Climate Adaptation and Children's Rights in Germany

Communication to the UN Special Rapporteurs

Just Access e. V.

Just Access e. V. is submitting the present communication in defence of the rights and interests of children in Germany to four UN Special Mandates: the UN Special Rapporteurs on climate change, right to health, right to education, and right to adequate housing. The communication concerns Germany's failure adequately to consider children in the context of the State's adaptation to climate change, resulting in an infringement of their rights to health, education and housing. As an organisation advocating for the rights of vulnerable populations, Just Access e. V. submits this communication on behalf of children in Germany, who cannot effectively pursue their rights through international mechanisms independently.

I. Background

Reports of the Intergovernmental Panel on Climate Change (IPCC) dating back to 2001 emphasised that adaptation to climate change is an important element when coping with global warming. However, adaptation has received limited attention, as efforts have primarily focused on mitigation both at national and international levels. By 2020, according to the IPCC's Sixth Assessment Report (AR.6), global mean temperatures had already risen by approximately 1,1°C above the preindustrial baseline.[1] The IPCC now considers it *more likely than not* that global mean temperature rise will exceed 1,5°C 'in the near term'.[2] Even under very low emissions scenarios, global warming is expected to exceed 1,5°C, before declining to 1.4°C (very low emissions scenario) or accelerating to 4,4°C (very high emissions scenario) by 2100.[3] By now, it is generally accepted that both mitigation and adaptation policies are necessary to respond adequately to the challenges posed by climate change. In response, many States have begun developing adaptation strategies.[4]

Today's children are likely to be the most exposed group to the effects of climate change, facing more frequent and severe climate-related risks than previous generations. Their health is particularly vulnerable to the effects of climate change due to their developing physiology,[5] their dependence on caregivers,[6] and limited capacity to recognise and respond to climate-related hazards.[7] As extreme weather events increase in frequency and severity (e.g. floods, droughts, cold snaps, heat waves, or wildfires), this directly impacts the morbidity and mortality of children.[8] Climate change is a threat multiplier, amplifying health risks arising from broader environmental challenges, such as exposure to air pollution, allergens, infectious diseases, as well as socioeconomic consequences,[9] and mental health consequences.[10] Early exposure to such

[1] Hoesung Lee and others, 'Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change' (Intergovernmental Panel on Climate Change (IPCC), 2023) at pt B.1-B.1.1 <https://www.ipcc.ch/report/ar6/syr/> accessed 23 July 2025.

[2] Lee and others, 'IPCC SR, AR.6, 2023' (n 1) at pt B.1-B.1.1.

[3] Lee and others, 'IPCC SR, AR.6, 2023' (n 1) at pt B.1-B.1.1.

[4] Lee and others, 'IPCC SR, AR.6, 2023' (n 1) at A.3.

[5] Daniel Helldén and others, 'Climate Change and Child Health: A Scoping Review and an Expanded Conceptual Framework' (2021) 5(3) *The Lancet. Planetary Health* e164–e175; Supinda Bunyavanich and others, 'The Impact of Climate Change on Child Health' (2003) 3(1) *Ambulatory Pediatrics: The Official Journal of the Ambulatory Pediatric Association* 44–52.

[6] Perry E Sheffield and Philip J Landrigan, 'Global Climate Change and Children's Health: Threats and Strategies for Prevention' (2011) 119(3) *Environmental Health Perspectives* 291–298.

[7] Sheffield and Landrigan, 'Global Climate Change and Children's Health' (n 6); Kathrin E Zangerl and others, 'Child Health Prioritisation in National Adaptation Policies on Climate Change: A Policy Document Analysis across 160 Countries' (2024) 8(7) *The Lancet. Child & Adolescent Health* 532–544.

[8] 'A Threat to Progress: Confronting the Effects of Climate Change on Child Health and Well-Being' (New York: United Nations Children's Fund (UNICEF), 2024) <https://www.unicef.org/reports/threat-to-progress> accessed 23 July 2025; Lee and others, 'IPCC SR, AR.6, 2023' (n 1) at pt A.1-A.1.2; 'Was Wir Heute Übers Klima Wissen: Basisfakten Zum Klimawandel, Die in Der Wissenschaft Unumstritten Sind' (Deutsches Klima-Konsortium (DKK), Deutsche Meteorologische Gesellschaft (DMG), Deutscher Wetterdienst (DWD), Extremwetterkongress Hamburg, Helmholtz-Klima-Initiative, klimafakten.de, 2023) <https://www.helmholtz-klima.de/sites/default/files/medien/dokumente/faktenpapier2023_final2.pdf> accessed 23 July 2025.

[9] Helldén and others, 'Climate Change and Child Health' (n 5).

[10] Susie EL Burke, Ann V Sanson and Judith Van Hoorn, 'The Psychological Effects of Climate Change on Children' (2018) 20(5) *Current Psychiatry Reports* 35; Terra Léger-Goodes and others, 'Eco-Anxiety in Children: A Scoping Review of the Mental Health Impacts of the Awareness of Climate Change' (2022) 13 *Frontiers in Psychology* 872544.

stressors has been shown negatively to impact children's physical and mental well-being throughout their life course.[11]

In this respect, States' obligations concerning climate change adaptation stem from two distinct yet complementary legal frameworks: International Environmental Law (IEL) and International Human Rights Law (IHRL).

As a cornerstone of IEL, the Paris Agreement requires countries to engage in adaptation planning and implementation through, among other things, 'assessment of climate change impacts and vulnerability, with a view to formulating nationally determined prioritized actions, taking into account vulnerable people, places and ecosystems'.[12] By 2030, States are obliged to establish 'country-driven, gender-responsive, participatory and fully transparent national adaptation plans', 'covering, as appropriate, […] vulnerable communities'.[13] Children are explicitly recognised as a vulnerable group in the Paris Agreement's preamble and must therefore be central to these efforts.[14]

While the 2030 deadline applies to the obligation to establish national adaptation plans, the relevant obligations of conduct—including the obligation to 'take[] into account vulnerable people'—are not temporally limited. Rather, these apply as and when the action—adaptation planning—is initiated. These obligations are therefore relevant standards for assessing the adequacy of States' adaptation planning processes, including before 2030.

Beyond their commitments under IEL, IHRL imposes distinct and independent obligations on States concerning climate change adaptation. As part of the human rights framework, **States are under an independent obligation to take effective measures to adapt to the effects of climate change, where necessary in order to meet their obligations to respect, protect, and fulfil fundamental human rights**. These human rights obligations are immediately applicable: **the 2030 adaptation target in IEL does not limit or downgrade the State's obligations to undertake appropriate adaptation planning, and to act in furtherance of those adaptation plans, as a matter of international human rights law**.

The Human Rights Committee clarified in 2019 that the lack, delay or inadequacy of climate change adaptation is a violation of human rights, when the ability of rights-holders to cope is compromised, and negative impacts on their human rights (including their livelihoods and culture, as well as their ability to transmit knowledge and traditions to children and future generations) are foreseeable, serious and attributable to State authorities.[15] In other words: adaptation obligations under IHRL may arise independently of IEL, deriving from the rights and standards of conduct applicable under substantive human rights law to rights-holders and duty-bearers, respectively. This was underscored by the ECtHR in its recent *KlimaSeniorinnen* decision, confirming that a State's failure to implement and effectively apply adaptation measures aimed at

[11] Sejal B Shah and others, 'Childhood Environment as a Predictor of Perceived Health Status in Late Life' (2014) 2(2) *Health Psychology Research*.. 1560.

[12] The Paris Agreement on Climate Change 2015 [3156 UNTS 76] Art. 7(9)(c), 7(1-14).

[13] 'Report of the Conference of the Parties Serving as the Meeting of the Parties to the Paris Agreement on Its Fifth Session, Held in the United Arab Emirates from 30 November to 13 December 2023, Decision 2/CMA.5, "Global Goal on Adaptation"' (United Nations Framework Convention on Climate Change, 2024) FCCC/PA/CMA/2023/16/Add.1 para 10(b).

[14] The Paris Agreement on Climate Change (n 12) 11th Preambular Paragraph.

[15] 'Views Adopted by the Committee under Article 5 (4) of the Optional Protocol, Concerning Communication No. 3624/2019' (United Nations Human Rights Committee, 2023) CCPR/C/135/D/3624/2019 para 8.9-8.12; 8.14.

alleviating the most severe or imminent consequences of climate change, which includes taking into account any relevant particular needs for protection, may constitute a breach of the ECHR.[16]

Although no well-established standards currently exist under IEL or IHRL by which State action or inaction on adaptation may be assessed,[17] whether in general or in relation to vulnerable groups, that is not to say that no relevant standards exist. On the contrary: States bear an immediate and ongoing responsibility to adapt to climate change in a way that is consistent with their human rights obligations. Notably, this includes the obligation to respect, protect and fulfil economic, social and cultural rights in accordance with the principle of non-discrimination.[18]. Pursuant to Article 2(1) of the International Covenant on Economic, Social and Cultural Rights (ICESCR), States are required to take steps to the maximum of their available resources. Accordingly, States are obligated to move as expeditiously and effectively as possible towards the full realisation of economic, social and cultural rights,[19] and thus, to comprehensively prepare for climate change. Any retrogressive measure must be strictly evaluated with regard to this criterion.[20]

II. Germany's climate change adaptation efforts

According to the German Status Report on Climate Change and Health 2023, the effects of climate change are already observable in the country.[21] These include multi-year spring droughts,[22] widespread floods,[23] record-breaking heat,[24] and increasingly intense weather events.[25] Over the last decade, Germany has seen record high temperatures, averaging 2.5°C above the pre-industrial level (see figure 1), which are expected to continue to rise on all scales over the coming decade (see figure 2).

[16] Verein KlimaSeniorinnen Schweiz and Others v Switzerland, (2024) ECtHR [GC] 53600/20 [552].

[17] This is, in large part, because litigation related to climate change adaptation is still scarce. The Global Climate Litigation Report of 2023 mentions only a handful of adaptation-related cases in domestic jurisdictions, and none of them at the international level. See further Riccardo Luporini, 'Strategic Litigation at the Domestic and International Levels as a Tool to Advance Climate Change Adaptation?' <https://brill.com/view/journals/yido/4/1/article-p202_10.xml> accessed 23 July 2025.

[18] International Covenant on Economic, Social and Cultural Rights (ICESCR) 1966 Art 2(2).

[19] UN Economic and Social Council, 'General Comment No. 3: The Nature of States Parties' Obligations (Art. 2, Para. 1, of the Covenant)' (Office of the High Commissioner for Human Rights, 1990) UN Doc. no. E/1991/23 para 9.

[20] UN Economic and Social Council, 'General Comment No. 3' (n 19) para 9.

[21] Adrian Gerhard and others, 'Impact of Climate Change on Infectious Diseases and Antimicrobial Resistance – Part 1 of the German Status Report on Climate Change and Health' (2023) 8(3) *Journal of Health Monitoring* <https://www.rki.de/EN/News/Publications/Journal-of-Health-Monitoring/GBEDownloadsJ/JHealth-Monit_2023_S3_Status_report_climate_change_health_part1.html> accessed 23 July 2025.

[22] F Imbery and others, 'Klimatologischer Rückblick Auf 2020: Eines Der Wärmsten Jahre in Deutschland Und Ende Des Bisher Wärmsten Jahrzehnts' (Deutscher Wetterdienst, 2021) <https://www.dwd.de/DE/leistungen/besondereereignisse/temperatur/20210106_rueckblick_jahr_2020.html> accessed 23 July 2025.

