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Duarte Agostinho and others
v. Portugal and 33 other Contracting States (Appl. No. 39371/20)

Third Party Intervention by Climate Action Network Europe

Dear Judge Grozev,

we have the honour to submit to the European Court of Human Rights the comments of the environmental association Climate Action Network Europe (CAN-E) concerning the pending case of *Duarte Agostinho and others* (Appl. No. 39371/20).

The intervention addresses the following issues that were raised by the Court in the Questions to the Parties on 13/11/2020:

1) the availability of effective remedies in the respondent States' domestic jurisdiction that would allow individuals to challenge States' insufficient climate change mitigation policies;

2) to what extend the adverse effects of global warming on individuals can be considered a direct or potential effect of the respondent States' greenhouse gas emissions, and

3) the nature, scope and content of respondent States' positive obligations under the Convention to limit global warming to 1.5°C.

The third section is complemented by a table providing an overview over the current efforts of States undertaken to limit global warming.

Please find CAN-E's submission attached to this letter.

We remain at the Court's disposal in case further information or clarification is required.

Yours faithfully,

Rechtsanwältin
Dr. Roda Verheyen

Prof. Dr. Gerd Winter

I. Admissibility (Question 2)

Concerning exhaustion of national remedies (Art 35 of the Convention), the intervener shares the applicants' argument that it would be an excessive and disproportionate burden for them to first exhaust national remedies, taking in account that they would need to do this with regard to all respondent states. The intervener wishes to raise two additional points:

1. Availability of national remedies in law

Considering that the applicants do not challenge specific measures or omissions of the respondent states but rather all measures and omissions including the lack of an appropriate level of protection overall, national remedies challenging the ensemble of measures are scarcely available. An appropriate route to challenging the ensemble would be to aim at ambitious overall greenhouse gas (GHG) emission reduction targets to be established by states. If such targets are contained in a legislative act, some states such as Austria, Belgium, Croatia, Germany, Ireland, Latvia, Portugal and Russia do provide direct access to court review, but subject to strict standing requirements and in most cases only after exhaustion of other remedies. Other states such as France, the Netherlands, Poland, Italy, Turkey and the UK do not provide such remedy, some of them providing an indirect route from administrative review to preliminary proceedings before a constitutional court. If a climate target takes the form of a binding general executive act, remedies are more readily available but due to the general nature of such acts, standing of individuals will be denied in many states. If a target is only a political proclamation of government, hardly any state provides for a remedy allowing a court to quash such declaration or to order the government to issue one. The Netherlands may be the only state where such relief was made available.[1]

In conclusion, direct access to legally challenging reduction targets is possible only in a few states, in others only indirectly via preliminary proceedings or after exhaustion of other remedies, and in the rest no remedy exists at all. Even where access is possible, claimants must reckon with high hurdles of legal standing. Each individual proceeding would take years, and several levels of appeal must be tried until national remedies would be exhausted. The issue of costs has been rightly raised by the applicants.

2. Availability of national remedies in practice

The intervener expects most respondent States to argue that national remedies are sufficiently available but have not been exhausted by the applicants. The intervener submits (anticipated reply) that such argument would stand in contradiction to the common practice of the respective State governments to dispute the admissibility of actions in national climate litigation. Remarkably, in all high profile climate protection cases in Europe respondent states have either doubted the *locus standi* of applicants or the competence of courts as deciding on allegedly political matters. This is true for the proceedings *Urgenda* before the Dutch Hooge Rat, the case of the community *Grand Synthe* before the French Conseil d'Etat, *Klimaatzaak* before the Tribunal de Première Instance Francophone de Bruxelles, *Friends of the Irish Environment (FIE)* before the Irish Supreme Court, *Barents Sea* before the Norvegian Noeregs Hogsterett, and both of the German climate cases (before the Administrative Court of Berlin and before the Constitutional Court (*Bundesverfassungsgericht*). If the respondent states now argue non-exhaustion in this Court, this would be *mala fide* and could not be heard.[2]

Granting direct access to this Court is also important due to the fact, that in some of the respondent states, Government may openly disrespect court judgements that oppose policy priorities,[3] making a finding in a joint case such as this even more important. Also, in a growing number of European states, the independence of the

[1] Hooge Raad, Judgment of 20 December 2019, 20-12-2019, ECLI: NL: HR: 2019: 2006. Bundle provided by the Applicants, p.1045 et.seq.

[2] Should the Court wish to peruse these orders and adjoining documents, they will be provided by the intervener. They are all contained in the academic data base at the Sabin Center: http://climatecasechart.com/climate-change-litigation/ under the heading "Non-US Climate Change Litigation".

[3] Okyay and others v. Turkey, App. no. 36220/97, Judgement of 12.07. 2005, § 73, where the Court found fault in the Turkish Council of Ministers' decision that the three thermal power plants under scrutiny should continue to operate despite the fact that the administrative courts had annulled the authorisation.

judiciary has been jeopardised,[4] rendering the jurisdiction of this Court even more important for effective human right protection.

II. Substantive Law and Principles: Question 3

The intervener provides four statements in this section suggesting answers to the Court's questions about principles and legal standards.

Firstly, and despite the fact that most respondent contracting states are also member states (MS) of the European Union, the Court can and should apply the Convention in this case. Secondly, the fact that climate change is a phenomenon of complex causes and effects does not preclude the legal qualification as state caused interference with human rights. Third, employing the jurisprudence of this Court, a legal standard for violation of protection duties is suggested, detailing the reasoning in the application and tested against facts. To this end, the intervention contains a table listing all notified states and summarising their performance in an annex for better accessibility. Fourth, drawing on the recent historic decision of the German Constitutional Court[5] it is submitted that the current conduct of the respondent states in fact constitutes an unjustified interference in general fundamental freedoms since today's excessive emitting behaviour gravely restricts the freedom of the young generation in the future.

1. Applicable human rights concerning the EU Member States

The European Commission has been allowed to formally intervene and the intervener anticipates that it will argue that the EU Member States are only subject to the substantive law of the EU, since this affords sufficient protection both substantially and with respect to remedies. This is not the case, as detailed below.

The 27 EU Member States (MS) are obliged to implement the various obligations established by EU law.[6] These directives and regulations are currently being amended to implement the "Green Deal"[7], but amendments are not as of yet in force. In such a situation, the Court's so-called Bosphorus presumption applies, which presumes that the applicable EU legal acts are in compliance with EU fundamental rights and need not be double-checked in view of the Convention rights. The presumption is rebutted (1) if a MS enjoys discretionary margins of implementation, (2 a) if the level of protection by EU fundamental rights is inferior to that of ECHR rights and/or (2 b) if the supervisory mechanism provided for by the EU is not fully deployed.[8] It is alleged that all three rebuttals apply in the present case:

(1) The EU has established an overall reduction target for 2030 only (40%), the implementation of which in accordance with the secondary legislation is largely left to the MS. This will remain the case for the recently agreed 55% target which is to be implemented in legislation this summer. While MS have to respect the Charta rights (Art. 51 (1) 1st sentence ChFR) when exercising their margin of discretion, these rights cannot directly oblige MS to increase the reduction targets and apply them over time until reaching greenhouse gas neutrality – such as it is requested in the present case. This is true both insofar as MS measures are classified as just filling space left by partial harmonisation or as going further based on Art. 193 TFEU.

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[4] See judgement of the ECJ of 8 April 2020: EU Commission v. Republic of Poland, C-791/19 R, ECLI:EU:C:2020:277.

[5] Link to the decision (German language only) and French and English Press Releases of 29th April 2021: https://www.bundesverfassungsgericht.de/SharedDocs/Pressemitteilungen/DE/2021/bvg21-031.html. The English version of the press release is attached as Annex. The decision is being translated and can be provided to the Court upon request.

[6] This includes: (i) Directive (EU) 2018/410 of the European Parliament and of the Council of 14 March 2018 amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments, and Decision (EU) 2015/1814 (OJ 2018 L 76, p. 3), in particular Article 1 thereof, (ii) Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013 (OJ 2018 L 156, p. 26), in particular Article 4(2) thereof and Annex I thereto, and (iii) Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU (OJ 2018 L 156, p. 1), in particular Article 4 thereof.

[7] See for all documents: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

[8] Avotins *v.* Latvia [GC], App. No. 17502/07, §§ 101, 111.

(2 a) The CJEU has not yet developed a doctrinal concept of ChFR based obligations to protect individuals from environmentally mediated damage to health and freedom.[9] It has been creative in deriving rights of citizens to protection from secondary law[10], but not yet from fundamental rights such as Art. 2 (1), 7, 20 and 24 ChFR which are similar to Art. 3, 8 and 14 of the Convention. In comparison, the pertinent rights as construed by this Court on the basis of the cited Convention provisions are much more elaborate and protective.

(2 b) The supervisory mechanism provided for by EU law is insufficient. In the EU climate case represented by the undersigned professionals and supported by the intervener (*Carvalho* et.al.) the CJEU excluded any direct access to court review of legislative acts. This is because the CJEU's interpretation of the requirement of "individual concern" (Art 263. 4 TFEU) as meaning unique concern[11] can logically never be met by general legislative acts. It is true that claimants may in principle revert to indirect review through a national court's request of a preliminary ruling. In a similar case like the one before the Court here, such avenue is effectively impossible since, in a national proceeding, the national court will be asked to scrutinise national measures in view of national human rights, as set out in the respective constitution and qualified by the Convention. Such legal scrutiny does not depend on whether the EU climate legislation is valid or sufficient or not. It is therefore understandable that not in one of the national proceedings on strengthening GHG emission targets a court has requested a preliminary ruling on the compatibility of the EU GHG Acts with the Charta rights.

2. Causality and direct concern in relation to interferences by climate change effect

Regarding the criterion "directly affected", the cases brought to the attention of the Court have been of a kind where the plaintiffs' suffering was an immediate effect of noxious polluting emissions. In contrast, global climate change and thus its local impacts as set out in the application result from remote and interwoven causality and cumulative emissions. GHG gases concentrate in the atmosphere so that increasing parts of solar radiation are not reflected into space thus causing the increase in surface temperatures, leading, *inter alia* to glacial and permafrost melting. Through intervening processes, this also disturbs the thermohaline ocean and the atmospheric wind circulations. As a consequence, extreme weather events increase in number and strength, sea levels rise and identifiable world regions are exposed to flooding, droughts and/or heat waves. Even though the causal chain is long and complex it can nevertheless be regarded as direct in the legal sense. Its core (the thermohaline ocean and atmospheric wind circulations) can be treated as a black box situated between an input (the GHG emissions) and an output (damage to human health) which are strongly (and in the case of rising temperatures directly) correlated.

