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CLIMATE PROTECTION BEFORE THE EUROPEAN COURT OF HUMAN RIGHTS: MAPPING OPTIONS FOR EVOLUTIVE STEPS

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Climate Protection before the European Court of Human Rights: mapping options for evolutive steps

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Abstract

The European Court of Human Rights has developed its interpretation of human rights in environmental cases largely in view of individual persons living close to pollution sources. The length of causal chains, the multiplicity of contributions, and the irreversibility of climate change challenge the Court to develop its case law further, drawing on the character of the Convention as living instruments. This to explore is the purpose of the present contribution. Using cases pending before the Court as an illustration it maps a field of options for how the core doctrinal components of human rights may be adapted, including rights as negative and positive obligations, their transnational reach, causation of interference, and public interests justifying interference. Particular attention is paid to how states' shares in causing and reducing emissions can be determined, such as by applying equity and feasibility based principles.

Keywords: Climate change; European Convention of Human Rights; interference with human rights; justifiability of interference; budget approach; fair shares; modelled reduction pathways.

1. Introduction

Several applications are pending before the European Court of Human Rights (ECtHR) alleging that the climate protection legislation of various states is incompatible with rights of the European Convention of Human Rights (ECHR). Two of them were relinquished to the Grand Chamber, one brought by Swiss elderly ladies against Switzerland¹, and the other by six Portuguese young persons against 32 European states.² The main issues raised are the right to judicial review by national courts (Arts. 6 and 13), the right to judicial review by the ECtHR (Arts. 34 and 35), the right to life (Art. 2) and the right to a private sphere (Art. 8).³

The cases are triggers for possible reforms of the ECtHR's interpretation of human rights. The focus of my analysis will be on substantive rights, leaving out the rights of access to national courts (Arts. 6 and 13) and to the ECtHR (Art. 34)⁴, and it will be on high-level actions contesting legislation rather than lower-level actions alleging non-implementation of existing legislation. In addition to the ECtHR jurisprudence I will occasionally refer to contributions from national courts, where this helps to clarify doctrinal ramifications.

The ECtHR has developed its interpretation of human rights in environmental cases largely in view of

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¹ *Klima Seniorinnen v. Switzerland*, appl. no. 53600/20.

² *Duarte Agostinho and Others v. Portugal and Others*, appl. no. 39371/20. A third case, *Carême v. France*, appl. no. 7189/21, was also relinquished. As it raises similar problems like *Klima Seniorinnen* I will not discuss that further. The application and some intervenors' observations are accessible at the Climate Change Litigation database of the Sabin Center for Climate Change Law. <http://climatecasechart.com/search-non-us/>

³ Articles cited without indication of the source are those of the European Convention on Human Rights (ECHR).

⁴ See further on these issues Helen Keller, Corina Heri, The future is now: climate cases before the ECtHR. *Nordic Journal of Human Rights* 2022:online. DOI: <https://doi.org/10.1080/18918131.2022.2064074>

individual persons living close to pollution sources.⁵ Contrastingly, climate change effects are caused by much more distant, multiple and irreversible trajectories. The core question is therefore whether – and how - the doctrinal construction of Arts. 2 and 8 ECHR can be readjusted to meet this new challenge.

Much will depend on the willingness of the ECtHR to make use of its conception of the ECHR as a living instrument that is open to changing conditions in the Contracting States.⁶ The Court has already made use of its evolutive approach when developing environmental protection obligations out of Articles 2 and 8 ECHR. It will need to take a further step in relation to climate change effects, following the principles of evolutive jurisprudence which it has formulated as follows⁷:

While the Court is not formally bound to follow any of its previous judgments, it is in the interests of legal certainty, foreseeability and equality before the law that it should not depart, without cogent reason, from precedents laid down in previous cases. Since the Convention is first and foremost a system for the protection of human rights, the Court must however have regard to the changing conditions in Contracting States and respond, for example, to any emerging consensus as to the standards to be achieved ([cites omitted]). It is of crucial importance that the Convention is interpreted and applied in a manner which renders its rights practical and effective, not theoretical and illusory. A failure by the Court to maintain a dynamic and evolutive approach would risk rendering it a bar to reform or improvement.

It is submitted that climate change and its impact have indeed created changed conditions. There is also consensus among ECHR Contracting States that there is an urgent need for legislation on mitigation and adaptation, and that fundamental rights will provide a framework to enable, structure and limit political discretion. While the details of doctrinal innovation are not yet settled, the ECtHR could step in with some cautious and well-reasoned advances.

In exploring such potentialities I will focus on the general construction of human rights as negative and positive obligations (2.), the scope of relevant rights (3.), interference with them (4.) and possible justifications of interference (5.).

The step-by-step treatment of scope, interference and justification reflects a structure that is often regarded to characterise human rights.⁸ It is true, though, that the three steps⁹ are best suited to describing rights as negative obligations. In relation to positive obligations courts including the ECtHR have tended to merge the second and third steps into a single step that balances various concerns, including the nature and gravity of harm, the weight of the public interest in tolerating the harmful activities, and the possibility of refraining from them.¹⁰ Nevertheless, the separation of interference

⁵ *Lopez Ostra v Spain*, appl. no. 16798/90, paras 50–51; *Fadeyeva v Russia* appl. no. 55723/00, para 68; *Dubetska and Others v Ukraine*, appl. no. 30499/03, para 105; *Cordella and Others v Italy*, appl. nos. 54414/13 and 54264/15, paras 157-160.

⁶ *Stafford v. United Kingdom*, appl. no. 46295/99, § 68. Natalia Kobylarz, The European Court of Human Rights: an underrated forum for environmental litigation, in: Helle Tegner Anker, Sustainable management of natural resources. Legal instruments and approaches (CUP 2018) 99-120 (112).

⁷ *Stafford v. United Kingdom*, appl. no. 46295/99, § 68.

⁸ While this structure can be found in Art. 8 ECHR, rights of fundamental importance (such as Art. 2 ECHR) are sometimes guaranteed without the possibility of justification. But even then some balancing of competing interests is recognised, especially when the protective scope is extended to less fundamental values such as human health beyond life as such.

⁹ The first two steps are sometimes condensed to one which makes the entire method a two-step procedure.

¹⁰ ECtHR, Guide on Article 8 of the ECHR, para. 5. Cf in that relation *Hatton et al. v UK*, appl. no. 36022/97, para 98 where the courts states: ‘Furthermore, even in relation to the positive obligations flowing from the first paragraph of Article 8, in striking the required balance the aims mentioned in the second paragraph may be of a certain relevance.’

and justification can also be applied to positive obligations, which would mean, on the one hand, identifying the harm caused and the obligation of the state to prevent it, as an issue of interference, and, on the other hand, weighing this against overriding interests as an issue of justification. This would I believe increase the clarity of argumentation and emphasise that the right is the principle and any justification of interference the exception.¹¹

2. General construction of fundamental rights

Four different constructions of fundamental rights have been developed by different courts and the legal academia. The ECtHR's case law relies on the first two but might be opened up for the others depending on whether the Court finds them better suited to the new characteristics of climate change. The four concepts can be termed as follows:

- negative obligation related to direct state action
- positive obligation to protect
- negative obligation related to future interference
- negative obligation related to indirect state action

The construct “negative obligation related to direct state action” is applicable if the state itself is emitter of greenhouse gases (GHG), such as in the *Flamenbaum* case concerning emissions from a publicly owned airport.¹² These emissions represent only a small proportion of total emissions in market-based societies. They are of course much higher in states with large state ownership in emitting sources, be it industry, transport, buildings, etc.

The construct of a “positive obligation to protect” builds on the fact that the majority of greenhouse gases is emitted by private sources. While fundamental rights are in most legal systems not applicable to such “horizontal” interferences they have been interpreted as containing principles of protection that the state must implement, both as an objective obligation and as a subjective right of the persons concerned. The ECtHR has often relied on positive obligations in various policy areas including in general environmental law.¹³ In considering them for climate law it could draw on similar steps taken by national courts such as the Dutch Hoge Raad in *Urgenda*, the Brussels Appeal Court in *Klimaatzaak*¹⁴, and the German Bundesverfassungsgericht (BVerfG) in *Neubauer et al.*¹⁵ The challenge in adopting the concept of positive obligations is, of course, the margin of appreciation it opens up for the responding state.¹⁶ As will be explained later there appear to be differences between courts in this respect.¹⁷

The construct of “negative obligation related to future interference” was developed by the BVerfG as a counterpart to the positive obligation approach. In *Neubauer*¹⁸ the Court stated that if emissions are not sufficiently reduced now, living conditions will emerge in the future that will force the state to drastically restrict energy use and many other activities, thereby – then justifiably – encroaching on

¹¹ This was also suggested by judge Wildhaber in his concurring opinion in *Stjerna v Finland*, appl. no. 18131/91. The BVerfG follows this line to some extent. See, for example, BVerfGE 56, 54 (73-78, 80-86) in a case concerning airport noise. The court first discussed whether the noise was harmful to human health, and then examined the duty to protect, concluding that the measures taken were sufficient.

