

Advancing Climate Change and Health Policies in Germany:

INSIGHTS FROM NATIONAL POLICY STAKEHOLDERS



CPHP
Centre for
Planetary Health
Policy



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CLIMATE CHANGE
COMMUNICATION**

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About the Centre for Planetary Health Policy:

The Centre for Planetary Health Policy (CPHP) is an independent think tank that analyzes health policy and global environmental change, and operates under the umbrella of the non-profit organization German Alliance on Climate Change and Health (KLUG). CPHP is a forum for scientific policy advice at the nexus of global environmental change and health with the aim of achieving a sustainable and equitable transformation of social systems in Germany and the world. More information available at: <https://cphp-berlin.de/en/>

About the German Alliance on Climate Change and Health:

The German Alliance for Climate Change and Health (KLUG) was founded in 2017 as a nonprofit organization and is a rapidly growing network of experts, scientific institutions, and numerous other actors in the health sector. KLUG raises awareness of the far-reaching health impacts of the climate and environmental crisis and empowers people to actively shape the transformation of our society within the framework of Planetary Health. More information available at: <https://www.klimawandel-gesundheit.de>

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Abstract

To examine the current status and potential for further integration of climate and health policies in Germany, we conducted and analyzed interviews with stakeholders working on climate change, health, and related areas from various sectors including government, healthcare, academia, and advocacy organizations.

We found general agreement among participants that climate and health policies should be more closely integrated, though health stakeholders emphasized this need more urgently compared to climate actors. Most participants saw potential benefits in further integration, including maximizing co-benefits for climate action and public health outcomes, and potentially increasing public support for climate policies through a health lens.

Among the identified barriers to further integration were: limited financial and human resources; challenges in intersectoral collaboration; complex governance structures; lack of perceived urgency and attention; short-term electoral cycles; weak science-to-policy interface; and insufficient focus on prevention. Opportunities for advancement included: integrating climate considerations into health sector reforms and vice versa, political elections and global challenges as windows of opportunity and leveraging co-benefits of climate action for health.

Strategies recommended to improve integration comprised: enhancing joint working across ministries and sectors; redirecting harmful subsidies; strengthening the evidence-to-policy nexus; implementing binding legislative requirements; improving communication strategies; and focusing on socially equitable climate policies. We explore potential implications for national policy-makers, actors in the health sector, researchers, funders, and advocacy organizations to systematically integrate climate and health considerations into Germany's policy agenda.

Table of Contents

List of abbreviations and translations	vii
Translations	ix
1. Executive summary.....	1
2. Background.....	5
2.1. Germany is experiencing increasing impacts of climate change	5
2.2. Climate change strains the German healthcare system further	6
2.3. Increased integration of climate change and health policies with significant gaps in national implementation	7
2.4. A Majority of Germans recognizes climate change impacts and support climate action	10
2.5. Aims and research questions	10
2.6. Methods.....	11
2.7. Multinational research context.....	11
3. Findings	12
3.1. Current status of climate and health policy integration	12
3.1.1. Integration of climate issues into the health sector is increasing.....	12
3.1.2. Opportunities to integrate climate action in health policy reforms were missed	15
3.1.3. Integration of health aspects into the climate sector is not yet mainstreamed.....	16
3.1.4. Gaps in policy integration remain	18
3.1.5. There is limited awareness and intersectoral collaboration	19
3.1.6. Incremental progress occurs through local initiatives and legal frameworks	20
3.1.7. Impacts of climate change on mental health are overlooked	20
3.1.8. Structural and cultural barriers impede better integration of climate and health	21
3.1.9. More attention is placed on health in international climate policy while full integration remains insufficient	22
3.2. Views about optimal integration	24
3.2.1. To varying degrees, participants agreed to strengthening the connections of climate and health policy.....	24
3.2.2. Better coherence between climate and health policies is required	24
3.2.3. Mobility, nutrition and social policies are closely linked to climate and health	26
3.3. Barriers for climate and health integration	27
3.3.1. A clear strategy for climate and health policies and climate-resilient health systems is lacking	27

3.3.2. Limited resources impede progress on climate and health action	27
3.3.3. Challenges in intersectoral working present barriers for holistic policy-making and implementation	32
3.3.4. Measures to strengthen prevention are not prioritized	36
3.3.5. Initiatives without binding requirements or sufficient earmarked budget have limited impact	37
3.3.6. Federal structures in Germany challenges decision-making and coordination	38
3.3.7. Lack of urgency in policy-making and public awareness leads to insufficient prioritization	39
3.3.8. (Global) multi-crisis leads to lower prioritization of climate action	41
3.3.9. Public opinion and resistance to policies may have a negative impact on progress	44
3.3.10. Party positions and coalitions determine government action on climate and health	46
3.3.11. Economic interests lead to a prioritization of decisions for short-term profit over long-term benefits for climate and health	47
3.3.12. Participants described a lack of indicators and data	49
3.3.13. Translation of commitments from COP28 into action is insufficient	50
3.4. Opportunities for strengthening the integration of climate and health policies	51
3.4.1. Health sector reforms present opportunities for integrating climate resilience	51
3.4.2. New or updated climate strategies and other reforms present opportunities to integrate health aspects	52
3.4.3. Political developments and dedicated people can open windows of opportunities	53
3.4.4. Global challenges can present opportunities to change the status quo	54
3.4.5. Leveraging co-benefits for climate, health and environment can be an opportunity	54
3.4.6. Local action and industry transformation can catalyze change	55
3.5. Strategies to advance climate and health integration	55
3.5.1. Develop strategies with measurable goals and indicators to track progress	55
3.5.2. Increase funding by mobilizing existing and new funding opportunities	56
3.5.3. Strengthen and use the evidence base to identify, implement and evaluate policy options	57
3.5.4. Strengthen the science-to-policy nexus	59
3.5.5. Improve collaboration between ministries and different levels of government	60
3.5.6. Foster (informal and formal) exchange between sectors and actors	62
3.5.7. Change agents are crucial to drive transformation before establishing sustainable structures	64
3.5.8. Use legislation to mandate or introduce binding requirements	65
3.5.9. Ensure integration of health in international climate policy processes	68
3.5.10. Use best practices as models for implementation and governance	68
3.5.11. Pilot projects are a start, but scale-up requires funding	69

3.5.12. Litigation as a strategy for enforcing climate action	70
3.5.13. Regulate the influence of commercial and vested interests.....	70
3.5.14. Increase collaboration with and among non-state actors	70
3.5.15. Use participative mechanisms such as citizens’ councils.....	71
3.5.16. Pressure from civil society and the public is needed	72
3.5.17. Tailor advocacy to priorities and preferences of policy-makers	74
3.5.18. Show persistence in the face of resistance	75
3.5.19. Focus on justice and equity in policy measures.....	76
3.5.20. Create awareness about impacts of climate change on people’s lives.....	76
3.5.21. Use positive narratives and communication that fosters agency	78
3.5.22. The health argument can be a strategy to make climate change personal but risks individualizing the issue	80
3.5.23. Use measurable (health) impacts in communication towards policy-makers and the public	82
3.5.24. Skilled communicators and health professionals can help convey messages	84
4. Summary of potential implications	85
4.1. Summary of findings	85
4.2. Potential implications for policy-making	85
4.3. Potential implications for federal ministries and agencies	86
4.4. Potential implications for the health sector	86
4.5. Potential implications for research	87
4.6. Potential implications for funders	87
4.7. Potential implications for advocacy	87
5. Limitations	88
6. Conclusions.....	89
7. References.....	90
8. Methods	94
8.1. Recruitment	94
8.2. Interviews	95
8.3. Analysis	95
8.4. Engagement with climate and health stakeholders.....	96
9. Acknowledgements	97
10. Declaration of competing interests	98
11. Appendix.....	99
11.1. Interview Questions.....	99
11.3. Revised research questions	105

List of abbreviations and translations

Abbreviation	English term	German term
AA	Federal Foreign Office	Auswärtiges Amt
BIPAM	Federal Institute for Prevention and Information in Medicine	Bundesinstitut für Prävention und Aufklärung in der Medizin
BMG	Federal Ministry of Health	Bundesministerium für Gesundheit
BMUV	Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection	Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz
BMWK	Federal Ministry for Economic Affairs and Climate Action	Bundesministerium für Wirtschaft und Klimaschutz
BMZ	Federal Ministry for Economic Cooperation and Development	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
CDU	Christian Democratic Union of Germany	Christlich Demokratische Union Deutschlands
COP	(United Nations Climate Change Conference) Conference of the Parties	Konferenz der Vertragsparteien (des Rahmenübereinkommens der Vereinten Nationen über Klimaänderungen)
CPHP	Centre for Planetary Health Policy	
CSU	Christian Social Union in Bavaria	Christlich-Soziale Union in Bayern
EU	European Union	Europäische Union
FDP	Free Democrats	Freie Demokratische Partei
G7	Group of Seven	Gruppe der Sieben
G20	Group of Twenty	Gruppe der Zwanzig
GMK	Conference of States' Health Ministers	Gesundheitsministerkonferenz
GMU	George Mason University	
KLUG	German Alliance on Climate Change and Health	Deutsche Allianz Klimawandel und Gesundheit
MPs	Members of Parliament	(Bundestags)Abgeordnete
NHS	National Health Service (England)	
PACE	Planetary Health Action Survey	
SPD	Social Democratic Party of Germany	Sozialdemokratische Partei Deutschlands

LIST OF ABBREVIATIONS AND TRANSLATIONS

SRU	Sachverständigenrat für Umweltfragen	German Advisory Council of the Environment
SVR	German Advisory Council for the Assessment of Developments in the Healthcare System	Sachverständigenrat zur Begutachtung der Entwicklung im Gesundheitswesen und in der Pflege
UNFCCC	United Nations Climate Change Conference	
WBGU	German Advisory Council on Global Change	Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen

Translations

English	German
Alliance 90/The Greens	Bündnis 90/Die Grünen
Buildings Energy Act	Gebäudeenergiegesetz
Climate money	Klimageld
Climate Pact for Health	Klimapakt Gesundheit
Day of Climate Democracy	Tag der Klimademokratie
Debt brake	Schuldenbremse
Federal Climate Adaptation Act	Bundes-Klimaanpassungsgesetz
Federal Climate Protection Act	Bundes-Klimaschutzgesetz
Federal Council	Bundesrat
German Climate Adaptation Strategy	Deutsche Anpassungsstrategie an den Klimawandel
German Federal Centre for Health Education	Bundeszentrale für gesundheitliche Aufklärung
Heat action day	Hitzeaktionstag
Heating Act	Heizungsgesetz
Pact for the Public Health Service	Pakt für den Öffentlichen Gesundheitsdienst
Resilience Strategy/German Strategy for Strengthening Resilience to Disasters	Resilienzstrategie/Deutsche Strategie zur Stärkung der Resilienz gegenüber Katastrophen
Road Traffic Act	Straßenverkehrsgesetz
Strategy on Climate Foreign Policy	Klimaaußenpolitikstrategie
The Left	Die Linke
Traffic Regulations	Straßenverkehrsordnung

1. Executive summary

Current status of national climate and health policies

Germany faces growing health challenges due to climate change, particularly from more intense heatwaves and UV exposure, extreme weather events, and the spread of vector-borne diseases and allergens. These health impacts strain Germany's healthcare system, which is already confronted with an aging population, funding gaps, and staff shortages. Efforts to tackle these issues have advanced in recent years. Climate adaptation was most prominently addressed at national level through the German Adaptation Strategy to Climate Change, the Federal Climate Adaptation Act and national as well as state-level and municipal heat action plans. However, integration of health aspects into climate mitigation and adaptation legislation and vice versa remains limited. Public awareness of climate change impacts is high. While support for climate action in general is strong, debates about specific mitigation policies are increasing.