[23] Bert Bosseler and others, 'Living with Urban Flooding: A Continuous Learning Process for Local Municipalities and Lessons Learnt from the 2021 Events in Germany' (2021) 13(19) *Water* 2769; 'Germany's Vulnerability to Climate Change' (Umwelt Bundesamt, 2015) (UBA-FB) 002226.

[24] Claudia Winklmayr and others, 'Heat in Germany: Health Risks and Preventive Measures' (2023) 8(Suppl 4) *Journal of Health Monitoring* 3–32.

[25] Wolfgang Kron, Petra Löw and Zbigniew Kundzewicz, 'Changes in Risk of Extreme Weather Events in Europe' (2019) 100 *Environmental Science & Policy* 74–83.

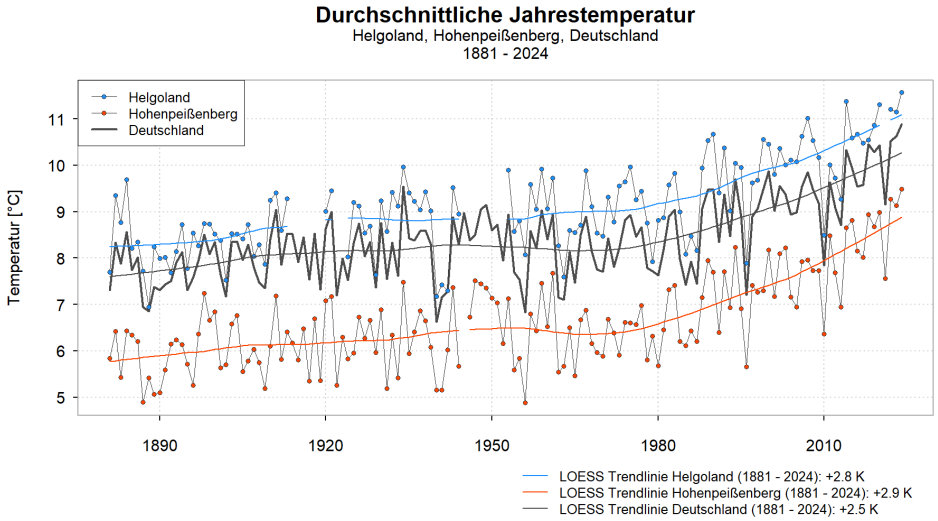


Fig. 1: Annual Average Temperature in Germany, 1881-2024, showing two weather stations and the German average. Source: Deutscher Wetterdienst (German Weather Service), 2025, via https://www.dwd.de/DE/leistungen/zeitreihen/fragen_zeitreihen.html?nn=495662&lsbId=649802.

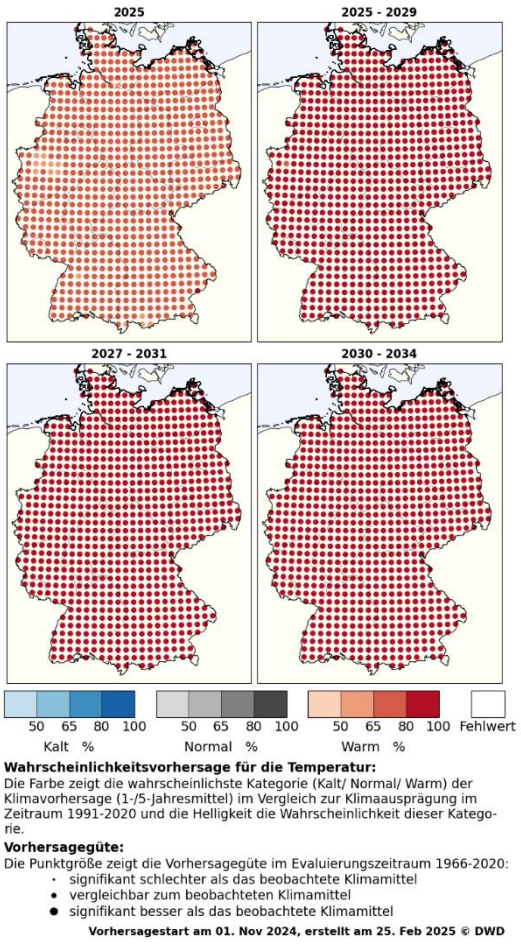


Fig. 2: Predicted temperature increases in Germany, 2025-2034. Source: Deutscher Wetterdienst (German Weather Service), 2025, via https://www.dwd.de/DE/leistungen/kvhs_de/2_expert_de/year_de/yearly_node.html.

The German government adopted its first adaptation strategy in 2008 (Deutsche Anpassungsstrategie; DAS). To implement the DAS objectives, the Federal Cabinet subsequently adopted the first Adaptation Action Plan (APA I) in 2011. This was followed in December 2015, by federal government's first DAS Progress Report and the second Adaptation Action Plan (APA II). In 2020, the government launched the third action plan (APA III) as part of the updated DAS 2.0. Thereafter, in December 2023 the Federal Climate Adaptation Act was adopted,[26] which defines the strategic framework for climate adaptation at the federal, State and local level. Under this Act, the Federal Government adopted a new national climate adaptation strategy in December 2024 (effectively, DAS 3.0). The Act requires the Government to update the strategy every four years, having regard to current scientific knowledge. Alongside the 2024 adaptation strategy, the fourth adaptation action plan (APA IV) was published, listing more than 180 measures to implement the strategy.

As they are closer to where impacts of climate change will occur, regional and local governments play a critical role in the implementation of climate change-related policies. Given Germany's federal system, many of the concrete necessary climate change adaptation efforts fall within the competencies of the federal States.

However, beyond addressing those adaptation issues which exceed municipal borders, the national government also plays an indispensable role in coordinating regional and local efforts, by providing policy frameworks, guiding action in key sectors and thus supporting and enabling local and regional strategies, but also by setting clear targets and obligations in this regard. In addition, coordinating the collaboration between cities or municipalities can, for example, result in higher efficiency and reduce the costs of adaptation measures. While local governments may be delegated the authority to decide on adaptation measures, their actions can be enabled, limited, or constrained by national strategies, laws or funding. Effective policies and incentives must therefore ensure harmonious coordination across multiple levels of governance. This shows that, although much of the responsibility for climate adaptation lies with regional and local governments, the federal governments retain a vital role in setting the appropriate overarching parameters for action.

Moreover, it is well established in public international law (PIL) and IHRL that internal divisions of competencies between different levels of government do not affect the ambit or scope of the State's human rights obligations.[27] Thus, although German law divides competencies for creating and implementing adaptation strategies between different levels of its government, **this does not affect the central government's obligation to ensure that all measures and strategies by regions and municipalities are compatible with the State's human rights obligations**.

Germany's Federal Climate Adaptation Act mandates each federal State (*Land*) to present a *Land*-specific precautionary climate adaptation strategy by 31 January 2027, and to update it at least every five years in light of the latest scientific knowledge.[28] However, this Act suffers from two major deficiencies:

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[26] Federal Climate Adaptation Act (Bundes-Klimaanpassungsgesetz – KAnG) 2023.

[27] 'Treatment of Polish Nationals and Other Persons of Polish Origin or Speech in the Danzig Territory, Advisory Opinion' (PCIJ (Permanent Court of International Justice), 1932) PCIJ Series A/B. No 44; 'Advisory Opinion OC-14/94 of December 9, 1994 International Responsibility for the Promulgation and Enforcement of Laws in Violation of the Convention (Arts. 1 and 2 of the American Convention on Human Rights)' (Inter-American Court of Human Rights,) at 9–10; Humpert and Others v Germany, (2023) ECtHR [GC] 59433/18, 59477/18, 59481/18, 59494/18 [52].

[28] Federal Climate Adaptation Act (Bundes-Klimaanpassungsgesetz – KAnG) 2023 para 10(6).

First, given the urgency of climate adaptation, the 2027 deadline by which the *Land*-specific climate adaptation strategies must be established is too distant. The UNFCCC has warned that delaying adaptation efforts increases both the difficulty and costs of responding to climate change.[29] At the German local level, while some municipalities have adopted climate mitigation concepts, many lag behind in adaptation strategies. A 2023 survey showed that although 56% of municipalities report having noticed strong or very strong changes due to climate change in the last ten years, only 12% have developed a climate adaptation strategy to date.[30] At the federal level, only eight of the sixteen *Länder* have adopted a climate change adaptation strategy as of 2025.[31] Climate rights groups, trade unions, and others have highlighted that the lack of central adaptation measures is making local climate adaptation more difficult.[32] This is also reflected in the municipal survey: 82% view climate adaptation as a major challenge for their administrative structures, and almost three-quarters (74%) express a need for more information on adaptation measures, especially in areas they consider to require the most urgent action. They cite a lack of theoretical and practical measures as the leading barriers to the successful implementation of climate adaptation measures.[33] Based on a legal report commissioned by Climate-Alliance Germany (*Klima-Allianz*),[34] environmental associations and members unions of the German Trade Union Confederation (DGB) are calling for an amendment to the Basic Law, to oblige the federal and State governments to undertake and finance municipal climate protection and climate adaptation measures.[35]

More concerning still, human rights, and in particular children's rights, are not expressly mentioned as factors that should be considered in the design and implementation of these regional adaptation strategies. Although some children-specific measures are being adopted in certain municipalities, this is being done on a voluntary and unequal basis, with no concrete requirements set by the central government in this respect. This exacerbates regional inequalities in how climate-related risks are addressed, creating a post-code lottery where children's exposure to climate-related harms depends on their location.

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[29] 'Introduction: Adaptation and Resilience' (*United Nations Climate Change*,) <https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction> accessed 24 July 2025.

[30] Thomas Friedrich and others, *Teilbericht Kommunalbefragung Klimaanpassung 2023* (Umweltbundesamt, 2024) <https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/34_2024_cc_kommunalbefragung.pdf> accessed 24 July 2025.

[31] 'Anpassung auf Länderebene und in Handlungsfeldern' (*Umweltbundesamt*,) <https://www.umweltbundesamt.de/themen/klima-energie/klimafolgen-anpassung/anpassung-an-den-klimawandel/anpassung-auf-laenderebene> accessed 24 July 2025.

[32] 'Allen Kommunen Sozial Gerechten Klimaschutz Ermöglichen Bewältigung Der Klimakrise Muss Gemeinschaftsaufgabe Werden' (Klima-Allianz Deutschland, 2023) <https://www.klima-allianz.de/fileadmin/user_upload/Dateien/Daten/Publikationen/Positionen/Forderungspapier_Kommunal_Klimaschutz.pdf> accessed 24 July 2025.

[33] Friedrich and others, *Teilbericht Kommunalbefragung Klimaanpassung 2023* (n 30).

[34] Roda Verheyen and Katharina Hözen, 'Kommunaler Klimaschutz Im Spannungsfeld Zwischen Aufgabe Und Finanzierung Am Beispiel Der Kommunalen Wärmeplanung Und Des Kommunalen Klimaschutzmanagements' (Germanwatch, Klimaallianz Deutschland, 2022) <https://www.germanwatch.org/sites/default/files/rechtsgutachten-kommunaler-klimaschutz.pdf> accessed 24 July 2025.

[35] 'Rechtsgutachten: Klimaschutz und -anpassung gehören als Gemeinschaftsaufgaben ins Grundgesetz' (16 January 2023) <https://www.klima-allianz.de/presse/meldung/rechtsgutachten-klimaschutz-und-anpassung-gehoeren-als-gemeinschaftsaufgaben-ins-grundgesetz> accessed 24 July 2025.