¹² See for a state-owned airport *Flamenbaum et autres c France*, appl. no. 3675/04 et 23264/04, para 141.

¹³ See Council of Europe, *Manual on Human Rights and the Environment* (3rd edition), Council of Europe 2022,

¹⁴ Cour d' Appel Bruxelles, arrêt de 30.11.2023, Case 2021/AR/1589, 2022/AR/737, 2022/AR/891 (*Klimaatzaak et al v Belgium et al*).

¹⁵ See below.

¹⁶ Heike Krieger, *Positive Verpflichtungen unter der EMRK: Unentbehrliches Element einer gemein-europäischen Grundrechtsdogmatik, leeres Versprechen oder Grenze der Justiziabilität?* *ZaöRV* 74 (2014), 187-213.

¹⁷ See below.

¹⁸ BVerfG 24 March 2021, 1 BvR 2656/18, 78, 96, 288/20, *Neubauer et alii*, BVerfGE 157, 30, paras 182 et seq.

fundamental rights. The possibility of such future severe restrictions has an ‘advance effect’ (Vorwirkung) obliging the state to reduce emissions now in order to prevent what the Court calls a full brake (Vollbremsung) in future.¹⁹ This construct would be perfectly suited to the applicants in *Duarte* who are young persons, although as will be shown future deterioration in living conditions can also be incorporated into the concept of negative obligations.

Finally, the concept of “negative obligation concerning indirect state action” is a construct that has so far hardly been considered by courts, but was presented in some proceedings.²⁰ It draws on the fact that states have moved from protecting victims of ‘horizontal’ emissions to actively allowing emissions to occur, most visibly when they allocate emission rights to emitters. In the EU Emissions Trading System (ETS), for example, emission allowances are allocated by the EU Commission to Member States and by the Member States to private actors on the basis of a sharing scheme, by auction, for free, or else.²¹ Likewise, the determination and allocation by the EU of shared effort between Member States is organised as a management system.²² Climate protection laws or sub-legal regulations of several states determine permissible emissions for the main emitting sectors.²³ Moreover, the issuance by states of authorizations for emitting sources such as fossil fuel exploitation and energy-intensive industries can be interpreted as enabling emissions.²⁴ Although the emissions and their effects are ultimately “horizontal” the state indirectly causes them and can therefore be held responsible. Adopting such a shift from positive obligations to indirect negative obligations would certainly be a major step for the ECtHR to take, but one that might better respond to the emergent state management of greenhouse gas emissions.

The two versions of negative obligations could be combined into one. The negative nature of the right, i.e. the obligation of the state to refrain from an action, is characteristic for both versions. The kind of the action to be avoided or reduced, namely the allocation of emission allowances, is also common to both. The difference lies only in the kinds of harm caused and the corresponding protective content of the rights. In the BVerfG-construct this is the availability of energy as a component of almost all freedoms, considering that a wide range of activities, from the production to the consumption of goods and services depends on the use of energy.²⁵ The enjoyment of the associated rights is endangered if energy use has to be drastically curtailed in the future. In the other construct the endangered interests are material goods such as human health, occupation, property, children’s welfare etc. They are

¹⁹ BVerfGE 157, 30 (para 183).

²⁰ See application to the EU General Court (GC) and European Court of Justice (ECJ) in *Carvalho*, accessible at https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2018/20180524_Case-no.-T-33018_application.pdf. Cf. Gerd Winter, Armando Carvalho and Others v. EU: Invoking Human Rights and the Paris Agreement for Better Climate Protection Legislation’ (2020) 9 *TEL* 137-164, at 142). See further third party interventions by CAN-E to the ECtHR in *Klima Seniorinnen* and *Duarte Agostinho*, accessible via https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2022/20221205_Application-no.-5360020_na.pdf, and https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2021/20210506_3937120_na-3.pdf, respectively.

²¹ Edwin Woerdman, Martha Roggenkamp, Marijn Holwerda, *Essential EU Climate Law* (Edgar Elgar 2nd ed.2021, 44-73).

²² *Ibid.* 74-97.

²³ See e.g. § 4 with Annex II of the German Climate Protection Act; Arts. 3 and 6 A of the Irish Climate Action and Low Carbon Development Act

²⁴ In a similar line see the decision of the Montana First Judicial District Court, Lews and Clark County in *Rikki Held et al. v State of Montana et al.* of 14 august 2023, Case No. CDV-2020-307, <https://climatecasechart.com/case/11091/>, where the court states: „The State issues permits, licenses, and leases that result in GHG emissions without considering how the additional GHG emissions will contribute to climate change or be consistent with the standards the Montana Constitution imposes on the State to protect people's rights.“ (para 261); „The State's actions exacerbate anthropogenic climate change and cause further harms to Montana's environment and its citizens, especially its youth.“(para 268).

²⁵ BVerfGE 157, 30 (para 37).

harmful because the allowed emissions cause droughts, flooding, violent storms, heat waves etc. Both approaches can be combined to capture the full protective scope of rights. As GHG emissions continue, human welfare deteriorates in both material and energetic terms, and future regulatory restrictions on the satisfaction of both material and energy interests can be expected.

3. Scope of protection

The usual questions of scope are which human rights are affected (3.1) and what the content of the rights is, particularly whether the protection is one of substance and/or procedure (3.2). In addition, the transboundary effect of domestic GHG emissions raises the question of the external reach of human rights (3.3), and, even more radically, whether a state is also responsible for emissions that it controls but that occur abroad (3.4).²⁶

3.1 Relevant human rights

The fundamental right most often applied by the ECtHR in general environmental law cases is Art. 8 ECHR, which the Court has actively developed to include the protection of human health²⁷, and, going beyond physical well-being, has extended to the enjoyment of the amenities of one's home.²⁸ In the climate context this means that applicants may, for example, claim intolerable living conditions in their homes and surroundings due to heat waves, thunderstorms, etc.

The right to life, Art. 2 ECHR, has equally been invoked in environmental cases. The cases have so far been concerned with risks to life rather than human health in general²⁹ so that while the protection of life as provided by Art. 2 can be considered to be covered by Art. 8, Art. 8 goes further than Art. 2.³⁰ In relation to climate issues it can be argued that Art. 2 protects elderly and sensitive persons from heat waves caused by climate change.³¹

The right to property (Art. 1 1st Protocol to the ECHR) is also affected, but was not invoked in either the *Klima Seniorinnen* or the *Duarte Agostinho* cases.³² It is noteworthy that farmers suffering from drought or flooding have not yet brought cases although they could claim interference with their property rights. The ECtHR has only cursorily been confronted with similar claims. For example, in *Budayeva and Others v Russia* the risk of mudslides was considered under both Art. 2 and Art. 1 1st Protocol to the Convention. It is noteworthy that the Court found that life, as being an absolute right, requires

²⁶ It may be noted that questions 2 and 3 can as well be placed as questions of interference with the basic right.

²⁷ *Cordella and Others*, appl. no. 54414/13 and 54264/15, § 172 concerning air pollution; *Brincat and Others v Malta*, appl. no. 60908 § 106 concerning health risks from asbestos.

²⁸ Standing case law, see e.g. *Deés v Hungary*, appl. no. 2345/06, § 21; *Taskin and others v Turkey*, appl. no. 46117/64 § 113. For a broader overview see Council of Europe, Manual on Human Rights and the Environment (3rd edition), Council of Europe 2022, chapter II.

²⁹ *Öneriyildiz v Turkey*, appl. no. § 73 concerning the risk of methane explosion on a rubbish tip; *L.C.B v UK*, appl. no. 14/1997/798/1001, § 36 concerning leukaemia from nuclear tests. For an extensive discussion of the scope of Art. 2 in relation to climate change see Cour d' Appel Bruxelles, arrêt de 30.11.2023, Case 2021/AR/1589, 2022/AR/737, 2022/AR/891 (*Klimaatzaak v Bruxelles et al*), paras 139.

³⁰ Thomas Gross, 'Climate Change and Duties to Protect with regard to Fundamental Rights' in Wolfgang Kahl, Marc-Philippe Weller (eds), *Climate Change Litigation: A Handbook* (Beck 2021) 81-96, at 92, suggests that Art. 2 may be better suited than Art. 8 when it comes to more remote causation of risks.

81, 87-88.

³¹ This was alleged by the applicants in *Klima Seniorinnen*.