Views about optimal integration of climate and health policies

Participants who were interviewed for this study, generally agreed that climate and health policies should be more closely integrated, though health stakeholders emphasized the urgency of this integration more than climate actors. There was a consensus that both sectors require greater policy coherence. While health stakeholders advocated for a "health in all policies" approach, climate actors focused more on mainstreaming climate policies into other fields. The integration of climate and health is seen as crucial for addressing broader determinants of health through social, transport and nutrition policies. Some participants also highlighted the need for policies that address social justice, with a focus on the disproportionate climate impacts on vulnerable populations, and the importance of collective responsibility and systemic change for a sustainable, equitable society.

Barriers to optimal integration

There was a strong consensus among participants that limited financial and human resources pose major barriers to the integration of climate and health policy. Challenges in intersectoral collaboration, as well as limited competencies at the interface of health and climate in related sectors and institutions were seen to hamper the development and implementation of holistic climate and health policies. Voluntary initiatives, such as measures to reduce the ecological footprint of the health sector without binding requirements or earmarked budgets, were described as having a very limited impact.

Germany's federal governance structure and self-administration of the health system make decision-making and coordination more complex, at times resulting in poor communication between branches of government, legislators and the involved sectors. Many participants also pointed to the lack of urgency and attention in both policy-making and public awareness resulting in insufficient prioritization of climate-health integration. Electoral cycles, economic interests and vested stakeholders were seen to incentivize policy-makers to prioritize short-term strategies and financial concerns over long-term climate and health benefits. The science-to-policy

interface remains weak and the scarcity of reliable indicators and data further impedes progress and accountability.

Moreover, a focus on pilot projects often undermines the scaling of systemic solutions. Path dependency within existing systems hampers necessary change. Finally, the absence of a strong focus on prevention, combined with a lack of accountability for long-term outcomes, undermines efforts to address the complex interplay of climate and health issues effectively.

Opportunities to advance and integrate climate and health policy

Several participants from the health sector viewed the integration of climate considerations in health sector reforms as an obvious opportunity to tap into synergies between improving health outcomes and climate protection. They often referred to the current hospital reform that aims to restructure and condense the hospital infrastructure, without taking its carbon footprint or other ecological aspects into account. The planned establishment of a new national public health agency was also seen to potentially conduct better monitoring and assessment of climate impacts on health depending on its mandate and resources for this topic.

The huge potential of co-benefits of climate action for health, for instance from reduced air pollution, increased active mobility, more green spaces or health-promoting food systems, was seen as barely tapped yet. Some participants also saw opportunities in political shifts and elections, as well as local initiatives and businesses promoting climate-friendly technologies and products, for new alliances and windows of opportunity for climate and health integration. International policy platforms such as the Conference of the Parties (COP) Health Day, were also seen as important drivers to solidify the climate-health nexus on a global scale. At the same time, some participants observed a lack of attention and follow-up after COP28.

Strategies to advance and integrate climate and health policies

To effectively integrate climate and health policies, participants saw a need to strengthen collaboration, joint strategies and aligned policy considerations across relevant ministries, sectors and levels of governance. With regard to overcoming financial barriers, several participants mentioned a need for loosening Germany's strict debt limits for government spending, as well as redirecting climate- and health-harming subsidies. Some also suggested creating joint budgets between sectors, exploring new funding sources, and making health gains and averted costs related to climate action more visible in decision-making.

Strengthening the evidence-to-policy nexus through a solid evidence base, addressing related gaps, improving communication of scientific findings, and training professionals in science-to-policy translation, was also perceived as strategic priorities. Building on existing interministerial working groups and cross-sector exchange formats, participants suggested that improved intersectoral collaboration could be fostered by taking a long-term strategic approach, identifying change agents, moving from individual projects to integrated and institutionalized mechanisms and structures, and strengthening leadership in the climate-health nexus.

Participants proposed to include binding requirements in legislative strategies, strengthen impact assessments, adapt existing laws, and use litigation to enforce climate action. They also described effective communication strategies using skilled communicators to engage a broad range of stakeholders, with a focus on positive narratives and emphasizing co-benefit. Advocacy efforts should target policy-makers with tailored messaging,

use political windows of opportunity such as elections to influence party positions, and involve civil society and public pressure.

Overarching strategies with a continuous focus on ambitious and socially just climate action were seen as essential. These should include political education of the public and an emphasis on justice and equity in policy measures to safeguard democratic stability and public trust. Additionally, collaboration with non-state actors through networks for advocacy, sharing best practices, as well as using evidence and recommendations to influence policy remains critical, participants pointed out.

Potential implications for decision-makers and non-state actors

National policy-makers can seize opportunities to integrate climate resilience into health sector reforms and include health aspects in climate strategies to tap into the potential of co-benefits for climate action, public health outcomes and long-term public finances. Developing legislation that mandates binding requirements for climate mitigation in the health sector, climate adaptation with health implications, and public health measures with climate benefits could scale-up and speed-up progress. Policy-makers can focus on structural prevention measures, regulate the influence of commercial interests, and ensure that climate mitigation policies are socially equitable and counteract the unequal impact of climate change on disadvantaged population groups.

Federal ministries and agencies with responsibilities for health, climate, environmental and social affairs can build on their joint working on the national climate adaptation legislation with closer interministerial collaboration and alignment of policies. Shifting the focus from temporary projects and reliance on committed individuals to sustainable structures and programs for climate and health integration can provide a more reliable guidance for non-governmental actors and citizens.

The health sector has substantial influence on health policy through the self-governance structures. Therefore, it can align on common goals and strategies with the health ministries at national and state level to work towards climate-neutrality of the sector, prioritize public health outcomes and become more resilient to the impacts of climate change. The integration of the climate-health nexus into the training and continuous professional development of healthcare professionals, can be scaled up to ensure adequate handling and awareness raising of health impacts of climate change.

Researchers continue to play a crucial role in building a strong evidence base for climate and health integration. Addressing key evidence gaps, particularly in the area of implementation research and evaluation of existing policy measures, as well as providing more quantifiable health impact assessments related to climate change may be very helpful. Potential focus areas could also include studies on governance at the intersection of climate and health at all levels, as well as interdisciplinary research on behavioral, social and cultural dynamics. Capacity building for communicating scientific findings effectively to policy-makers and the public can be an opportunity for strengthening the evidence-to-policy nexus.

Research funders and philanthropic organizations can explore joint funding sources to support climate and health integration efforts. They may also focus on scaling up successful pilot projects and supporting the development of sustainable structures for long-term impact. Funding initiatives that strengthen the evidence-to-policy nexus and improve science-to-policy translation, and programs that help build bridges between sectors and policy-makers could be prioritized.

Health and climate advocacy organizations could further build on existing and growing networks for sharing best practices, coordinating efforts and developing intersecting policy demands. Developing tailored messaging that considers the views and interests of policy-makers while holding them accountable and utilizing multidisciplinary evidence, is key for effective advocacy work. Networks, alliances, and advocacy organizations can utilize political windows of opportunity, such as elections, to influence political party positions on climate and health issues. Strategic communication campaigns can help build bridges between different population groups, the media and policy-makers. Advocates can play a key role in pushing for a more systematic integration of climate and health considerations into the national policy agenda, challenging vested interests and moving beyond isolated efforts to contribute to a more unified and cohesive policy framework.

2. Background

2.1. Germany is experiencing increasing impacts of climate change

Europe is the fastest-warming continent globally, with far-reaching consequences for ecosystems, societies, and economies (European Environment Agency, 2024a). The climate crisis already has serious impacts on the lives of people in Germany. The 2023 German Status Report on Climate Change and Health released by the Robert Koch Institute, Germany's national public health institute, outlines the growing health risks caused or exacerbated by climate change (RKI, 2023).

Rising temperatures lead to more frequent and intense heat waves, causing heat-related illnesses and deaths, particularly among vulnerable populations, such as the elderly, children, and those with pre-existing conditions (Winklmayr et al., 2023). From 2018 to 2020, the country experienced significant excess mortality of nearly 20,000 deaths due to heat (Winklmayr et al., 2022). In 2021, the Lancet Countdown Policy Brief for Germany stated that Germany is not yet prepared to respond to extreme heat, especially in the health sector (Matthies-Wiesler et al., 2021). Advocacy efforts from non-state actors, such as the German Alliance on Climate Change and Health (Deutsche Allianz Klimawandel und Gesundheit, KLUG), have shaped the public discourse on heat and health, successfully placing the need for protection and adaptation on the policy agenda. In 2023, Federal Minister of Health, Prof Dr Karl Lauterbach, announced the development of a national heat action plan to protect citizens from extreme heat, particularly in the summer months from April to September.

Similarly, the frequency and severity of extreme weather events like floods and storms are increasing. Increasing risk of injuries, fatalities, long-term mental health issues, and infectious diseases, as well as respiratory health problems are among the consequences (Butsch et al., 2023; European Environment Agency, 2024b). These events can also disrupt healthcare services and damage infrastructure (Koks et al., 2022). A recent example is the Western European flood in July 2021, which severely impacted Germany's Ahr Valley. The flood claimed over 200 lives, rendered thousands of homes uninhabitable, caused the collapse of water and electricity supplies, and destroyed critical infrastructure, such as bridges, sewage systems, schools, and hospitals (Koks et al., 2021; Kreienkamp et al., 2021).

Climate change alters the factors influencing UV irradiance and the annual UV dose. Satellite data indicated that the average peak of UV exposure and annual UV dose in Germany have increased over the past decade compared to the previous thirty years (Baldermann et al., 2023). Higher levels of UV radiation can cause short-term effects, such as sunburn. Long-term exposure increases the risk of developing cancers and eye conditions (Baldermann et al., 2023).

Furthermore, climate change exacerbates air pollution, especially ground-level ozone and particulate matter, leading to respiratory and cardiovascular diseases (Breitner-Busch et al., 2023). In Germany, air pollution is specifically problematic in urban areas in Germany with heavy traffic and industrial activities, as well as areas close to fossil fuel power stations or incineration plants.

Alterations in climate also affect the distribution and intensity of allergens, such as pollen, exacerbating respiratory conditions particularly, asthma and allergies (Bergmann et al., 2023). Changes in biodiversity, including the spread of invasive species with high allergenic potential, such as the common ragweed (native to

North America) and the oak processionary moth (native to Southern Europe), further exacerbate these issues (Bergmann et al., 2023).

Moreover, Germany experiences increasing rates of infectious diseases due to a warming climate. Higher temperatures expand the habitat range of vectors, such as ticks, mosquitoes, and rodents, leading to a rise in diseases like Lyme disease (the most common vector-borne disease in Germany), West Nile virus, and Hantavirus disease (Beermann et al., 2023). Rising temperatures and changing precipitation patterns also affect water quality, increasing the prevalence of pathogens like Non-cholera *Vibrio*, *Legionella*, and cyanobacteria (Dupke et al., 2023). Researchers have argued that public health services in Germany need to be better prepared to monitor and respond to these climate-related and emerging diseases (Mlinarić et al., 2023, Hertig et al., 2023).