III. Children and climate change adaptation

a. Child-specific needs in the context of climate change

In the context of climate change, children face numerous vulnerabilities due to their developmental needs, physiology and metabolism. Present and future generations of children bear an unacceptably high disease burden from climate change, with evidence consistently showing negative associations between climate change and children's physical and mental health, well-being, and family functioning.[36] Notably, nearly 90 per cent of the global burden of disease surrounding climate change is impacting children under the age of five.[37] Globally, infectious diseases are one of the leading causes of death in children in this age group.[38] Climate change compounds this risk, as heatwaves, for example, can increase incidence rates of renal and respiratory diseases, and, especially in young children, contribute to gastrointestinal and diarrheal illnesses.[39] Today's children will live through an increased frequency of extreme weather events, such as heat waves, floods, wildfires, and droughts, with potentially irreversible impacts on both environmental and human health. UNICEF's Children's Climate Risk Index shows that 1 billion children face extreme risks due to climate change, threatening their survival, development, and worsening existing inequalities.[40]

Climate change is a threat multiplier, exacerbating existing inequalities for families and children already facing in socio-economic barriers, food insecurity, or limited access to healthcare. This disproportionately affects Indigenous children, children with a migration background, disabilities, pre-existing health conditions, or other vulnerable circumstances. The ways in which children experience climate change are shaped by both embodied vulnerability—how children's physical and developmental conditions make them more susceptible to harm—and structural vulnerability, which arises from systemic inequalities embedded in social, economic, and political institutions. It is essential to consider how these intersectional vulnerabilities amplify the impacts of climate change on children when assessing adaptation needs and formulating responses to protect those most at risk.

b. The need for child-specific measures in climate adaptation plans

The 2023 CRC General Comment No. 26 on Children and Climate Change, makes specific reference to climate change adaptation, highlighting that States 'should identify climate change-related vulnerabilities

[36] Helldén and others, 'Climate Change and Child Health' (n 5); Kerrie Proulx and others, 'Climate Change Impacts on Child and Adolescent Health and Well-Being: A Narrative Review' (2024) 24(14) *Journal of Global Health* <https://jogh.org/2024/jogh-14-04061/> accessed 24 July 2025.

[37] 'The Climate Crisis Is a Child Rights Crisis: Introducing the Children's Climate Risk Index.' (United Nations Children's Fund (UNICEF), 2021) at 20.

[38] Jamie Perin and others, 'Global, Regional, and National Causes of under-5 Mortality in 2000-19: An Updated Systematic Analysis with Implications for the Sustainable Development Goals' (2022) 6(2) *The Lancet. Child & Adolescent Health* 106–115; 'Child Mortality and Causes of Death' (*World Health Organization*,) <https://www.who.int/data/gho/data/themes/topics/topic-details/GHO/child-mortality-and-causes-of-death> accessed 24 July 2025.

[39] Zhiwei Xu and others, 'Climate Change and Children's Health--a Call for Research on What Works to Protect Children' (2012) 9(9) *International Journal of Environmental Research and Public Health* 3298–3316.

[40] 'The Climate Crisis Is a Child Rights Crisis: Introducing the Children's Climate Risk Index.' (n 37) at 13.

among children concerning the availability, quality, equity and sustainability of essential services for children, such as water and sanitation, health care, protection, nutrition and education'.[41] It further urges States to enhance the climate resilience of their legal and institutional frameworks, ensuring that national adaptation plans and existing social, environmental and budgetary policies address climate change-related risks by assisting children within their jurisdiction to adapt to the unavoidable effects of climate change.[42] In this way, national plans must ensure that children receive priority in adaptation plans and are supported to build resilience to the impacts of climate change.

Germany's Federal Climate Adaptation Act of 2023 fails adequately to prioritise children's welfare and makes no provision for child-specific adaptation measures. Notably, Germany's 2024 adaptation strategy (DAS 3.0), mentions children only three times. On each occasion when children are mentioned, the document refers to the increased risks faced by vulnerable groups, of which children are acknowledged to be one. However, it does not contemplate any measures specifically targeting children, nor their prioritisation in broader adaptation measures, aside from the distribution of information.[43]

The latest Progress Report (October 2023) on the DAS includes only minimal child-related measures, mainly limited to developing and distributing informational materials on climate-related health impacts and possible preventive care for children, older persons, and persons with underlying conditions.[44] Nor are children mentioned at all in the 2024 feasibility study on adaptation measures commissioned by the German Federal Ministry for the Environment.[45]

The absence of children and children's concerns from these documents is indicative of a general lack of regard to children in climate adaptation planning in Germany: A recent study published in the Lancet Child & Adolescent Health Journal, analysing child health prioritisation in national adaptation policies on climate change across 160 countries showed that **Germany is among the lowest-performing States with respect to the inclusion of child-health actions and priorities in their adaptation strategies**.[46]

[41] 'General Comment No. 26 (2023) on Children's Rights and the Environment with a Special Focus on Climate Change' (Committee on the Rights of the Child, 2023) CRC/C/GC/26 at para 101 <https://www.ohchr.org/en/documents/general-comments-and-recommendations/crccgc26-general-comment-no-26-2023-childrens-rights> accessed 24 July 2025.

[42] 'General Comment No. 26 (2023) on Children's Rights and the Environment with a Special Focus on Climate Change' (n 41) at para 101.

[43] 'Deutsche Anpassungsstrategie an Den Klimawandel (DAS 2024)' (Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz, 2024).

[44] Petra van Rüth and others, 'Monitoringbericht 2023 Zur Deutschen Anpassungsstrategie an Den Klimawandel Bericht Der Interministeriellen Arbeitsgruppe Anpassungsstrategie Der Bundesregierung' (Umweltbundesamt,) <www.umweltbundesamt.de/publikationen/monitoringbericht-2023> accessed 24 July 2025.

[45] Christoph Schünemann, Elena Reger and Hendrik Herold, 'Machbarkeitsstudie: Modellierung von Anpassungsmaßnahmen: Akteure, Entscheidungen Und Wirksamkeit Qualitative Und Quantitative Systemmodellierungen Zur Analyse Der Lenkungswirkung von Politikinstrumenten' (Umweltbundesamt, 2024) <https://www.umweltbundesamt.de/publikationen/machbarkeitsstudie-modellierung-von>.

[46] Zangerl and others, 'Child Health Prioritisation in National Adaptation Policies on Climate Change' (n 7).

c. Children's voices in climate change adaptation

Despite being the least responsible for climate change, children will be the ones most impacted by its negative effects throughout their lives.[47] It is thus essential that children's views and perspectives be taken into account in shaping policies that will impact them and future generations,[48] both to safeguard their primary rights and to respect their rights in decision-making.

Goal #16 of the Sustainable Development Goals (SDG) for 2030 emphasises the importance of inclusive decision making, requiring public participation that reflects a diverse array of perspectives, including children.[49] Children's participation and agency is also particularly important in the context of the UNFCCC.[50] Additionally, the 2023 Report of the UN Special Rapporteur on climate change, stated that new climate change legislation should 'provide for meaningful consultation and engagement in adaptation planning processes for those who are most vulnerable to the impacts of climate change, in particular […] children'.[51]

However, children were not meaningfully involved in the design of Germany's adaptation strategy. Two nationwide online participation platforms were launched, one for adults and one specially for young people aged 14 to 25.[52] While approximately 2,000 persons of all ages participated in the surveys, only 230 participants took part in the separate youth survey.[53] Notably, the majority of participants in the youth survey were aged over 18, with the 14 to 17-year-old demographic representing a mere 5% of its total.[54] Furthermore, there is no mention of targeted outreach to facilitate or encourage children below 14 years old to participate in the design of this strategy, either by themselves or through children's representatives.

This is despite the fact that article 12(2) of the Convention on the Rights of the Child (CRC) establishes that children shall 'be provided the opportunity to be heard in any administrative proceedings affecting [them], either directly, or through a representative or an appropriate body'. Further, under Article 12(1), the State shall 'assure to the child […] the right to express th[eir] views freely in all matters affecting the child'. States are thus obliged to take appropriate steps to empower children and ensure their access to child-sensitive administrative processes.[55] A children's rights-based approach to climate adaptation requires States not only to provide adequate, child-accessible and timely information about climate impacts, risks

[47] Susan E Pacheco, 'Catastrophic Effects of Climate Change on Children's Health Start before Birth' (2020) 130(2) *The Journal of Clinical Investigation* 562–564.

[48] 'Child Rights and Why They Matter' <https://www.unicef.org/child-rights-convention/child-rights-why-they-matter> accessed 24 July 2025.

[49] Kempe Ronald Hope, 'Peace, Justice, and Inclusive Institutions: Overcoming Challenges to the Implementation of Sustainable Development Goal 16 in Africa and Beyond' (2023) *Advances in African Economic, Social and Political Development* 131–160.

[50] H Thew, 'Youth Participation and Agency in the United Nations Framework Convention on Climate Change' (2018) 18(3) *International Environmental Agreements: Politics, Law and Economics* 369–389.

[51] 'A/78/255: Report of the Special Rapporteur on the Promotion and Protection of Human Rights in the Context of Climate Change, Ian Fry' (Office of the High Commissioner for Human Rights, 2023) A/78/255 <https://www.ohchr.org/en/documents/thematic-reports/a78255-report-special-rapporteur-promotion-and-protection-human-rights> accessed 24 July 2025.

[52] Constantin Schäfer and Megan Wolf, 'Ergebnisse Der Bundesweiten Online-Beteiligung von Bürgerinnen Und Bürgern Für Die Entwicklung Einer Vorsorgenden Klimaanpassungsstrategie' (Umweltbundesamt, 2024) <https://www.umweltbundesamt.de/publikationen/ergebnisse-der-bundesweiten-online-beteiligung-von> accessed 24 July 2025.

[53] Schäfer and Wolf, 'Ergebnisse Der Bundesweiten Online-Beteiligung von Bürgerinnen Und Bürgern Für Die Entwicklung Einer Vorsorgenden Klimaanpassungsstrategie' (n 52).

[54] Schäfer and Wolf, 'Ergebnisse Der Bundesweiten Online-Beteiligung von Bürgerinnen Und Bürgern Für Die Entwicklung Einer Vorsorgenden Klimaanpassungsstrategie' (n 52).

[55] 'General Comment No. 12 (2009): The Right of the Child to Be Heard' (Committee on the Rights of the Child, 2009) CRC/C/GC/12 <https://www.refworld.org/legal/general/crc/2009/en/70207> accessed 24 July 2025.

and hazard, but also to take into account their perspectives and to adopt adequate protective measures for them.

In sum, Germany is currently failing to adopt a children rights-based approach to climate adaptation – one that builds upon human rights-based approaches while incorporating children's specific needs, rights and capacities. Germany must review existing adaptation laws, policies, guidelines, and strategies in order to ensure that children are included, that their rights are respected, and that the root causes of children's vulnerabilities are addressed, including taking account of (intersectional) disparities among children, which may amplify the vulnerability of specific groups. As long as this is not done, Germany is infringing several human rights of children, as will be examined below.

IV. Climate change adaptation and violations of children's human rights

A number of children's rights are affected by inadequate adaptation to climate change. This communication will focus on three, namely (a) the right to health, (b) the right to education, and (c) the right to adequate housing. As will be examined, Germany`s failure adequately to take children into account in its Federal Climate Adaptation Act and adaptation strategy, violates of these rights with respect to those children living in its territory.

a. The right to health

Climate change poses significant direct and indirect threats to children's health. These include physiological effects, including heat stress, increases in infectious and non-infectious diseases, worsening cardiovascular and respiratory conditions, and heightened exposure to UV radiation and ozone; as well as mental health challenges such as stress, anxiety and depression.