³² It was invoked in *The Norwegian Grandparents' Climate Campaign and others v. Norway*, appl. no. 19026/21 see <http://climatecasechart.com/non-us-case/the-norwegian-grandparents-climate-campaign-and-others-v-norway/>

stronger protection than property.³³

The right to occupational and business activities although heavily affected by climate change has no specific basis in the ECHR. To some extent, however, such activities are nevertheless included in the right to property insofar as there is an “underlying business” which the Court is prepared to call a “possession” in the sense of Art. 2 Protocol.³⁴

The ECHR does not provide a specific right of children to their well-being, as Art. 24 ChFR does. Children are nevertheless protected by all human rights. The specific need of children for their rights to be projected into the future can be taken into account by an appropriate interpretation of the relevant human rights, including also the right to equal treatment under Art. 14 ECtHR.

The ECtHR has refused to interpret human rights as a general right to a healthy environment.³⁵ Several European states have introduced such right. But the actual application by the courts has remained weak. The Norwegian Supreme Court ruled that Art. 112 of the constitution does in principle establish an individual right to a healthy environment, but has the effect of overturning governmental decisions only in extreme cases. If the parliament (the Storting) supports the decision, Art. 112 shall only function as a ‘safety valve’, intervening when it has ‘grossly disregarded’ its duties.³⁶

Nevertheless, environmental conditions come into play in connection with fundamental rights that protect more concrete legal interests than the environment as a whole, such as human health and property. In ECtHR case law this has been recognised for instance in cases of air pollution in which the Court – at least implicitly - accepted that the air ‘as such’ must be kept clean as a condition for good health.³⁷ The same may apply to the effects of climate change. A life enabling climate could be included in the protective reach of fundamental rights insofar as it conditions human health, property, etc.³⁸

3.2 Content guaranteed by rights

The fundamental rights to human health and property are primarily substantive rights in the sense that health and property are protected at a certain level, such as, for example, against disease or loss of property. In addition, however, a procedural component has been added. The ECtHR has repeatedly

³³ *Budayeva and Others v Russia*, appl. no. 11673/02 § 178.

³⁴ See, for instance, *O’Sullivan McCarty Mussel Development Ltd v Ireland*, appl. no 44460/16, § 88.

³⁵ *Hatton et al. v. UK*, appl. no. 36022/97 § 96. Armando Rocha, Rômulo Sampaio, Climate change before the European and Inter-American Courts of Human Rights: Comparing possible avenues before human rights bodies, *RECIEL* 2023, 1–11. As the authors point out the Council of Europe has embarked on introducing a related agreement. See Parliamentary Assembly of the Council of Europe, ‘Recommendation No 2211, Anchoring the Right to a Healthy Environment: Need for Enhanced Action by the Council of Europe’ (29 September 2021) para 3.1.

³⁶ Supreme Court Judgment of 22.12.2020. HR-2020-2472-P, unofficial English translation, paras 78-145, esp. 142. https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2020/20201222_HR-2020-846-J_judgment.pdf

³⁷ *Lopez Ostra v Spain*, appl. no. 16798/90, 9.12.1994, §§ 50–51; *Fadeyeva v Russia*, appl. no. 55723/00, § 68; *Dubetska and Others v Ukraine*, appl. no. 30499/03, § 105; *Cordella and Others v Italy*, appl. nos. 54414/13 and 54264/15, §§ 100, 157-160.

³⁸ See further Natalia Kobylarz, Balancing its way out of strong anthropocentrism: Integration of ‘ecological minimum standards in the European Court of Human Rights’ ‘fair balance’ review, *Journal of Human Rights and the Environment*, available at <https://ssrn.com/abstract=4093117>, who argues in favour of building an ecological minimum into the fair balance review of the ECtHR. It is of course an open question how that standard could be concretised in relation to climate change. With all respect for an ecocentric orientation the more auspicious option in a human rights framework would probably be to relate the standard to the living conditions of human beings.

held that 'appropriate investigations and studies' must be carried out³⁹, based on "detailed and rigorous data"⁴⁰, and that the public must be given an opportunity to comment.⁴¹

A closer look at the practice of the ECtHR reveals that the procedural component plays an even more important role when the court is inclined to rule against a respondent state. In *Hatton*, for example, the court based its decision on the observation, that the authorities had not sufficiently examined the noise effects on the sleeping conditions of local residents on the one hand, and the economic importance of an additional runway on the other.⁴² In a similar line it is a major argument of the applicants in Duarte Agostinho that the respondent states did not sufficiently explore their shares in emissions amounts and reduction efforts commanded the 1.5°C or other warming limits.⁴³ The reason for the emphasis on procedure may be that this prevents the courts from substituting their judgment for that of the political institutions. But there are also cases that have been decided on material grounds. In *Cordella*, for example, the court based its decision on the finding that the protective measures taken by the respondent state were materially insufficient.⁴⁴

While the duty to carefully investigate facts and options for action can easily be defined as a component of substantive obligations, the Court required public participation without much search for a doctrinal basis. This can be found in the uncertainty that often characterises environmental risks. The lack of knowledge necessitates that all concerned persons should have an opportunity to express their views and thereby contribute to the soundness of the decision. Such early participation before a decision is taken can provide early protection of rights and avoid later litigation.⁴⁵

3.3 Transnational reach of fundamental rights

According to Art. 1 the reach of ECHR rights depends on a state's jurisdiction. In *Banković* the ECtHR decided that jurisdiction can also mean jurisdiction of a State in the territory of another State, but that such situation is exceptional and presupposes effective control by the respondent State. The Court has accepted such jurisdiction *ratione loci* where the respondent State, through the control of the relevant territory and its inhabitants abroad as a consequence of military occupation or through the consent, invitation or acquiescence of the government of that territory, exercises all or some of the public powers normally to be exercised by that government. In the case cited, families suffered under the bombing of Belgrade by NATO forces. The Court ruled that the bombing did not already constitute effective control of the relevant territory and therefore dismissed the case.⁴⁶

After *Banković* a second exception was accepted, ie control through state agents, such as in the *Öcalan* case where Turkish officials had detained the person in Kenya and the Court found that in this respect Turkey had jurisdiction *ratione personae*, the decisive factor being the exercise of physical power and control over the persons concerned.⁴⁷

³⁹ *Tătar v. Romania*, appl. no. 67021/01; *Budayeva and Others v. Russia*, appl. no. 11673/02, para 136.

⁴⁰ *Fadeyeva v. Russia*, appl. no. 55723/00, para 128.

⁴¹ *Taşkın et autres c. Turquie*, appl. No. 46117/99, paras 118-119.

⁴² *Hatton v UK*, 02.10.2001, appl. no. 36022/97, §§ 100 and 103.

⁴³ See Analysis of respondents' measures (Part VIII, para 678 et seq.) of the Observations of the Applicants on Admissibility and Merits of 09.02.2022. About explanations on fair shares and modelled pathways see further below.

⁴⁴ *Cordella c Italie*, 24.06.2019, appl. no. 54414/13 et 54264/15, § 172.

⁴⁵ See for this foundation of participation rights BVerfGE, judgment of 20.12.1979 1 BvR 385/77 (*Mülheim-Kärlich*), BVerfGE 53, 30, p. 64 and, with more elaborate reasoning, the dissenting opinion pp. 71- 82.

⁴⁶ *Bankovic et al v Belgium et al*, appl. no. 52207/99, 12.12.2001.

⁴⁷ *Ukraine and the Netherlands v Russia*, appl. nos 8019/16, 43800/14 and 28525/20, § 548. In addition the court accepted a jurisdictional link concerning the procedural obligation under Art. 2 to carry out an effective investigation even if the death occurred outside the state's territory (see *ibid.* § 573).

The Court has not yet decided a case in which it has had to apply its doctrinal concept of ‘jurisdiction’ to transboundary environmental causation processes. Provided, it does not declare the application inadmissible for other reasons, the Court will need to consider such extension concerning *Duarte Agostinho* since the applicants are affected by emissions not only from Portugal but also from the other respondent states. Clearly, the causation of climate change does neither involve the establishment of a spatial quasi-government nor the exertion of power by a state agent. The applicants in *Duarte Agostinho*⁴⁸ suggested that such control does exist if any activities originate in and can be controlled by the responsible state, have serious, lasting and foreseeable transboundary effects, and cannot be repelled by the affected state.

This approach could be supported by considerations of the ‘legal space’ (‘espace juridique’) of the Convention and its ‘European public order’.⁴⁹ The ‘legal space’ would bind the Convention States to more stringent obligations to each other than to non-Convention states.⁵⁰ On the other side, this would discriminate against non-European citizens. Therefore the Court may follow a more general movement in international law that establishes a more principled correlation between the exertion of power and its legal framing, including through the guarantee of human rights.⁵¹ This would be in line with recent developments of human rights in fora other than the ECtHR⁵², and in particular the Inter-American Court of Human Rights (IACtHR) with its Opinion on the Environment and Human Rights⁵³, and the Committee on the Rights of the Child (CRC) with its decision in the case of Chiara Sacchi et al.⁵⁴ Both bodies draw a distinction between territoriality and jurisdiction of a state defining jurisdiction as the control of a state over causal processes that originate in that state and cause extraterritorial harm.⁵⁵

It is true that this would bring numerous persons into the protective realm of fundamental rights, but *actio popularis* could be prevented by requirements of standing developed by case law.