Concerning the Court's reference to cases in question 2 2nd para, the intervener comments as follows: In *Caron*[12] the Court held that causal effects of genetically modified properties of plants on biological cultivation were not sufficiently substantiated in view of the physical distance in between. In that line, in *Bernard*[13] the Court held that it is not sufficient to invoke the risks of pollution inherent in the steel production at hand, but that a certain probability of harm to the applicants must also be proven. Yet, in the present case, as stated above and proven in various items in the bundle of annexes provided by the applicants, the causality between GHG emissions and harmful effects is beyond doubt. This has been accepted both by the High Court in the Netherlands[14] as well as the German Constitutional Court[15]. They also both clarified that not only was cumulative causation present, but that – despite global climate change being a global phenomenon – states must do their fair share and cannot shift responsibility to other states, which also allow emissions to continue.

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[9] See Carvalho v European Parliament and the Council of the EU, ECJ judgement of 25 March 2021, C-565/19 P, EU:C:2021:252, with references.
[10] E.g. *Janecek*, ECJ 25 July 2008, C-237/07, EU:C:2008:447, paras. 34-42.
[11] *Carvalho*, cited above, §§ 40, 41.
[12] Caron et autres c. France, Appl. No. 48629/08, Judgement of 29.06.2010.
[13] Bernard et autres c le Luxembourg, Appl. No. 29197/95, Judgement of 29.06.1999.
[14] See Bundle p.1045 et seq.
[15] Note 5 above.

The present case is more in line with *Cordella*[16] in which the Court did accept causality between emissions from the steel production at hand and health risks in the surrounding community referring to the many reports and scientific studies proving the causal nexus. In response, it is submitted that in the present case such multitude of affirmative reports and studies, and many more than in *Cordella*, is also available. These are contained in the bundle and more are cited by the courts specified above.

3. Scope and content of States' obligation – specifying the application

The applicants argue that the "respondents are breaching their convention rights through their respective contributions to climate change", and that they share presumptive responsibility to reduce emissions which they currently do not discharge. Specifying this claim, (para 10 et seq. of the Annex), the intervener submits that with regard to limiting global temperature rise, the Convention imposes the following substantive and procedural obligations upon its member States:

> (a) the substantive obligation to adopt and implement a GHG-reduction pathway compatible with the 1.5°C target;
> (b) in the alternative, the substantive obligation to determine and exhaust their national GHG-reduction potential and,
> - irrespective of the former two obligations -
> (c) the procedural obligation to formulate their reduction targets or pathways following informed studies and enquiries conducted with public participation and subject to judicial review.

To complement this legal standard with facts and given the far reaching scientific and policy network of the intervener, a summarising table of country performance is respectfully submitted to the Court in an Annex to this Submission. The questions asked correspond to the legal standards, and the respective column will be indicated as appropriate in the text below. The table is a product of the limited time afforded to the interveners, and could be expanded, depending on the specific questions the Court might have. The intervener is at the Court's disposal to add to or expand on all data contained in the table.

a) Substantive obligation: adopt and deliver on a 1.5°C compatible GHG reduction pathway

All respondent states agreed to and ratified the Paris Agreement (except Turkey) and must therefore at least pursue 1.5°C efforts on that basis. The interveners contend: The positive obligations arising from Art. 2, 3, 8 and 14 of the Convention demand that States adopt and implement a national GHG-reduction pathway that falls at least within the range of mitigation pathways assessed by the IPCC as compatible with a global warming of 1.5°C. Such pathways are defined for national emissions as captured in national inventories in accordance with the UNFCCC regime and thus only refer to one element of the alleged infringements, specified in para. 10 of the application. However, since this duty applies to any and all countries, it would indirectly also address the other three elements leadings to an interference in the applicant's rights addressed in para. 9 of the application.

aa) Limiting warming to 1.5°C is not subject to a margin of appreciation

According to the Court's case law, States enjoy a certain margin of appreciation in domains that concern contentious societal issues and difficult technical or scientific questions, including environmental matters.[17] This discretion is based on the rationale that, in certain domains, national authorities might be in a better position to evaluate local needs and conditions, to balance conflicting interests and to evaluate the suitability of measures taken to fulfil their obligations. Accordingly, the breadth of the margin of appreciation is determined based on the nature of the Convention right in issue, its importance for the individual and the nature of the activities concerned.[18] The margin of appreciation, however, does only encompass the measures and tools required to fulfil an obligation under the Convention.[19] We respectfully submit that the overall level of

[16] Cordella c Italie, Appl. No. 54414/13 and 54264/15, Judgement of 24.01.2019.
[17] Tatar v. Rumania, Appl. No. 67021/01, Judgement, 06/07/2009, §108; Hatton v. UK, Appl. No. 360227/97, Judgement of 08/07/2003, § 99; Powell and Rayner v. UK, Appl. No. 9310/81, Judgement, 21/02/1990, § 44.
[18] Buckley v. UK, Appl. No. 20348/92, Judgement, 29/09/1996, § 74.
[19] Cf. Fadeyeva v. Russa, Appl. 55723/00, § 124.

protection from climate change prescribed by the Convention is not subject to States' discretion, but at the disposal of the Court - as the applicants contend.

In view of the magnitude of the consequences and risks associated with global warming exceeding 1.5°C, the standard prescribed by the Convention cannot be interpreted but to oblige States to limit global warming to 1.5°C, this temperature target being a reasonable and scientifically justified level of protection. Keeping global warming to 1.5°C is still possible – and necessary to honour human rights. It is based on best available science, which is contained in the Bundle and summarized by one of the most accomplished earth scientist Prof. Johan Rockström in a video which the interveners politely recommend the Court to watch.[20]

The IPCC Special Report (SR 1.5) aggregates the best available science on the consequences of a global temperature rise beyond and at 1.5°C. It sets out with high confidence that the ultimate impact of the temperature rise on human life and health will be considerably higher at 2°C than at 1.5°C global warming. In particular, heat-related morbidity and mortality and the number of people affected will increase substantially, affecting elderly, children, women and persons with chronic diseases disproportionately.[21] There is no reasonable doubt that global warming exceeding 1.5°C will cause thousands, if not millions, of additional illnesses and deaths, also within the jurisdiction of the respondent States. As set out in the SR 1.5 report, the difference between 1.5 and 2° could mean well over 10 million more migrants from sea-level rise alone. From a human rights perspective, keeping global warming to 1.5°C is – based on this scientific consensus – not a question of political opportunity but has condensed to a legal obligation.

With respect to Question 3) posed by the Court, the intervener also respectfully contends that, while the Paris Agreement has a role to play in interpreting the Convention, it is not able to positively sanction a lower level of protection than what is necessary seen through the lense of human rights. Art. 2 .1 a) of the Agreement is a political compromise, and that includes the "well below 2°C". In fact, and as displayed by the applicants, global warming is severely affecting human rights already today, at appr. 1.2° C global temperature rise. Indeed, when taking into account most cautious science, the level of protection afforded by keeping global temperature rise at 1,5°C might not actually suffice to prevent the worst impacts if the world's energy balance can only be ensured at atmospheric concentrations of greenhouse gases in the atmosphere of 350 ppmv as argued by many scientists.[22] This would only be achievable by actively reducing the carbon content, which is currently at over 410 ppmv. Moreover, any scenario calculated by the IPCC only translates into an estimate of likelihood that global mean temperatures do not rise above 1.5°C, and thus limit impacts to those projected in the report.

The annexed table shows in the 1st column that only Denmark has legally embraced the 1.5°C global temperature rise target while every other State, if there is legislation at all, refers to the Paris Agreement (well below 2°C and striving towards 1.5°C) or has only set limited national reduction targets. Thus, all other notified states already fail to meet this first test.

bb) Translation into substantive State duties: Budget and Emission Pathways

The level of protection is a global one any and each state must adhere to. But how does this translate into obligations of contracting States? This issue is of importance if the Court is not able to follow the intervener's argument about shared responsibility, and it is of essence if the obligation of the whole group should be tested for adequacy.

There are essentially two methods of defining a state's individual obligation: the implementation of widely agreed international pathways able to ensure the 1,5° C limit and the budget approach.

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[20] Johan Rockström, TED Talk "10 Years to transform the future of humanity", available online at https://www.ted.com/talks/johan_rockstrom_10_years_to_transform_the_future_of_humanity_or_destabilize_the_planet/transcript.

[21] IPCC, Special Report "Global Warming of 1.5°C, 2018, para 3.4.7, p.240, Bundle p. 5 et seq.

[22] See Von Schukmann et. Al., Heat stored in the Earth system: where does the energy go? Earth Syst. Sci. Data, 12, 2013–2041, 2020; open access.

(i) Compatible Pathways: In the SAR 1.5, the IPCC has assessed and described mitigation pathways that are compatible with the 1.5°C target.[23] These mitigation pathways describe integrated, quantitative evolutions of all emissions over the 21st century associated with global energy and land use and the world economy. They take into account the feasibility of emission reductions in various sectors, the uncertainties associated with the development of the climate and already integrate the possibility of carbon dioxide removal. Thus, these pathways are the best available science on the global GHG-emission curve that is necessary and feasible to keep global warming to 1.5°C. All pathways require climate neutrality by 2050, some even negative emissions after 2050. They do not require any decision on equity and how to share the carbon budget still available.

The interveners submit that, independent of any equitable distribution of whatever carbon budget might remain, an obligation rests on every single state to adopt a pathway compatible with the IPCC's aggregated mitigation pathways – otherwise they are simply not adhering to the global level of protection necessary. The annexed table shows in column 2 that except for Denmark, no notified state is in line with these obligations. It effectively documents that the notified states have not defined a pathway that could be in line with the global necessary level of protection. They might have some degree of climate policy but no binding targets, budgets or pathways. It should be noted that this statement does not actually dwell on whether countries are in fact implementing their pathways – this is not even the case for Denmark at this stage[24].

In particular with regard to the EU Member States possibly arguing that they themselves discharge their duties by adhering to EU legislation and measures the intervener wishes to expand on the EU's role:

The European Commission released its impact assessment for the climate targets for 2030 in September 2020. Two pathways were modelled, based on 50 and 55% emission reduction by 2030. Despite the UNEP Emissions Gap report published in November 2019 contained in the Bundle clearly showing that the proposed target range of 50- 55% emissions reductions were not in line with the 1.5°C target, the EU Institutions failed to even model a 1.5°C compatible pathway, let alone adopt it. The European Council voted in December 2020 for the 55% net trajectory. This target is itself not in line with a pathway for 1,5°C, but additionally constitutes a net target, meaning it includes removals. A 55% net reduction in emissions only equates to a 52,8% reduction in real emissions, the other 2,2% being up to removals. The European Union has just finalised debate on a new European Climate Law. The Regulation will include a binding reduction target by 2030 of at least 55% net and climate neutrality by 2050 for the EU as a whole accompanied by negative emissions post 2050. There is currently no intermediate binding targets. The EU targets still represent a minimum standard, and only Sweden, Finland and Denmark have gone beyond, as detailed in the annexed table.

