Judicial Discourse in Climate Litigation' (2021) 44 Fordham Int'l Law Journal 847, 908.

aim at the protection of the 'global good'. Admittedly, gently developing constitutional doctrine along the lines of existing concepts might be a sign of judicial wisdom when it comes to operationalising a principle and filling normative gaps in a complex area of law.

In a more ground-breaking fashion, Edith Brown Weiss noted already in 1987 that it is 'not sufficient to confine a theory of intergenerational equity to relationships between generations'.[137] Her concept of intergenerational equity goes back to John Rawls, and it advocates that one adopts the perspective of a generation that is placed in any country at one point in time, without knowing where this would be.[138] Intergenerational equity must thus be extended to include the intragenerational context. Her proposed theory of intergenerational equity encompasses obligations of all countries to future generations as a class.[139] From this viewpoint, she develops three basic principles that should inform international obligations.

These principles are the conservation of options, the conservation of quality, and the conservation of access, each of these applicable to every generation.[140] These three principles are fulfilled through planetary obligations, they translate into five classes of international legal duties of use that 'can be incorporated into enforceable international agreements or in some instances may be regarded as international law'.[141]

The five classes of duties of use include the following: (1) duties to take positive steps to conserve the natural and cultural resource base, (2) duties to ensure non-discriminatory access to the use and benefits of these resources, (3) duties to avoid or mitigate adverse impacts on these resources or on the quality of the environment, (4) duties to notify and to provide assistance during emergencies, and (5) duties to bear the costs of damage to our natural and cultural resources. In developing this set of duties for the climate change regime in its current existence, the fifth strand encompasses duties to compensate for loss and damage as specified by the Paris Agreement. Furthermore, to these five classes of duties, a sixth set of duties can be added that reflects humanity's increasing capacity to predict, prepare for, and adapt to, adverse effects of harm to global goods such as the climate, based on scientific evidence. This duty includes supporting those that are most vulnerable to suffer adverse effects, including through rapid response measures and long-term planning.

As Brown Weiss pointed out, some of the duties are familiar, however, the novelty lies in their development in the intergenerational context.[142] This novelty exists even more than three decades after the theory was first developed.

The rights that correspond to the legal obligations outlined above, are not possessed by individuals, and this was also noted by the Constitutional Court. In the contrary, future generations are reliant on the international community and states as guardians of their rights. It is inherent in the autonomy of future generations to

137 Edith Brown Weiss, 'Intergenerational Equity in International Law' (1987) 81 Am Society of Int'l L Proceedings 126, 129; see also Edith Brown Weiss, 'Climate Change, Intergenerational Equity and International Law' (2008) 9 Vermont Journal of Environmental Law 615, 622.

138 Brown Weiss, 'Intergenerational Equity in International Law' (n 137) 128.

139 ibid. 129, see also Brown Weiss, 'Climate Change, Intergenerational Equity' (n 137) 620.

140 Brown Weiss, 'Intergenerational Equity in International Law' (n 137) 130, 131.

141 ibid, 131.

142 ibid.

determine their own needs and use of natural resources, consequently, the present generation must strive to protect all ecosystems, independently from own benefits, and without knowing what future generations will need and value. Therefore, intergenerational equity carries some potential of moving away from a mere anthropocentric perspective where protective duties are exclusively defined by present needs and values.[143] This effect is indirect, it emerges from the fact that present generations are unable to foresee the needs of future generations. This demands to protect *all* natural foundations regardless of their usefulness for present purposes.

As indicated above, courts have already played a distinct role in protecting the rights of future generations. The concept of equity is linked to a fair distribution of the benefits and burdens of using natural resources, and while international law on climate change so far has failed to incorporate a systematic approach to the concept of fairness that all Parties to the UNFCCC and the Paris Agreement can support, some domestic landmark climate cases have developed their definition of the 'fair share' of states.[144] Human rights doctrine has been used with increasing success to define states' obligations concerning environmental protection and especially climate action,[145] and this has in turn been criticised because of the limitations that human rights instruments might represent.[146] The law remains challenged by the complexities of climate change and its underlying tensions, and the realisation of equitable outcomes of climate action, therefore, is still patchwork. In contrast, intergenerational equity demands that the concern for the scope of protective measures is systematically extended into longer time horizons and that it includes broader geographic scales as well as the conservation of planetary health in its entirety.