3.4 Transnational reach concerning causation of emissions abroad

In *Duarte Agostinho* the applicants alleged that the defendant states were responsible not only for external effects of domestic emissions but also for the external emissions caused by the defendant states through the import of products produced with GHG emissions and the export of products or services that cause emissions abroad.⁵⁶ These external emissions are known as scope 3 emissions.⁵⁷ The question is whether and how such responsibility can be grounded in fundamental rights.

⁴⁸ Annex to the Application, paras 18-25. http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2020/20200902_3937120_complaint.pdf.

⁴⁹ Observations of Intervenor CAN-E.

⁵⁰ *Cyprus v. Turkey* [GC] appl. no. 25781/94, para 78; *Bankovich et al. v. Belgium*, appl. no. 52207/99, para 42. One element of the ‘European public order’ has been suggested to be peaceful living conditions; see Dissenting Opinion of Judge Chanturia in *Georgia v. Russia*, appl. no. 38263/08, para 53-54.

⁵¹ Thomas Giegerich, Extraterritoriale Wirkung von Grund- und Menschenrechten, *EuGRZ* 2023, 17-39 (31)

⁵² Giegerich, *ibid*.

⁵³ Inter-American Court of Human Rights (IACtHR, Advisory Opinion OC-23/17 of 15 November 2017, requested by Colombia, entitled The Environment and Human Rights.

⁵⁴ Committee on the Rights of the Child (CRC), Decision adopted by the Committee under the Optional Protocol to the Convention on the Rights of the Child on a communications procedure, concerning communication No. 104/2019, Communication submitted by Chiara Sacchi et al. (CRC/C/88/D/104/2019).

⁵⁵ IACtHR (n. 46) chapters VI and VII ; CRC (n 47) paras 10.1-10.14.

⁵⁶ Application form para 18 and Annex para 20. http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2020/20200902_3937120_complaint.pdf

⁵⁷ The terminology was developed to structure the management of industrial corporations. Scope 1 means effects of sources owned by a company, scope 2 effects of the generation of purchased energy, and scope 3 effects of the production of purchased products or the use of sold products. See World Resources Institute, Greenhouse

A cautious step in this direction was made by the Norwegian Supreme Court in a case concerning authorisations to exploit oil resources in the Barents Sea. The Court held that the right to a healthy environment, which is guaranteed by Art. 112 of the Constitution, extends to activities abroad over which Norwegian authorities have direct influence or control, including emissions from fuel combustion. However, the Court was only prepared to accept responsibility for reverse effects on the domestic territory.⁵⁸ Nevertheless, this means that the Court has accepted the principle of a state's responsibility for emissions caused abroad.

More indirectly, and without much reference to transnational jurisdiction, the Dutch Rechtbank interpreted the Royal Dutch Shell's duty of care with regard to emissions from gasoline combustion abroad as being based on the fundamental rights to human life and health (Arts. 2 and 8 ECHR).⁵⁹

The obvious question then is how to define control by a state. The case of *Klima Seniorinnen v Switzerland* provides illustrative material. The management and financing by Swiss companies and banks of emission intensive activities abroad is a core business model that permeates and supports the respondent State. Transnational emissions caused by projects financed by those enterprises are made possible by the relevant authorisations and supervision by the State. In this way, the State can be regarded as taking responsibility for the activities abroad including external emissions.

The ECtHR denied this in a case concerning the participation of German and Austrian companies in a consortium implementing a Turkish hydroelectric project affecting the archaeological site of Hasankeyf. According to the Court the German and Turkish governments could not be held responsible because the Turkish authorities had exclusive jurisdiction over the project.⁶⁰ One might think this position to be somewhat formalistic because the participation of external partners is often an essential precondition for the project. Nevertheless, a certain intensity of control could be required to make a state responsible.⁶¹

4. Interference

Once it has been established that the alleged harm falls within the scope of fundamental rights, the next step is to examine the interference with the relevant rights. The notion of interference encompasses two issues, namely criteria for the physical causation of the harm (4.1), and for the responsibility of the state (4.2).

Gas Protocol, A Corporate Accounting and Reporting Standard, Chapter 4. <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>. Cf Anne Kling, Klimaverträglichkeitsprüfung vor Gericht (Nomos 2022) p. 59-64.

The terminology can also be applied to structure the responsibility of states. This implies that the core reference is not ownership of companies but jurisdiction of states. On that basis scope 1 means effects of emissions from the territory of a state, including domestic and external effects, scope 2 effects of emissions from the generation of imported energy, and scope 3 effects of emissions from the production of imported products and from the use of exported products.

⁵⁸ Supreme Court Judgment of 22.12.2020, HR-2020-2472-P, unofficial English translation, para 149. Contrastingly, the Appeal Court while also accepting responsibility for external emissions extended this to external effects. Cf *ibidem* para 13.

⁵⁹ Rechtbank Den Haag, Judgment of 22.05.2021 (*Milieudefensie et al. vs the Netherlands*, ECLI:NL:RBDHA:2021:5339 (English version))

⁶⁰ *Zeynep Ahunbay e.a. c la Turquie, l'Autriche et Allemagne*, appl. no. 6080/08, § 94.

⁶¹ See further Natalia Kobylarz, Anchoring the right to a healthy environment in the European Convention on Human Rights: What concretized normative consequences can be anticipated for the Strasbourg Court in the field of admissibility criteria? G. Antonelly (ed.) *Environmental law before the courts: a US-EU narrative* (Springer 2023).

4.1 The legal relevance of physical causation

As noted above, environmental cases brought before the ECtHR have commonly been characterised by linear causality in proximity constellations. The legal notion of interference has been modelled on this basis. In contrast, the causal chain of climate change is much more complex ranging from GHG emissions by actors to increases in atmospheric concentrations, increases in temperature (global and local), changes in the earth's thermohaline system, changes in weather patterns, changes in natural living conditions, and damage to the citizens' health, occupation, property, and so on. This factual complexity challenges the established legal criteria. The ECtHR has laid out a rich bundle of these, such as that the harm caused must be 'significant', 'serious', 'specific', 'direct', 'likely', 'imminent', 'lasting', etc., without much concern for doctrinal systematisation.⁶² I will structure and complement these criteria by forming four dimensions, namely certainty, intensity, individualisation, and time.

4.1.1 Certainty

In principle, the causal nexus must be 'proven' in fact, excluding abstract statements or hypotheses.⁶³ Probabilistic research results such as accident risks of dangerous installations or dose-response relationships of dangerous substances are common ground for national courts⁶⁴, but so far only rarely for the ECtHR.⁶⁵ The degree of certainty required will depend on whether the ECtHR recognises precaution as a human rights principle, and how it defines it in concrete terms.⁶⁶ For example, the concept familiar from traditional environmental law that a certain physical quantity of emitted substances can be tracked down to a certain amount of damage will obviously have to be abandoned and replaced by a model that recognises a correlation between an input of emissions into the climate system and damage caused on the output side. It is also necessary to determine the level of probability required for the calculation of the global emission budgets that are still available if certain temperature limits shall not be exceeded.

4.1.2 Individualisation

The ECtHR and most national legal systems construe fundamental rights as protecting individual persons. At the merits stage this individual dimension is usually more broadly conceived than where it is narrowly defined at the admissibility stage. For example, the BVerfG when examining the compatibility of the KSG with fundamental rights has the fate of younger generations at large in mind rather than the individual circumstances of the applicants it examines as a condition for standing.⁶⁷ In some contrast, the ECtHR does not lose sight of the individual applicants at the merits stage although it treats them rather as representing a type than as singular beings.⁶⁸

But even at the merits stage the individual significance of rights needs to be specified when the interference affects many people, as is the case with climate change. Three variants can be distinguished.

First, if a number of persons files the complaint but many more are affected, this does not hinder the court from proceeding to the merits, provided the applicants' standing was accepted. Secondly, an individual person may bring an action in the interest of third parties or in the public interest. This would

⁶² See the analysis of Natalia Kobylarz, *The European Court of Human Rights: an underrated forum for environmental litigation*, in: Helle Tegner Anker, *Sustainable management of natural resources. Legal instruments and approaches* (CUP 2018) pp 99-120 (112).

⁶³ *Asselbourg et autres c Luxembourg*, appl no. 29121/95.

⁶⁴ For an example of the standard of review in the risk assessment of nuclear power facilities see BVerfG 2 BvL 8/77, BVerfGE 49, 89.

⁶⁵ See as an instance *Tatar v Romania*, appl. no. 67021/01, § 102 on causation of asthma by sodium cyanide.