While many climate-related threats to health affect people of all ages, it is frequently the case that children are significantly more vulnerable to the effects of climate change than the population at large. This is the case in relation to the effects of heat episodes, for example, as children are less able to regulate body temperature than are adults, due to a higher body mass-to-surface area ratio and underdeveloped sweat glands. This places children at greater risk of dehydration and heat stress. Similarly, children's immature immune systems mean that they are more susceptible to infectious diseases, and in particular may be less able than adults to produce an effective immune response to novel pathogens. Climate change, however, is changing the endemic zones of diseases, in particular vector-borne and water-borne diseases, and is giving rise to new and changed methods of transmission and environmental conditions for disease.[56] A further example

[56] Sheffield and Landrigan, 'Global Climate Change and Children's Health' (n 6); JA Patz and WK Reisen, 'Immunology, Climate Change and Vector-Borne Diseases' (2001) 22(4) *Trends in Immunology* 171–172.

are the damaging mental health effects of climate change, such as climate anxiety, which is known more severely to affect younger people.[57]

Further, the health impacts of climate change are long-lasting and can begin to affect children from the earliest ages, including before birth. Pregnant individuals who have been exposed to climate-related disruptions such as food insecurity, pollution, extreme weather, and other environmental stressors are at increased risk of adverse pregnancy outcomes,[58]such as low birth weight,[59] and pre-term birth.[60] Heatwaves and warm seasons are also linked to increased admissions to neonatal intensive care units, and neonatal heat-related infant deaths.[61] Such early exposure to environmental hazards can give rise to consequences lasting from birth to adulthood, potentially damaging life chances.

In sum, climate change represents a present and foreseeable threat to children's health in the immediate, mid- and long-term futures. The protection of children's right to health demands immediate, considered, and targeted adaptation responses in order to reduce the burden of ill health on children, enhance community resilience, and address environmental and social inequalities. In Germany, specific health risks for children warrant immediate attention:

i. Children's Health in the Context of Increased Heat Episodes

As indicated in section 1, Germany has experienced increasing heat events, with the years 2022, 2023, and 2024 consecutively marking record-high average annual temperatures.[62] On current emissions trajectories, Germany's average temperature is expected to rise by 1.3 °C by 2050 and by 3.7 °C by 2100 compared to the period 1971–2000, with a corresponding increase in the frequency and amplitude of extreme heat events.

It is beyond question that these increases will have significantly negative effects on population health, with children disproportionately affected. Even at present levels of warming (approx. 1.1 °C), German hospital data shows a significant increase in heat-related mortality and morbidity, with infants and young children cited as a particularly vulnerable group.[63] The DAK Children and Youth Report 'Heat as a Health Risk' analysed insurance data and temperature data points from 2017 to 2022, showing that even at daily temperatures as low as 25 degrees, the risk of children requiring medical treatment for heat-related injuries increases

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[57] Lorraine Whitmarsh and others, 'Climate Anxiety: What Predicts It and How Is It Related to Climate Action?' (2022) 83 *Journal of Environmental Psychology* 101866.

[58] Sheffield and Landrigan, 'Global Climate Change and Children's Health' (n 6); Pacheco, 'Catastrophic Effects of Climate Change on Children's Health Start before Birth' (n 47).

[59] Jonathan CK Wells and Tim J Cole, 'Birth Weight and Environmental Heat Load: A between-Population Analysis' (2002) 119(3) *American Journal of Physical Anthropology* 276–282.

[60] N Dole and others, 'Maternal Stress and Preterm Birth' (2003) 157(1) *American Journal of Epidemiology* 14–24.

[61] Sarah LaPointe and others, 'Exposure to Acute Ambient Temperature Extremes and Neonatal Intensive Care Unit Admissions: A Case-Crossover Study' (2024) 953 *The Science of the Total Environment* 176149; Nathalie Auger and others, 'Ambient Heat and Sudden Infant Death: A Case-Crossover Study Spanning 30 Years in Montreal, Canada' (2015) 123(7) *Environmental Health Perspectives* 712–716.

[62] 'Warmest Years in Germany until 2024' (*Statista*,) <https://www.statista.com/statistics/1386617/highest-average-temperature-years-germany/> accessed 24 July 2025.

[63] Claudia Winklmayr and others, 'Heat in Germany: Health Risks and Preventive Measures' (2023) 8(Suppl 4) *Journal of Health Monitoring* 3–32.

by 6.7- fold, and 7.7-fold at 30 degrees.[64] A survey conducted in Germany on the topic of 'Heat and Climate Change/Climate Protection' revealed that 3 in 4 children in Germany reported heat-related complaints within the last six years.[65] The most commonly reported symptoms were increased sweating, sleep disturbances, and headaches (each 42%), followed by fatigue (30%).[66] However, significant numbers of children experienced more serious problems: 14-15% of children experienced heart/circulatory system problems, 12% experienced dizziness, and 4% breathing difficulties.[67]

In this respect, heat action plans are an essential tool for preparing individuals and structures for extreme heat events and responding to them. In 2008, the WHO formulated guidelines for the implementation of heat action plans with a focus on multi-scale adaptation concepts. **However, Germany has not yet adopted a comprehensive, national heat action plan**. Despite the fact that both APA II and APA III stipulated the need for heat action plans, as of today, the modalities of designing and implementing a heat action plan at the national level in Germany are still being investigated.[68]

Moreover, Germany's 2024 DAS 3.0, is extremely limited in addressing the effects of heat on health. It foresees only informational measures in this respect, with the main objective being 'to strengthen the population's ability to adapt their behaviour to the heat'.[69] **This approach effectively delegates the responsibility for climate adaptation to individuals, which is particularly concerning for children**, as their capacity to modify their individual behaviour to adapt to climate change is inherently limited compared to adults.

Therefore, Germany's adaptation measures in the area of health should go beyond mere information dissemination. Germany needs to adopt concrete policies directed at the reduction of health-related impacts of climate change, including specific measures for the benefit of children. These policies should be designed with the assistance of experts in the field, including paediatricians and children's representatives.

ii. Climate Change and Children's Mental Health

Climate change has a direct impact on children's mental health. International studies have found an increase in post-traumatic, depressive, and anxious symptoms, as well as heightened levels of substance use disorders following extreme weather events, all consistent with a psychological response to trauma.[70] However, slow-onset climate changes, such as rising temperatures and more frequent heatwaves, can also have direct

[64] Alena Zeitler and others, 'Kinder- Und Jugendgesundheit Im Kontext von Umwelt Und Klima Schwerpunkt: Temperatur Und Hitze Eine Analyse Im Kontext Des DAK-Kinder- Und Jugendreportes' (DAK-Gesundheit, 2024) <https://caas.content.dak.de/caas/v1/media/80652/data/8fec590e21439ac068356a8abf4b2ceb/kinder-und-jugendreport-2024-hitze-report.pdf> accessed 24 July 2025.

[65] Zeitler and others, 'Kinder- Und Jugendgesundheit Im Kontext von Umwelt Und Klima Schwerpunkt: Temperatur Und Hitze Eine Analyse Im Kontext Des DAK-Kinder- Und Jugendreportes' (n 64) at 5.

[66] Zeitler and others, 'Kinder- Und Jugendgesundheit Im Kontext von Umwelt Und Klima Schwerpunkt: Temperatur Und Hitze Eine Analyse Im Kontext Des DAK-Kinder- Und Jugendreportes' (n 64) at 7.

[67] Zeitler and others, 'Kinder- Und Jugendgesundheit Im Kontext von Umwelt Und Klima Schwerpunkt: Temperatur Und Hitze Eine Analyse Im Kontext Des DAK-Kinder- Und Jugendreportes' (n 64) at 7.

[68] 'National Heat Action Plan for Germany' (15 August 2023) <https://adelphi.de/en/projects/national-heat-action-plan-for-germany> accessed 24 July 2025.

[69] 'Deutsche Anpassungsstrategie an Den Klimawandel (DAS 2024)' (n 43) goal 1.

[70] Nadja Gebhardt and others, 'Scoping Review of Climate Change and Mental Health in Germany – Direct and Indirect Impacts, Vulnerable Groups, Resilience Factors' (2023) 8(Suppl 4) *Journal of Health Monitoring* 122–149.

negative effects on mental health. In Germany, suicide rates have been shown to increase on hotter days, consistent with international trends.[71] A 2021 meta-analysis found that mental health-related mortality increased by 2.2% per 1°C rise in temperature across all age groups.[72] As average temperatures in Germany continue to increase as climate change progresses (see figure 2, above), the effects of climate change on mental health are expected to worsen.

Environmental stressors are both directly and indirectly[73] related to mental health disorders in children, and have a ripple effect on their psychological development.[74] Using a life-course perspective, Vergunst and Berry demonstrate that climate change increases children's mental health vulnerability from birth onwards: climate change-related threats are already present and can build up over time, posing a significant threat to healthy human development.[75] Their research also underscores that early intervention through climate adaptation and prevention efforts can significantly reduce mental health risks for children, as delayed action leads to greater exposure and lower resilience over time.

Multiple studies conducted in Germany showcase the risk that climate change poses to the mental health of young people. A 2025 study involving over a thousand adolescents aged 12–17 in Germany found that climate change distress negatively affects young people's daily functioning in social, academic, and work-related areas.[76] Significantly, research has shown that although individuals with higher levels of education reported higher levels of distress, they experienced lower levels of climate change related impairment compared to those with lower educational levels.[77] These findings suggest that knowledge can buffer against emotional distress and, accordingly, that empowering education may help protect children and young people against the negative impacts of climate change on mental health. A report by the German Environment Agency has highlighted the significant impact of the climate crisis on the mental health of young people, with 16-26 per cent of respondents (ages 14-22 years) stating that concerns about the environment limited their sense of joy and caused sleep problems.[78] Moreover, a majority of children report ethically motivated, self-referential emotions, e.g. a guilty conscience, about climate change.[79] It is highlighted that girls are at

[71] Alexandra Schneider and others, 'Impact of Meteorological Parameters on Suicide Mortality Rates: A Case-Crossover Analysis in Southern Germany (1990-2006)' (2020) 707 *The Science of the Total Environment* 136053.

[72] Jingwen Liu and others, 'Is There an Association between Hot Weather and Poor Mental Health Outcomes? A Systematic Review and Meta-Analysis' (2021) 153 *Environment International* 106533.

[73] Vera Clemens, Eckart von Hirschhausen and Jörg M Fegert, 'Report of the Intergovernmental Panel on Climate Change: Implications for the Mental Health Policy of Children and Adolescents in Europe—a Scoping Review' (2022) 31(5) *European Child & Adolescent Psychiatry* 701–713; Katherine M Shea and American Academy of Pediatrics Committee on Environmental Health, 'Global Climate Change and Children's Health' (2007) 120(5) *Pediatrics* e1359-1367.

[74] Francis Vergunst and Helen L Berry, 'Climate Change and Children's Mental Health: A Developmental Perspective' (2022) 10(4) *Clinical Psychological Science: A Journal of the Association for Psychological Science* 767–785.

[75] Vergunst and Berry, 'Climate Change and Children's Mental Health' (n 74) at 770.

[76] Lars König and others, 'Climate Change Distress and Impairment among Adolescents in Germany' (2025) 7 *Frontiers in Climate* <https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2025.1568676/full> accessed 24 July 2025.