Additionally, climate change impacts food safety by raising the risk of foodborne illnesses, such as *Campylobacter* enteritis (the most frequently reported bacterial foodborne infection in Germany) and salmonellosis (Dietrich et al., 2023). These shifts in the spread and transmission patterns of infectious diseases lead to increased antibiotic use, potentially contributing to the spread of antimicrobial resistance (Meinen et al., 2023).

Climate change impacts the mental health of the German population. The psychological stress associated with climate change, including anxiety after extreme weather events, loss of livelihoods, and displacement, contributes to a rise in mental health disorders, such as anxiety, depression, and post-traumatic stress disorder in Germany (Gebhardt et al., 2023).

Socioeconomic and health inequities are further aggravated by climate change. Vulnerable populations, particularly people with lower socioeconomic status, experience disproportionate risks from heat stress, air pollution, and extreme weather events (Bolte et al., 2023). At the same time, they are also confronted with barriers to access adequate healthcare services and climate adaptation measures.

Addressing impacts on health and the socio-ecological determinants of health from climate change requires comprehensive intersectoral public health strategies and policies, resilient healthcare infrastructure, and coordinated action to mitigate and adapt to climate change.

This study aims to shed light on the current national status of climate and health policies by analyzing insights from selected individuals from a range of governmental institutions and non-state organizations in Germany.

2.2. Climate change strains the German healthcare system further

The consequences of climate change are increasingly affecting the German healthcare system, which is already strained due the demographic changes and staff shortages (Mlinarić et al., 2023).

The German healthcare system, primarily funded through a social insurance-based model, faces significant financial burdens. While the combined statutory health and long-term care insurance contribution rate has increased from 15.3% in 2000 to 19.7% in 2023, the system grapples with the pressures of an aging population and escalating healthcare costs (Institut Arbeit und Qualifikation, 2024). These challenges are further fueled by ongoing debates over hospital financing reforms, a relatively low proportion of state funding compared to other

countries, as well as difficulties in financing rural healthcare and modernizing medical infrastructure (Busse et al., 2023).

The system operates under a dual financing model. Operational costs are covered by health insurance funds, while investments and building costs are the responsibility of the federal states (Obermann et al., 2013). This model has led to significant funding gaps, as federal states have failed to meet their investment obligations adequately. As a result, the healthcare sector faces a massive funding deficit that has been accumulating for years, creating a backlog of addressing new challenges or reforms. In 2022, about 10% of hospitals were at risk of insolvency and 20% of hospitals suffered annual financial losses (Leibniz Institute for Economic Research, 2024). This financial strain is exacerbated by a growing shortage of professionals, making it extremely difficult for the system to adapt to new challenges or implement necessary changes (Blümel et al., 2020).

While the German healthcare system is negatively impacted by climate change, it also contributes significantly to the climate crisis. With approximately 6% of national greenhouse gas emissions coming from Germany's healthcare system (Pichler et al., 2023), this figure is higher than the average in the European Union (EU) (Karliner et al., 2019). This underscores the urgent need for both climate mitigation and adaptation measures within the sector.

It is important to note that the responsibilities within the German healthcare system are multi-layered. Accountability is distributed across various governance levels (federal, state, municipal), between sectors and within the self-governance framework¹. The challenges resulting from climate change affect multiple sectors which are also linked to health, such as water management, construction, transportation, spatial development, social determinants of health, migration and displacement. Therefore, health-sensitive climate protection and climate change adaptation requires intersectoral collaboration, policy coherence and the exchange of ideas among different actors.

2.3. Increased integration of climate change and health policies with significant gaps in national implementation

In recent years, the intersection of climate change and health has gained significant attention on both national and international stages. The 2022 agenda during the German Presidency of the Group of Seven (G7) exemplified this by prioritizing climate change and health, specifically advocating for climate-neutral and climate-resilient health systems (G7 Deutschland, 2022). In the Health Communiqué issued on May 20, 2022, G7 states committed themselves to promoting sustainable health systems that can withstand the impacts of climate change while minimizing their environmental footprint (G7 Deutschland, 2022).

Furthermore, Germany was among the countries that played a pivotal role in drafting the declaration of the 28th Conference of the Parties (COP) of the United Nations Climate Change Conference (UNFCCC). The declaration underscores the importance of integrating climate considerations into health policies (UNFCCC Conference of the Parties, 2023). Further, it seeks to foster global cooperation in developing strategies that ensure health systems are equipped to respond to climate-related challenges by enhancing their resilience and sustainability

¹ In the German healthcare system, self-governance refers to the decentralized structure where key decisions about healthcare delivery, funding, and regulations are made by independent organizations rather than being controlled directly by the government.

(UNFCCC Conference of the Parties, 2023). However, these international efforts have not yet been fully implemented at the national level.

In Germany, health policy is led by the Federal Ministry of Health (Bundesministerium für Gesundheit, BMG), the 16 State Ministries of Health, as well as public health agencies at national, state and local levels. While certain policies, strategies, and initiatives have interlinkages with environmental and climate-relevant sectors, others remain separate, as this study has explored.

At the national level, the Federal Climate Protection Act (Bundes-Klimaschutzgesetz) guides actions to enforce climate protection and mitigation across various sectors, such as mobility, construction, energy, and agriculture (Bundes-Klimaschutzgesetz, 2019/2024). This Act was amended in 2021 following a decision by the Federal Constitutional Court to ensure that current generations do not excessively consume CO₂ budgets, as this would increase the burden on future generations (Bundesverfassungsgericht, 2021). The Federal Ministry for Economic Affairs and Climate Action (Bundesministerium für Wirtschaft und Klimaschutz, BMWK) is responsible for these initiatives. However, the health sector was not included in this legislation (Hertig et al., 2023).

Germany's first Climate Adaptation Act from 2023 (Bundes-Klimaanpassungsgesetz) from 2023 provides a legal framework for the federal states and municipalities to implement the national German Climate Adaptation Strategy (Deutsche Anpassungsstrategie an den Klimawandel) that entails measurable targets (Hertig et al., 2023). There have been several calls to strengthen the health and care objectives within the Act and define clear goals, measures and indicators (KLUG, n.d.). This is essential for rapidly implementing preventive climate adaptation and achieving the Act's goals (KLUG, n.d.). Emphasizing the dimensions of care, general health, occupational health, and social issues in the legislation is crucial for preventing and monitoring climate-related diseases, ensuring their early and appropriate treatment, and protecting and promoting public health resilience (KLUG, n.d.).

Germany's Climate Adaptation Strategy, first initiated in 2008, provides a strategic framework to address the impacts of climate change across 16 action fields, including health (BMUV, 2008). This strategy was revised in 2024 and includes several objectives with measurable goals for human health (heat and UV protection, pollen allergies and infectious diseases), as well as related goals in the chapters on civil protection, water, urban planning and infrastructure (BMUV, 2024). The Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Consumer Protection (Bundesministerium für Umwelt, Naturschutz, Nukleare Sicherheit und Verbraucherschutz, BMUV) leads the strategy's development and implementation, focusing on health-related goals and climate adaptation (Hertig et al., 2023). Achieving these goals will advance the population's and the health and social care sectors' resilience to climate change significantly. However, it does not cover all aspects of climate impacts on health and the health and social care infrastructure, as only measures were included for which the federal government has some responsibility and resources.

Given Germany's governance structure, healthcare and public health policies are primarily determined by each of the 16 federal state governments. Coordination to align these policies is conducted regularly at the national level. In 2020, for example, the Conference of States' Health Ministers² (Gesundheitsministerkonferenz, GMK),

² The Conference of States' Health Ministers (Gesundheitsministerkonferenz, GMK), is one of Germany's most important health policy bodies, where health ministers from the sixteen German states coordinate policies at the national level. In 2020, the GMK made a significant move by passing its first resolution on climate change and health, calling for committed action and agreeing on measures across nine climate and health-related fields of action.

one of Germany's most important health policy bodies, called for committed action on climate change (GMK, 2020). This was the first time that a resolution on climate change and health had been passed. The resolution explicitly refers to the EU Parliament's climate emergency declaration of November 2019 and its call on the EU Commission to align all relevant legislative and budgetary proposals with the 1.5 degree target of the Paris Agreement. The federal states' health ministers reaffirmed their commitment to meeting this target. Measures were agreed for nine fields of action related to climate change and health: heat, education, professional development in healthcare related to climate change and health, strengthening health literacy and prevention, science and research, sustainable and climate-friendly medical products and sustainable procurement, a call to make capital investments climate-friendly and recommendations for reducing the health sectors' ecological footprint. The GMK's resolution indicates that climate change as a threat to health has been acknowledged in German healthcare policy.

In recent years, there has been a growing recognition within the health sector of the importance of addressing climate-related issues. Since its founding in 2017, KLUG has become a network for health professionals, healthcare providers and other organizations working at the nexus of climate change and health to engage in a wide variety of health and climate change issues. In 2020, KLUG became the German partner organization of the Lancet Countdown on Climate Change and Health and has written the associated policy briefs for Germany since. The medical community also started to prioritize the topic in its own associations, most prominently the German Medical Council, which focused its annual conference in 2021 on climate and health. In recent years, several other professional bodies, as well as health insurance associations have developed strategies, guidelines and information materials on aspects of climate and health. In 2021, for instance, an information campaign on the health impacts of climate change was launched by the German Federal Centre for Health Education (Bundeszentrale für gesundheitliche Aufklärung). In 2022, the BMG published a Climate Pact for Health (Klimapakt Gesundheit) declaration jointly with key health stakeholders (Bundesministerium für Gesundheit, 2022). Although this declaration is not a legally binding document, it emphasizes the importance of collaborating on climate mitigation and adaptation efforts within the health sector. This increased attention is also reflected in efforts to integrate climate adaptation into healthcare services, as highlighted by the updates to the National Prevention Guide (Nationaler Präventionsleitfaden). However, these updates have not yet been legally established (GKV-Spitzenverband, 2023). Since then, most political activities in the context of climate change adaptation and health impacts relate to heat protection efforts (Hertig et al., 2023). By 2025, heat action plans have to be established on federal, state and municipal levels, following joint recommendations by the BMUV, the BMG, and the GMK (Gesundheitsministerkonferenz, 2020) - and with many initiatives and appeals from civil society and research institutions. The annual heat action day (Hitzeaktionstag), held in 2023 and 2024 respectively, further emphasized the importance of cross-sectoral heat protection measures (Hertig et al., 2023a).

The year 2023 constituted an important year for research on climate change and health in Germany. Four high-level scientific publications were launched: 1) the Status Report on Climate Change and Health, commissioned by the Robert Koch Institute and authored by more than 90 German researchers; 2) the flagship report 'healthy living on a healthy planet' written by the German Advisory Council on Global Change (Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen, WBGU) (WBGU, 2023); 3) the report 'for a systematic integration of environment and health' published by the German Advisory Council of the Environment (Sachverständigenrat für Umweltfragen, SRU) (SRU, 2023) and 4) the report 'resilience in the health system' written by the German Advisory Council for the Assessment of Developments in the Healthcare System

(Sachverständigenrat zur Begutachtung der Entwicklung im Gesundheitswesen und in der Pflege, SVR) (SVR, 2023). Never before was there more evidence on climate change and health in the German context.