⁶⁶ See on the ECtHR case law Kobylarz (n 6) 109-112.

⁶⁷ BVerfGE 157, 30 passim.

⁶⁸ Cf *Cordella c Italie*, appl. nos. 54414/13 and 54264/15.

be an *actio popularis*⁶⁹ which is accepted in a few legal orders, such as Portugal, but not in the ECHR. Thirdly, the risk of harm may be stochastic, i.e. one of quantifiable probability. In *Klima Seniorinnen*, for example, it is not certain that all of the applicants will fall seriously sick as a result of extreme weather events. However, they are all exposed to an increased probability of harm. If the increase is substantial this may already suffice to be regarded as interference.⁷⁰ Alternatively, or in addition, a group action may be admitted where the risk to a collective (such as all elderly people) is more likely than the risk to an individual person. However, the ECtHR has accepted such an action only where the association represents members who are themselves individually concerned, on the grounds that this facilitates the judicial process.⁷¹

4.1.3 Intensity

The interference with a right must be severe, excluding mere superficial harm.⁷² The ECtHR has required this with regard to Art. 8 ECHR.⁷³ For example, in *Klima Seniorinnen* the threshold can be regarded to be crossed if there is evidence of increased frequency of heat waves and in consequence of increased danger to the lives of elderly people.

The young persons in the *Duarte Agostinho* case argue that the forest fires in their neighbourhood caused them fear and distress. It depends on the interpretation of Art. 3 ECHR whether the fear of weather extremes or, more generally, a sense of despair about the future of the younger generations are included in the protective scope. A more severe and present harm would have been demonstrable if farmers suffering from extreme weather events had joined the action, claiming interference with their right to property.

4.1.4 Time

The interference with a right has been required to be ‘present’, or ‘imminent’, or ‘immediate’. These criteria are challenged by situations of causes that will have their effect in the future. The ECtHR has already implicitly accepted relevance of such future effects by holding that, in relation to future harm it is not enough merely to invoke risks, but that there must be some degree of probability.⁷⁴ This would apply to climate change because of the longevity of CO₂ in the atmosphere and the associated irreversible warming effect.

The construct “negative obligation in respect of future interference” is particularly suited to capturing such future effects. However, it is not impossible to incorporate the idea in a positive obligation setting. The notion of advance effect could be used to conceive present day positive obligations as being particularly stringent in view of future restrictions on livelihoods.

If the future is incorporated in the notion of interference it remains to be decided who the beneficiaries

⁶⁹ I suggest this should be the definition of ‘*actio popularis*’. The term is sometimes used to simply characterise a situation where many persons have standing. This is unfortunate because not related to legal criteria.

⁷⁰ Similar *Cordella c Italie*, appl. nos. 54414/13 and 54264/15, § 160 where the court accepted individual concern without insisting that the effects of pollution were to be quantified and distinguished from other factors for each individual situation of the applicants. Similar Cour d’ Appel Bruxelles, arrêt de 30.11.2023, Case 2021/AR/1589, 2022/AR/737, 2022/AR/891 (*Klimaatzaak et al v Belgium et al*), para 133.

⁷¹ *Gorraiz Lizarraga and others v. Spain*, appl. no. 62543/00, §§ 45-46.

⁷² ECtHR *López Ostra v Spain*, appl. no. 16798/90 § 51; *Hatton and Others v. the United Kingdom* [GC], appl. no. 36022/97, § 118; *Marchis and Others v. Romania*, appl. no. 38197/03, § 33. For an elaboration of the criterion in relation to climate protection see Cour d’ Appel Bruxelles, arrêt de 30.11.2023, Case 2021/AR/1589, 2022/AR/737, 2022/AR/891 (*Klimaatzaak v Bruxelles et al*), paras 139, 141.

⁷³ For the ECtHR see the case *López Ostra v Spain*, no. 16798/90 § 51; *Hatton and Others v. the United Kingdom* [GC], no. 36022/97, § 118, ECHR 2003-VIII; *Marchis and Others v. Romania* (dec.), no. 38197/03, § 33.

⁷⁴ *Aly Bernard et al. v. Luxembourg* (déc), appl. no. 29197/95.

are. The answer found by the BVerfG may also be commendable for the ECtHR. It states that human rights protection is granted only for the present generations (including existing embryos) because only they can be holders of human rights. National constitutions may nevertheless go further, such as Art. 20a of the German Basic Law which establishes a non-subjectivised obligation of the state to protect the natural conditions of human life also for not yet existing future generations.⁷⁵

4.2 Responsibility of states: concretising a state's share

Assumed a causal relationship between emissions and harm caused is given, the next question is how the responsibility of the state can be grounded. As explained above the responsibility rests on the different constructs of human rights. In the setting of positive obligation the state is obliged to reduce emissions because the human right contains underlying commitments for values such as human health, property, etc. In a setting of negative obligation the state is obliged to refrain from authorizing emissions in order to avoid interferences with freedoms.

However, an individual state cannot be made responsible for all the harm caused by the entirety of states. Three questions arise here: whether the state can invoke the *de minimis* argument, whether it is only responsible in proportion of its contribution, and how the amount of this contribution can be determined.

4.2.1 The *de minimis* argument

In the climate cases before the ECtHR many respondent states have argued that their share of global emissions is tiny and therefore their responsibility is negligible. Many national courts including the Dutch Hoge Raad, the Brussels Court of Appeal and the German BVerfG have also been confronted with similar arguments. They have rejected them reflecting the circumstance that causality is not just a question of fact but a normative concept that can determine that any contribution counts. In addition, the BVerfG construed a procedural obligation of the state to engage in international climate protection negotiations.⁷⁶ In terms of fundamental rights this can be understood as introducing an element of global responsibility into the bilateral relationship between the affected individual and the state.

4.2.2 *Pro rata* responsibility

There is still no clear ECtHR jurisprudence on responsibility when the interference is caused by more than one actor. *Pro rata* liability is the preferable response. The alternative, that a state should be jointly and severally liable for the entire contribution of all states cannot be justified because of the excessive burden that the liable state would have to bear, even if it is given the right to have recourse to other states. In this sense, the NL Hoge Raad was of the opinion 'that, under Articles 2 and 8 ECHR, the Netherlands is obliged to do 'its part' in order to prevent dangerous climate change, even if it is a global problem.'⁷⁷ This can even be regarded as a rule of international customary law. Art. 47 (1) of the Draft Articles on Responsibility of States for Internationally Wrongful Acts, as proposed by the UN International Law Commission (ILC) and adopted by the UN General Assembly, reads:

'Where several States are responsible for the same internationally wrongful act, the responsibility of each State may be invoked in relation to that act., as expressed by the International Law Commission as follows.'

⁷⁵ Cf BVerfGE 157, 30 paras 108-109.

⁷⁶ BVerfGE 157, 30 para 200.

⁷⁷ Hoge Raad para 5.7.1.

The ILC added as explanatory note:

‘The general rule in international law is that of separate responsibility of a State for its own wrongful acts and paragraph 1 reflects this general rule.’

4.2.3 Determination of the (pro rata) contribution

First of all, it must be clarified whether interference with human health and private life means harm caused in a real sense, or if it is defined as exceedance of a share in a calculated emissions budget that is normatively considered as fair. In *Klima Seniorinnen* and *Duarte Agostinho* the fair share approach was proposed by the applicants.⁷⁸ I will discuss the same first and come back to the real harm approach later on.

4.2.3.1 Exceedance of a fair share

The fair share approach proceeds in two steps, the calculation of the global budget and the allocation of shares to states.

4.2.3.1.1 Calculation of global budgets

The global budget is calculated on the basis of specific upper limits for temperature increases. It is based on the well proven fact that GHG emissions remain in the atmosphere for a long time, build up increasing concentrations, and cause the atmosphere to warm. From this correlation of factors it is possible to derive the emission quantities – the global ‘budgets’ - that are still available up to certain temperature limits.

Such temperature limits have been set by the Paris Agreement (PA), which according to its Art. 2 calls for ‘efforts’ to stay below 1.5°C and to definitely stay ‘well below’ 2°C.

With regard to the 1.5°C limit it has often been argued that ‘efforts’ implies that states enjoy a broad margin of discretion. The applicants both in *Klima Seniorinnen* and *Duarte Agostinho* insisted that 1,5°C should be seen as binding.⁷⁹ Indeed, the closer the world gets to this limit the more urgent it becomes to reflect on reasons why the limit may be construed as being binding. Although Art. 2 PA only requires ‘efforts’ to stay below 1.5°C, the margin of appreciation must be regarded as having shrunk to zero in view of the heavy damage that will already be caused if a rise of 1.5°C is reached. This has abundantly been proven by the IPCC report SR1.5°C.⁸⁰ It should also be noted that the ‘Glasgow Climate Pact’ which was concluded at COP 26 ‘resolves to pursue efforts to limit the temperature increase to 1.5 °C’ and ‘recognizes that limiting global warming to 1.5 °C requires rapid, deep and sustained reductions in global greenhouse gas emissions [...]’. This can be regarded as ‘subsequent agreement’ within the meaning of Art. 31 (3) (a) of the Vienna Convention.