The following explains how the Federal Constitutional Court has indirectly protected intergenerational equity and drawn new attention to the needs of future generations, albeit limited to the territorial scope of the Basic Law. In a more subtle way, however, it can be demonstrated that a facet of protecting intragenerational equity can be added, because the state's objective under Article 20a Basic Law it includes the mandate to seek international cooperation in the protection of life's natural

143 This addresses the juxtaposition of weak and strong sustainability, see further Dire Tladi, 'Strong Sustainability, Weak Sustainability, Inter-generational Equity and International Law: Using the Earth Charter to Redirect the Environmental Ethics Debate' (2003) 28 South African Yearbook of International Law 200, 202.

144 *The State of the Netherlands v Urgenda*, Hooge Raad of the Netherldans (Supreme Court), 20 December 2020, ECLI:NL:HR:2019:2007, 6.3, 6.5, 7.5.1; the administrative Court of Berlin had argued that there 'is much to be said for at least an equal global per capita distribution of the remaining global CO2 budget', *German Famers v Germany* (n 17) at 25; Minnerop and Røstgaard (n 136) 847.

145 Margaret Rosso Grossman, 'Climate Change and the Individual' (2018) 66 Am J Compar L 345, 353; Petra Minnerop, 'Integrating the 'duty of care' under the European Convention on Human Rights and the Science and Law of Climate Change: The Decision of The Hague Court of Appeal in the *Urgenda* Case' (2019) 37 Journal of Energy & Natural Resources Law 149, 160; Geetanjali Ganguly, Joana Setzer and Veerle Heyvaert, 'If at First You Don't Succeed: Suing Corporations for Climate Change' (2018) 38 Oxford J Legal Stud 841; Brian J Preston, 'The Evolving Role of Environmental Rights in Climate Change litigation' (2018) 2 Chinese J Envt'l L 131; Jaqueline Peel and Hari M Osofsky, 'A Rights Turn in Climate Change Litigation?' (2017) 37 Transnat'l Env't Ll 37; Jacqueline Peel, Hari Osofsky and Anita Foerster, 'Shaping the "Next Generation" of Climate Change Litigation in Australia' (2017) 41 Melb U L Rev 793.

146 See, eg Benoit Mayer, 'Climate Change Mitigation as an Obligation Under Human Rights Treaties?' (2021) 115 AJIL 409.

foundations and to build trust among states. The next section analyses the Court's reasoning within the framework of intergenerational equity. On that basis, it offers an alternative approach that intersects intergenerational equity as an *international* principle with existing constitutional doctrine. If understood as an international principle, intergenerational equity encompasses the relation of one generation with the next, regardless of territorial boundaries. The aim is to devise some conceptual groundwork that could realistically interrupt the inheritance of planetary burdens to the next generation in a wider geographical context. This offers a line of argument that might be transferable to other jurisdictions.

5.2 Planetary Rights or Freedom Rights?

The Constitutional Court has not acted as guardian of planetary rights of future generations *per se*. It has, however, tied into constitutional doctrine the protection of fundamental rights beyond 2030, thereby indirectly protecting planetary rights, including for future generations. The conceptual core is the novel doctrine of the 'advance interference-like effect' that aims at strengthening an intertemporal and therefore, intergenerational, protection of rights. Setting out interim targets in the CCA until 2030 already yields legal effects for future determinations of admissible emission amounts, deeper reductions will be necessary.[147]

However, the Court's approach under fundamental rights doctrine is rooted in the proposition that the dichotomy of the enjoyment of fundamental rights on the one hand side, and the protection of the natural foundations of life, cannot be resolved unless rights can be exercised without producing CO_2 emissions. This perspective does not align with a conservationist approach that is advocated by the theory of intergenerational equity, where planetary rights are protected because they, *themselves*, are important for future generations, not only for the enjoyment of nature but also because the Constitution acknowledges that the natural foundations of life are exactly that—pre-requisites for living.

Furthermore, the focus on the advance effect of emission amounts cannot account for the extraterritorial effect of varying degrees of ambition in mitigation action, today and in the future, and for the undisputed fact that the state will not be in a position to combine mitigation and adaptation measures in all situations. For those extreme events where only adaptation measures would allow the state to fulfil its protective duty, such as the easing of health impacts caused by heatwaves, the question arises how this duty can be fulfilled in circumstances where suitable adaptation measures are beyond reach. For example, adaptation measures might not be sufficient if an unexpected extreme event unfolds, and adaptation measures are unavailable for the state in order to protect complainants living abroad. Especially in the latter situation, the only option to fulfil the state's protective duty is mitigation. It follows that mitigation efforts must increase if they constitute the only available option for the state to discharge its protective duty.