Moving from evidence to action, addressing health impacts from climate change requires comprehensive public health strategies and policies, a resilient healthcare infrastructure, and coordinated action to mitigate and adapt to climate change.

2.4. A Majority of Germans recognizes climate change impacts and support climate action

In recent years, the majority of the German population has witnessed climate change impacts directly. As reported by the Environmental Awareness Study from 2022, 85% of respondents reported experiencing clear effects of climate change, such as persistent drought and low water levels (BMU & UBA, 2023).

Results of the Planetary Health Action Survey (PACE), a representative survey which continuously measures climate change-related perceptions of German citizens, indicate that about 70% of participants generally support climate protection (PACE, 2024). The willingness to take climate action is higher amongst people who perceive the health risks from climate change to be greater. It is also higher amongst respondents who have more trust in institutions, such as the government and science institutes/institutions, or perceive climate protection measures as more effective (PACE, 2024).

2.5. Aims and research questions

This report explores perspectives on the current state of integration of national climate and health policies in Germany, and their intersections and reciprocal influences across various levels of governance.

This study seeks to address the following research questions:

1. What is the perceived current state of integration (or lack thereof) of climate and health policy in the nation?
2. What do policy-makers and other stakeholders see as the ideal relationship between health policy and climate policy, and climate-adjacent policy?
3. What barriers currently impede progress toward the ideals (as described in RQ 2)?
4. What opportunities have the potential to aid progress toward the ideal relationship between climate and health policy?
5. Which strategies are seen to be effective for influencing climate and health policy?

2.6. Methods

Overall, the study comprised 25 semi-structured interviews. The diverse set of participants came from (different departments of) governmental health ministries or agencies (nine participants); the federal parliament (four participants); governmental environmental ministries or agencies (three participants); think tanks focusing on climate, health, transportation, nutrition policy and finance (four participants); NGOs or advocacy organizations focusing on climate and health matters (three participants), and academia (two participants). In their area of work, the participants primarily focused on climate and health (eight participants), climate (six participants), health (eight participants), and other sectors (three participants), such as sustainable nutrition and transportation. Most of these participants worked at the national or subnational level, with only a few involved in foreign policy or international development.

The interviews were held between mid-April and early June 2024. Interviewees' responses and related analysis presented in this report reflect the perspectives and experiences of the political status quo at that point in time. Later developments, such as the dissolution of the coalition government in November 2024 and the re-scheduling of elections to February 2025, have not been taken into account. Thus, some planned initiatives and policies mentioned by the participants have been suspended or postponed.

The interviews were carried out by three researchers. Based on the interviewees' preferences, seven interviews were conducted in English and 18 in German. The data was coded in Atlas.ti using mixed deductive and inductive manual qualitative content analysis. Further details on the analysis and the interview questions can be found in the annex.

2.7. Multinational research context

This report is part of a multinational study led by the George Mason University (GMU) Center for Climate Change Communication and funded by the Wellcome Trust. The study brought together a diverse team of researchers to identify actionable insights for strengthening national and international climate and health policies. The findings aim to support efforts to limit global warming to 1.5°C and protect human health from the impacts of climate change.

The study encompassed six national reports covering Brazil, the Caribbean (including Antigua, Bahamas, Barbados, Dominica, Guyana, Jamaica, Trinidad), Germany, Kenya, the United Kingdom, and the United States. Research teams collaboratively determined study design, including interview questions, sampling approach, and analytical methods. Additionally, the research questions and analysis were also informed by input from stakeholders of the Global Climate and Health Alliance. Findings from all regions were synthesized into a multinational report (expected date of publication: 19 March 2025).

3. Findings

3.1. Current status of climate and health policy integration

To assess the current integration of climate and health policies in Germany, we asked participants to reflect on how interconnected or distinct these two policy areas appeared, based on their personal experiences and perspectives on the broader national policy landscape. Most participants observed that climate and health were not yet deeply integrated within national policy frameworks. However, many highlighted encouraging trends, such as increased engagement from policy-makers and enhanced collaboration between federal ministries, including the BMG and the BMUV. Participants also noted the development of heat action plans.

With regards to climate policy overall, participants pointed out that the legislative landscape is evolving, resulting in increased obligations for climate adaptation. The shift includes new requirements at both the national and municipal levels, as climate adaptation measures are integrated more formally into local governance.

“The legislation is moving in the direction that there are more and more obligations under the Climate Adaptation Act. This also means there are increasing obligations at the municipal level.”

– *Employee, Health Professional’s Association*

This trend extends beyond Germany, with interviewees noting that shifts in the EU have led to more progressive climate policies.

“There has also been a relatively progressive climate policy in the European Union in recent years.”

– *Employee, Health Professional’s Association*

3.1.1. Integration of climate issues into the health sector is increasing

Participants noted a growing recognition of the connection between climate change and health and the increasing involvement of health policy-makers in climate policy-making. This engagement is reflected through initiatives like the Climate Pact for Health. The pact was initiated by the BMG to integrate health considerations into climate policies and to tackle the ecological footprint of the health sector. Over the last years, collaboration between federal and state authorities has improved, with federal states playing a more active role. Several interviewees perceived the Federal Minister of Health, Prof Dr Karl Lauterbach, to have a top-down approach to the topic. However, they saw this as beneficial for promoting stronger health-climate integration. They acknowledged challenges in intersectoral collaboration, which often depends on the personal approaches and working preferences of the individuals involved.

“The awareness that the connection between the environment in general, but specifically climate change and health, and quality of life is there, has, I believe, become more prominent in the minds of leadership. Now we need to see where [this connection] can specifically be addressed by the Ministry of Environment [BMUV], and we will certainly work on this together.”

– *Employee, BMUV*

This growing awareness has led to the establishment of a number of initiatives and developments within institutions at the nexus of climate and health. Since 2021, climate change has been included as a key agenda item at the German Medical Assembly, resulting in the formation of a dedicated working group. Still, participants pointed out that many initiatives have been driven by individual actors rather than a strategic approach.

“I have the impression that this topic [climate change] has now reached almost all stakeholders, in different ways and that many are also looking at it in their own organizations.”

– *Employee, National Health Association*

Efforts by health associations, physicians, and medical organizations reflect a growing recognition of the health sector’s dual role as both a victim of climate change and a contributor to greenhouse gas emissions.

“There's now movement in the health sphere. [...] A lot of associations, physicians, medical associations are now really picking up aspects of climate impacts on health, and the contribution of the health sector to greenhouse gas emissions.”

– *Head of Research Department Climate*

Interviewees note that KLUG has also played a significant role in advancing the climate-health connection by increasing awareness and involvement among health policy-makers and stakeholders.

“I believe [...] that KLUG has played a significant role. And I believe that the whole climate debate has also gained momentum because health politicians or health stakeholders [...] have become more aware of the issue and are more involved themselves.”

– *Employee, Health Professional’s Association*

Progress has also been seen with plans that encourage coordinated action on heat protection. For instance, the BMG has adopted a template heat protection plan for hospitals. It builds on Berlin’s template action plan which was jointly developed by hospitals, district offices, fire departments, and care facilities.

“One small success that we were pleased about is that the Federal Ministry of Health has adopted a template heat protection plan for hospitals nationwide as a recommendation as part of its own activities on the subject, which is more or less an exact copy of our [city’s] template. [...] We worked closely with, for example, hospitals, surgeries, district offices, the fire department and care - our five sectors. [...]. We have also made a plan for medical facilities for the homeless. [...] one structural result was establishing the so-called alarm chain. [...] we established the Berlin situation center to forward the heat warnings from the German Weather Service to around 8,000 health facilities in Berlin ad hoc by email within half an hour. They all receive the information that a heat warning has been issued and subsequently can activate their respective plan accordingly.”

– Employee, State Department Health (and Care)

Intersectoral collaboration was seen as essential for integrating climate issues into health governance, such as heat protection, which requires technical expertise from urban planning. Although there was initial resistance from some ministries to view health as a climate issue, notable successes indicate the potential for cooperation, such as the federal recommendation for the template heat protection plan for hospitals. As health actors deepen their involvement in climate discussions, synergies are emerging. These include preparing for heat waves, improving air quality, and promoting dietary changes like the planetary health diet, which benefit both health and the environment. Incremental progress in these areas shows the positive impact of these collaborations.

“Heat protection is an intersectoral task for society as a whole. [...] We actually had to struggle with a bit of resistance [...] in the preparation for our [...] resolution on the heat action plan. Other [...] administrations, i.e. other ministries, said 'God, why are we doing this? This is a health issue!' But we managed to clarify at the technical level that we are happy to coordinate the process and also talk about the experiences we have gained in our area of health and care.”

– Employee, State Department Health (and Care)

Participants emphasized the need to strengthen public health and its advancement across other policy fields, particularly through institutions that could address climate concerns. Interviewees highlighted the far-reaching effects of climate-health integration. For instance, urban planning decisions that reduce particulate matter can lower the risks of lung disease, depression, and dementia.

“It is important to strengthen public health as a field of action and to underpin [it] with an appropriately equipped institution, such as the new BIPAM³ [Federal Institute for Prevention and Information in Medicine]. This would certainly also have the potential for integrating the topic of climate in the area of health, because many public health issues cannot be solved in healthcare, but outside of it.”

– *Employee, National Health Association*

The growing collaboration between the BMG and the BMUV illustrates a positive trend towards integrating climate and health policies institutionally. Interviewees highlighted the 2020 GMK resolution, which prioritized heat health action plans, as a clear example of how health and environmental policies are beginning to intersect. They pointed out that initiatives, such as national heat action days and national heat action plan focus on protecting vulnerable groups during extreme temperatures, with lessons learned from other countries.

“The [BMG] has developed a heat action plan focusing on how to address heat from a health perspective, as there are vulnerable groups in Germany, particularly older people. Some steps have already been taken, drawing lessons from other countries - France, for example, has had such a plan in place for quite some time.”

– *Employee, BMUV*

Finally, initiatives such as the Climate Pact for Health aim at improving awareness of and collaboration on climate issues within health policy circles.

“We already have a structure for the Climate Pact for Health at national level. [...] the Federal Ministry of Health, as the lead ministry, is structurally addressing the issue with key players in the healthcare system.”

– *Employee, National Health Association*

3.1.2. Opportunities to integrate climate action in health policy reforms were missed

In broader discussion on health policy and systemic reforms, climate issues are largely absent. One major example raised by interviewees includes the hospital reform, a highly debated plan about restructuring of the hospital landscape. This reform presented an opportunity to incorporate climate considerations, some interviewees pointed out. Yet they observed that climate change was almost entirely overlooked in these discussions.

³ The Federal Institute for Prevention and Information in Medicine (Bundesinstitut für Prävention und Aufklärung in der Medizin) refers to a new federal institute in Germany that was planned to be established by January 2025. It was envisioned to strengthen public health by collecting and analyzing health data, supporting preventive healthcare, and promoting public awareness of health risks. After changes in the national government, the name and scope of work of the new institute were changed.

“I was surprised that in the context of the hospital reform, a major controversial issue in healthcare policy, the issue of restructuring hospitals to make them more climate-friendly was not actually addressed at all.”