(ii) Budget approach: The physical reality of a carbon budget[2526] has been recognised and applied by both the Dutch courts and the German courts when determining an interference with human rights, while also recognising the limitations of the concept in scientific terms. Whether temperatures can be limited globally to 1.5°C or any other global temperature goal is dependent on keeping within an overall budget, emissions of GHG leading to a certain level of ppmv in the atmosphere. As a first step, the remaining emissions globally to keep within the 1.5° C temperature range with acceptable certainty are calculated on the basis of IPCC science, keeping in mind the various scientific problems with calculating an exact amount. Most recent figures are contained in the Bundle. The next step would be the allocation to individual states, a normative exercise. The criteria to be considered are contained, inter alia, in the Paris Agreement and are set out in detail in the Bundle[27]. They include 'common but differentiated responsibility', 'right to development', 'respective capabilities', 'historical equal per capita' and 'present equal per capita'. All of them are variants of the the equal treatment obligation of Art. 14 of the Convention as well as the equity principle emphasised by Art. 2 (1) (a) Paris Agreement and stressed by the applicants. The intervener submits that economic capability and historical per

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[23] IPCC, Special Report: Global warming of 1.5 °C, Chapter 2, p. 113 (summary on p. 6 of the Bundle) and explanation in UNEP Gap Report, p. 327 of the Bundle.

[24] - https://klimaraadet.dk/en/rapporter/status-outlook-2021.

[25] See the following evidence in the Bundle provided by the applicants: Description in SR 1.5, p. 12 et seq. and definition at p. 23, graph with approximate budget figures at p. 267, budget in the context of tipping points at p. 276, in UNEP Emission Gap Report at p. 286 et. seq.; Dutch High Court, p. 1054 et seq.

[27] At p. 579.

capita should be chosen as the most equitable one, and the most in line with international law. Applying the relevant criterion then determines the remaining budget for each State.

Based on the research done by the intervener specified in the annexed table (column 1), states have not included any budget figures in their laws. Also, looking at their reduction pathways (column 2) and assuming a linear degression of emission until the respective neutrality target is reached in 2040 or 2050, the theoretically available budget to each country would be fully spent in very few years. Should the Court wish to expand on this, a budget approach would provide a proxy for assessing the adequacy of each state's conduct.[28]

A variation of the budget approach is the Climate Action Tracker as introduced by the applicants. Its methodology is explained in the bundle[29] and can be summarised as follows: (1) the reduction percentage a state (or a region) has established for a target year (e.g. 2030) is identified, an example being the EU with 40% referenced to 100% in 1990. (2) The reduction percentage is extrapolated to all states assuming they apply the same reduction percentage, i.e. 40% in the example. (3) The global budget that will be spent by 2030 on that basis is calculated. (4) The methodology then assesses whether that budget is compatible with 1.5 or 2° or would lead to a rise in temperature to 2° plus x° C.

b) Substantive obligation: Exhaust existing reduction potential

Even if the Court found that there is no distinct global level of protection outside of the margin of discretion of States as argued here, and that States are not obliged to adopt a specific reduction pathway despite the overwhelming science, there is a restriction on the margin of discretion to act to ensure climate protection. That restriction is based on Art. 8 (2) of the Convention which allows for an interference with the right to private life only if this is "necessary in a democratic society" in the public interest or for the protection of rights of others, and translates into an obligation to adopt, based on best scientific data, all technical and economically feasible measures to minimize GHG emissions and exhaust their national reduction potential. This "bottom up" obligation exists independently of the "top down" obligation described above and is not subject to any modelling or decisions on equitably sharing the remaining carbon budget.

Wherever a State's margin of appreciation exists, this does not preclude the Court from scrutinising whether the respondent State has, in practice, exceeded its lawful limits. In such cases, the Court carefully examines the reasonableness of the decision-making process and the measures adopted,[30] in particular whether they were based on "detailed and rigorous data"[31] and "appropriate investigations and studies",[32] the relevance and sufficiency of the justification given[33] as well as the procedural safeguards available to the individual.[34]

The intervener has included in the annexed summary table question 3.1 and 3.2 to see whether states are adhering to this standard. The table shows that there are barely any studies and enquiries looking at what a state could indeed achieve. If there are such studies, states do not adopt the targets and/or measures contained in them.

Moreover, question 5 in the table concerns a specific indicator of such omission to take feasible and reasonable measures. One activity particularly well measurable is the amount of subsidies actually flowing towards fossil fuels through various state programs. The sheer amount compiled in the annexed table under column 5 shows that whatever climate commitments states might have, they do not translate into clearly technically and economically feasible measures such as abolishing subsidies directly causing greenhouse gas emissions.

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[28] The Court may choose to contact a member of the German Federal Government's Advisory Council on the Environment as expert if needed. Prof. Dr. Wolfgang Lucht has calculated the budget now used to establish the interference with human rights by the German Constitutional Court in its recent decision and has agreed to be named in this submission. His data can be found at https://www.pik-potsdam.de/members/wlucht.

[29] At p. 582 et seq.

[30] Hatton v. UK, Appl. No. 360227/97, ECtHR 08 July 2003, § 99; Buckley v. UK, Appl. No. 20348/92, Judgement, 29/09/1996, § 76; Fadeyeva v. Russa, Appl. 55723/00, Judgement, 09 June 2005 § 133.

[31] Fadeyeva v. Russa, Appl. 55723/00, Judgement, 09 June 2005 § 128.

[32] Budayeva v. Russia, Appl. No. 11673/02, Judgement, 20 March 2008 § 136.

[33] Buckley v. UK, Appl. No. 20348/92, Judgement, 29/09/1996, § 76; Pentikäinen v. Finland, Appl. No. 11882/10, 20/10/2015, § 111.

[34] Buckley v. UK, Appl. No. 20348/92, Judgement, 29/09/1996, § 76.

c) Procedural Obligations

As set out above, the Court has repeatedly stressed that the measures adopted by States in order be discharged of their positive obligations under the Convention have a due diligence procedural dimension, as well as participatory requirements "so that the effects of activities that might damage the environment and infringe individuals' rights may be predicted and evaluated in advance and a fair balance may accordingly be struck between the various conflicting interests at stake."[35] Being a matter of environmental law, public participation in the adoption of national emission reduction pathways and targets by executive acts has to be ensured according to Art. 6 of the Aarhus Convention, which is ratified by all respondent States except for Russia and Turkey. The obligation applies to any public policy or program, even if targets are later adopted as law. Public participation is a direct duty also under the Convention.[36]

Rather than setting a climate target politically and then describing actions and measures to reach that target, as exemplified in the case of the EU for 2030 above, this includes a duty to assess what is possible and feasible (see substantive duty b)) in a consultative process on various levels, inviting different expertise and arranging stakeholder deliberations. It also includes the adoption of legally binding reduction targets complete with remedies against a State's inaction to implement measures to reach such targets. The annexed table shows that out of the 33 notified states only very few conducted any kind of rigorous studies (column 3 – no studies about what is technically and economically feasible) and participation has not taken place in most States. Should the Court wish to expand on this issue, it should be noted that the subject of such participation (e.g. in Spain and Germany) was not the overall budget or reduction pathway, but climate programmes and measures to reach a politically determined target for 2030. The intervener also wishes to stress that while the EU Member States among the respondent States all ensure public participation when adopting their mandatory national integrated energy and climate plans[37] such processes do not actually concern themselves with appropriate reduction pathways and/or budgets overall.

4. Interference with Art. 14 of the Convention: the protection of the applicants' future through the concept of "advance effect of freedom rights"

The application has a focus on the rights to life and health deriving from Arts. 2 and 8 and qualified by Art. 14 ("age"). It concentrates on the fact that climate change, and especially heat waves, already now harm the applicants' health and life, this becoming ever more drastic and hence discriminatory the more GHG are emitted and accumulate in the atmosphere. The application argues that states are under a duty to protect, which they jointly do not discharge. The intervener agrees with this argument.

However, being asked by the Court about applicable principles and law, the intervener submits that an additional approach could be considered, arguing a breach of fundamental freedoms, in particular Art.14 (also in conjunction with Art 2 and 8). This builds on a conception the German Federal Constitutional Court very recently developed in its judgement of 25 March 2021[38]. In this judgement the Court declared the German Climate Law unconstitutional due to a lack of a clear reduction pathway in line with the rights of the young generation. This decision is based on Art 2 of the German constitution which is a broad guarantee of personal freedoms, including the right to health and life. In effect, the court struck down the practice of setting a national reduction target for 2030 (which most states have) and developed a duty to adopt a reduction pathway in line with an adequate reduction pathway until climate neutrality. The doctrine which may be called *advance effect of freedom rights*[39] implements the principle of intergenerational equity argued by the applicants and can be summarised as follows:

First, a broad scope of affected rights must be determined. Climate change does not only interfere with the right to health but also with social, economic and cultural freedoms. The related human rights include a broad definition of the scope of the right to health (Art. 2) and the right to respect for private life, family and home

[35] Giacomelli v. Italy, Appl. No. 59909/00, § 83.
[36] Giacomelli v. Italy, Appl. No. 59909/00, § 83.
[37] See further on this instrument which was established on the basis of Regulation EU/2018/1999: https://ec.europa.eu/energy/topics/energy-strategy/national-energy-climate-plans_en
[38] See above, note 5. The translation of the full decision is not published yet but has been announced. The intervener will – upon request of the Court – provide an unofficial translation.
[39] See for an english description of this: https://verfassungsblog.de/the-constitution-speaks-in-the-future-tense/

(Art. 8); in addition they include the freedoms of expression, assembly and association (Art, 10, 11), rights of property and education (1st Protocol Art. 1 and 2), right of free movement (4th Protocol).

Second, this extended scope of affected rights becomes ever more virulent the more the focus is directed from the present to future decades, when the applicants will be adults. The greenhouse effect will then dramatically jeopardize their life chances, both because the physical conditions of enjoyment of basic rights are deteriorated and because states need to take ever more restrictive measures aiming at managing the remaining GHG emission opportunities. The likely impacts of climate change have been sufficiently described by the applicants but include also socio-economic impacts, since degraded soils cannot be cultivated anymore, whole industries close down, educational opportunities shrink, etc. Simultaneously, the consequences of a rising global temperature will successively enhance state's positive human rights obligations to restrict GHG-intensive activities in order to prevent further increases of the global temperature with even graver damages to the population. Accordingly, much stricter interferences with individual freedoms will be justified. Such regulatory interferences can be imagined to include a restriction of individual means of transportation and travelling, and a rationing of water and energy consumption, consumption of meat, freedom of expression and assembly controlled in terms of climate issues, digital surveillance reinforced, military service imposed for the defence of frontiers against migration, states of emergency declared, etc. In consequence, the freedom rights will be deeply restricted, and - tragically - justifiably so because of the decline of natural resources. The applicants will thus lose or be severely restricted in the exercise of the freedom rights.