[77] König and others, 'Climate Change Distress and Impairment among Adolescents in Germany' (n 76).

[78] Vivian Frick, Brigitte Holzhauer and Maike Gossen, 'Junge Menschen in der Klimakrise Eine Untersuchung zu emotionaler Belastung, Bewältigungsstrategien und Unterstützungsangeboten im Kontext von Klimawandel und Umweltproblemen in der Studie "Zukunft? Jugend fragen! 2021"' (Umweltbundesamt, 2022) at 53 <https://www.umweltbundesamt.de/publikationen/junge-menschen-in-der-klimakrise> accessed 24 July 2025.

[79] C Klöckner, A Beisenkamp and S Hallmann, 'Klimawandel Aus Der Sicht 9-14jähriger Kinder - Emotionen, Bewältigungsressourcen Und Allgemeines Wohlbefinden | Request PDF' 14(2) *Umweltpsychologie* <https://www.researchgate.net/publication/258770145_Klimawandel_aus_der_Sicht_9-14jahriger_Kinder_-_Emotionen_Bewaltigungsressourcen_und_allgemeines_Wohlbefinden> accessed 24 July 2025.

higher risk than boys, with girls showcasing higher degrees of impairment in their daily lives due to climate change.[80]

Thus, children and adolescents are considered particularly vulnerable groups for the development of a clinically manifest psychiatric disorder in the event of an increase in climate change impacts. This is because they have fewer coping strategies and their more pronounced neuroplasticity (changes in cerebral structures and functions in response to external stimuli) makes them more susceptible to stress-induced neuroanatomical and endocrine changes.

The Special Rapporteur on the right to health urged States to integrate mental health in adaptation strategies, by providing timely access to high-quality, rights-based support tailored to the needs of persons affected, and integrated into existing primary, general health-, and social care services.[81] In Germany, access to psychological care remains a major barrier. According to a study, 81 percent of German patients encountered long waiting lists when accessing mental health services in 2023.[82] The media have also reported that Germans struggle to find timely mental health care.[83] This shows the urgency of improving access to mental health services in Germany, especially in view of the likely increasing need of these services as climate change advances.

Germany should include children's mental health in the identification of needs, resilience resources, and social adaptation to climate impacts in the context of political decision-making and transformation processes. **Currently, neither Germany's Federal Climate Adaptation Act nor its national adaptation strategy include any measures or objectives related to the mental well-being of the population**. Germany should therefore make provision for specific measures in this regard, such as ensuring adequate training to those responsible for children's and adolescents' mental health and involving them in developing strategies for adapting and mitigating the consequences of climate change on mental health in public institutions, especially in the health and education sectors. Germany should also consider expanding psychosocial emergency care, particularly with regards to the needs of children, as well as secondary prevention of long-term psychological consequences after extreme weather events. Such measures are all the more urgent as the current situation already falls far short of demand.[84]

iii. Climate Change and Other Health Risks to Children

In addition to the direct effects of heat on children's health, and the risks to children's mental health, climate change gives rise to numerous additional health impacts. Many of these are particularly concerning in

[80] Lars König and others, 'Climate Change Distress and Impairment among Adolescents in Germany' (2025) 7 *Frontiers in Climate* <https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2025.1568676/full> accessed 24 July 2025.

[81] 'Right of Everyone to the Enjoyment of the Highest Attainable Standard of Physical and Mental Health - Report of the Special Rapporteur on the Right of Everyone to the Enjoyment of the Highest Attainable Standard of Physical and Mental Health' (Human Rights Council, 2020) A/HRC/44/48 para 75 <https://www.ohchr.org/en/documents/thematic-reports/ahrc4448-right-everyone-enjoyment-highest-attainable-standard-physical> accessed 28 July 2025.

[82] 'Experience of Long Waiting Lists for Mental Health Services in Europe in 2023| Statista' (*Statista*, 2023) <https://www.statista.com/statistics/1418304/experience-of-long-waiting-lists-for-mental-health-services-in-europe/> accessed 24 July 2025.

[83] Ben Knight, 'Germans Struggle to Find Mental Health Care – DW' (*Deutsche Welle*, 2018) <https://www.dw.com/en/germans-struggle-to-find-mental-health-care-during-holidays/a-46888972> accessed 24 July 2025.

[84] Gebhardt and others, 'Scoping Review of Climate Change and Mental Health in Germany – Direct and Indirect Impacts, Vulnerable Groups, Resilience Factors' (n 70).

relation to children, as they absorb more environmental toxins relative to adults given their smaller size and higher intake of air, water, and food per kilogram of body weight.[85]

Air Pollution: Climate change will increase both the levels and types of air pollution to which children are exposed. In Germany, it has been shown that climate change will lead to an increase in the production of ground-level ozone, and increase the transport of fine particulate matter.[86] Further, it has been shown that higher temperatures amplify the health-damaging consequences of air pollution in the form of ground-level ozone, fine particulate matter, nitrogen dioxide, and sulphur dioxide.[87] This increases the risks of asthma, respiratory disease, and other ill health effects.[88] According to data from DAK, one of Germany's major health insurance providers, 3.2% of all insured children and adolescents, nearly 800,000 individuals, had a chronic lower respiratory tract disease in 2022.[89] A German survey on air quality also found that one in ten children rated the air quality at their place of residence as poor, and over a quarter of children consulted a doctor due to complaints caused by air pollution.[90]

Poorly designed adaptation efforts may exacerbate air pollution risks. For example, in Germany, rising heat has led to rapid growth in household air conditioning, from an estimated 13% in 2023 to 19% in 2024, with another 19% considering a near-term purchase of an air conditioning unit.[91] However, domestic air conditioning units produce ozone precursor substances, and can increase the production of ground-level ozone.[92] The fact that a common individual adaptive measure may directly impact the health of children and other vulnerable groups compellingly underscores the necessity of a comprehensive and cohesive strategy that strongly takes the needs of children and other vulnerable groups into account.

Increased UV Radiation: Children's skin and eyes are more sensitive to UV radiation than those of adults. While sunburn at any age doubles the risk of developing malignant melanoma, sunburn in childhood can triple that risk. The German Federal Office for Radiation Protection (*Bundesamt für Strahlenschutz*) recently highlighted 'the change in UV radiation exposure due to climate change, which is contributing to steadily increasing UV radiation exposure for everyone in Germany'.[93] As damage caused by UV radiation will accumulate over a lifetime, there is a direct relationship between the length of time a person is exposed to increased UV, and the risk they face. Today's children, who will be exposed to increased UV radiation for a greater proportion of their lives, are especially at risk. In a study amongst directors in 436 Kindergarten in southern Germany, less than half were aware of the Solar UV Index and only 8.7% were applying it to

[85] Sheffield and Landrigan, 'Global Climate Change and Children's Health' (n 6).

[86] Jobst Augustin and others, 'Gesundheit' in Guy Brasseur, Daniela Jacob and Susanne Schuk-Zöller (eds), *Klimawandel in Deutschland. Entwicklung, Folgen, Risiken und Perspektiven*, vol 75 (Springer, 2017) 137–150, at 145.

[87] 'Improving Public Health Responses to Extreme Weather/Heat-Waves - EuroHEAT' (World Health Organization, 2009) EUR/08/5086498 <https://www.who.int/publications/i/item/EUR_08_5086498> accessed 28 July 2025.

[88] Augustin and others, 'Gesundheit' (n 86) at 145.

[89] 'DAK Kinder- und Jugendreport 2024: Gesundheitsrisiko Luftbelastung' (*DAK Gesundheit*, 27 September 2024) <https://www.dak.de/dak/unternehmen/reporte-forschung/kinder-und-jugendreport-2024-gesundheitsrisiko-luftbelastung_81108> accessed 28 July 2025.

[90] 'DAK Kinder- und Jugendreport 2024: Gesundheitsrisiko Luftbelastung' (n 89).

[91] Lundquist Neubauer, 'Immer Mehr Deutsche Nutzen Klimaanlagen' (*Verivox*, 27 June 2024) <https://www.verivox.de/strom/nachrichten/immer-mehr-deutsche-nutzen-klimaanlagen-1120788/> accessed 28 July 2025.

[92] Augustin and others, 'Gesundheit' (n 86) at 146.

[93] 'Climate Change and UV Radiation' (*Federal Office for Radiation Protection*,) <https://www.bfs.de/EN/topics/opt/uv/climate-change/climate-change-uv_node.html> accessed 28 July 2025.

guide sun protection practices.[94] Sunburns and both chronic and intermittent sun exposure are increasing the development of melanocytic nevi, which is considered a key risk factor for skin cancer. A large study 1,232 young children (2-7 years old) attending 78 public nursery schools in Germany found that fair-skinned children, and those with sun-exposed parents were especially vulnerable.[95] This lack of awareness poses a risk to children's health, as inadequate sun protection during early childhood increases the likelihood of long-term skin damage and skin cancer.

Allergies and hay fever: Based on a study on the health of children and adolescents in Germany, it was found that 11% of all children and adolescents aged 0 to 17 have been diagnosed with hay fever at least once in their lives.[96] Children are particularly vulnerable to allergies and hay fever due to their developing respiratory and immune systems.[97] Climate change is likely to exacerbate the negative health impacts of pollen-related allergies in four ways – all of which threaten to worsen allergy symptoms of children. First, increasing temperatures and atmospheric changes are extending the pollen season.[98] Second, climate change leads to a higher pollen concentration in the air.[99] Third, invasive plant species are spreading more easily, introducing populations to novel and sometimes highly allergenic pollens.[100] And fourth, climate change is intensifying interactions between pollen and fine particulate matter, meaning that pollens may be transported deeper into the lungs. This in turn leads to a higher incidence of chronic respiratory diseases, including asthma.[101] A German study of children aged 0-17 found that on days when the maximum temperature reached 25°C, the risk of being treated in hospital due to the consequences of a pollen allergy (especially hay fever) increased by 57%.[102]

iv. Climate Change and Children's Health: Conclusion

Today's children are already being affected by the health-related consequences of climate change, in particular through increased incidence and severity of heatwaves, increased exposure to air pollution and UV radiation, and more severe incidences of pollen allergies. Furthermore, the mental health of children and adolescents is already being affected both directly and indirectly by climate change. These effects are ongoing, and adaptation measures are urgently demanded in accordance with Germany's obligation to *fulfil* the highest attainable standard of health for children living within its borders.

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[94] Olaf Gefeller and others, 'The Role of the Global Solar UV Index for Sun Protection of Children in German Kindergartens' (2022) 9(2) *Children* 198.

[95] Jürgen Bauer and others, 'Risk Factors of Incident Melanocytic Nevi: A Longitudinal Study in a Cohort of 1,232 Young German Children' (2005) 115(1) *International Journal of Cancer* 121–126, at 121.

[96] Karl-Christian Bergmann and others, 'Auswirkungen des Klimawandels auf allergische Erkrankungen in Deutschland' (2023) 8(4) *Journal of Health Monitoring* <https://www.rki.de/DE/Aktuelles/Publikationen/Journal-of-Health-Monitoring/GBEDownloadsJ/Focus/JHealthMonit_2023_S4_Allergien_Sachstandsbericht_Klimawandel_Gesundheit.html> accessed 28 July 2025.

[97] Camille Bignier and others, 'Climate Change and Children's Respiratory Health' (2025) 53 *Paediatric Respiratory Reviews* 64–73.

[98] Bignier and others, 'Climate Change and Children's Respiratory Health' (n 97).

[99] Bignier and others, 'Climate Change and Children's Respiratory Health' (n 97) at 141–142.