– *Employee, National Health Association*

“When I look at important processes in health policy, such as the hospital reform or transparency laws, I don't get the impression that climate change plays a significant role.”

– *Employee, National Health Association*

Experts also pointed out that climate considerations are often overlooked in public health strategies. One example includes the Pact for the Public Health Service (Pakt für den Öffentlichen Gesundheitsdienst). The Pact provides an additional four billion Euros over five years to strengthen capacity, speed up digitalization and improve research and evaluation in the public health service (Bundesministerium für Gesundheit, 2020). The omission of integrating climate change action into public health activities and strategies was identified as a missed opportunity by some participants.

“Even though the Federal Ministry of Health itself is already active on the subject with the establishment of the Climate Pact for Health and the topic of climate neutrality, [...] **I have to say with regards to the [...] Pact for the Public Health Service [...] I can't remember that this was included [...]. I would say that it has been rather forgotten or omitted in many places.**”

– *Employee, Health Professionals' Association*

Some interviewees also highlighted the lack of a broader and integrated approach on prevention and the environment-health connection, even in the context of major health crises such as the COVID-19 pandemic. This further illustrates how opportunities for systemic integration of health and environmental policy are often missed.

“I don't understand why prevention wasn't prioritized in the context of COVID-19, e.g. with regards to the increased risk for people with obesity or the impact of environmental factors. Environmental health and personal health are intrinsically linked, yet little action was taken.”

– *Employee, BMUV*

This statement underscores the recurring pattern of overlooking the interconnection of climate and health in both reforms and broader health policy discussions, despite clear evidence of their interdependence.

3.1.3. Integration of health aspects into the climate sector is not yet mainstreamed

In recent years, health considerations have been increasingly integrated in climate policy. Initially, the German Climate Adaptation Strategy focused primarily on environmental concerns and education of the public about

certain health impacts. The newest iteration of the Strategy, however, is set to include a wider range of both behavioral and structural prevention goals.

“These two versions of the [...] German Climate Adaptation Strategy [...] are an attempt to bring in the health component into climate change policies. [...] there's this new version that's being drafted [...] to really try and deliver more on these goals through specific measures or interventions.”

– *Employee, National Agency*

“We started with a puzzle of approaches merged in seven clusters that have been streamlined by an interministerial working group. The Ministry of the Environment is coordinating this process, respecting the individual responsibility of the departments in their specialist areas. [...] **Health is one of the seven clusters as a major policy area in its own right under the leadership of the Ministry of Health.**”

– *Employee, BMUV*

The growing attention to health within climate policy is not limited to domestic efforts. The Strategy on Climate Foreign Policy (Klimaaußenpolitikstrategie) 2023 of the Federal Foreign Office (Auswärtiges Amt, AA) explicitly references health impacts of climate change (see section 3.4.2) (Federal Foreign Office, 2023). Additionally, the concept of One Health, which recognizes the interconnectedness of human, animal, and environmental health, gains importance.

“One Health is gaining political importance at a higher level. This has helped us to become a more significant player, and it encourages us to contribute more meaningfully.”

– *Employee, BMUV*

In conclusion, the environmental and health sectors have made some progress towards integrating climate and health policies in recent years, with increased collaboration, as one participant emphasized.

“Initiatives like heat action plans or activities led by the Health Minister have often been carried out in collaboration with the Ministry of Environment, with both ministers frequently leading together. Conversely, initiatives anchored or initiated by the Ministry of Environment have involved health actors. **This collaboration has become stronger in recent years, particularly with the establishment of interministerial working groups. I believe there is a newer, stronger trend towards increased networking, cooperation, and exchange between these two policy areas.**”

– *Employee, Health Professionals' Association*

Newer strategies, such as the national heat protection plan, the German Climate Adaptation Strategy, and the German Resilience Strategy (Resilienzstrategie) (Bundesministerium des Innern und für Heimat, 2022) connect

climate and health to an extent. Yet, broader challenges, such as addressing emerging diseases like malaria and dengue fever driven by shifting climate zones, persist.

Interviewees pointed out that while Germany has established committees, such as the Parliamentary Advisory Council on Sustainable Development, which promotes sustainability aligned with the UN Sustainable Development Goals, their influence remains limited as it lacks legislative power.

“In Germany, we established the Parliamentary Advisory Council on Sustainable Development to discuss sustainability issues broadly, including climate and health protection, aligned with the UN Sustainable Development Goals. The Council brings together MPs [Members of Parliament] from various committees, raising awareness of sustainability across different policy areas. The advantage of this setup is that it brings together MPs from a variety of committees, effectively broadening the audience for these discussions. However, a disadvantage is that it does not function as a proper committee; it does not draft legislation itself. Instead, it serves more as an initiative to enhance understanding among the involved actors, with the hope that they will better incorporate these ideas into legislation and the processes relevant to their respective areas of expertise.”

– Member of Parliament (Social Democratic Party, SPD)

3.1.4. Gaps in policy integration remain

Interviewed experts emphasized that, while some climate and health policies are interlinked, they are mostly still treated as largely distinct areas.

“I would say that in large parts there is probably still very, very little connection [between health and climate policies]. [...] We focus so much on the places where a connection exists, because it is existing in some places, but **if you look at health policy and climate policy as a whole [...] then this intersection is probably still extremely small**, which means that these two fields are rarely thought about together, except by a handful of actors, like us, who are probably doing this continuously.”

– Employee, Advocacy Organization/NGO Health and Climate

Interviewees noted that initiatives like the Climate Pact for Health are often isolated actions and not part of a cohesive, integrated policy framework.

“There is the national climate pact of the [BMG] on climate and health, but I would say these are individual initiatives [...] in which this link is drawn. And then there is the large field of health policy in which system reform is discussed and climate issues are actually completely ignored, even where they could be well integrated.”

– Employee, Advocacy Organization/NGO Health and Climate

A further example of the omission of interministerial collaboration in policy-making processes is Germany's food strategy, in force since 2024 (Federal Ministry of Food and Agriculture, 2024).

“There were gaps in the participatory process of the food strategy as e.g. other ministries were not present and also not invited to the stakeholder consultations.”

– *Employee, Think Tank Nutrition*

3.1.5. There is limited awareness and intersectoral collaboration

Participants noted that the integration is often superficial, with limited awareness and action.

“There is still a lot of room for improvement in terms of awareness and understanding.”

– *Head of NGO/Advocacy Organization Climate*

Despite efforts to consider climate and health policies together, participants emphasized that the connection remains insufficiently prioritized. In transportation policy, for example, health concerns often appear to be included superficially or only in relation to specific aspects, such as air quality and noise protection within the Road Traffic Act⁴. However, the medical and public health communities underscore the connections between urban health and transport, drawing attention to broader health impacts that go beyond the limited focus of current transportation regulations.

“[...] **on the subject of air quality and noise protection there is a very clear link there in terms of how effective it is [...].** In the technical discussions, it is actually more the medical, the public health side, that makes this connection with traffic. [...] it is of course the case that those who are in favor of active mobility would like to have a stronger perception and impact of this argument, but in practice, it is often not made or at least does not prevail against other arguments.”

– *Employee, Think Tank Transportation*

Interviewees also noted that institutional boundaries often hinder the effective integration of health and climate policies. The lack of clear responsibilities between ministries - particularly in areas like nutrition and health - reflects a broader issue where closely linked topics are not seen as shared responsibility among government bodies.

⁴ The Road Traffic Act (Straßenverkehrsgesetz) first introduced in 1909, is the legal framework for regulating road traffic in Germany and is largely influenced by European legislation due to its significant role in regulating air pollution. It covers vehicle registration, driver responsibilities, traffic offenses, and road safety measures. Road Traffic Regulations (Straßenverkehrsordnung) define rules for all road users on public roads, paths and squares.

“When we wanted to organize a discussion on food with representatives from the health ministry, BMG, and the food and agriculture ministry, BMEL, the BMG always referred to the BMEL as the responsible ministry, but did not want to participate. **The low level of collaboration between the ministries can be frustrating at times.**”

– *Employee, Think Tank Nutrition*

3.1.6. Incremental progress occurs through local initiatives and legal frameworks

Some participants noted a development towards greater integration of climate issues within health policies, though driven primarily by individual efforts, civil society organizations and selective initiatives rather than comprehensive national strategies.

“If we look at collaboration between different policy areas, then there are policy areas in which cooperation has grown historically, for example via exchanges between state secretaries or via certain committees or joint advisory boards or commissions. In most cases, these are softer elements such as working committees, but there are also structural elements that enable or require cooperation.”

– *Head of Academic Institution*

While some progress was acknowledged, participants expressed difficulties with regards to implementation at the slow pace and the limited policy integration. Structural elements like recent climate legislation and climate litigation have begun to set certain legal parameters for climate action (see section 2.3 and 3.5.8), but effective integration and implementation remains limited.

“What has not worked so well so far is [...] the implementation at the level of the municipalities and individual facilities. There are of course exemplary municipalities, hospitals and care facilities. **But the concrete implementation** [of measures to ensure heat protection] **is much more difficult to achieve.**”

– *Employee, Health Professionals' Association*

“The health insurance funds, which finance it [the health costs of climate change impacts] indirectly, and policy-makers, i.e. the Bundestag and ministries, are exploring whether it is possible to set more binding requirements, for example with regards to nutrition in hospitals [...], to establish a stronger legal obligation here, for example via the Social Code.”

– *Member of Parliament (SPD)*

3.1.7. Impacts of climate change on mental health are overlooked

Participants emphasized that mental health impacts of climate change are often neglected in political discussions. During a recent hearing on the climate crisis and mental health, organized by the Federal

Parliament's health committee and the global health subcommittee, experts presented evidence directly linking climate change to mental health conditions.

“It was actually very interesting that, with the exception of the members of the Greens [the German Green Party], all the other MPs were rather surprised at how clear the evidence on the connection [between climate and mental health] is.”

– *Member of Parliament (The Greens)*

3.1.8. Structural and cultural barriers impede better integration of climate and health

Some interviewees perceived a lack of openness within the health sector. This may stem from the sector's relatively recent engagement with, limited expertise in, and resources for climate issues.

“Health is quite a new player in this [...]. It could be that we don't have enough confidence or enough knowledge, or that our budgets are too small. I think that's probably one of the biggest reasons.”

– *Employee, National Agency*

Moreover, there is little intersectoral dialogue to foster the development of integrated climate-health policies, participants described.

“Health people talk to health people; climate people talk to climate people.”

– *Employee, Government Development Agency*

The sectors often work in isolation, shaped by the specific logics, structures and cultures of their respective policy fields.

“Every policy is strongly shaped by the logic of this policy field and also the cultures of the houses [Federal Ministries] and, historically, there is actually no grown culture of an interface or an operational culture between health and environmental policy. So that's the structural deficit. [...] but there are also cultural deficits.”

– *Head of Academic Institution*

“Because of the very different methodological approach toward climate change adaptation, we very often talk past each other. In brief, health policy aims at human behavior and especially at vulnerable groups, while environmental policy deals with healthy conditions of the environment and resilience [...].”

– *Employee, BMUV*

These siloed structures and responsibilities were also described at the state level where the same lack of dialogue and collaboration was observed.