Third, these limitation of freedoms and liberties in the future is caused by large quantities of GHG are emitted today, which accumulate in the atmosphere thereby increasing the temperature with ensuing harm to human life. Thus, the future interference of rights is caused by (then) past emissions.

Fourth, States are responsible for such emissions because they allow actors to emit GHG. This permission constitutes an interference with the basic rights guaranteed by the Convention, rather than a violation of a duty to protect. Fundamental rights as an intertemporal safeguard of freedom protect against a unilateral shift of the greenhouse gas reduction burden into the future. In the words of the German Federal Constitutional Court:

> "The protection of future freedom also requires that the transition to climate neutrality be initiated in good time. In concrete terms, this requires the early formulation of transparent guidelines for the further development of greenhouse gas reduction, which provide orientation for the necessary development and implementation processes and give them a sufficient degree of development pressure and planning certainty."
>
> "The legislator itself must make the necessary regulations on the size of the total emission quantities permitted for certain periods of time."

The undersigned professionals recognise that this Court does not see much doctrinal difference between the two constructions of human rights protection (duty to protect vs interference), while the German system clearly differentiates between the two. In fact, due to these differences the German Court has rejected the notion that the German state is already now breaching its duty to protect.

Yet, two arguments may be considered by the Court:

First, if employing an interference method, and as required by Art. 8 (2) of the Convention and where a constitution establishes a so-called legal reservation (*Gesetzesvorbehalt*) the state must base its interference on a law. If there is no legal basis for the interference (here: future emissions), the Court may provide a remedy purely on this procedural ground. Second, in the case of a state duty to protect, the margin of discretion of the state regarding measures to be taken may be broader than in negative constellations where interferences with a specific right are identified. In other words: in case current emissions are treated as an interference, and any further emissions must be positively justified against and balanced with this right, whereas there may not be any clear reference point when employing a duty to protect.

Fifth, the affected human rights are read to have an advance effect on the present time. This is the most innovative component of the new doctrinal construction. In order to avoid the future encroachments, the

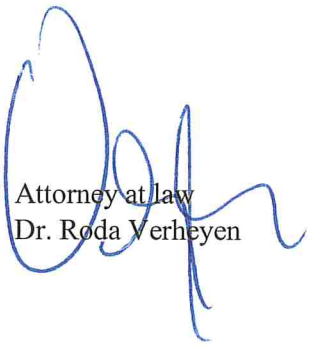
affected rights demand that emissions must be cut back today, and substantial quantities of allowable GHG emissions must be reserved for future decades. As a corollary effect, such early action provides for the necessary learning time for the transformation of law and society.

The emission reduction obligation applicable today flowing from the concept of *advance effect of freedoms* can be concretised applying the three methods explained above: "top down" attribution to states of a 1.5° (or 2°) global budget, modelled pathways within the 1.5° (or 2°) limit, and "bottom up" capability as an auxiliary alternative potentially exceeding 1.5° (or 2°). Again, the attached table shows that states are not complying with this concept as it would necessitate a clear idea about the individual budget to be used or the pathway to be followed, rather than sketchy reduction targets for 2030 or beyond.

III. Closing remarks

The intervener has attempted to bring to the attention of the court principles of law together with methods to determine whether an interference with human rights is present with respect to climate change and the conduct of the respondent States. The intervener and its members regard this case as an important opportunity for the Court to clarify existing doctrine in human rights law as well as an opportunity to secure the rights of the interveners, as representative of the generations of youth.

The intervener would be honoured to be called on again to provide expertise or views throughout the following procedure.



Professor
Dr. Gerd Winter

Attorney at law
Dr. Roda Verheyen

Annex 1: Press Release No. 31/2021 of 29 April 2021 of the German Federal Constitutional Court (Bundesverfassungsgericht), Order of 24 March 2021

Annex 2: Table: Evaluation of national laws and policies adopted to reduce national GHG-Emissions to ensure compliance with a global 1.5°C goal (country performance tested against the legal standard for complying with state duties under the Convention)

Bundesverfassungsgericht

Constitutional complaints against the Federal Climate Change Act partially successful

Press Release No. 31/2021 of 29 April 2021

Order of 24 March 2021
1 BvR 2656/18, 1 BvR 96/20, 1 BvR 78/20, 1 BvR 288/20, 1 BvR 96/20, 1 BvR 78/20

In an order published today, the First Senate of the Federal Constitutional Court held that the provisions of the Federal Climate Change Act of 12 December 2019 (*Bundes-Klimaschutzgesetz* – KSG) governing national climate targets and the annual emission amounts allowed until 2030 are incompatible with fundamental rights insofar as they lack sufficient specifications for further emission reductions from 2031 onwards. In all other respects, the constitutional complaints were rejected.

The Federal Climate Change Act makes it obligatory to reduce greenhouse gas emissions by at least 55% by 2030 relative to 1990 levels and sets out the reduction pathways applicable during this period by means of sectoral annual emission amounts (§ 3(1) and § 4(1) third sentence KSG in conjunction with Annex 2). It cannot be ascertained that the legislator, in introducing these provisions, violated its constitutional duty to protect the complainants from the risks of climate change or failed to satisfy the obligation arising from Article 20a of the Basic Law (*Grundgesetz* – GG) to take climate action. However, the challenged provisions do violate the freedoms of the complainants, some of whom are still very young. The provisions irreversibly offload major emission reduction burdens onto periods after 2030. The fact that greenhouse gas emissions must be reduced follows from the Basic Law, among other things. The constitutional climate goal arising from Article 20a GG is more closely defined in accordance with the Paris target as being to limit the increase in the global average temperature to well below 2°C and preferably to 1.5°C above pre-industrial levels. For this target to be reached, the reductions still necessary after 2030 will have to be achieved with ever greater speed and urgency. These future obligations to reduce emissions have an impact on practically every type of freedom because virtually all aspects of human life still involve the emission of greenhouse gases and are thus potentially threatened by drastic restrictions after 2030. Therefore, the legislator should have taken precautionary steps to mitigate these major burdens in order to safeguard the freedom guaranteed by fundamental rights. The statutory provisions on adjusting the reduction pathway for greenhouse gas emissions from 2031 onwards are not sufficient to ensure that the necessary transition to climate neutrality is achieved in time. The legislator must enact provisions by 31 December 2022 that specify in greater detail how the reduction targets for greenhouse gas emissions are to be adjusted for periods after 2030.

Facts of the case:

The Federal Climate Change Act responds to the need – as seen by the legislator – for greater climate action efforts and has the purpose of affording protection against the effects of global climate change (§ 1 first sentence KSG). Pursuant to § 1 third sentence KSG, the basis of the Act is the obligation under the Paris Agreement – which entered into force on 4 November 2016 – to limit the increase in the global average temperature to well below 2°C and preferably to 1.5°C above pre-industrial levels, as well as the commitment made by the Federal Republic of Germany to pursue the long-term goal of greenhouse gas neutrality by 2050. Pursuant to § 3(1) KSG, greenhouse gas emissions must be gradually reduced by the target year 2030 by at least 55% relative to 1990 levels. § 4(1) third sentence KSG in conjunction with Annex 2 sets out the annual allowable emission amounts for various sectors in line with the reduction quota for the target year 2030. Provisions applicable beyond 2030 are not contained in the Act. Rather, § 4(6) KSG provides that in the year 2025 the Federal Government must set annually decreasing emission amounts for further periods after the year 2030 by means of ordinances.

With their constitutional complaints, the complainants primarily claim that the state, in enacting § 3(1) and § 4(1) third sentence KSG in conjunction with Annex 2, has failed to introduce a legal framework sufficient for swiftly reducing greenhouse gases, especially carbon dioxide (CO_2) – a legal framework they claim is necessary to limit the increase in the Earth's temperature to 1.5°C, or at least to well below 2°C. They deem this to be necessary because a temperature increase

of more than 1.5°C would place millions of lives in danger and would risk the crossing of tipping points with unforeseeable consequences for the climate system. They claim that the reduction of CO_2 emissions as laid down in the Federal Climate Change Act is not sufficient to stay within the remaining CO_2 budget that would correspond to a temperature increase of 1.5°C. In their constitutional complaints, the complainants – some of whom live in Bangladesh and Nepal – rely primarily on constitutional duties of protection arising from Art. 2(2) first sentence GG and Art. 14(1) GG, as well as on a fundamental right to a future in accordance with human dignity and a fundamental right to an ecological minimum standard of living (*ökologisches Existenzminimum*), which they derive from Art. 2(1) GG in conjunction with Art. 20a GG and from Art. 2(1) GG in conjunction with Art. 1(1) first sentence GG. With regard to future burdens arising from the obligations to reduce emissions for periods after 2030 – which they describe as an "emergency stop" – the complainants rely on fundamental freedoms more generally.

Key considerations of the Senate:

The constitutional complaints are partially successful.

I. Where the complainants are natural persons, their constitutional complaints are admissible. The two environmental associations, however, have no standing to lodge a constitutional complaint. As "advocates of nature", they claim – on the basis of Art. 2(1) GG in conjunction with Art. 19(3) GG and Art. 20a GG in the light of Art. 47 of the EU Charter of Fundamental Rights – that the legislator has failed to take suitable measures to limit climate change and has thereby disregarded binding requirements under EU law to protect the natural foundations of life. The Basic Law and constitutional procedural law make no provision for standing of this kind.

II. It cannot be ascertained that duties of protection arising from Art. 2(2) first sentence GG and Art. 14(1) GG are violated due to the risks posed by climate change.

The protection of life and physical integrity under Art. 2(2) first sentence GG encompasses protection against impairments caused by environmental pollution, regardless of who or what circumstances are the source of the impairment. The state's duty of protection arising from Art. 2(2) first sentence GG also encompasses the duty to protect life and health against the risks posed by climate change, including climate-related extreme weather events such as heat waves, forest fires, hurricanes, heavy rainfall, floods, avalanches and landslides. It can furthermore give rise to an objective duty to protect future generations. Since climate change can moreover result in damage being caused to property such as agricultural land or real estate (e.g. due to rising sea levels or droughts), the fundamental right to property under Art. 14(1) GG also imposes a duty of protection on the state with regard to the property risks caused by climate change.

Given the leeway afforded to the legislator in fulfilling these duties of protection, no violation of these duties can be ascertained. Any protection strategy that failed to pursue the goal of climate neutrality would have to be considered manifestly unsuitable for affording the protection against the risks of climate change – a protection 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, using nothing but so-called adaptation measures to fulfil the constitutional duty of protection. Neither scenario is the case here. Ultimately, it cannot be ascertained either that the legislator has exceeded its decision-making scope by basing its approach on the Paris target, according to which the increase in the global average temperature must be limited to well below 2°C and preferably to 1.5°C. Another important point here is that, in principle, additional protection can be provided in the form of adaptation measures in order to protect fundamental rights against the risks posed by climate change.