Moreover, and perhaps most importantly, the assumption that future generations must be protected in their right to use CO_2 intensive freedoms means that the Court has paid far less attention to the impacts and adverse effects of climate change for

147 BVerfG (n 1) para 186.

the rights to health and physical integrity that are already shaping the climate reality in Germany and globally.[148] The principle of proportionality and Article 20a Basic Law require to balance all protected rights, not just CO_2 intensive freedoms and the burden of emission reductions in the future. The carbon budget is more than just a 'freedom budget'. The high emission amounts that the state still permits until 2030 not only diminish the amount of carbon that can be emitted in the future, they contribute significantly to further climate change. In addition, scientific research has shown that most states overestimate the contribution of their mitigation measures.[149] If that is taken into consideration as additional scientific evidence pursuant to the clearly established dynamic duty that directs environmental legislation in line with available scientific knowledge, incorporating a safety buffer into the calculation—in addition to pursuing 1.5°C—would not only be the most effective but possibly the only lawful course of action for the state, rather than using a tightly-knit temperature target that falls short of a full implementation of international law and already poses a higher risk to fundamental rights, even more so if there would be only a slight under-performance in any of the sectors.[150]

There is, however, a very welcome clarification on the integration of the Constitution with international law on climate change, and it is argued here that this turn in the reasoning can be explored further to bring the line of argument closer to the yardsticks of intergenerational and intragenerational equity. Article 20a Basic Law encompasses in the words of the Court 'the necessity to treat the natural foundations of life with such care and to leave them in such condition that future generations who wish to carry on preserving these foundations are not forced engage in radical abstinence',[151] and it is one of the Court's key findings that this provision is open to normative determinations flowing from international law on climate change which the state must actively seek to develop.[152] Therefore, Article 20a Basic Law contains a duty for the state to achieve climate action beyond the domestic legal system. Article 20a Basic Law is defined through this international law and at the same time, the constitutional objective of the state reflects back to the level of international

148 The global average heat-related mortality per year in people older than 65 years has increased by 53.7% from 2000–04 to 2014–18, with a global total of 296000 deaths in 2018. That amounts to a total of 20200 deaths in 2018 in Germany, according to Nick Watts and others, 'The 2020 Report of The *Lancet* Countdown on Health and Climate Change: Responding to Converging Crises' (2021) 397 The Lancet, 129, 136; see further <https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32290-X/fulltext> and the report <https://www.worldweatherattribution.org/human-contribution-to-the-record-breaking-july-2019-heat-wave-in-western-europe/> accessed 22 November 2021.

149 Joeri Rogelj and others, 'Three Ways to Improve Net-zero Emission Targets' (2021) 591 Nature 365, 368.

150 ibid.

151 BVerfG (n 1) para 193.

152 In confirming this approach, the Court has complied with an 'approach that is informed by the vision of sovereignty as a trusteeship of humanity, which requires national courts to take global interests into account when interpreting international law', see for this 'middle road' option in the interpretation of international law by national courts, Olga Frishman and Eyal Benvenisti, 'National Courts and Interpretative Approaches to International Law' in Helmut Philipp Aust and Georg Nolte (eds), *The Interpretation of International Law by Domestic Courts: Uniformity, Diversity, Convergence* (OUP 2016) 317, 319.

law and assumes a specific external dimension,[153] it contains a comprehensive mandate for fostering cooperation and an international environmental rule of law for the benefit of human and planetary health in an inter-temporal perspective.[154] Intragenerational and intergenerational equity are pursued through the set of international cooperative duties that are derived from the constitutional mandate of Article 20a, rooted in the acknowledgement of the inherent interdependency of own climate action with that of others, to effectuate the results of climate protection which the Basic Law stipulates but the state, on its own, cannot guarantee. These cooperative duties must be developed by the state in the long-term perspective, pursuant to the state's objective that Article 20a Basic Law sets forth.

Three distinct obligations that direct the state's international climate action flow from that provision.[155] The state is, first and foremost, obliged to work towards achieving effective climate protection in international law.[156] It must, secondly, also implement its internationally agreed obligations in domestic law.[157] The state is, thirdly, obliged to adopt climate mitigation and adaptation measures, even in the absence of successful outcomes of cooperation at the international level.[158]

This specific openness of the Constitution to international law, stresses the extraordinary interdependence of the national and the international legal order in addressing global challenges. Article 20a Basic Law therefore compels the state to cooperate internationally in order to seek the best outcomes and protect the interests of the present and of future generations, it shapes a distinct understanding of intergenerational equity as a necessarily international principle.