“We actually discovered rather by chance that there were parallel activities within the [environmental] administration that we weren’t involved in. The environmental administration initially didn’t really support our [health administration] process of developing a state heat action plan. They argued that it had already been decided under the [...] Energy and Climate Protection Program, for which the environmental administration is responsible. They said, ‘We’ve already decided to create a heat action plan; there’s no need to bring it back [...].’ While that’s partly true [...] they only made a general decision without taking any concrete actions. [...] We now want a new resolution for the development process to bring things together better and to ensure a more integrated, intersectoral approach.”

– *Employee, State Department Health (and Care)*

Ministries often work in isolation rather than developing joint approaches from the outset. When collaboration occurs, it often happens in a fragmented or selective way. Participants also noted that institutional competition frequently undermines collaboration.

“Collaboration often either takes place too late or only takes place at the very beginning of the process or at the end of the process. [...] There is always this competition between institutions, which actually undermines a lot of the collaboration. So it really needs to be ensured that this is demanded and also enabled at the level of technical expertise.”

– *Head of Academic Institution*

3.1.9. More attention is placed on health in international climate policy while full integration remains insufficient

With regards to the visibility of climate and health at international fora such as the UNFCCC COP, many participants mentioned COP28 as a positive development. For the first time during a COP, a Health Day was organized and a Declaration on Climate and Health developed. Germany was among the group of countries drafting the declaration. Overall, an increased presence of health actors was noted, including policy-makers (e.g. BMG), as well as other non-state actors working on the nexus of climate and health.

“I’d say [the nexus of climate and health] is gaining significance, especially with the recent creation of positions [jobs], and in preparation for COP28. [...] At COP28, we had the first Health Day, and we [Germany] were asked to be part of the core team as a champion. We agreed and contributed to the Declaration and Health Day's organization. Our main focus was to integrate the One Health approach and climate neutrality as a goal.”

– *Employee, Federal Ministry for Economic Cooperation and Development (BMZ)*

This involvement at international level also catalyzed coordination at the national level. For the development of the COP28 Declaration on Climate and Health, a small interministerial group was set up.

“There is a strong call and need for intersectoral exchange on climate change and health. At the national level the declaration and COP28 health day, provided such an opportunity and led to the setup of an intergovernmental group, to discuss and define a joint position on climate and health for the declaration.”

– *Employee, Government Development Agency*

Participants highlighted tangible initiatives to foster awareness, dialogue and climate advocacy motivated by health concerns.

“Since none of the colleagues of the health sector [of our agency] were given an opportunity to participate at COP, we tried our best to brief everyone around us and use the momentum for internal advocacy. Fostering dialogue, preparing briefing notes for the delegation, lobbying for participation in events. So in the sense of using the momentum, it was successful.”

– *Employee, Government Development Agency*

Participants mentioned that responsibilities at the COP are divided up between different Federal Ministries depending on the specific negotiation track.

“The issue is divided among various departments within the Federal Government. The Ministry of Economic Affairs is primarily responsible for mitigation, the Ministry of the Environment handles adaptation, the Ministry for Economic Cooperation oversees many specific projects, and the Foreign Office leads international negotiations. [...] **Germany has also worked to ensure that climate change and health are recognized as key issues, alongside efforts by others.** I believe this is because many countries are directly experiencing and witnessing the impacts. As I mentioned earlier, when something happens, it naturally comes into focus. [...] There were also events specifically addressing the intersection of climate change and health, in which Germany actively participated.”

– *Employee, BMUV*

While health received more attention during recent years, health initiatives remained mostly separate from the negotiations at COP. Participants described that health has hardly been integrated in the main negotiations at COP. To improve the inclusion of health in prospective COPs, it was suggested to start the process of interministerial collaboration earlier and improve communication strategies.

“We tried to integrate health perspectives in the Global Goal on Adaptation context and children's health in UNFCCC discussions, but realized we needed to start these discussions earlier. This learning will help us to better incorporate health aspects in future COPs. [...] During COP28, the potential of health as an argument was not fully realized, partly due to communication challenges. We had a strong presence with over 80 health ministers, but the impact could have been greater with better PR and communication strategies.”

– *Employee, BMZ*

While ministries were strongly involved in the processes leading up to COP28, it was not on the agenda of the Federal Parliament, one participant mentioned.

“It may be that I was perhaps inattentive, but [...] this issue was not addressed in any form, either in the subcommittee or in the main committee.”

– *Member of Parliament (CDU/CSU)*

3.2. Views about optimal integration

3.2.1. To varying degrees, participants agreed to strengthening the connections of climate and health policy

All participants agreed on linking climate and health policies. For the most part, they also agreed that connections already exist to a varying degree. Health stakeholders emphasized the need for a stronger connection with more urgency and also made it more explicit that integration is essential, particularly with regard to prevention. Climate actors also stated the importance of linking climate and health and underlined the advantages for framing and communication purposes. Health stakeholders saw an explicit need for integration of policy, while climate actors focused more on the advantages related to framing and communication (see section 3.5.22).

“The advantages of a stronger integration of climate and environmental issues in health policy debates would be that you would have to do less ‘repair work’ afterwards, i.e. if you took the effects of certain political decisions on climate change-related health effects into account from the outset, then you would no longer need to readjust or repair certain things afterwards.”

– *Employee, National Health Association*

3.2.2. Better coherence between climate and health policies is required

The mainstreaming of both health and climate in all policies was seen as an opportunity for strengthening the ambition towards more climate mitigation, as well as public health outcomes. Health stakeholders were explicitly using the concept of Health in all Policies to explain how climate and environmental policies could be better linked to health. On the other hand, climate actors highlighted the mainstreaming of climate policies into

other policy fields. How to improve coherence and mainstreaming of climate and health policies in practice remained an open question.

“Health must actually always be the goal of any policy. You would also be supporting other issues if you were to focus on health. Perhaps Planetary Health in all Policies as an approach should actually be used to tackle all these issues and all these political questions.”

– *Employee, BMG*

“If you look at the discussion about the question of what actually keeps people healthy or what makes them ill, in the narrower sense, it is medical care [...]. But of course, it is also to a large extent the influence of other policy areas, such as transport policy, environmental policy, school policy, education policy. In other words, in many areas, health of the population is determined much more than in actual health policy. [...] That's why **health policy, both on a large scale at federal level and [...] at municipal level, must see itself much more strongly as an advocate [...] for the issue of Health in all Policy areas.** [...] this is the only way to really guarantee health and not to act as a ‘repair store’ afterwards.”

– *Employee, Health Professionals' Association*

“**[The] serious acceptance of these facts [that population health is influenced beyond the health sector] does not yet lead to a change in policy,** which should apply to all policy areas including a change in agriculture, mobility, urban development, etc.”

– *Member of Parliament (The Greens)*

One participant also mentioned that health policy-makers should emphasize the influence of other policy areas on health.

“I would find it helpful if [...] the [Ministry of Health] would emphasize more clearly how important transport policy, for example, is for population health, and at what levels, in what respect and to what extent.”

– *Employee, Think Tank Transportation*

Linking climate and health starts with the mindset and belief system of each stakeholder. One participant observed a detached relationship between humans and nature amongst many policy-makers and stakeholders. Seeing humans as part of nature would result in more holistic policies that serve both humans and nature, they argued.

“There is this old belief that humans and nature are separate, that there is no connection and there are no effects. We don't think about how our behavior has a holistic effect.”

– *Employee, Health Professionals' Association*

Some participants emphasized that acknowledging privileges and related lifestyles in high-income countries and how they contribute to climate change is a prerequisite for prompting a collective responsibility towards more sustainable practices.

“The big point is that we recognize that we have privileges that are actually rather harmful to the climate.”

– *Employee, Health Professionals' Association*

One participant stated the need to consider a publicly financed healthcare system that would ensure equitable access to essential services as the common good. The challenges of climate change and health, they argued, underscore the need for systemic change to create a more just and sustainable society (see section 3.5.2).

3.2.3. Mobility, nutrition and social policies are closely linked to climate and health

Some climate actors highlighted the importance of specific policy fields such as nutrition and mobility in the context of the climate-health nexus. Especially the impact of traffic emissions on air quality and health should be considered more in policy-making, several participants argued.

With regards to nutrition, participants mentioned the need for more plant-based diets, i.e. the reduction of meat, eggs and dairy products to promote health and protect the environment. The effects of linking climate mitigation, environmental protection, promoting better health and nutrition were perceived to be underestimated in Germany.

“I think most people in the general public, but also in policy-making, largely underestimate the relevance of nutrition for health outcomes.”

– *Head of Research Department Climate*

“The other major area is the issue of more plant-based diets, and the very polarized and emotional discussion, when it comes to clearly addressing the fact that animal products, not just meat, but also milk and eggs, are among the products that need to be reduced.”

– *Employee, Think Tank Nutrition*

Several participants also mentioned the importance of socially just policy measures in climate and health policies. One participant linked health with social policy by addressing poverty and the disproportionate climate-related impacts on people with lower incomes. The so-called climate money⁵ (Klimageld) has been debated in Germany as a public policy tool. It is envisioned as a dividend for citizens partly to balance out additional

⁵ The climate money is a proposed financial support mechanism aimed at redistributing revenue generated from carbon pricing back to citizens, particularly benefiting those with lower incomes who are disproportionately affected by rising costs.

spending associated with the carbon tax. However, at the time of writing, there has been no legislative proposal for this tool.

“I would also like to see this ‘climate money’ for the general public, especially for people in need of care and caregiving relatives.”

– *Employee, Health Professionals’ Association*

None of the participants named any policy areas that they saw as completely unrelated to climate and health.

3.3. Barriers for climate and health integration

3.3.1. A clear strategy for climate and health policies and climate-resilient health systems is lacking

While participants mentioned some integration on climate adaptation e.g. in the German Climate Adaptation Strategy, they noted the lack of a clear strategy for the intersection of climate and health to foster the transformation towards a climate-neutral, resilient and sustainable health system.

“A lot is happening, but [...] there is no recognizable strategy. [...], no recognizable strategic focus on climate and health or planetary health in this government.”

– *Employee, Advocacy Organization/NGO Health and Climate*

“I believe that what is really needed is a strategic concept of how to make the healthcare system climate-just and climate-resilient, including issues such as protecting healthcare facilities from flooding, heatwaves, and so on. And to develop concrete steps, for example as part of a national action plan, on how to get closer to this vision of a climate-friendly healthcare system. There simply has to be a strategic document to work from. [...] So what is certainly missing is an overarching strategy for a climate-friendly health policy.”

– *Member of Parliament (The Left)*

3.3.2. Limited resources impede progress on climate and health action

The most frequently mentioned barrier was the lack of resources, particularly financial resources, in both climate and health fields, and the differences in dedicated budgets between ministries and sectors.

“Most of the obstacles are really resource-related. That’s the main issue.”

– *Employee, BMG*

This results in a very limited number of staff per sector or organization with dedicated capacity to work on the issues related to climate and health nexus, some participants explained.

“Not having sufficient staff who are working on climate change and health at actually all state levels in Germany is a huge issue. And not having also long-term funded staff in all of this is a huge issue.”

– *Employee, National Agency*

“It [climate and health] also takes up a lot of resources, and it is not my [main focus of work]. This topic is not even planned for us organizationally. I get involved because I think it's important that we participate in the future and that old beliefs are not perpetuated in this transformation [...]. However, this involvement was not anticipated, and we were taken by surprise ourselves. Naturally, it can be overwhelming as more and more issues arise.”