There is no need to decide at this point whether duties of protection arising from fundamental rights also place Germany under an obligation vis-à-vis the complainants living in Bangladesh and Nepal to take action against impairments – both potential and actual – caused by global climate change. Ultimately, no violation of a duty of protection arising from fundamental rights could be ascertained here either.

III. However, fundamental rights are violated by the fact that the emission amounts allowed until 2030 under § 3(1) second sentence and § 4(1) third sentence KSG in conjunction with Annex 2 substantially narrow the remaining options for reducing emissions after 2030, thereby jeopardising practically every type of freedom protected by fundamental rights. As intertemporal guarantees of freedom, fundamental rights afford the complainants protection against comprehensive threats to freedom caused by the greenhouse gas reduction burdens that are mandatory under Art. 20a GG being unilaterally offloaded onto the future. The legislator should have taken precautionary steps to ensure a transition to climate neutrality that respects freedom – steps that have so far been lacking.

1. The challenged provisions have an advance interference-like effect (*eingriffsähnliche Vorwirkung*) on the freedom

comprehensively protected by the Basic Law. The possibilities to exercise this freedom in ways that directly or indirectly involve CO_2 emissions come up against constitutional limits because, seen from today's perspective, CO_2 emissions make a largely irreversible contribution towards global warming and, under constitutional law, the legislator may not allow climate change to progress *ad infinitum* without taking action. Provisions that allow for CO_2 emissions in the present time constitute an irreversible legal threat to future freedom because every amount of CO_2 that is allowed today narrows the remaining options for reducing emissions in compliance with Art. 20a GG; any exercise of freedom involving CO_2 emissions will therefore be subject to increasingly stringent, and indeed constitutionally required, restrictions. It is true that any exercise of freedom involving CO_2 emissions would have to be essentially prohibited at some point anyway in order to halt climate change, because global warming can only be prevented if anthropogenic concentrations of CO_2 in the Earth's atmosphere stop rising. However, if much of the CO_2 budget were already depleted by 2030, there would be a heightened risk of serious losses of freedom because there would then be a shorter timeframe for the technological and social developments required to enable today's still heavily CO_2-oriented lifestyle to make the transition to climate-neutral behaviour in a way that respects freedom.

In order to be constitutional, the advance interference-like effect of current emission provisions – an effect that arises not only de facto, but also de jure – must be compatible with the objective obligation to take climate action as enshrined in Art. 20a GG. An interference with fundamental rights can only be justified under constitutional law if the underlying provisions comply with the core precepts and general constitutional principles of the Basic Law, of which Art. 20a GG is a part. This also applies here with regard to the advance interference-like effect on freedom protected by fundamental rights. Another precondition of constitutional justification is that the provisions on the emission amounts do not lead to disproportionate burdens being placed on the future freedom of the complainants.

2. It cannot presently be ascertained that § 3(1) second sentence and § 4(1) third sentence KSG in conjunction with Annex 2 violate Art. 20a GG.

a) Art. 20a GG places the state under an obligation to take climate action and is aimed at achieving climate neutrality. Climate action does not take absolute precedence over other interests. In cases of conflict, it must be balanced with other constitutional interests and principles. However, given that climate change is currently deemed to be almost entirely irreversible, any behaviour that leads to an exceeding of the critical temperature threshold for achieving the constitutional climate goal would only be justifiable under strict conditions – such as for the purpose of protecting fundamental rights. Within the balancing process, the obligation to take climate action is accorded increasing weight as climate change intensifies.

The obligation to take climate action arising from Art. 20a GG is not invalidated by the fact that the climate and global warming are worldwide phenomena and that the problems of climate change cannot therefore be resolved by the mitigation efforts of any one state on its own. The climate action mandate enshrined in Art. 20a GG possesses a special international dimension. Art. 20a GG obliges the state to involve the supranational level in seeking to resolve the climate problem. The state cannot evade its responsibility by pointing to greenhouse gas emissions in other states. On the contrary, the particular reliance on the international community here gives rise to the constitutional necessity to actually implement one's own climate action measures at the national level and not to create incentives for other states to undermine the required cooperation.

The open normative content of Art. 20a GG and its explicitly formulated reference to legislation do not preclude constitutional review of compliance with the obligation to take climate action; Art. 20a GG is a justiciable legal provision designed to commit the political process to a favouring of ecological interests, partly with a view to future generations who will be particularly affected.

In declaring under § 1 third sentence KSG that the Act is based on the Paris target, the legislator is exercising its mandate and prerogative to specify the constitution by formulating the climate goal of Art. 20a GG in a permissible manner, setting out that the increase in the global average temperature should be limited to well below 2°C and preferably 1.5°C above pre-industrial levels. This must also form part of the basis for constitutional review.

b) With the leeway afforded to the legislator taken into account, it cannot at present be ascertained that the provisions of § 3(1) second sentence and § 4(1) third sentence KSG in conjunction with Annex 2 violate the obligation to take climate action arising from Art. 20a GG.

The constitutionally relevant temperature threshold of well below 2°C and preferably 1.5°C can in principle be converted into a remaining global CO_2 budget, which can then be allocated to states. The Intergovernmental Panel on Climate Change (IPCC) has defined specific remaining global CO_2 budgets for various temperature thresholds and different probabilities of occurrence, using a quality assurance process in which the degree of residual uncertainty is openly stated. On this basis, the German Advisory Council on the Environment has calculated a specific remaining national budget for

Germany from 2020 onwards that would be compatible with the Paris target. Due to the uncertainties and assumptions involved in the approach, the calculated size of the budget cannot, at this point, serve as an exact numerical benchmark for constitutional review. Some decision-making leeway is retained by the legislator. However, the legislator is not entirely free when it comes to using this leeway. If there is scientific uncertainty regarding causal relationships of environmental relevance, Art. 20a GG imposes a special duty of care on the legislator. This entails an obligation to even take account of mere indications pointing to the possibility of serious or irreversible impairments, as long as these indications are sufficiently reliable.

At this point, no violation of the aforementioned duty of care can be ascertained. It is true that, because of this duty, estimates by the IPCC on the size of the remaining global CO_2 budget must be taken into account even though they involve uncertainties. Using the emission amounts stipulated in § 4(1) third sentence KSG in conjunction with Annex 2, the remaining budget calculated by the German Advisory Council on the Environment on the basis of the IPCC estimates would be largely used up by the year 2030. However, given the uncertainties presently involved in the calculation of the remaining budget, such a compliance breach is not sufficiently extensive to be considered objectionable under constitutional law by the Federal Constitutional Court.

3. § 3(1) second sentence and § 4(1) third sentence KSG in conjunction with Annex 2 do not, however, satisfy the requirement arising from the principle of proportionality that the reduction in CO_2 emissions to the point of climate neutrality that is constitutionally necessary under Art. 20a GG be distributed over time in a forward-looking manner that respects fundamental rights.

a) According to this requirement, one generation must not be allowed to consume large portions of the CO_2 budget while bearing a relatively minor share of the reduction effort if this would involve leaving subsequent generations with a drastic reduction burden and expose their lives to comprehensive losses of freedom. At some point in the future, even serious losses of freedom may be deemed proportionate and justified under constitutional law in order to prevent climate change. This is precisely what gives rise to the risk of having to accept considerable losses of freedom. However, since the current provisions on allowable emission amounts have now already established a path to future burdens on freedom, the impacts on future freedom must be proportionate from today's perspective. Furthermore, the objective duty of protection arising from Art. 20a GG encompasses 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 continue preserving these foundations are not forced to engage in radical abstinence.

The efforts required under constitutional law to reduce greenhouse gas emissions after 2030 will be considerable. Whether they will be so drastic as to entail unacceptable impairments of fundamental rights from today's perspective is impossible to determine. However, the risk of serious burdens is significant and can only be reconciled with the potentially affected fundamental rights if precautionary steps are taken to manage the reduction efforts anticipated after 2030 in ways that respect fundamental rights. This also requires initiating the transition to climate neutrality in good time. In specific terms, this means that transparent guidelines for the further structuring of greenhouse gas reduction must be formulated at an early stage, providing orientation for the required development and implementation processes and conveying a sufficient degree of developmental urgency and planning certainty. Here, it is imperative under constitutional law that further reduction measures are defined in good time for the post-2030 period, extending sufficiently far into the future. Moreover, further annual emission amounts and reduction measures must be defined in such detail that sufficiently specific orientation is provided.

b) In § 4(6) first sentence KSG, the legislator has provided for the updating of the reduction pathway for greenhouse gas emissions in a manner that is insufficient under constitutional law. While it cannot be expected that the decreasing emission amounts already be precisely defined from the present time until the date envisaged for achieving climate neutrality in 2050, it is nonetheless insufficient that the Federal Government is only obliged to draw up a new plan once – in 2025 – by means of an ordinance. It would at least be necessary to specify the intervals at which further plans must be transparently drawn up. Moreover, under the procedure set down in § 4(6) KSG, it is not guaranteed that the next reduction pathway will become apparent in good time. It already seems doubtful whether the first updated plan setting out annual emission amounts for periods after 2030 will allow enough time to act if it appears in 2025. Even beyond this first plan, there is no guarantee of timeliness because § 4(6) first sentence KSG does not ensure that the plans extend sufficiently far into the future. If the legislator continues to rely on the involvement of an executive authority for issuing ordinances, it would have to impose farther-reaching specifications on this authority; in particular, the legislator would have to place the authority under the obligation to come up with a first updated plan before 2025 or to at least adopt statutory provisions at a significantly earlier date specifying how far into the future the 2025 plans must extend. If the legislator takes on the full task of updating the reduction pathway, it must itself set down all the necessary aspects in good time, extending sufficiently far into the future.

c) § 4(6) KSG has also yet to satisfy the constitutional requirements of Art. 80(1) GG and the requirement of a statutory

provision. The legislator must at the very least determine the size of the annual emission amounts to be set for periods after 2030 itself or impose more detailed requirements for their definition by the executive authority responsible for issuing the ordinance.

Evaluation of national laws and policies adopted to reduce national GHG-Emissions to ensure compliance with a global 1.5°C goal

Questions & instructions to scientists and policy experts, compiled by CAN Europe with the assistance of Scientists for Future[1]

1. Has the respective State enacted national legislation in which it commits to the global 1.5°C target? (target enshrined into law)

- if yes: please indicate the respective legislation and provide a link to the text

2. According to its own projections, are the State's GHG-emission within the range of the IPCC reduction pathways for 1.5°C?

- If possible: please indicate a source for the government's projections

3. Reduction potential

3.1. Are there any scientific studies, which evaluate the (technically feasible) GHG-reduction potential of the respective State?

- Please indicate the source for the most recent studies
- Please name the reduction potential indicated by the studies if possible

3.2. Does the State commit and actually undertake to exhaust its reduction potential?

- If possible: indicate the national legislation or statements committing to exhaust the reduction potential.
- If possible: please indicate the difference between the current GHG emission projections and the reduction potential of the Member State.