In addition, it should be noted that the PA has not overruled the customary no harm-rule. This rule prevails at least insofar as the treaty leaves room to be filled in, as is the case, for instance, concerning the interpretation of the 1.5°C limit.⁸¹ Considering that damage will already be caused if the 1.5°C limit

⁷⁸ Application form no. 29 and Annex to it no. 31-32. http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2020/20200902_3937120_complaint.pdf

⁷⁹ Application form in *Klima Seniorinnen* para 1.3.2, http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2020/20201126_Application-no.-5360020_application-1.pdf; Application form in *Duarte Agostinho* no. 28. http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2020/20200902_3937120_complaint.pdf

⁸⁰ IPCC, Global warming of 1.5°C (IPCC 2019)

⁸¹ Natalie L Dobson, Extraterritoriality and climate change jurisdiction (Hart Publishing 2021) 26, 153.

is transgressed this supports the interpretation of the limit as binding.

As an alternative one may revert to ‘well below 2°C’ as stated in Art. 2 PA. The BVerfG reads this as 1.75°C, referring to a proposal by the German Environmental Scientific Advisory Board (SRU).⁸² The SRU explains this choice of temperature limit by the fact that during the Paris negotiations 2°C was chosen on the basis of 66% confidence, and ‘well below’ was added to indicate that a higher confidence level should be required. Obviously, such higher level would be achieved by reducing 2° to a lower degree, such as to 1.75 °C.

4.2.3.1.2 Allocation of global budgets to states

In a second step, the global budget has to be distributed among states. Many criteria have been discussed for how this should be done. Some are proposed but not made binding by the Paris Agreement, including equity, common but differentiated responsibility, and respective capabilities. When applied these criteria result in very different amounts of emissions still allowed. In particular, a developed country may receive a modest budget if ‘respective capabilities’ is chosen in relation GDP, but almost nothing is left if equity is understood to mean that past emissions are deducted from that budget on a per capita basis. At least, there is consensus that grandfathering must be excluded. This criterion would allow a state’s share of the remaining global budget to be same as its share in the past.⁸³ Assume, that the EU with its share of about 18% in the overall historical emissions would claim the same percentage for the remaining budget even though its population share is only about 9,8 %. This would clearly violate the equity principle.

The BVerfG, for example, relied on equal per capita as related to the budget remaining in 2020. This led to an amount of 6,7 Gt for Germany which would be used up by about 2030, if the normal yearly emissions were continued.⁸⁴

In contrast, the applicants in *Klima Seniorinnen* and *Duarte Agostinho* submitted that a combination of criteria should be applied. They rely on the methodology of the Climate Action Tracker (CAT) which is a widely used tool for assessing the climate protection performance of states.⁸⁵ The criteria proposed are responsibility for past emissions, capability in terms of GDP, need to development, and present equal per capita.⁸⁶ The application of these criteria to an individual country results in a range of different emission amounts of this same country, called fair share range. For instance, past responsibility will leave only a tiny amount, if any, and present equal per capita a larger one. Likewise, a highly populated developing country that has high potential for renewable energy will receive a large amount on the basis of equal per capita but a smaller one based on capability.

For each country its fair share range is determined based on available empirical studies about the country’s socio-economic conditions. Once this is identified, the lowest and highest emissions within a state’s fair share range are summed up together with the lowest and highest emissions within all other states’ fair share ranges, respectively. As a result, a global equity range is represented by a world-wide equity best case scenario and a global equity worst case scenario.⁸⁷ The impacts of the lowest and highest emissions aggregates on global warming are then evaluated. Applying the 1.5° and 2 °C

⁸² BVerfGE 157, 30, para 36.

⁸³ Andreas Buser, Of Carbon Budgets, Factual Uncertainties, and Intergenerational Equity—The German Constitutional Court’s Climate Decision. *German Law Journal* 2021, 1409-1422, at 1421. doi:10.1017/glj.2021.81

⁸⁴ BVerfGE 157, 30, paras 225 - 233.

⁸⁵ See Observations of the Applicants on Admissibility and Merits of 09.02.2022, paras 136-142.

⁸⁶ <https://climateactiontracker.org/methodology/cat-rating-methodology/fair-share/>

⁸⁷ Jakob Wachsmuth et al., Fairness- and Cost-Effectiveness-Based Approaches to Effort-Sharing under the Paris Agreement. Climate Change 39/2019 (Umweltbundesamt Dessau)

limitations yields three categories: below 1.5°, 1.5° to 2°, and above 2°.

The entire package then needs to be compressed in order to be compliant with the 2° and possibly 1.5° restrictions because the highest aggregate (or the least effort of all states combined) will reach much beyond 2 °C. The reduction percentages necessary to reduce the package is equally applied to each state without further differentiation, considering that equity criteria already determined the fair share range of the individual states. By starting at the top end of each state's fair share range and descending each state's fair share range by the same percentage until the aggregate over all states reach the emission level that is consistent with a temperature level, the global range of fair shares is mathematically reduced in line with the required temperature level.⁸⁸

As a result of this process, fair share ranges for each country's three temperature categories—<1.5°, 1.5°-2°, and >2°—are established, with the >2° category further subdivided into <3°, < 4°, and >4 °C. Each of these six categories corresponds to the temperature outcomes that would result if all other governments were to put forward emissions reduction commitments with the same relative position on their respective fair share range, or the same ambition level.

This normative profile makes it possible to calculate the emissions quantities or budgets that are available for a state if it wants the world to keep global temperatures below certain temperature limits.

In summary, depending on how the global budget is calculated and allocated, states have different amounts of allowable emissions at their disposal. In any case, under any single criterion or combined set of criteria developed states will be left with very small residual amounts, with the effect that they can easily be found to exceeding them and thus interfere with fundamental rights of affected persons.

4.2.3.2 Harm caused in a real sense

The fair share approach is difficult for non-scientists to understand. The factual basis is also subject to uncertainty at various points, in particular as for the probability of available budgets in relation to different temperature limits. The normative assumptions, in particular the temperature limits and allocation criteria, can be and have been long debated. Courts will therefore be reluctant to follow the fair share approach.

Alternatively, a simpler and more understandable approach can be taken. This is to determine the threshold of interference not by reference to a normatively defined fair share, but in accordance with the wording of the relevant human right, such as the notions of health or private life under Art. 2 and 8 ECHR, respectively. If the health or private life of right holders is defined as the prevention of serious harm and GHG emissions are found to cause such harm this per se constitutes an infringement of the right.

However, as the harm has not been caused entirely by an individual state but by a large number of states the respondent state's share must be identified. This share corresponds to its part in the actual global emissions, not to its fair share in the normative sense. This means that a state's share of emissions over a given period of time must be calculated. This period should be determined by reference to the time since which a state has become aware – or negligently ignored – that its conduct had to be brought in line with international law.⁸⁹ One possibility is to refer to the time period since 1992, the year in which the FCCC was concluded. By 1992 at the latest the need to curb emissions had become

⁸⁸ Laranja Rajamani, National "fair shares" in reducing greenhouse gas emissions within the principled framework of international environmental law, *Climate Policy*, 2021, 1-22 (16). [https://doi: 10.1080/14693062.2021.1970504](https://doi.org/10.1080/14693062.2021.1970504)

⁸⁹ For an elaboration of the criterion in relation to climate protection see Cour d' Appel Bruxelles, arrêt de 30.11.2023, Case 2021/AR/1589, 2022/AR/737, 2022/AR/891 (*Klimaatzaak v Bruxelles et al*), para 139.

common knowledge to virtually all states.

This reference to actual harm, as defined by the wording of relevant human rights appears to be more practicable than the highly sophisticated fair share approach. It does not relax the level of protection, on the contrary it is even stricter. It also allows the scientific and political community to avoid endless and time-consuming transnational debates.

In conclusion, it must unequivocally be stated that the climate crisis is a fact and that it is already now interfering with human rights. The simple consequence so far is that all further emissions must be stopped immediately. But a second step is available – the possible justification of interference – which can be used to put emissions reductions into a gradual structure.

5. Justification of interference

5.1 Balancing of interests and density of court review

As noted above, interference may be justified to the extent that emissions are necessary in the public interest or in the interest of other rights holders. Such consideration involves a weighing up of interests opening a margin of appreciation of states.