[100] Bignier and others, 'Climate Change and Children's Respiratory Health' (n 97).

[101] Bignier and others, 'Climate Change and Children's Respiratory Health' (n 97) at 142.

[102] 'DAK Kinder- und Jugendreport 2024: Gesundheitsrisiko Hitze' (*DAK Gesundheit*, 21 July 2025) <https://www.dak.de/dak/unternehmen/reporte-forschung/kinder-und-jugendreport-2024-gesundheitsrisiko-hitze_80646> accessed 28 July 2025.

As climate change advances, existing health impacts on children will continue to grow, while increasing temperatures, changes in the habitable zones for plant and animal species, and increasing weather extremes will bring additional and novel health impacts. Adaptation measures are needed with urgency, to prepare physical and mental health systems to cope with a climate-affected future, and to establish protective measures to reduce the incidence of severe health effects. Germany's health-related adaptation objectives should go beyond merely informing the public on measures that individuals and families can take. They must also include State-led measures to protect vulnerable populations. This includes recognising varying levels of vulnerability based on socioeconomic or physical factors in addition to age, and provide adequate healthcare in this regard. Crucially, a comprehensive adaptation strategy is needed to harmonise national, regional, local, and community-level measures, taking the specific needs of children expressly into account.

Germany's failure to take children adequately into account in its adaptation strategy and the lack of effective measures to protect the physical and psychological health of children in view of climate change, represents a failure of Germany's obligations to protect and fulfil the rights of children within Germany to the enjoyment of the highest attainable standard of physical and mental health.

b. The right to education

Education is a fundamental value both in IHRL, and in building democratic, human rights-respecting societies. The CESCR recognises education as 'both a human right in itself and an indispensable means of realizing other human rights'.[103] While Germany has compulsory primary, secondary, and widespread tertiary education, it also has a continuing obligation under IHRL to ensure that education is *available*, *accessible*, *acceptable*, and *adaptable*.[104]

In the context of climate change adaptation, two issues are manifest. First, Germany must ensure that educational buildings are adapted to protect the safety, physiological health, and mental health of children and adolescents in educational settings. It is crucial that school buildings and facilities such as playgrounds are adapted specifically to withstand heat, extreme weather, and other climate-related stresses.

A second key element of adaptation is the development and delivery of empowering, informative and science-based curricula that equip children with the knowledge and skills to adapt to climate change and to engage in future adaptation processes. The CESCR, the CRC, as well as Special Rapporteurs on the Right to Education have repeatedly stressed that education must 'enable all persons to participate effectively in a free society'.[105] In her report of June 2023, Special Rapporteur Shaheed noted the importance of education which enables its recipients to 'deal with the crucial challenges facing the world'.[106] As shown above in section IV.a.ii., well-designed climate education can also mitigate emotional distress and psychiatric disorder related to climate anxiety in the younger generation.

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[103] 'General Comment No. 13: The Right to Education (Art. 13 of the Covenant)' (UN Economic and Social Council, 1999) E/C.12/1999/10 para 1 <https://www.refworld.org/legal/general/cescr/1999/en/37937> accessed 28 July 2025.

[104] 'General Comment No. 13: The Right to Education (Art. 13 of the Covenant)' (n 104) para 6.

[105] 'General Comment No. 13: The Right to Education (Art. 13 of the Covenant)' (n 104) para 4.

[106] 'Report of the Special Rapporteur on the Right to Education, Farida Shaheed, "Securing the Right to Education: Advances and Critical Challenges"' (Human Rights Council, 2023) A/HRC/53/27 para 26 <https://docs.un.org/en/A/HRC/53/27> accessed 28 July 2025.

In this respect it is necessary not only to make education resilient to climate change, but to build resilience to climate change through education. Adaptation of the school curriculum is crucial to build climate-conscious societies and to enable the populace to respond to the demands of a climate-affected future, in both mitigation and adaptation terms. **At present, however, adaptation to climate change is underserved in the school curriculum in Germany**: while all sixteen *Bundesländer* (federal states) mandate education about climate change—albeit to varying extents and with differing degrees of institutionalisation—only two (Baden-Württemberg and Rhineland-Pfalz) require education about climate *adaptation*, and no national standards exist advising or requiring schools to provide climate adaptation education. In order to prepare children adequately for a climate-affected future, and to ensure that children across Germany have equal access to climate-related education, both mitigation and adaptation themes must be included as a compulsory element on the school curriculum. Failing to do so does not prepare today's children to 'deal with the crucial challenges' of mitigating and adapting to climate change, which must be considered by any measure among the weightiest these children will need to face in their young and adult lives.

In light of the maladaptation of educational buildings and the absence of climate change themes from the compulsory school curriculum, and the absence of specific consideration of children's educational needs in the German adaptation plan, the following sections argue that Germany is falling below the standards required to *respect* and *fulfil* children's rights to an education which is *available*, *accessible*, *acceptable*, and *adaptable*.

i. The adaptation of educational premises

The right to education encompasses the adequacy of educational premises, including school buildings and their surroundings, such as playgrounds. The 2012 Report of the Special Rapporteur on the Right to Education affirms that 'a rights-based, child-friendly school requires a healthy, hygienic and safe learning environment'. Accordingly, 'norms for the construction and modernization of school buildings are also relevant' to the standard of education,[107] as are other aspects of school premises, including the external environment.[108]

Where educational premises are unable to provide an environment that is safe and conducive to concentration, children cannot learn. This presents a distinct challenge in Germany, where large numbers of old, deteriorating, or otherwise inadequate school buildings require an estimated 55 billion euros of renovation investment.[109] Maladaptation leaves educational buildings vulnerable to damage as a result of extreme weather events, such as high winds, flooding, or fires. Adaptation of educational premises is essential to prevent disruption from climate-related school closures. The Committee on the Rights of the Child (CRC)

[107] 'Report of the Special Rapporteur on the Right to Education, Kishore Singh: Normative Action for Quality Education' (Human Rights Council, 2012) A/HRC/20/21 at para 51 <https://digitallibrary.un.org/record/726628?ln=en&v=pdf> accessed 28 July 2025.

[108] 'General Comment No. 1 (2001), Article 29 (1), The Aims of Education' (UN Committee on the Rights of the Child, 2001) CRC/GC/2001/1 para 12 <https://www.refworld.org/legal/general/crc/2001/en/39221> accessed 28 July 2025.

[109] Uta Georgi, 'Hitze: Landeselternrat und GEW fordern Sanierung von Schulen' (*mdr*, 16 August 2024) <https://www.mdr.de/nachrichten/deutschland/gesellschaft/schulen-hitze-hitzefrei-sanierung-klimawandel-100.html> accessed 28 July 2025.

has highlighted this concern, stating that 'the right to education is highly vulnerable to the impact of environmental harm, as it can result in school closures and disruptions'.[110]

This disruption is already evident in Germany through the growing incidence of 'Hitzefrei' (school closures due to extreme heat), and is likely to be a continually worsening problem as climate change advances. Notably, and despite anecdotal evidence that the number is increasing markedly, no statistics at the regional or national level on the number of school days lost to extreme heat appear to be available. For example, in response to a freedom of information request submitted by Just Access to the Ministry for Education of Baden-Württemberg, the Ministry confirmed that no such statistics are collected within that State.[111] A further freedom of information request to the federal Ministry of Education remains outstanding.

In view of the risks posed by climate change, educational buildings in Germany must be designed or retrofitted to withstand extreme weather events, including high winds, extreme rain, flooding, and the risk of wildfires. This includes reinforcing structures, securing roofs, and installing storm shutters or impact-resistant windows, as well as assessing and taking appropriate mitigation actions in relation to floodplains and likely water runoff channels. Insulating buildings properly to maintain a stable indoor is particularly important as temperatures become more extreme. Measures such as implementing cool roofing materials and external shading can significantly reduce heat absorption, keeping classrooms cooler and reducing the need for air conditioning. This is essential not only due to the burden of air conditioning on school budgets, but also because such systems emit ozone-precursor chemicals that may worsen health effects for children through air pollution and contribute to localised 'heat island' effects.

Outdoor spaces, too, must be adapted. School playgrounds are of great importance for fulfilling non-academic aspects of the right to education, which the CRC recognises as encompassing 'physical, mental, spiritual and emotional aspects [as well as] intellectual, social and practical dimensions',[112] alongside children's right to play.[113] However, many playgrounds remain little more than bare expanses of tarmac or concrete, with minimal natural shade. As has been shown in other contexts, school playgrounds of this type expose children to excessive heat effects: a study done in Waterloo, Ontario found that surface temperatures in school playgrounds could reach 20 °C higher than comparable shaded areas.[114] Given that the average maximum temperature in July in Waterloo of 25.7 °C is comparable or lower than the temperatures in many parts of Germany (in Heidelberg, Baden-Württemberg, the average maximum in July is 27 °C, and temperatures up to 37 °C have been recorded), it is highly likely that similar effects affect German school playgrounds.

A campaign by Deutsche Umwelthilfe, a leading German environmental NGO, is calling on the German government to produce a set of minimum standards for climate-proofing schoolyards and school playgrounds, including setting targets for shaded areas and green space, as well as ensuring that enclosed areas

[110] 'General Comment No. 26 (2023) on Children's Rights and the Environment with a Special Focus on Climate Change' (n 41) para 51.

[111] Response on file with Just Access e.V. Contact: contact@just-access.de.

[112] 20/09/2025 20:27:00

[113] Convention on the Rights of the Child 1989 art 31.

[114] 20/09/2025 20:27:00

are broken up to allow excess heat, rain, or wind to dissipate.[115] The campaign highlights that **many school playgrounds are little more than deserts, and are maladapted to climate change**. According to this campaign, school playgrounds are all too often unused potential areas for climate adaptation and biodiversity conservation. Planting trees and creating green spaces around educational buildings are among the most effective available adaptation measures, providing shade, reducing the urban heat island effect, and absorbing rainwater.[116]

In view of the current and threatened effects of climate change on children's wellbeing, safety, and ability to learn effectively, lack of climate change preparedness of educational buildings in Germany with respect to health, safety, and pedagogical needs in the face of climate change therefore constitutes an ongoing violation of the right to education by the State.

ii. The adaptation of school curricula

The right to education is infringed when the education that children receive is inadequate. In accordance with Article 13 (1) of the ICESCR, 'education shall be directed to the full development of the human personality and the sense of its dignity, and shall strengthen the respect for human rights and fundamental freedoms'. In this respect, General Comment No. 13 of the CESCR (on the right to education) mentions the 'acceptability' and the 'adaptability' of education. The former aspect means that 'the form and substance of education, including curricula and teaching methods, have to be acceptable (e.g. relevant, culturally appropriate and of good quality)', while the latter requires that 'education has to be flexible so it can adapt to the needs of changing societies and communities and respond to the needs of students within their diverse social and cultural settings'.[117]

The CRC further recognises children's rights to seek and impart information and to have access to an education that fosters respect for the environment and the development of relevant life skills and knowledge. In its General Comment no. 1, the CRC Committee stated that 'the curriculum must be of direct relevance to the child's social, cultural, environmental and economic context and to his or her present and future needs and take full account of the child's evolving capacities.'[118] More recently, in its General Comment on children's rights and climate change, the CRC called education 'one of the cornerstones of a child rights-based approach to the environment'.[119] It further stated that '[a]ll children should be equipped with the skills necessary to face expected environmental challenges in life, such as disaster risks and

[115] Joey Grostern, 'Campaigners Call for Better Climate Adaptation in Germany's "Asphalt Desert" Schoolyards' (*Clean Energy Wire*, 30 August 2024) <https://www.cleanenergywire.org/news/campaigners-call-better-climate-adaptation-germanys-asphalt-desert-schoolyards> accessed 28 July 2025.