Re-enforcing the 'Paris targets' through constitutional law constitutes state practice in accordance with Article 31(3)(b) Vienna Convention on the Law of Treaties.[159] This approach has the potential of resonating widely within the international community.[160] The aim of a coherent interpretation of international treaties amongst courts has long been favoured as 'desirable'[161] and an inter-jurisdictional judicial discourse on climate change supports this.[162] International cooperation through all branches of government, including the judiciary, is a major avenue for operationalising and integrating intragenerational and intergenerational equity.

Finally, this renewed emphasis on the state's constitutional duty to seek international cooperation strenghtens intergenerational equity as an international principle also because it emphasises the role of one of the preconditions upon which the

153 This expands the scope of already existing external obligations of the state that are rooted in the constitution, see for a comprehensive analysis Volker Roeben, *Aussenverfassungsrecht* (Mohr Siebeck 2007) 499.

154 For a discussion of the rule of law in governing complex and planetary environmental challenges, see Jutta Brunnée, 'The Rule of International (Environmental) Law and Complex Problems' in Heike Krieger, Georg Nolte and Andreas Zimmermann (eds), *The International Rule of Law: Rise or Decline?* (OUP 2019) 215.

155 BVerfG (n 1) para 199.

156 ibid, paras 200, 201.

157 ibid, para 201.

158 ibid.

159 Vienna Convention on the Law of Treaties, 22 May 1969, 1155 UNTS 331.

160 Ran Hirschl, *Comparative Matters. The Renaissance of Comparative Constitutional Law* (OUP 2014) 75.

161 *R v Immigration Appeal Tribunal, ex p Shah* [1999] 2 AC 629, [657] [Lord Hoffmann].

162 Minnerop and Røstgaard (n 136) 847, 908.

Paris Agreement rests, its reliance on mutual trust.[163] Building mutual trust calls upon the state to pursue activities that foster international confidence in the prospect that climate action can be accomplished, while safeguarding decent living conditions, including in terms of protecting fundamental freedoms.[164] This prohibits setting incentives for other states to undermine the pursuit of treaty-based climate targets. In the contrary, the obligation of the state to make a formative contribution towards building trust internationally, elevated to the level of constitutional law, reinforces the state's obligation to set at all times an example of highest possible ambition within the international community.

6. CONCLUSION

The Basic Law offers protection from adverse effects of climate change, from the perspective of the state's duty to protect fundamental rights and under the state's duty to abstain from interferences. In addition, the state's objective of protecting the natural foundations of life in Article 20a Basic Law, and its responsibility vis-à-vis future generations, demand from the legislator to establish emission reduction targets beyond 2030 until the net-zero GHG emissions target is achieved. Furthermore, it is a permanent obligation of the legislator to continuously develop environmental and climate legislation in accordance with latest scientific evidence, and to take effective action despite scientific uncertainty, especially for the protection of future generations. It remains the function of the Federal Constitutional Court to review whether the legal framework and specifically the concretisation of Article 20a Basic Law through the legislator respects the constitutional boundaries.

The importance assigned to the interaction between the national and the international legal order in the context of defining national climate targets and the constitutionally determined duty to seek international cooperation to advance climate protection, as well as the intertemporal perspective of rights protection that the Constitutional Court developed through the innovative concept of the advance interference-like effect, are significant developments of constitutional doctrine. Particularly through the emphasis on the state's obligations to seek international cooperation and to build international trust, the Court has operationalised, at least indirectly, some facets of intergenerational equity that this article has significantly expanded upon.

However, the Court's focus on distributing the reduction burden evenly over time and beyond 2030 distracts from the fact that the state has claimed a rather generous carbon budget that cannot be aligned with the Paris Agreement's temperature target or the agreement's expectation of ambition. Article 20a Basic Law comprises the state's duty to fully implement the international law on climate change in domestic law, as well as the mandate to protect the natural foundations of life for future generations, not (just) their CO_2 producing freedom rights. Therefore, this article has analysed the Court's understanding of intergenerational equity and it has offered a reading of Art. 20a Basic Law that aligns the state's objective to protect the natural foundations of life with an international principle of intergenerational equity, one

163 BVerfG (n 1) para 202.
164 ibid, para 203.

that transcends geographical boundaries for the protection of the climate as a global good.

The legislator must now take steps to limit the risks to fundamental rights and ensure that a planning horizon is established in which the necessary transformational changes can take place. This requires a legal framework that provides for a clearly structured and more ambitious reduction pathway. Legislation is crucial as a source of stability and predictability, and for incentivising transformational change. Intertemporal fundamental rights protection and the international principle of intergenerational equity warrant ambitious legal targets that protect the foundations of life.

CONFLICT OF INTEREST

Statement: The author has no conflict of interest to report.

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