4. Where applicable when the Member State, put into place legally binding climate targets complete with pathways or budgets, to what extent was this done with the help of civil society?

- If possible/applicable: What kind of public participation was carried out?
- What kind of result was achieved (legislation, program)?

5. To what extent are Member States doing all they can to implement their climate commitment? (Amount of Fossil Fuel Subsidies)

- Describe the current official target and official projections
- Describe and document whether the member State is earnest in reducing emissions and support for fossil fuels, also in the context of the Covid 19 Recovery public finances

Remark 1 (relating to question 5):
Of the climate and earth scientists interviewed and consulted for this overview, the vast majority referred to the Climate Action Tracker as well as the UNEP Gap Report as most current scientifically available information. This is already contained in the Bundle. The following table presents complementary as well as stand-alone information.

Remark 2 (relating to question 5):
For all EU member states, the official projections are compiled by the EEA in the Trends and Projections report and the Projections viewer (unfortunately this does not include unilateral national targets, only the ESR targets). These projections are those submitted every two years (and are distinct from the NECP).

- Trends and Projections report: https://www.eea.europa.eu/publications/trends-and-projections-in-europe-2020
- Projections Viewer: https://www.eea.europa.eu/data-and-maps/data/data-viewers/eea-greenhouse-gas-projections-data-viewer

An overview of coal phase out policies can be found at Beyond Coal EU (regularly updated) https://beyond-coal.eu/wp-content/uploads/2021/03/Overview-of-national-coal-phase-out-announcements-Europe-Beyond-Coal-22-April-2021.docx.pdf

State Party	1. Commitment to 1.5°C target in domestic jurisdiction?	2. GHG-Emissions within IPCC-1.5°C-pathway according to own projections?	3.1. Feasibility studies on reduction potential? 3.2. Commitment to and exhaustion of reduction potential?	4. Where applicable: when the Member State put into place legally binding climate targets, was the pathway or target agreed with the help of civil society?	5. To what extent are Member States doing all they can to implement their climate commitment? (source: Evans and Duwe (2021), unless otherwise indicated [2]) additional data: amount of Fossil Fuel Subsidies - European Commission estimates 2019 [3]
Austria	No	No targets enshrined in a climate law	NECP submitted to the European Commission; considered inadequate by the Climate Change Center Austria [4] [5] [6] [7]	No	€1.23 billion Climate law (first adopted 2011; revised 2017)[8]; Target: climate neutrality by 2040 [9]
Belgium	No	No targets enshrined in a climate law		No	€2.49 billion Semi-coherent governance system outlined across numerous government documents [10]
Bulgaria	No	No targets enshrined in a climate law		No	€0.19 billion Climate law (first adopted 2014 and amended several times since) [11]
Croatia	No	No targets enshrined in a climate law		No	€0.12 billion Climate law (first adopted 2019) [12]
Cyprus	No	No targets enshrined in a climate law		No	€0.1 billion No overall system other than standard responsibility for the policy field by a ministry/related agencies [13]
Czech Republic	No	No targets enshrined in a climate law		No	€0.17 billion No overall system other than standard responsibility for the policy field by a ministry/related agencies [14]
Denmark	-70% by 2030 Climate neutrality by	Yes, but implementation?		No	€0.36 billion

	2050 [15] [16]				Climate law (first adopted 2014, replaced 2020) [17]
Estonia	No	No targets enshrined in a climate law	For all Baltic States: see Matiiuk et al. (2020)[18] and Miskinis et al. (2020) [19]	No	€0.07 billion Coherent governance system outlined concretely in some other form (binding document 'GPCP2050') [20]
Finland	-80% by 2050 - to be amended to to climate neutrality by 2035 [21]	No		No	€1.11 billion Climate law (first adopted 2015) pending revision [22]
France	-40% by 2030[23]	No		Yes, but not adopted as suggested by the public	€7.51 billion Climate law (first adopted in 2015, revised 2019) [24]
Germany	-55% by 2030 Greenhouse gas neutrality by 2050[25]	No (but new climate law with full emission pathway under discussion after Judgement)	Studies by Umweltbundesamt (2015) and agora Energiewende (2020) show path to climate neutrality in 2050 [26] [27] Study by Wuppertal Institut (2020) shows path to CO2-Neutrality by 2035 [28]	No	€9.56 billion Target set in the Klimaschutzgesetz (Climate law): reduction by 55% below 1990 levels [29] [30] Current policies fall short of reaching the target. [31] Climate law (first adopted 2019) [32]
Greece	No	No targets enshrined in a climate law		No	€0.66 billion Climate law in discussion [33]
Hungary	No	No targets enshrined in a climate law		No	€0.66 billion Climate law (first adopted 2020) [34]
Ireland	Low-carbon, climate resilient and environmentally sustainable economy by 2050 (qualitative)[35]	No		Yes	€1.23 billion Climate law (first adopted 2015) pending revision [36]
Italy	No	No targets enshrined in a climate law		No	€6.64 billion No overall system other than standard responsibility for the policy field by a ministry/related agencies [37]
Latvia	No	No targets enshrined in a climate law	National Energy and Climate Plan	No	€0.19 billion

			for 2021-2030 [38]. See also Reinis et al. (2020) [39] For all Baltic States: see Matiiuk et al. (2020)[40] and Miskinis et al. (2020) [41]		Climate law in discussion [42]
Lithuania	No	No targets enshrined in a climate law	For all Baltic States: see Matiiuk et al. (2020)[43] and Miskinis et al. (2020) [44]	No	€0.09 billion Coherent governance system outlined concretely in multiple policy documents [45]
Luxembourg	-55% by 2030 Climate neutrality by 2050	No		No	€0.02 billion Climate law (first adopted 2020) [46]
Malta	No	No targets enshrined in a climate law		No	€0.01 billion Climate law (first adopted 2015, amended 2020) [47]
Netherlands	-49% by 2030 -95% by 2050[48]	No		No	€2.47 billion Obligation to reach 25% GHG emissions reduction by 2020. Climate law (first adopted 2019) [49]
Poland	No	No targets enshrined in a climate law	See Poland's NECP submitted to the European Commission and Polish Energy Policy 2040 (PEP2040). [50] [51] [52] [53]	No	€0.83 billion Target: emissions reduction by 30% in comparison to 1990 (29% excl. LULUCF). [54] [55] No overall system other than standard responsibility for the policy field by a ministry/related agency [56]
Portugal	No (in the making)	No targets enshrined in a climate law		No	€0.7 billion Draft climate law is under discussion; semi-coherent governance system outlined in NECP [57]
Romania	No	No targets enshrined in a climate law		No	€0.07 billion

					No overall system other than standard responsibility for the policy field by a ministry/related agencies [58]
Slovakia	No	No targets enshrined in a climate law		No	€0.26 billion Climate law in discussion, semi-coherent governance system outlined across numerous government documents [59]
Slovenia	No	No targets enshrined in a climate law		No	€0.07 billion No overall system (the LTS, now in draft form, will outline a comprehensive governance system) [60]
Spain	-23% from 1990 levels and double the proportion of renewable sources in total energy consumption to 35-42% Net zero by 2050[61]	No		No	€5.23 billion Draft climate law in development [62]
Sweden	No (2030/2040/2045 targets, net -63/75/100% respectively, are part of the Climate Policy Framework, which also contains the Act)[63]	Unclear, implementation unclear		No	€1.02 billion Climate law (enacted 2018) [64]
European Union	55% net	No		No (no consultation on targets or pathways)	
Switzerland	No climate law, but -50% by 2030 and net-zero by 2050 in the long-term strategy, to be amended to the CO2 Act [65] [66]	No targets enshrined in a climate law		No	
Russian Federation	No climate law, but 33% emissions reductions by 2030 and climate neutrality by 2100	No targets enshrined in a climate law		No	fossil subsidies (2017–2019 average): USD 80.9 billion annually [67] NDC as of 2020: reduction of min. 70% of 1990

					level by 2030. Long-term goal not formally adopted [68] [69] [70] [71]
United Kingdom	-100% by 2050[72]	Yes, if pathways are implemented fully, unclear		Yes, partially	€11.87 billion
Turkey	No (in the making but no targets)	No		No	
Ukraine	No climate law, but climate neutrality by 2070	No	Modeling of a reference and two alternative scenarios for the development of the energy sector based on TIMES model [73] [74]	No	fossil subsidies: €0.75 billion [75] Most recent: Climate neutrality until 2070 [76] [77] [78] [79] [80] [81] [82]
Norway	-40% by 2030 (to be amended to -50-55% by 2030) -80-95% by 2050 (to be amended to -90-95% by 2050)[83]	No		No	

Further sources:

- EU Commission website on Long-Term Strategies https://ec.europa.eu/info/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-governance-and-reporting/national-long-term-strategies_en
- EEA Trends and Projections for 2030 targets based on existing and planned policies and measures. https://www.eea.europa.eu/themes/climate/trends-and-projections-in-europe
- EEA country profiles https://www.eea.europa.eu/themes/climate/trends-and-projections-in-europe/climate-and-energy-country-profiles/country-profiles-greenhouse-gases-and-1
- Governance systems: Evans, Nick; Matthias Duwe (2021): Climate governance systems in Europe: the role of national advisory bodies. Ecologic Institute, Berlin / IDDRI, Paris (forthcoming May 2021); https://www.ecologic.eu/18093 (Link will be live by end of May 2021)
- NECPs and related project PlanUP https://www.planup.eu/en/resources and inidvidual country assessments by the Commission https://ec.europa.eu/energy/topics/energy-strategy/national-energy-climate-plans/individual-assessments_en
- Forthcoming EEA sponsored report on national governance systems and advisory bodies
- Recovery Tracker https://www.greenrecoverytracker.org/ has also country specific assessment of national plans for recovery spending on climate
- Recovery spending: https://www.cashawards.eu/ campaign by CAN-Europe has assessments per country
- EU Commission state of the energy union report https://ec.europa.eu/energy/topics/energy-strategy/energy-union/fifth-report-state-energy-union_en

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[1] https://scientists4future.org/

[2] Governance systems: Evans, Nick; Matthias Duwe (2021): Climate governance systems in Europe: the role of national advisory bodies. Ecologic Institute, Berlin / IDDRI, Paris (forthcoming May 2021); https://www.ecologic.eu/18093

[3] https://odi.org/en/publications/fossil-fuel-subsidies-in-draft-eu-national-energy-and-climate-plans/

[4] https://ccca.ac.at/wissenstransfer/uninetz-sdg-13/referenz-nationaler-klima-und-energieplan-ref-nekp

[5] Krutzler, Thomas, Herbert Wiesenberger, Christian Heller, Michael Gössl, Gudrun Stranner, Alexander Storch, Holger Heinfellner, Ralf Winter, Michael Kellner, and Ilse Schindler. 2016. “Szenario Erneuerbare Energie 2030 Und 2050.” REP-0576. Wien: Umweltbundesamt. https://www.umweltbundesamt.at/fileadmin/site/publikationen/rep0576.pdf.