[116] 'Jetzt grüne Schulhöfe fordern!' (*Deutsche Umwelthilfe e.V.*,) <https://www.duh.de/mitmachen/antrag-fuer-gruene-schulhoefe/> accessed 28 July 2025.

[117] 'General Comment No. 13: The Right to Education (Art. 13 of the Covenant)' (n 104) para 6(c),(d).

[118] 'General Comment No. 1 (2001), Article 29 (1), The Aims of Education' (n 109) para 9.

[119] 'General Comment No. 26 (2023) on Children's Rights and the Environment with a Special Focus on Climate Change' (n 41) para 51.

environment-related health impacts'.[120] These views closely align with the statement by Special Rapporteur Shaheed that education must prepare children to 'deal with the crucial challenges facing the world'.[121]

Learning about climate change—both from an adaptation and mitigation perspective—is essential in order to enable students to develop life skills and knowledge which will prepare them to face a climate change-affected future. As discussed above, an empowering education can also strengthen children's mental health resilience by fostering understanding, agency and emotional engagement. The education system should prioritise building skills and knowledge that are directly relevant to adapting to climate change and support youth-led initiatives that shift the narrative from fear-based learning to agency.

At present, the inclusion of climate change-related issues into school curricula is insufficient. Education policy in Germany is devolved to the federal state level (*Länder*). Inclusion of climate change adaptation in the states' respective school curricula is inconsistent: While in Baden-Württemberg and Rhineland-Pfalz schools are to some degree mandated to teach students about climate change adaptation, in other *Länder* adaptation is not explicitly included in the curriculum.

While the 2020 Progress Report on the (now superseded) APA II mentions support services for the adaptation of curricula and development programmes, no new measures to enhance the teaching of climate adaptation themes are mentioned in the current 2024 climate adaptation strategy. In addition, while national guidance on integrating topics such as antisemitism, road safety, democracy, and consumer literacy exists (through the Conference of Ministers of Culture; *Kultusministerkonferenz*), no equivalent guidance has been adopted on societal or individual adaptation measures in respect of climate change.

In this context, Germany's education system should be reformed to incorporate mandatory climate change education that is not only informative but also empowering. This involves introducing topics such as disaster risk reduction, water sanitation, hygiene, and environmental management into the curriculum. Additionally, age-appropriate training on disaster preparedness, response and recovery is essential, as these skills are essential for children, especially those suffering multiple forms of vulnerability, to cope with the changing climate.

All children in Germany are entitled to an education which prepares them adequately for the societal conditions they face today, and will face in adulthood. Without accessible and comprehensive and empowering climate education, Germany risks failing to equip its children with the knowledge, skills, and resilience needed to live in a climate-affected world, thus infringing their right to education.

iii. Conclusion on the Right to Education

Fulfilling the right to education requires that children receive a period of guided intellectual, social, mental and emotional development, which enables them effectively to participate in society. To this end, education must be *available*, *accessible*, *acceptable*, and *adaptable*. The absence of targeted and appropriate climate adaptation measures threatens the acceptability, adaptability and availability of education in two ways.

[120] 'General Comment No. 26 (2023) on Children's Rights and the Environment with a Special Focus on Climate Change' (n 41) at para 56.

[121] 'General Comment No. 13: The Right to Education (Art. 13 of the Covenant)' (n 104) para 26.

First, education must itself adapt in order to prepare children for a climate change-affected future. The principle of acceptability demands that education remain relevant to children's lived realities, while adaptability, requires that education must be flexible enough to respond to the contemporary needs of students in a changing world. School curricula must therefore mandate the teaching of climate change across both physical and social sciences, in recognition of the fact that our societies for decades to come will be beset by questions relating to mitigation measures and modalities, inter-community and inter-generational justice, and distribution of resources. So too must curricula prepare children for the direct impacts they themselves will face in the short and medium term, for example by mandating the teaching of adaptation themes, both at the level of political/social choices relating to adaptation, and ways that children and their families can protect themselves by adapting their behaviours.

Secondly, climate change undermines the availability of education by threatening the integrity of Germany's aging and increasingly inadequate school buildings. Renovation measures are needed in order to build resilience against climate-related extreme weather events, and to guarantee the integrity of education and the safety of children in the fact of changing climatic conditions. In particular, urgent measures are needed to protect children from the impacts of extreme heat in educational settings. including through measures to reduce heat absorption and enhance passive cooling of buildings.

A failure to take measures necessary to maintain the standard of education in the face of eminently foreseeable changes to the environment amounts to a breach of the right to education. As long as Germany is failing to adequately incorporate climate change education into school curricula nation-wide, and as long as educational buildings are not adapted to climate change, the State will remain in violation of the children's right to education.

c. The right to adequate housing

Finally, Germany is also infringing children's right to adequate housing due to the lack of appropriate adaptation measures in the housing sector. As emphasised by the CESCR in its General Comment no. 4 (GC 4), Art. 11 of the Convention on Economic, Social, and Cultural Rights 'must be read as referring not just to housing, but to adequate housing'.[122] A number of conditions must be met before particular forms of shelter can be considered to constitute 'adequate housing'. In this context, 'adequate' housing must be understood as containing those 'facilities essential for health, security, comfort and nutrition'.[123] The CESCR emphasised further that '[a]dequate housing must be habitable, in terms of providing the inhabitant with adequate space and protecting them from cold, damp, heat, rain, wind or other threats to health'.[124] In this regard, the Special Rapporteur on the Right to Housing has noted that '[i]n the light of the climate crisis, the core elements of the right—security of tenure, availability of services, affordability, habitability, accessibility, appropriate location and cultural adequacy—acquire a new meaning.'[125] Special Rapporteur

[122] 'General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant)' (UN Committee on Economic, Social and Cultural Rights, 1991) E/1992/23 para 7 <https://www.refworld.org/legal/general/cescr/1991/en/53157> accessed 28 July 2025.

[123] 'General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant)' (n 123) para 8(b).

[124] 'General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant)' (n 123) para 8(d).

[125] 'Towards a Just Transformation: Climate Crisis and the Right to Housing – Report of the Special Rapporteur on the Right to Adequate Housing, Balakrishnan Rajagopal' (Human Rights Council, 2022) A/HRC/52/28 para 63

Rajagopal further stated that '[t]he failure to take timely and adequate adaptation measures […] can constitute a violation of the right to housing', emphasising in particular the fact that 'marginalized groups and communities' often face adaptation gaps.[126]

The adequacy of housing in terms of suitability, comfort, and habitability is of particular importance for children, whose needs qualitatively differ from those of adults. Inadequate housing conditions seriously undermine children's development and health, as well as their capacity to learn or play. **Moreover, children are particularly vulnerable to harm as a result of deficient housing as a result of their developmental stage and greater physical vulnerability**. The home is a key site for the protection of the child's wellbeing, as well as their 'physical, mental, spiritual, moral and social development' (Art. 27 CRC). For these reasons, academic literature has identified not only that 'Art. 27(1) CRC codifies a child-specific right to adequate housing',[127] but also that the ambit of the child's right to housing is qualitatively different from the general right to housing: Wind, Vols, and Roorda argue that it is necessary 'to add subcomponents to nearly all seven components of the [general] right to housing' in relation to children.[128] They refer, in relation to habitability, in particular to a requirement that 'specific attention is given to climate change.'[129]

Another fundamental element of the right to adequate housing is *accessibility*. In its GC 4, the CESCR has confirmed that '[d]isadvantaged groups must be accorded full and sustainable access to adequate housing resources'.[130] GC 4 expressly mentions that children and other groups 'should be ensured some degree of priority consideration in the housing sphere' and '[b]oth housing law and policy should take fully into account the special housing needs of these groups'.[131]

Consequently, the standards applicable to the assessment of whether housing is 'adequate' are both more demanding and make different demands in relation to children than in relation to adults. When identifying measures to be taken in respect of the right to housing, States have the responsibility to assess the needs of in light of any specific circumstances and the national context, which also applies to circumstances of climate change adaptation. It is the responsibility of the State to assess adaptation needs in the field of housing, *inter alia* with regard to the specific needs of children, and to put in place appropriate adaptation plans which respond to those child-specific needs. The lack of a child-specific lens in the German adaptation plans is indicative of a failure by the German State to meet its human rights obligations on children's rights to housing and adaptation.

<https://www.ohchr.org/en/documents/thematic-reports/ahrc5228-towards-just-transformation-climate-crisis-and-right-housing> accessed 28 July 2025.

[126] 'Towards a Just Transformation: Climate Crisis and the Right to Housing – Report of the Special Rapporteur on the Right to Adequate Housing, Balakrishnan Rajagopal' (n 126) para 22.

[127] Roos Wind, Michel Vols and Berend Roorda, 'The Child-Specific Right to Adequate Housing in the Convention on the Rights of the Child' (2023) 31(2) *The International Journal of Children's Rights* 444–470, at 458.

[128] Wind, Vols and Roorda, 'The Child-Specific Right to Adequate Housing in the Convention on the Rights of the Child' (n 127) at 459.

[129] Wind, Vols and Roorda, 'The Child-Specific Right to Adequate Housing in the Convention on the Rights of the Child' (n 127) at 460.

[130] 'General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant)' (n 123) para 8.

[131] 'General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant)' (n 123) para 8.

i. Adequacy of Housing and Adaptation

In Germany, many buildings are not adequately adapted to heat. A 2023 report highlighted that traditional building techniques in Germany, such as large, south-facing windows and high heat retention, have been designed with Germany's historical and largely temperate climate in mind.[132] They aimed to protect residents from rain, wind, and cold in winter, rather than to permit passive cooling in the summer. These features, however, are now increasingly contributing to overheating.[133] The effective enjoyment of the right to housing is being impaired due to the lack of adequacy of such housing, and the degree of impairment will rise rapidly as the effects of climate change become more pronounced. This lack of adaptation is particularly suffered by children, due to the aforementioned increased negative effects of heat on their physical and mental health, as well as their specific needs. As the threshold for a violation of the right to adequate housing is lower in the case of children, States need to take the special housing needs of children fully into account in their domestic laws and policies,[134] – including those related to climate change adaptation.

In this context, Germany should provide higher funding for energy-efficient building and renovation, whereby households with children should be prioritised. It should additionally assess and, where necessary, implement targeted measures to address children's housing needs in the context of climate adaptation.

While the 2024 German climate adaptation strategy mentions promoting the adaptation of buildings, it lacks any particular measures targeting families with young children or young tenants. Furthermore, progress on renovations in Germany remains slow. The renovation rate remains well below the Government's own target and is declining. While a renovation rate of between 1.7 and 1.9% per year is required,[135] the rate fell from 0.88% in 2022,[136] to 0.69% in 2024.[137] Thus, much higher priority must be given to measures incentivising, enabling, or requiring renovation. Local authorities, landlords, homeowners, and others should be supported and—where necessary, required—to ensure renovations address not only energy efficiency for mitigation, but also climate adaptation. Especially in the low-cost rental sector, clear mechanisms are needed to encourage or require landlords to adapt housing to climate change.