– *Employee, Health Professionals' Association*

“Due to a high workload, departments often focus on their own processes and have limited capacity working together across departments/for a holistic approach.”

– *Employee, BMUV*

Ultimately, this lack of human and financial resources results in limited capacity with regards to implementation on several levels.

“It's not due to a lack of will from the players, but rather due to the fact that there are simply no funds available [...]. That there is no will to make these resources available.”

– *Member of Parliament (The Left)*

Some interviewees explicitly mentioned certain strategies or processes that seemed promising but lacked associated funding.

“The problem is, of course, that the planned measures of the Food Strategy are not backed with appropriate financing and governance mechanisms for implementation. [It is important] that the very big lever, namely the recently reformed dietary guidelines, which for the first time also include greenhouse gas emissions and land use, will actually be put into practice in public procurement.”

– *Employee, Think Tank Nutrition*

Participants also pointed to the overall budgetary constraints in Germany as an underlying barrier to public spending. The debt brake⁶ (Schuldenbremse) and urgent issues putting pressure on the budget were perceived

⁶ The debt brake in Germany is a constitutional rule enacted in 2009. It limits the Federal Government's ability to take on new debt and restricts the structural deficit to 0.35% of GDP annually. State governments are prohibited from any structural deficits. The debt brake has been controversial, with supporters viewing it as necessary for fiscal responsibility, while critics argue it constrains needed investments and economic flexibility. As it is enshrined in Germany's constitution, any amendment or repeal of this fiscal rule requires a two-third majority in the German Parliament.

to accelerate the mismatch between needed and available funds. Interviewees also alluded to the lack of incentives for policy-makers to think beyond the one-year budget cycle or at most until the end of the legislative period, making long-term investments difficult to consider. This was mentioned with regard to the federal budget generally and, but by participants working on a local level particularly. The latter highlighted the limited funding available to states, cities and municipalities.

“In general, [...] we are trying to organize more money for all [...] that is needed because we are realizing how intertwined everything is. We also realize how many sectors need money in order to build up resilience, to organize our adaptation. And [when] the catastrophe is there, we need even more money.”

– *Head of NGO Climate*

“Most local authorities' budgets are exhausted, right? There's not a lot of space to divert budgets from other areas. There is of course some money that is generated locally. **But I think the local budgets are really empty already.** And to develop new ideas there and get the budgets for that is almost impossible.”

– *Director, Public Health Authority*

“The states and the cities, they don't have money.”

– *Employee, Think Tank Social Policy*

“It certainly doesn't get any easier if you look at how Germany is acting in terms of fiscal policy, at least at the moment.”

– *Employee, BMUV*

“We have a situation in which the federal budget is heavily burdened by an increase in the military spending and a succession of crises caused by the coronavirus, climate, the war in Ukraine, inflation and price rises. **This results in the need for higher social spending, but our government strictly adheres to the principle that no additional debt can be incurred.** This means that the possibility of investments being supported by the state is approaching zero, at least as far as additional investments are concerned, and **if you don't invest, then you can't, for example, [...] achieve better heat protection** for residents in care facilities through better building insulation.”

– *Member of Parliament (The Left)*

“I would say the biggest issue I see right now is the Ministry of Finance, which really prevents everything that is done in any way, with old beliefs and few initiatives, investments. I think that's somehow going in the wrong direction.”

– *Employee, Health Professionals' Association*

Additionally, the funding challenges in the German health system were mentioned.

“In the healthcare sector, **the biggest hurdle is certainly the funding gap**, which has been an issue for a long time and which is currently catching up with us on a massive scale. And the staffing gap and steering of a system that is currently facing so many challenges, both in terms of staffing and finances that any further new task is extremely difficult to place.”

– *Employee, Advocacy Organization/NGO Health and Climate*

Participants also noted the overall lack of funding leading to sectors and agencies having to eventually compete with one another for parts of the overall budget, if their ministries’ and agencies’ budgets are separate.

“With separate budgets [...] they [different sectors] end up having to compete against each other.”

– *Employee, National Agency*

“In the end, it always comes down to this: who is responsible, and who pays?”

– *Member of Parliament (CDU/CSU)*

Participants noted that short-term thinking in policy, driven by electoral cycles, often prioritizes immediate, tangible results over long-term sustainability and planning. Long-term effects are not sufficiently represented in decision-making mechanisms, and acute challenges are easier to deal with than complex longer-term impacts.

“It's the prevention paradox. [...] People are aware that if they would invest in prevention, they would have a chance to avoid some costs in the future but you don't get any short-term benefits when you work on what's happening in the future. I think that is sort of the major difficulty. You know, politics only works for a certain amount of years, you know, for your legislation or maybe the next legislation. **In our political system, the effects on the long-term future are not represented.**”

– *Director, Public Health Authority*

“These are generally creeping disasters that develop slowly and are politically much more difficult to deal with than sudden flooding or a heatwave, which can of course be part of this creeping disaster or at least be exacerbated by the climate crisis. Then suddenly they become actionable for the political context, and that of course is related to the time periods. They are simply far too short for dealing with it or with the development and maintenance of health systems that can promote social resilience, i.e. not only fight disease, but are set up to promote health, to strengthen societies so that they can cope well with environmental changes. I believe these are the greatest challenges.”

– *Head of Academic Institution*

“What we invest today in climate protection and adaptation measures will pay off in the long run. In fact, the costs of failing to act – both in terms of protection and adaptation are demonstrably higher, as various studies and calculations show, than the costs of investing now. **The main challenge, aside from the siloed thinking that still persists across departments, is the issue of financing.**”

– *Employee, BMUV*

One parliamentarian mentioned that even within election periods, issues might only be worked on for short periods with heightened focus e.g. heat protection being higher on the agenda in the summer months.

“In my view the topic of heat could have been pursued much more intensively during the winter months. The political system also comes up against certain limits when it comes to solving complex issues that cover many areas.”

– *Member of Parliament (CDU/CSU)*

Participants also mentioned that resource mobilization and collaboration may be easier in the context of (short-term) crises which lead to prioritization, such as during the COVID-19 pandemic. However, efforts are not necessarily sustained long-term and the interviewee drew a comparison to the climate crisis and mentioned their concerns that it might be deprioritized:

“When the [COVID-19] pandemic happened, it was possible to mobilize finance within a short time and to react on a large scale. But when the pandemic subsided, it was not even possible to maintain the knowledge and structures to be adequately prepared for another pandemic. [...] At the moment of crisis, everyone agrees, but afterwards the attention fades away and you turn to some supposedly more urgent or acute problems. I think the effects of climate change have already become more tangible which has led to action. But I think it can still be repressed, and as long as that is the case, I don't think it will be possible to really tackle it with the radicalism that would be required.”

– *Employee, Health Professionals' Association*

Participants also mentioned the impact of restructuring of ministries. At the beginning of the legislative period in 2021, the BMUV underwent significant reorganization due to the establishment of the BMWK. The BMWK took over key climate protection functions previously covered by BMUV. This reorganization resulted in the BMUV losing its climate department and associated climate policy-making authority. Consequently, the BMUV's focus has been redirected more towards environmental protection, nature conservation and consumer affairs, while climate action has become a central pillar of BMWK's mandate. This restructuring reflects the current government's strategy to integrate climate policy more closely with efforts relating to economic affairs and energy transition.

“Unfortunately, of course, it should also be kept in mind that the [BMUV] has lost in size and also in scope as a result of the last restructuring. This means that the climate team has simply been transferred to the AA and the BMWK and, for example, the international climate initiative has also been transferred to the AA and the BMWK. Of course, these are all simply resources that have been lost as a result and the opportunities for the BMUV to invest in further interfaces or even to maintain these positions are now very limited.”

– *Head of Academic Institution*

Participants also highlighted that trade-offs in a situation with a limited budget might lead to less acceptance for climate protection and adaptation in the population, especially when these come at the (perceived or actual) expense of other municipal tasks.

“A mandatory task ensures its implementation despite budget consolidation [Haushaltssicherung]. However, it reduces flexibility/leeway for other voluntary services, which could lead to decisions being perceived as forced, possibly diminishing public acceptance of climate initiatives.”

– *Member of Parliament (SPD)*

3.3.3. Challenges in intersectoral working present barriers for holistic policy-making and implementation

Many participants noted that there is a significant need for better coordination and integration across different sectors and levels of government. Several participants expressed frustration with the current lack of alignment between departments and organizations, which often leads to fragmented efforts and continued sectoral and departmental thinking.

“The biggest obstacle, from my point of view, is that there is still very strong departmental thinking.”

– *Employee, BMUV*

“There is room for improvement. I believe the core problem in the administrative world is **thinking in terms of departmental responsibility**. I see this both at the federal level and at the state level. You need a business allocation plan to simply assign responsibilities. [...] At the technical level, we have a very good connection. At the political level, it doesn't work very well; there's a lot of departmental thinking.”

– *Employee, State Department Health (and Care)*

“If you look at legislative processes, **the massively sector-based approach in all areas is simply an insane obstacle to creating larger solutions** that could actually also achieve the co-benefits that you could have, the gains that you could achieve in terms of interlinkages.”

– *Employee, Advocacy Organization/NGO Health and Climate*

“**I see certain limitations when it comes to the extent to which we can achieve greater collaboration**. Because naturally, every ministry – and especially every minister – tends to focus on what benefits their own interests. [...] I believe there are definite boundaries where cooperation becomes, at the very least, challenging.”

– *Employee, BMUV*

Cooperation between sectors and ministries might also be dependent on personal initiative rather than established processes.

“Sometimes that relates to whether ministers know each other, understand each other, [...] it is not necessary [that they] belong to the same party.”

– *Employee, Think Tank Transportation*

Additionally, with each sector and every political party comes a different perspective on a given issue and they are sometimes difficult to reconcile.

“Everyone has their own interpretation of the approach and the task at hand, and I believe that many are still a little too narrow-minded at the moment. When it comes to tackling climate change, some people argue for deindustrialization, while others argue that without an industrial base, we will lack resources to find solutions. There needs to be more positive communication and not just an either-or mindset.”

– *Member of Parliament (CDU/CSU)*

Participants also highlighted challenges in embedding health considerations into climate policies. Despite recognizing the importance of health in climate agreements and national strategies, a significant gap remains in translating this understanding into concrete legislative actions and routine policy decisions. Instead of actors from different sectors joining forces in the context of climate action and health, they sometimes view each other as competitors.

“I think there are two issues here. One of them is that **the colleagues working on climate and health are already overwhelmed in terms of the sheer task they have at hand** and the number of huge processes that are happening that need a lot of attention and negotiation. So time is an issue and in that sense their approachability is very limited. [...] So just today I was thinking [...] these climate colleagues that are the front runners, right? They're really trying to fight their opponent climate change but they're not acknowledging that there's other players around that are actually doing the same and it would be beneficial to combine all the force that you have at hand. [...] I think they see other sectors coming in as a competition rather than this being a team approach. [...] **It's both the challenge of time and understanding the co-benefits of involving health from the beginning in policy-making and implementation and thinking of it as a benefit rather than as a competition.**”

– *Employee, Government Development Agency*

Some participants from the health sector also mentioned examples of unsuccessful outreach to climate and environment actors.