The margin of political discretion can be explained by different theoretical bases that may also influence the preparedness for judicial self-restraint. One is separation of powers between democratically elected bodies and the judiciary with its genuine legitimacy of non-majoritarian professional legal discourse. Another is scientific expertise which is rather located with the executive branch than with the courts. A third is concerned with subsidiarity of jurisdictional levels: the ECtHR shall acknowledge the plurality of national solutions, both political and judicial, rather than imposing its own appreciation.⁹⁰ Finally, it is under dispute whether positive obligations open up a broader margin of appreciation of the polity than negative ones.

With regard to this latter aspect the BVerfG holds that negative obligations invite rather dense review of state conduct whereas positive obligations imply a wider margin of discretion for the state. According to the Court, this is because in the first case a specific measure already taken is under scrutiny and the judge can clearly approve or annul it, whereas in the second case a multitude of still open options are possible from which the judge should choose considering the principle of separation of powers.⁹¹ As a result, the Court reduces its review of positive obligations holding in *Neubauer et al* that the discretionary margin is only exceeded (or rather undershot), if no precautionary measures have been taken at all, if the measures taken are manifestly inappropriate, or if they fall significantly short of the protection goal. In this case the Court found that the measures already taken by the German legislator fell within the margin of political discretion.⁹²

In contrast, the ECtHR appears not to see much difference when applying negative or positive obligations.⁹³ However, a closer look at the individual cases may reveal such a distinction in practice.⁹⁴ In any case, even within the concept of positive obligations the ECtHR has practiced denser review when the

⁹⁰ See in more detail on the subsidiarity aspect Thilo Marauhn, Daniel Mengeler in Oliver Dörr, Rainer Grote, Thilo Marauhn, EMRK/GG Konkordanzkommentar (Mohr Siebeck 3rd ed 2022) Teil I Kap. 7 paras 58, 59.

⁹¹ BVerfGE 157, 30, para 152.

⁹² BVerfGE 157, 30, paras 168-170.

⁹³ See, for instance, *Lopez Ostra v. Spain*, appl. no. 16798/90, § 51; *Hatton et al. v. UK*, appl. no. 36022/97, § 98.

⁹⁴ Cf *Hatton et al. v. UK*, *ibid.* para 102: 'The Court has recognised that, where government policy in the form of criminal laws interferes with a particularly intimate aspect of an individual's private life, the margin of appreciation left to the State will be reduced in scope ([...]).'

harm caused appears to be particularly grave⁹⁵, or when the Contracting States have already found converging solutions.⁹⁶

One further aspect of the balancing exercise is whether the interest at stake is the interest of the individual applicant or whether she is seen as representing a group of similar persons. For example, when the ECtHR states in *Lopez Ostra* that "account must be taken of the fair balance to be struck between the competing interests of the individual and of the community as a whole", it seems that the Court is weighing the community against an individual. This may be acceptable in neighbourhood constellations, although even then the case law does not seem to insist that, to take *Hatton* as for example, the general economic benefit of an additional airport runway be weighed against the suffering of the one individual complaining about noise pollution. In *Hatton* the Court - without revealing it - certainly took into account the suffering of the whole neighbourhood. But even then, individual interests were limited in number and location. To take account of the suffering caused by climate change, the individual interests will have to be construed as representing the interest of all possibly affected right holders. The BVerfG made this step by determining both positive and negative obligations in view of all younger generations. If the ECtHR is inclined to join in, the floodgate for actions can still be narrowed down by appropriate standing criteria.

5.2 Prevailing interests and necessity of interference

Moving from such a general orientation to the application of the doctrinal framework, it is necessary to consider the prevailing public or third party interests, and the need for interference.

5.2.1 Prevailing interests

A major public interest is, among others, the supply of fossil energy as long as this has not yet been replaced by renewables. This can also be regarded as an element of the fundamental rights of third persons, since the availability of energy is a prerequisite for almost all freedoms. However, a distinction could be made between basic and superficial needs. For instance, it is hardly arguable that the purchase and operation of an oversized energy intensive car is of paramount importance. It is even doubtful whether such a private interest is protected by a fundamental right at all.⁹⁷ Another aspect was suggested by the BVerfG. It held that while climate protection does not take absolute precedence over other interests it must be accorded increasing weight as climate change intensifies.⁹⁸ Biodiversity is a competing public interest that becomes the more important the more land is occupied by measures mitigating climate change, such as for wind-parks, biomass production and solar farms.

⁹⁵ Krieger, ZaöRV 2014, 211 f.

⁹⁶ *Goodwin v UK*, 11.07.2022, appl. no. 28957/98 para 74.

⁹⁷ The BVerfG has interpreted Art. 2 (1) Grundgesetz which guarantees everyone the 'freie Entfaltung seiner Persönlichkeit' (free unfolding of his personality) as providing 'allgemeine Handlungsfreiheit' (general freedom of conduct) which implies that an extremely broad array of activities comes under the umbrella of basic rights, ranging from the consumption of any desired product to the business activities of a multinational corporation. The step was taken as early as in 1957 by the judgment 1 BvR 235/56, BVerfGE 6, 32 (36-42) (*Elfes*). For a critique, taking risk regulation as an example, see Gerd Winter, Cultivation Restrictions for Genetically Modified Plants. On Variety of Risk Governance in European and International Trade Law, in: *The European Journal of Risk Regulation*, 1/2016, Berlin/ Brussels, Lexxion: 120 – 143.

⁹⁸ In its subsequent practice the German Federal Administrative Court has tended to level this differentiated concept down to a simple weighing up on equal footing of climate protection with any other public interest. For example, the court approved the construction of a new highway, giving the generation of additional emissions less weight than the benefit of accelerated individual transportation.⁹⁸ I suggest this disregards the dynamic element in the BVerfG formula.

5.2.2 Necessity of interference

If the supply of fossil energy (as long as it has not been replaced) is regarded as a legitimate interest, the necessity test requires that the use of fossil energy must be reduced to a minimum. The key question is how to determine this minimum. One way is to use the IPCC and CAT methodology to calculate modelled pathways of emissions reduction which I will now examine (1.). An alternative approach, called best possible means, will be outlined later on (2.).

5.2.2.1 Modelled reduction pathways

Modelled pathways as proposed by the IPCC and CAT were submitted by the applicants in both *Klima Seniorinnen* and *Duarte Agostinho*.⁹⁹ They result from a reasoning in two steps.¹⁰⁰

First, at a global level, scenarios are compiled for five different world regions that combine different cost-effective sectoral and cross-sectoral emission reduction measures, all of which comply with certain upper temperature limits.¹⁰¹ The pathways stipulated by the applicants in *Klima Seniorinnen* and *Duarte Agostinho* are those that are related to Europe as a region, and that shall ensure compliance with the 1.5°C limit with no or limited overshoot above 1.5°C and minimised carbon dioxide removal (CDR).¹⁰²

Second, these effective regional pathways are downscaled to national pathways, taking into account the capabilities (e.g. GDP) and conditions (e.g. population size) of the states.¹⁰³ The pathway of a state corresponding to the 1.5° C limit can then be plotted as a curve that shows the decrease of emissions from the base year (1990) to the year by which a level of net zero emissions must be achieved. The curve corresponds to the median of the entire set of pathways. Against this curve the actual performance of a country can be measured.¹⁰⁴ If a state's actual measures describe a national curve exceeding the modelled curve, the state is deemed to have violated the relevant fundamental rights.

The reduction commitments resulting from fair shares and modelled emission pathways may differ from each other. In industrialised countries, fair shares will normally impose stronger reduction burdens than modelled pathways. This is because, on the one hand, fair shares require reduction measures in kind, while modelled emission pathways shift parts of the reduction burden to developing states by using cost-effectiveness as a criterion, assuming that they can achieve reductions at lower cost per tonne of emission avoided than developed countries. In such a situation, the fair share budget is smaller than the budget for the modelled pathways for the respondent countries.

The question then arises as to which budget should be used. Precaution would dictate that it be the smaller one, i.e. in industrialised states most often the fair share. In contrast, the IPCC and CAT concept

⁹⁹ As the related documents are not publicly available I will refer to the methodology applied and published by the CAT, although this may have been modified in the submission of the applicants. See <https://climateactiontracker.org/methodology/cat-rating-methodology/>

¹⁰⁰ <https://climateactiontracker.org/methodology/cat-rating-methodology/>

¹⁰¹ IPCC AR 6 WG III. For a recent compilation of scenarios see Joel Jaeger et al., "Methodology Underpinning the State of Climate Action Series: 2023 Update." Berlin and Cologne, Germany et al., <https://doi.org/10.46830/writn.23.00043>.

¹⁰² See Observations of the Applicants on Admissibility and Merits of 09.02.2022, paras 136-142.