[6] Krutzler, Thomas, Andreas Zechmeister, Gudrun Stranner, Herbert Wiesenberger, Thomas Gallauner, Michael Gössl, Christian Heller, et al. 2017. “Energie- und Treibhausgas-Szenarien im Hinblick auf 2030 und 2050. Synthesebericht 2017.” REP-0628. Wien: Umweltbundesamt. https://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0628.pdf.

[7] BmNT. 2019. “Integrierter Nationaler Energie- Und Klimaplan Für Österreich. Periode 2021-2030.” Wien: Bundesministerium Nachhaltigkeit und Tourismus. https://www.bmk.gv.at/dam/jcr:032d507a-b7fe-4cef-865e-a408c2f0e356/Oe_nat_Energie_Klimaplan.pdf.

[8] Ministry for Climate Action is overall responsible; internal coordination mechanism enshrined in law ('National Climate Protection Committee, NKK'); 'action programmes' for periods of 2-4 years for sectoral emission limits enshrined in law. Quantitative long-term target (short-term targets are EU minimums broken out by sector); clear process for setting short-term targets (sectoral); policy package in development for 2030 ('Climate and Energy Strategy'); trigger mechanism enshrined in law; long- and short-term coherence a general guiding principle in climate law.

[9] Corresponding legislation still at the draft stage; not publicly available; no detailed projections or target trajectories by sector

[10] regions are responsible for various sectors relevant to climate policy-making, National Climate Commission has some overarching responsibility, ad hoc steering group est. for NECP development, LTS was developed in a composite manner with input from regions; internal coordination mechanism(s); no policy-making/planning system at the national level aside from NECP/LT. Quantitative short-term targets (regional long-term targets); no clear process for target; policy package in place for 2030 established only in NECP.

[11] clear overall responsibility for Ministry of Environment enshrined in climate law; internal coordination mechanism; a National Action Plan on Climate Change is defined in the climate law and updated, but no regular frequency is defined.No economy-wide targets; no clear process for setting targets; policy package in place for 2030; long- and short-term coherence manifests in practice due to internal requirements to build on NECP measures.

[12] Ministry of Environment responsible overall enshrined in law; internal coordination mechanism enshrined in law; five-year action plans for climate mitigation and long-term strategy updated every 5 years as necessary enshrined in law. Quantitative long-term targets (non-ETS short-term targets), no clear process for setting targets; policy package in place ('Action Plan for the Low Carbon Strategy'); long- and short-term cohesion enshrined in climate law.

[13] Ministry of Agriculture, Rural Development and Environment is overall responsible; internal coordination mechanism ('National Governance System for Climate and Energy'); policy-making cycle defined by NECP process. *Inadequate or no information on cycles of long-term climate planning.* Quantitative long-term target; policy package in place for 2030 established only in NECP; long- and short-term coherence vaguely implied in various policy documents. *Inadequate or no information on process for setting targets.*

[14] Ministry of Environment is responsible for overall climate policy and prepares LTS, Ministry of Industry and Trade prepares NECP; internal coordination mechanism (doubles as stakeholders forum); short-term policy-making based on NECP cycle and LTS to be revised every 5-7 years. Quantitative short- and long-term plus interim targets (2040 and 2050 are indicative); no clear process for setting targets; policy package in place for year 2030 (NECP, which includes numerous national sectoral plans as well as a 'National Emissions Reduction Programme'); long- and short-term coherence a general guiding principle laid forth in a policy document.

[15] https://hoeringsportalen.dk/Hearing/Details/63634

[16] https://www.ft.dk/ripdf/samling/20131/lovforslag/l161/20131_l161_som_vedtaget.pdf

[17] Ministry of Climate, Energy and Utilities responsible for overall climate policy and NECP/LTS development; annual 'climate action plans' and five-year 'climate program' with a ten-year perspective and milestone targets, enshrined in law. Quantitative short and long-term targets plus interim targets; clear process for setting short-term and interim targets; policy package in development for 2030 ('Climate Program'); trigger mechanism enshrined in law; long- and short-term coherence enshrined in climate law.

[18] Yuliia Matiiuk, Mykolas Simas Poškus and Genovaitė Liobikiene (2020): The Implementation of Climate Change Policy in Post-Soviet Countries Achieving Long-Term Targets, in: sustainability 2020, 12, 4558; doi:10.3390/su12114558, p. 2.

[19] Vaclovas Miskinis, Arvydas Galinis, Inga Konstantinaviciute, Vidas Lekavicius, Eimantas Neniskis, Comparative analysis of energy efficiency trends and driving factors in the Baltic States, Energy Strategy Reviews, Volume 30, 2020, 100514, ISSN 2211-467X, https://doi.org/10.1016/j.esr.2020.100514

[20] Ministry of Environment has overall responsibility; Ministry of Economy responsible for NECP; internal coordination mechanism (est. 2019); no policy-making/planning system at the national level aside from NECP/LTS: NECP to be drawn up every 5 years and LTS reviewed/updated every 4 years if necessary, system enshrined in binding document. Quantitative short, interim and long-term targets; no clear process for setting short-term or interim targets; long-term target updated if needed every 4 years; current package in place for 2030 (includes 71 PAMs); trigger mechanism in practice not formally enshrined; short- and long-term cohesion a general principle in a policy document.

[21] https://www.finlex.fi/fi/laki/alkup/2015/20150609

[22] Ministry of Economic Affairs responsible for long-term and Ministry of the Environment responsible for medium-term climate policy; internal coordination mechanism; climate plan every four years; long-term strategy every ten years enshrined in law. Quantitative short- and long-term targets; no clear process for target setting; policy package for 2030 ('National Energy and Climate Strategy'); long- and short-term cohesion enshrined in climate law.

[23] https://www.legifrance.gouv.fr/loda/id/JORFTEXT000031044385/
https://www.legifrance.gouv.fr/loda/id/JORFTEXT000031044385/

[24] government holds lead responsibility; internal coordination mechanism, (inter-ministerial high level coordination); carbon budgets every five years with ten year horizons enshrined in law; long-term plan set out in 'Stratégie Nationale Bas Carbone' regularly updated every five years. Quantitative short-, interim and long-term targets; clear process for setting short and interim targets (carbon budget system); policy package in place for 2030 ('Programmation pluriannuelle de l'énergie'); long- and short-term coherence referred to in plans.

[25] https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&jumpTo=bgbl119s2513.pdf#__bgbl__%2F%2F*%5B%40attr_id%3D%27I_2021_19_inhaltsverz%27%5D__1620045973064v

[26] https://www.umweltbundesamt.de/publikationen/germany-in-2050-a-greenhouse-gas-neutral-country

[27] https://www.agora-energiewende.de/veroeffentlichungen/klimaneutrales-deutschland-zusammenfassung/

[28] https://epub.wupperinst.org/frontdoor/index/index/docId/7606

[29] excluding LULUCF, excluding all international aviation and shipping.

[30] https://www.bmu.de/gesetz/bundes-klimaschutzgesetz/

[31] https://www.umweltbundesamt.de/publikationen/abschaetzung-der-treibhausgasminderungswirkung-des

[32] responsibility split between Economics and Energy Ministry (for NECPs) and Environment Ministry (LTS); internal coordination mechanism; policy packages and updates to long-term strategy every five years enshrined in law. Quantitative short- and long-term plus interim targets; clear process for setting targets enshrined in climate law; policy package in place for 2030; trigger mechanism enshrined in law; long- and short-term coherence is implied in climate law.

[33] The Ministry of the Environment and Energy is primarily responsible for climate policy creation; internal coordination mechanism ('Government Committee for Energy and Climate'); no policy-making/planning system at the national level aside from NECP/LTS. Quantitative short- and long-term targets; no clear process for setting targets; policy package in place for 2030 established only in NECP; long- and short-term coherence a general guiding principle laid forth in a policy document.

[34] Ministry of Innovation and Technology responsible overall; internal coordination mechanism; Climate Change Action Plans (first approved for one-year period, next to be approved for three-year periods), mandated by Parliamentary decree; LTS to be revised every five-years. Quantitative short- and long-term targets; clear process for setting short- and long-term targets; policy package in place for 2020; long- and short-term coherence implied in climate law.

[35] http://www.irishstatutebook.ie/eli/2015/act/46/enacted/en/pdf
https://www.gov.ie/en/organisation/department-of-the-environment-climate-and-communications/?referrer=http://www.dccae.gov.ie/en-ie/news-and-media/press-releases/Documents/1020/Heads%20of%20Climate%20Amendment%20Bill.pdf

[36] Department of Communications, Climate Action and Environment and its Minister overall responsible for climate policy-making enshrined in law; internal coordination mechanism enshrined in law ('Climate Action Delivery Board'); five-year national mitigation plans enshrined in law (law revision to include long-term planning cycle). Quantitative long-term targets (short-term targets not economy-wide); no clear process for target setting; policy package in place for 2030 ('Climate Action Plan'); long- and short-term coherence enshrined in climate law.

[37] 'Climate Decree' in October 2019 establishes funding programs and a working group on climate; Ministry of Environment and Protection of the Territory and the Sea is mainly responsible for climate policy (NECP was developed jointly with Economic Ministry); internal coordination mechanism; short-term policy-making based on NECP cycle, currently no LTS. No economy-wide targets (separate non-ETS and ETS targets established); no clear process for target setting; policy package in place for 2030 established only in NECP; short- and long-term policy coherence implied vaguely in policy document (NECP).

[38] https://likumi.lv/ta/id/312423-par-latvijas-nacionalo-energetikas-un-klimata-planu-20212030-gadam, English version available on https://ec.europa.eu/energy/sites/ener/files/documents/lv_final_necp_main_en.pdf

[39] Reinis Aboltins, Dzintars Jaunzems, Jelena Pubule, Dagnija Blumberga (2020): Are Hugs, Carrots and Sticks Essential for Energy Policy: A Study of Latvia's National Energy and Climate Plan, *Environmental and Climate Technologies*, vol. 24, no. 2, pp. 309–324, https://doi.org/10.2478/rtuect-2020-0075, p. 309

[40] Yuliia Matiiuk, Mykolas Simas Poškus and Genovaitė Liobikiene (2020): The Implementation of Climate Change Policy in Post-Soviet Countries Achieving Long-Term Targets, in: sustainability 2020, 12, 4558; doi:10.3390/su12114558, p. 2.