When it comes to the planning of new buildings, the German Building Code demands that climate change adaptation must be taken into account when weighing up public and private interests against each other. However, climate change adaptation is not a priority consideration, and can be overridden by other concerns, including those of an economic nature.[138] This is of particular concern for the design and construction of new, low-cost housing, and raises the worrying prospect of an adaptation gap affecting economically

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[132] 'Studie: Gebäude Brauchen Sonnenschutz' (*Repräsentanz Transparente Gebäudehülle*,) <https://transparente-gebaeude-huelle.de/presse/studie-gebaeude-brauchen-sonnenschutz> accessed 28 July 2025.

[133] 'Studie: Gebäude Brauchen Sonnenschutz' (n 132).

[134] 'General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant)' (n 123) para 8.

[135] 'Sanierungsquote' (*Bundesverband energieeffiziente Gebäudehülle e.V.*,) <https://buveg.de/sanierungsquote/> accessed 28 July 2025.

[136] '„Im Schneckentempo": Sanierungsquote 2023 unter einem Prozent' (*Bundesbaublatt*,) <https://www.bundesbaublatt.de/news/sanierungsquote-2023-unter-1-tendenz-absteigend-4017943.html> accessed 28 July 2025.

[137] Erik Walkling, 'Germany's Energy Transition: 2024 Wrap-Up and 2025 Outlook' (*STYX blog*, 19 December 2024) <https://www.styx.city/articles/germanys-energy-transition-2024-wrap-up-and-2025-outlook> accessed 28 July 2025.

[138] 'Klimaschutz Und Klimaanpassung' <https://www.lb-naturschutz-nrw.de/fachthemen/bauleitplanung/wichtige-themen-fuer-die-bauleitplanung/klimaschutz-und-klimaanpassung.html> accessed 28 July 2025.

less privileged families and children, while economically privileged families are able to afford better adapted accommodations.

The planning of new buildings—as well as the renovation of existing structures—must be appropriate to rising temperatures. Generally, building measures should incorporate materials that minimise heat absorption and avoid thermal storage. For new buildings, careful planning of their orientation, site selection, width-to-height ratio, or street development are necessary. Adaptation measures relevant to both contexts can include installing shutters, external or vertical blinds with air ducts, awnings and sun sails, and thermo- or reflective glass. Wall and roof insulation is further essential, helping to prevent overheating in summer and heat-loss in winter. Micro-climatic cooling effects can be achieved by creating green areas on roofs and facades, or by planting deciduous trees on streets, in gardens and green spaces. An example of good practice can be found in the case of the Swiss city of Basel, where the Building and Construction Law requires that all new and renovated flat roofs must be greened. The green roof strategy in Basel is expected to bring adaptation benefits both in the form of lower temperatures and reduced surface runoff, offering a model both for adaptation to higher temperatures and increased incidence of extreme rainfall events.

ii. Right to Housing and the Urban Environment

The right to housing does not end at the front door. Its adequacy extends beyond its structure to also encompass the surroundings of such housing. The right to housing includes access to a living environment that promotes health, safety, environmental quality, and social inclusion, enhancing overall well-being and quality of life.[139] In accordance with the CESCR General Comment No. 11, the 'location' of housing is also an element to take into account when assessing the 'adequacy' of such housing. The CESCR specifically mentions in this respect that "housing should not be built on polluted sites nor in immediate proximity to pollution sources that threaten the right to health of the inhabitants".[140] Accordingly, if a child's home is located in an inadequately adapted urban area, the housing itself may be considered inadequate. Urban environment adaptation is therefore an essential component of adequate housing – especially for children.

Germany has a history of sustained urban population growth, with 78% of the population living in urban areas and cities in 2023.[141] Due to various daily activities such as transport, production, construction, and tourism, urban residents face environmental threats from air, noise, water, soil pollution, chemicals, and artificial light. In summer, buildings and surfaces retain heat, keeping inner-city temperatures significantly higher—up to 10°C or more—than in suburban or rural areas.[142] The burden of persistently overheated inner cities stresses the thermoregulatory system of the human body throughout the day and reduces night-

[139] Fernanda Paula Oliveira, 'Relationship between the Right to Adequate Housing and Urban Policies (Particularly Planning and Land-Use Planning Policies) in Portugal' (2020) 13(1) *Journal of Service Science and Management* 20–27.

[140] 'General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant)' (n 123) para 8.

[141] 'Germany: Urbanization from 2013 to 2023' (*Statista*, 12 June 2025) <https://www.statista.com/statistics/455825/urbanization-in-germany/> accessed 28 July 2025.

[142] 'Urban Heat Islands: Managing Extreme Heat to Keep Cities Cool' (*The Joint Research Centre: EU Science Hub*, 22 July 2024) <https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/urban-heat-islands-managing-extreme-heat-keep-cities-cool-2024-07-22_en> accessed 28 July 2025.

time recovery. This impacts individuals' ability to cope with heat-related climate events,[143] especially children whose thermoregulatory systems are immature.[144]

Another concern in cities is the substitution of natural vegetation with artificial surfaces, which creates, among others, unique microclimates affecting temperature, wind direction and precipitation patterns. Already today the high number of sealed surfaces reduces cities' resilience to extreme rainfall events and increases flood risks. Increased urbanisation via land take and soil sealing decrease air quality, and combined with deforestation and the reduction of wetlands in the surroundings reduces the amount of infiltration and the natural water retention capacity of the area.

An additional aspect to housing and urban planning which is of particular importance with regard to children is the intersection with the right to play. The CRC Committee has stressed in its General Comment no. 17, that '[p]lay and recreation are essential to the health and well-being of children and promote the development of creativity, imagination, self-confidence, self-efficacy, as well as physical, social, cognitive and emotional strength and skills. They contribute to all aspects of learning; they are a form of participation in everyday life and are of intrinsic value to the child, purely in terms of the enjoyment and pleasure they afford.'[145] It also recognised '[s]pace and opportunities to play outdoors' as being important preconditions for play which 'need to be assured'.[146] To fully realise their rights, children need access to safe and well-adapted play spaces close to their homes. While conventional dangers such as road traffic should not be neglected, the growing impact of climate change must also be addressed. Rising temperatures and increasing UV exposure demand access to shaded areas—such as tree-covered spaces—and access to public water fountains. Therefore, children's play areas must be included in the design of resilience strategies for housing in relation to extreme weather events.

Special Rapporteur Rajagopal has stressed the 'need for systemic and integrated urban and rural planning at the national and local levels that fully integrates climate change, disaster risk reduction, location of services and infrastructure, planning for transit, green space, vegetation, the mitigation of heat islands, water and waste management, net-zero building codes and resilience'.[147] Integrated planning of this kind must, *inter alia*, adopt the lens of childhood, and assess whether responses and adaptation measures meet the specific rights, needs, and interests of children – including the right to play.

It is therefore concerning that Germany's current adaptation plans do not specifically take children into account and that there is currently no legal requirement to consider children's views in the context of urban planning.

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[143] Shilu Tong and others, 'Urban Heat: An Increasing Threat to Global Health' (2021) 375 *BMJ* n2467.

[144] Caroline J Smith, 'Pediatric Thermoregulation: Considerations in the Face of Global Climate Change' (2019) 11(9) *Nutrients* 2010.

[145] 'General Comment No. 17 (2013) on the Right of the Child to Rest, Leisure, Play, Recreational Activities, Cultural Life and the Arts (Art. 31)' (UN Committee on the Rights of the Child, 2013) CRC/C/GC/17 para 2 <https://www.refworld.org/legal/general/crc/2013/en/96090> accessed 28 July 2025.

[146] 'General Comment No. 17 (2013) on the Right of the Child to Rest, Leisure, Play, Recreational Activities, Cultural Life and the Arts (Art. 31)' (n 147) paras 5–6.

[147] 'Towards a Just Transformation: Climate Crisis and the Right to Housing – Report of the Special Rapporteur on the Right to Adequate Housing, Balakrishnan Rajagopal' (n 125) at para 48.

iii. Conclusion: Right to Housing

In sum, Germany has clear and binding obligations under international human rights law to protect and fulfil the right of every child to adequate housing. This entails adopting proactive, child-sensitive policies and regulations to ensure housing is climate-resilient. The reduction of heat inside buildings is necessary to protect children's health, and buildings that fail to protect their health cannot be considered 'adequate housing' for children.

To meet these obligations, Germany should establish heat protection requirements for buildings that address children's unique vulnerability to heat. Such standards could include the installation of thermoglass, integrated lamella blinds in windows, or roof overhangs for shading. Climate change should be a mandatory aspect to take into account in the planning of new buildings, both in urban and rural areas, with a goal of rendering them heat-appropriate. However, in Germany, renovation rates remain far below government targets, and adaptation measures are not being implemented at the necessary scale.

Furthermore, the spaces surrounding buildings must themselves be adapted so that children can safely play, learn, and grow. In the urban planning process, Germany should actively involve children, their representatives, paediatricians, and experts to adopt tailored measures such as creating shaded green spaces and parks with cooling features such as water bodies or fountains. Further, soil sealing in open and public squares to prevent heat build-up and UV reflection, encouraging the planting of trees and shrubbery, and promoting roof gardens are essential steps to create child-friendly, climate-resilient communities. Additionally, to protect children from extreme heat, the government should institutionalise and regulate access to cooling infrastructure, including public water dispensers and "cooling centres" in government offices, shopping malls, churches, bookshops, and train stations.

Measures to adapt housing to the effects of climate change inevitably have long lead-times, and this may particularly be true in Germany where the renovation rate remains well below the Government's target, and is falling. Given the significance of adaptation to fulfil children's right to housing, and the slow pace of progress in Germany, resources should be prioritised to ensure that the needs and rights of vulnerable groups are appropriately assessed and taken into account. The human rights and needs of children must be a central consideration in this context.

V. Requests

As shown in this communication, Germany is currently infringing children's rights to health, education and housing, due to the State's failure to adequately take children into account in its Federal Climate Adaptation Act and adaptation strategy. The deadline for the *Länder* to present their first climate adaptation strategies is excessively distant, given the urgent need for prompt action. Therefore, Just Access requests that the Special Rapporteur on climate change and human rights, the Special Rapporteur on the right to health, the Special Rapporteur on the right to education and the Special Rapporteur on the right to housing issue a joint communication to the German State, urging it to:

1. Review existing climate change adaptation laws, policies, guidelines and strategies in order to ensure that children's rights are prioritised and protected;
2. Generally, adopt an intersectional model of vulnerability in assessing children's climate change adaptation needs, taking into account both embodied and structural sources of vulnerability, including socioeconomic status;
3. Generally, adopt a children rights-based approach to climate change adaptation, including meaningful participation of children and their representatives in future policymaking.
4. Adopt concrete policies directed at the reduction of health-related impacts of climate change on children, in consultation with paediatricians and other experts in the field;
5. Design and implement a heat action plan at the national level that takes into account the heat-related vulnerabilities of children;
6. Prioritise the mental health of children in its national climate change adaptation policies, including the improvement of access to mental health services and the prevention of long-term psychological consequences of climate change;
7. Ensure and prioritise the adaptation of educational facilities (including playgrounds), to protect the safety, physiological health, and mental health of children and adolescents in educational settings;
8. Provide national guidance and assistance to the States (*Bundesländer*) to include climate change adaptation in the curricula for schools and early childhood education institutions, in consultation with schools and pedagogical experts;
9. Reform its Building Code to ensure that climate change adaptation takes precedence over other concerns, especially over those of a private or economic nature;
10. Provide higher funding for energy-efficient building and renovation, prioritising young and economically disadvantaged tenants;
11. Embed climate change adaptation in the field of urban planning and urban design, taking into account the specific rights, needs, and interests of children – including the right to play – in consultation with urban designers and architects.