¹⁰³ <https://climateactiontracker.org/methodology/modelled-domestic-pathways>

¹⁰⁴ See Observations of the Applicants on Admissibility and Merits of 09.02.2022, Part VIII para 106, taking Belgium as an example.

accepts the gap suggesting that it should be filled by compensation payments from developed to developing countries, enabling the latter to bear the costs of mitigation measures.¹⁰⁵

However, this might not be compatible with fundamental rights which in principle¹⁰⁶ entail protection in kind, not in cash, i.e. that the emissions causing the human rights infringement are reduced themselves. Monetary offsets do not guarantee that the forgone reduction will actually be realised elsewhere. It is true that they could be framed as to require strict and monitored conditions of additionality, i. e. only if the subsidised reduction abroad is additional to what the country was planning or legally obliged to do anyway but even such conditioned flexibilisation of rights protection is highly problematic given the negative experience with the clean development mechanism (CDM) in the Kyoto Protocol system which mainly supported projects in emerging economies that could and should have afforded them anyway.¹⁰⁷ As a matter of course, financial support by developed of developing countries remains crucial, but it should not be based on offset grounds.¹⁰⁸

5.2.2.2 Best possible means

As with fair shares, modelled pathways are difficult for non-scientists to understand. They too involve uncertainties and evaluations. This may make courts reluctant to accept the approach. As an alternative, or complement, the applicants in *Carvalho*¹⁰⁹ and interveners in *Klima Seniorinnen*¹¹⁰ and *Duarte Agonstinho*¹¹¹ proposed a more practical approach called the 'best possible means' standard. It is divorced from specific limits on temperature rise and thus freed from the endless and fruitless debates, evasions and delays of unwilling states. It is based on the observation that damage has already been caused even below 1.5°C warming. This implies that no legitimate budget is available anymore. Any budget calculation can only be one determining which emissions are until when unavoidable. A amount identified in this way can therefore only constitute an emergency, not a merited budget.

The "best possible means" standard requires each state to reduce GHG emissions

- from all source sectors
- to the greatest extent that is technically, economically, socially, geographically, and institutionally feasible,
- using the most effective instruments.

Most importantly, the approach would be in line with the practice of the ECtHR. As explained above the ECtHR looks at whether the respondent state has carried out appropriate investigations and taken legislative and administrative measures designed to provide effective prevention of threats to human rights, with the public given opportunities to comment. An instructive example of how the ECtHR ap-

¹⁰⁵ <https://climateactiontracker.org/methodology/modelled-domestic-pathways>

¹⁰⁶ This is certainly true for rights to health. Concerning the right to property is more open for regulation of the kind "dulde und liquidiere" (accept to suffer and be compensated).

¹⁰⁷ Jeanette Schade, Wolfgang Obergassel, Human rights and the clean development mechanism, *Cambridge Review of International Affairs* 2014, 717.

¹⁰⁸ See for such grounds Gerd Winter, Indicators for the implementation of international climate protection law, in Jérôme Fromageaux et. al. (eds.) *Measuring the effectiveness of environmental law through legal indicators and quality analyses*, IUCN Environmental Policy and Law Paper No. 91, pp. 71-72.

¹⁰⁹ Application of 13 May 2018, T-330/18, chapter J4. See https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2018/20180524_Case-no.-T-33018_application.pdf

¹¹⁰ Third party intervention of CAN-E, Chapter E (2) (d). https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2022/20221205_Application-no.-5360020_na.pdf

¹¹¹ Third party intervention of CAN-E, Chapter II 3. b). https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2021/20210506_3937120_na-3.pdf

plies this test is *Cordella v Italy* where the Court carefully scrutinised the research and measures undertaken by the respondent government, concluding that they were insufficient.¹¹²

In numerous mitigation reports, the IPCC has used similar sectoral studies, evaluative criteria, and instruments.¹¹³ However, a difference in methodology can be observed. The IPCC has developed mitigation options in a top-down manner, from the global and regional to the national level.¹¹⁴ In contrast, the "best possible means" approach looks at each country individually, without immediately calculating the overall impact on warming limits. It also does not apply criteria of comparative transnational cost-effectiveness. It is a last resort and an urgent appeal to states to at least do what they can. As a second step, though, accompanying studies and agreements can of course add up all bottom-up efforts and compare the total remaining emissions with assumed temperature limits. Any exceedance could then be used as further warning sign.

In some more detail the sectors to look at include energy, industry, transport, buildings, agriculture, waste, and consumers. LULUCF would also be included, as a bottom-up perspective does not require a transnationally agreed count; it is sufficient for a state to understand that LULUCF should reduce emissions and enhance GHG removal as much as possible.

The evaluation criteria would have to include more dimensions than the technical and economic components. They would embrace socio-cultural feasibility in order to ensure acceptability for citizens, especially where sufficiency measures are concerned. In addition, geophysical feasibility suggests taking into account the natural conditions of a state (e.g. in terms of sun, soil, water availability). Institutional feasibility must be respected in terms of powers of government vis-à-vis vested interests. Finally, economic feasibility would have to take into account a country's transnational competitiveness in order to avoid carbon leakage.

In terms of instruments the usual types need to be examined including capping emissions, regulation, emissions pricing, emissions trading, financial incentives, voluntary agreements, and information.

Interestingly, the EU's Scientific Advisory Board on Climate Change (ESABCC 2023) recently adopted a best possible means approach that focused on bottom-up feasibility as a complement to fair share reasoning. While the ESABCC concentrated on means to promote renewable energy, in the current context more strategies need to be included, such as, for instance, concerning energy efficiency and sufficiency.

While this approach focuses on pushing each individual state forward, its implementation can be further stimulated by transnational comparison of measures taken and emissions reduced.

6. Conclusion

This contribution is about testing climate legislation against human rights taking the perspective of persons suffering from the effects of climate change. The ECtHR has developed the rights of the ECHR as rights of environmental protection with a focus on linear causality in neighbourhood constellations. In doing so, the Court has made use of its evolutive approach. This may need to be applied again when renewing human rights doctrine in view of the long, multiple and irreversible causality of climate

¹¹² *Cordella et autres c Italie*, Appl. nos. 54414/13 et 54264/15.

¹¹³ IPCC AR 4 WG 3 chapters 4–13; IPCC AR 1.5°C Cross Chapter Box 3; IPCC AR 4 Synthesis Full Report ch. 4.3, p. 61; AR6 WGIII3 TS chapters TS.4 and TS5

¹¹⁴ To be accurate, the modelled pathways approach uses both global and domestic scenarios. According to the IPCC, this double strategy combines top-down and bottom-up possibilities. However, before being scaled down, the national scenarios are incorporated into global pathways (IPCC AR 4 SYR Full Report, p. 58, fn 21). Alternatively, "best possible means" would see national studies as such, i.e. as evidence of whether a state's potential was utilised to its fullest extent or more could be done.

change. A field of options is mapped including familiar and new concepts from which the ECtHR can make its choice.

Following its current jurisprudence the Court is likely to construe rights as positive obligations but it may have to incorporate the idea, strongly expressed by the BVerfG, that action today is essential in order to prevent a dramatic suppression of rights in the future. The Court may even conceive of rights as negative obligations or shields against states, given that many states have turned to actively managing emissions and allocating emission rights, thereby indirectly causing climate change impacts themselves.

The transnational nature of climate change suggests that human rights must be given a transborder reach to protect persons living outside the emitting country. Building on previous steps the Court may accept a new category of external jurisdiction for permanent, severe and unescapable transboundary impacts. It may even be willing to extend this to certain state controls over emissions in a foreign country, such as if a state authorises the exploitation and exportation of domestic fossil resources.

Further innovations may be expected with regard to the causality of interference, including its certainty, intensity, individualisation, and presence. With regard to the responsibility of states the sharing of responsibility must be determined considering that one state cannot be made liable for the emissions of all states. One option is to conceive of the shares of states as contributions to the real-world damage that has already been caused. Alternatively, the shares, called “fair shares”, can be calculated on the basis of certain temperature increase ceilings, in particular those set by the Paris Agreement. They result from the global emissions budget that is still available given the warming limits, and the scaling down of the global to national budgets applying certain equity principles.

Interference with rights, at least in a *prima facie* sense, are likely to result from such first step analysis. This opens up a crucial second step that the Court will have to take, namely the possible justification of the interference by weighing them up with public interests and interests of other right holders. This entails a margin of political appreciation of the state that the Court only subjects to a restrained “fair balance review”. A key aspect open to judicial review is the necessity test which requires that emissions be reduced to an unavoidable minimum.

Such test can be guided by so-called “modelled reduction pathways” which are compiled “top down” from global to national pathways, applying cost effectiveness criteria. As an alternative or complement, the “best possible means” approach is an option that requires each country to look “bottom up” for what is technically and economically feasible. While modelled pathways are difficult to explain in court proceedings and raise equity concerns, “best possible means” may be more in line with the ECtHR’s practice of checking whether states have done their homework – substantially and procedurally.

In final conclusion: there is an urgent need, but also considerable potential, for ECHR rights and their guardian to advance climate protection.