[41] Vaclovas Miskinis, Arvydas Galinis, Inga Konstantinaviciute, Vidas Lekavicius, Eimantas Neniskis, Comparative analysis of energy efficiency trends and driving factors in the Baltic States, Energy Strategy Reviews, Volume 30, 2020, 100514, ISSN 2211-467X, https://doi.org/10.1016/j.esr.2020.100514

[42] Ministry for Environmental Protection is responsible overall; Ministry of Economics coordinates NECP; internal coordination mechanism enacted by Cabinet order; short-term climate plan made every six years; long-term strategy reviewed every ten years. Quantitative short-, interim and long-term targets; no clear process for setting targets; current package in place for 2030 includes of 6 PAMs and 16 activities; trigger mechanism in practice not formally enshrined; long- and short-term coherence is guiding principle laid forth in a policy document.

[43] Yuliia Matiiuk, Mykolas Simas Poškus and Genovaitė Liobikiene (2020): The Implementation of Climate Change Policy in Post-Soviet Countries Achieving Long-Term Targets, in: sustainability 2020, 12, 4558; doi:10.3390/su12114558, p. 2.

[44] Vaclovas Miskinis, Arvydas Galinis, Inga Konstantinaviciute, Vidas Lekavicius, Eimantas Neniskis, Comparative analysis of energy efficiency trends and driving factors in the Baltic States, Energy Strategy Reviews, Volume 30, 2020, 100514, ISSN 2211-467X, https://doi.org/10.1016/j.esr.2020.100514

[45] including the Law on Financial Instruments for Climate Change Management (2009); responsibilities are assigned across different regulations, including on the LTS which has a legal form and is approved by the parliament, Ministry of Environment responsible overall; NECP prepared jointly by Ministry of Energy and Ministry of Environment, responsibilities enshrined in law; internal coordination mechanism enshrined in law; national climate plan is prepared for the three years and is updated annually by adding one more year; LTS ('National Climate Change Management Policy Strategy') is updated every 10 years (every 5 years if necessary). Quantitative short- and long-term plus interim targets; clear process for setting short- and long-term plus interim targets; policy package in place for year 2030 ('National Climate Plan') and 2050, 2050 ('National Climate Change Management Policy Strategy') being revised (new LTS); trigger mechanism in practice but not formally enshrined; long- and short-term coherence enshrined in regulation (LTS).

[46] Ministry for Environment, Climate and Sustainable Development responsible for climate policy overall with LTS and NECP development split formally between environment and energy ministries (enshrined in law); internal coordination mechanism (not enshrined in law); formal cycle for iterative climate policy-making and planning that follows EU NECP/LTS cycles enshrined in law (for both short and long term).

Quantitative long-term targets (enshrined in law); no clear process for setting targets; NECP forms policy package in place for 2030 but only lists some policies; long- and short-term coherence implied in climate law.

[47] Ministry for the Environment, Climate Change and Planning is overall responsible for climate change and for LTS development; internal coordination mechanism est. for NECP development and remained in place afterwards; short-term policy-making follows NECP cycle; low-carbon development strategy is reviewed and updated periodically at least every five years, enshrined in law. No national economy-wide targets (but: non-ETS target covers effectively most emissions); no clear process for setting targets; policy package in place for 2030 established only in NECP.
Inadequate or no information on a trigger mechanism and long- and short-term coherence.

[48] https://wetten.overheid.nl/BWBR0042394/2020-01-01

[49] Ministry for Economic Affairs and Climate overall responsible enshrined in law; five-year planning cycle ('Climate Plan') with ten-year horizon aimed at 2030 and 2050. Quantitative short- and long-term targets; clear process for setting short-term targets; policy package in place for 2030 ('Climate Plan'); trigger mechanism enshrined in law; long- and short-term coherence a general guiding principle laid forth in a policy document (NECP).

[50] Poland: NECP and PEP2040 include scenarios. These scenarios do not represent what is technically feasible. The PEP2040 goal for PV for 2025 is set to be exceeded this year. Emissions reduction goals are significantly below what is needed and what is possible. Current emissions reduction goal for 2030 of 30% in comparison to 1990 (29% excl. LULUCF) is significantly weaker than that of the EU. Many common-sense opportunities to reduce emissions much faster, e.g. promotion of energy efficiency, development of onshore wind and PV solar have been ignored or even blocked.

[51] https://ec.europa.eu/energy/sites/default/files/documents/pl_final_necp_part_4_en.pdf

[52] https://www.gov.pl/web/klimat/polityka-energetyczna-polski

[53] https://www.rynekelektryczny.pl/moc-zainstalowana-fotowoltaiki-w-polsce/

[54] EEA's projections reflecting already implemented measures (WEM) would result in emissions reduction by 14%. Recent agreement with coal miners: in exchange for phasing out coal extraction, coal mines will receive up to PLN 2 billion subsidies annually.

[55] https://www.gov.pl/web/klimat/polityka-energetyczna-polski

[56] dedicated Climate Ministry responsible overall and for NECP, Ministry of Economic Development responsible for LTS; internal coordination mechanism (Climate Ministry); policy-making cycles are reactive, and based on EU targets. No national economy-wide targets, no clear process for setting targets; policy package in place for 2030 established only in NECP, which is composed of existing sectoral policies.

[57] Ministry of Environment and Climate Action responsible overall, with the support of Portuguese Environmental Agency, who prepare the LTS, NECP was developed by DG for Energy and Geology under the Ministry of Economy; internal coordination mechanism exists and is enshrined in government regulation; NECP represents the policy-making cycle to meet short-term targets and LTS is to be updated every ten years. Quantitative short- and long-term plus interim targets; no clear process for target setting; policy package in place for 2030 established only in NECP; long- and short-term coherence a general guiding principle laid forth in a policy document.

[58] Ministry of Environment, Water and Forest overall responsible, prepares the LTS, NECP is developed jointly with the Ministry of Energy; short-term targets are to be met with National Action Plans, initially developed for four-year period, the new ones will be developed for five- or ten-year period but the process is not yet defined. No national economy-wide targets; no clear process for setting targets; policy package in place for 2020 ('National Action Plan'), NECP prepared for 2030, other plans in development.

[59] responsibilities clearly assigned and split between Ministry of Economy (short-term) and Environment (long-term); internal coordination mechanism (established for the preparation of the Low Carbon Strategy 2050); recurring five-year cycles of long-term planning through separate processes for energy and climate policy. *Inadequate or no information on short-term policy cycle.* Quantitative long-term target; no clear process for setting targets; policy package in place for 2030 established only in NECP. *Inadequate or no information short- and long-term policy cohesion.*

[60] Ministry of Environment and Spatial Planning is responsible overall and for the preparation of the LTS, Ministry of Infrastructure led an intergovernmental working group that prepared the NECP; no policy-making/planning system at the national level aside from NECP/LTS. Quantitative long-term target; no clear process for setting targets; policy package in place for 2030 established only in NECP; long- and short-term coherence a general guiding principle laid forth in a policy document.

[61] https://www.senado.es/legis14/publicaciones/pdf/senado/bocg/BOCG_D_14_170_1737.PDF

[62] Climate Change Office under Ministry for Ecological Transition and Demographic Challenge is overall responsible, Secretary of Energy focuses on NECP/LTS development, enshrined in law; internal coordination system ('Commission for the Coordination of Climate Change Policies, CCPCC'), enshrined in law; no additional policy-making cycle beyond EU obligations (NECP, LTS). Quantitative short- and long-term targets; no clear process for setting targets; current policy package in development for 2030 with pending law (currently policies outlined in NECP); short- and long-term cohesion implied in a policy document (draft LTS mentions in its preamble that LTS, NECP and the Adaptation strategy need to be harmonised).

[63] https://www.government.se/articles/2021/03/swedens-climate-policy-framework/

[64] government is responsible, Ministry of Environment holds overall competencies for climate; internal coordination mechanism; climate action plan every four years. Quantitative short- and long-term plus interim targets; no process for setting targets; policy package in place for 2030 ('Climate Action Plan'); long- and short-term cohesion enshrined in climate law.

[65] https://www.admin.ch/gov/en/start/documentation/media-releases.msg-id-82140.html

[66] https://www.admin.ch/gov/en/start/documentation/votes/20210613/co2-act.html

[67] https://www.iisd.org/system/files/2020-11/g20-scorecard-russia.pdf

[68] Regulatory basis is lagging: Strategy for long-term low-carbon development till 2050 not yet approved. Energy Supply: Energy causes 79% of GHG emissions, but economic development strategy is still based on export and use of fossils for domestic energy supply

[69] https://economy.gov.ru/material/file/babacbb75d32d90e28d3298582d13a75/proekt_strategii.pdf

[70] https://www.economy.gov.ru/material/news/maksim_reshetnikov_prezident_sushchestvenno_povysil_ambicii_rossii_na_klimaticheskom_treke.html

[71] "Energy Strategy until 2035", adopted June 2020; https://minenergo.gov.ru/node/1920

[72] https://www.legislation.gov.uk/ukpga/2008/27/contents

[73] "Transition of Ukraine to the Renewable Energy by 2050" / O. Diachuk, M. Chepeliev, R. Podolets, G. Trypolska et al.; edited by Y. Oharenko and O. Aliieva // Heinrich Boell Foundation Regional Office in Ukraine. – Kyiv : Publishing house "Art Book" Ltd., 2017. – 88p https://ua.boell.org/sites/default/files/transition_of_ukraine_to_the_renewable_energy_by_2050_1.pdf

[74] https://mepr.gov.ua/files/images/2021/29042021/Modeling%20Report%203.pdf

[75] https://energy-community.org/news/Energy-Community-News/2020/12/02.html

[76] Renewables in electricity production 70% until 2050, coal phase out until 2050, Energy Efficiency to EU-level until 2050

[77] Ukrainian Green Deal, January 2020; source: https://mepr.gov.ua/files/images/news_2020/21012020/pdf

[78] 2018 Strategy for Low-Carbon Development until 2050; source: https://mepr.gov.ua/files/docs/Proekt/LEDS_ua_last.pdf

[79] Ukraine's Projected 2nd Nationally Determined Contributions (NDC2): Is It Possible to Achieve More Ambitious Goals at a Lower Cost?; source: https://razumkov.org.ua/en/articles/ukraines-projected-2nd-nationally-determined-contributions-ndc2-is-it-possible-to-achieve-more-ambitious-goals-at-a-lower-cost

[80] https://www.kmu.gov.ua/storage/app/sites/1/18%20-%20Department/Prezentacii/Programa%20Ekonomichne%20stymyluvannia/analitichni-materiali-do-programi-stimulyuvannya-1.pdf

[81] Development of regulatory basis is substantially lagging behind the time frame foreseen in the Action Plan of 2018 based on Strategy 2018. Ukraine still relies on coal, which contributes more than half of CO2 emissions and serves the highly inefficient steel plants. High subsidies continue to flow to the coal sector.

[82] https://www.lowcarbonukraine.com/en/quarterly-monitoring-report-on-the-implementation-of-ukraines-energy-action-plan-2/; https://www.german-economic-team.com/ukraine/wp-content/uploads/sites/7/GET_UKR_NL_148_2021_en.pdf

[83] https://lovdata.no/dokument/NL/lov/2017-06-16-60