“We tried to get the environmental administration involved once, and they weren't very committed.”

– *Employee, State Department Health (and Care)*

The interviewees also highlighted the difficulties in understanding the way of working of the health sector or climate sector, as a barrier to identify relevant entry points and synergies for joint policy-making and implementation.

“So I talked about how difficult it is for climate people to understand what we want and why we are claiming our space in the discussion. But I guess it's also the other way around, right? A lot of times we don't really understand the processes that they are involved in and how policies are framed and where are actually the best entry points.”

– *Employee, Government Development Agency*

Additionally, participants observed insufficient integration of the health sector with other sectors at national level. Limited openness or experience, historic factors, as well as less power and budget were among some of the reasons mentioned. Specifically, with regards to adaptation and mitigation of climate change, the health sector was mentioned to be quite a new player which might also be an explanation for the limited integration. However, this may be an issue that could be resolved over time.

“I don't think that the health sector at the national level is well integrated or communicates effectively with other ministries and agencies, whether politically or administratively. This might be due to the people representing the health sector, such as the health ministries and agencies, who may not be as open or collaborative. It's hard to say for sure, but there may also be historical reasons — health is a relatively new player in this area. It could also be that we lack confidence, knowledge, or even sufficient budgets, which I believe is one of the main issues. **We simply need more time to become better integrated.** [...] And also a lack of confidence and lack of bargaining power [...] at the national level. In these kinds of policy spaces, it's a lot about bargaining, negotiation and power.”

– *Employee, National Agency*

Participants also mentioned a limited mandate for working on climate issues within the health sector or health system, limited influence and enforceability of strategies and policies, as well as institutional obstacles as barriers to action.

“This is certainly due to the extraordinarily tight departmental framework that we have in our political work, which hinders a lot of things. [...] **We are always trying to establish the link between health and climate, at least in terms of arguments, but integrating this into the legislative process proves challenging.** If you look at the list of departmental responsibilities in this legislative period, the BMWK is responsible for the link between the economy and climate. However, the topic is also addressed by the Ministry of the Environment and, of course, the Ministry of Health, albeit in a subordinate capacity.”

– *Member of Parliament (CDU/CSU)*

“The problem is all organizations work on this on the side. [...] it is nowhere in the job descriptions of health organizations that they have to take climate change into account.”

– *Employee, Health Professionals' Association*

Participants working in health policy also mentioned the impact on determinants of health by other sectors. At the same time, they pointed to the limited mandate of health actors to influence these other sectors.

“If we now consider e.g. green spaces, shading, air circulation, i.e. also influencing microclimate, heat islands, then these are many points that are influenced by environmental agencies, for example, by instruments of climate policy or also by politics and are not in the area that we shape as a health department.”

– *Employee, State Department Health (and Care)*

Participants also mentioned that this may lead to a gap of responsibility:

“Consider the well-known example of Copenhagen's bike lanes, which led to a decrease in heart attacks and strokes, which not only saved lives but also saved money. However, the representative of the health insurance responded, **'I can't build bike lanes. I'm not the Minister of Transport or Infrastructure.'** And then the issue was closed. And the Minister of Infrastructure is not responsible for population health. As a result, no one takes responsibility, and beneficial changes aren't implemented. **There's not even resistance. They simply state, 'It's not our responsibility. What can we do?'** It's not our concern. We're here to make more money for hospitals or doctors, or to ensure that health insurance companies spend less on medical care.”

– *Employee, Think Tank Social Policy*

3.3.4. Measures to strengthen prevention are not prioritized

Prevention, both in relation to public health but also climate action, is not valued high enough and given the required priority in the current health and policy system according to several participants. There is also a lack of responsibility and budget for prevention, participants argued.

“There's no glory in prevention. We know how to prevent disease, global warming, and violence, but you don't score any political points with that. Right now, there are terrible floods in Bavaria. Five years ago, one of the governing parties claimed that after experiencing a once-in-a-century flood, we shouldn't expect another for 99 years. As a result, they reduced funding for polders and dams. Now they stand there surprised, acting as if this was unforeseeable. Every firefighter and member of the technical relief organizations I've spoken to has been warning for years that these are the scenarios we should expect. They are preparing for many more floods and flood disasters like this. I really ask myself: Why are politicians so foolish or malicious to cut back on prevention and save money in this area, ultimately losing hundreds of millions, if not billions of euros? I'm stunned. We knew it; they knew it. Any firefighter could have told them this would happen. Why did they do this?”

– *Member of Parliament Health (The Left)*

“For example, we are currently experiencing significant floods in southern Germany, right? People and policy-makers see that a disaster is occurring and recognize the need to act. However, the connection that much more prevention is necessary - along with greater climate change mitigation and emission reductions - is not made by many actors. The same applies to the impact of heat extremes on health. Again, there is a need for more ambitious and faster climate change mitigation. If this connection was made, then efforts to advance the phase-out of fossil fuels and other climate mitigation measures would likely progress more quickly.”

– *Head of Research Department Climate*

3.3.5. Initiatives without binding requirements or sufficient earmarked budget have limited impact

Participants highlighted the limited impact of initiatives that are voluntary, without concrete goals or indicators, or insufficient earmarked budget. Some referred to the Climate Pact for Health as an example.

“We now have a Climate Pact for Health, which was founded in 2022, and is an attempt: we commit ourselves to tackling this issue more strongly and taking it into account in our work [...] [but] try to do this in a kind of self-commitment. So, we set our own targets, we set our own measures, we try to intensify our efforts with regard to climate neutrality in the healthcare sector. This very quickly reaches its limits, of course, because much of this is simply not counter-financed.”

– *Employee, Health Professionals' Association*

“I was very disillusioned [by the meeting of the Climate Pact for Health]. The work was not systematically structured. The question is whether everyone sitting there is an expert, it's much more about wordings, i.e. the content is not worked on at all, [...] it's always about what interests everyone pursues and not so much about the content.”

– *Employee, Health Professionals' Association*

One participant also explicitly mentioned that unless there is clear legislation or an intrinsic motivation by government employees, there is a possibility that softer laws or frameworks might not be translated into action.

“I believe the key issue here is that it's challenging to mandate this, and there are numerous well-established administrative practices used daily to either obstruct initiatives or allow them to fail if there's no genuine interest. That's why I think it's crucial to foster intrinsic motivation by encouraging identification with the overarching goal. This is what I'm observing in the entire field of environmental health protection. It works if it's crystal clear in law. For instance, with drinking water monitoring, there's an EU directive that has recently been revised and incorporated into national law, which is very clear. However, this level of clarity is still quite rare when it comes to climate and health policy.”

– *Employee, State Department Health (and Care)*

3.3.6. Federal structures in Germany challenges decision-making and coordination

Another structural barrier mentioned by participants was the complexity of responsibilities and division of powers between different policy levels in the federal system in Germany. This relates to legal responsibilities, decision-making competencies, as well as budgetary considerations.

“We are now realizing in Germany [...] that many of the responsibilities lie in the hands of municipalities.”

– *Head of NGO Climate*

“The Federal Government is unfortunately not responsible for communal catering. Instead, [...] the federal states and local authorities are responsible for public procurement. But they are not sufficiently supported to implement it either.”

– *Employee, Think Tank Nutrition*

“We now have heat management plans that cities are expected to implement. However, even though states are technically responsible for health, as stated in the Constitution, they often take little action because health insurance companies typically manage most healthcare issues. Additionally, both states and cities lack the funding to take significant steps.”

– *Employee, Think Tank Social Policy*

Additionally, without a clear legal framework at municipal level, actors are hesitant to implement new initiatives due to concerns about legal actions.

“It will be interesting to see to what extent the implementation of the reforms in the area of the Road Traffic Acts and then in future also the Traffic Regulations will be transferred into municipal practice [...] there is **still a major concern at local authority level, [...] that they take measures which are not legally secure because the basis within the framework of transport legislation is simply not there.** Certain conditions must be met for it to be legally acceptable that measures interfere with the flow of traffic. If such conditions cannot be proven to exist, then legal action can be taken. It has happened repeatedly that measures had to be rolled back due to court rulings, and this is of course an incredible expenditure of resources for local authorities and also not at all advantageous politically and in terms of communication.”

– *Employee, Think Tank Transportation*

Besides the difficulties of working across sectors and levels of governance, one significant challenge for coordination mentioned by participants is the limited knowledge on processes and current work of the others, e.g. between different ministries, the government and legislators. However, participants also mentioned that cooperation will always be limited to a certain extent due to restrictions related to time and resources.

“The responsible ministries and parliament are often not fully aware of each other's activities, which is understandable given the abundance of topics and limited time. Each entity has its own responsibilities to manage.”

– *Member of Parliament (SPD)*

Participants also mentioned the difficulties of changing existing structures or systems in the health system and other sectors.

“The challenge is that we have many old-fashioned institutions, buildings, processes, etc. within our care system and hospitals, which need to be converted and adapted.”

– *Member of Parliament (CDU/CSU)*

3.3.7. Lack of urgency in policy-making and public awareness leads to insufficient prioritization

Several participants, especially those working in research, noted a lack of understanding among policy-makers regarding the science of climate change and its impacts on health:

“**Many people and many members of the German Bundestag are simply not yet aware of how clear the connection is between the climate crisis and health in general.** Some people have already heard about heat-related deaths, but all the other effects [...] [for example] that there is a clear link to mental health, i.e. that anxiety disorders, depression and even schizophrenia and psychosis are on the rise as a result of global warming. This is something that hardly anyone has heard before.”

– *Member of Parliament (The Greens)*

Some participants pointed to the lack of political will and urgency as a major barrier to successful implementation. Despite widespread recognition of the importance of climate and health actions, the speed of implementation remains slow. A participant compared this to the response to the COVID-19 pandemic, highlighting that the rapid, coordinated actions seen during the pandemic are not mirrored in climate policy, where processes are often lengthy and do not lead to immediate results.

“We have seen this impressively in the COVID-19 pandemic, how politics, science and business have suddenly been able to cooperate with each other, to act very quickly by providing data, finances and products and political will. Even across borders. This is actually what we need to see when dealing with the climate crisis. But we don't see the urgency there. Actually, this speed is simply not there at all. What we see are the large and then very slow, and also voluntary, famous multilateral processes, which then, fortunately, also end in an agreement. But of course, the agreement in itself, does not yet achieve anything. It is the implementation that matters.”

– *Head of Academic Institution*

One participant from research also raised concerns regarding the limits of science communication and the role of (social) media.

“Sometimes, nowadays, I'm a bit frightened that we can produce as much really good science, [but] if there's no real basis in the public debates for digesting that information because everyone is just getting any type of information from their social media channels and their bubbles. I just sometimes feel a bit lost and wonder what the output is. Where is the channel towards [...] a large part of the population which seems to be less and less connected to science, and to the policy process. And so that frightens me a bit but I have no clue what to do about this.”

– *Head of Research Department Climate*

Several participants also highlighted the issue of disinformation (see section 3.5.21) and the challenges for (climate) policy posed by the spread of false or misleading information among the population.

Furthermore, participants shared the impression that the public assumes the climate crisis will either not affect them personally or taking individual actions is sufficient.

“I would compare this with the situation of the water supply in the 19th century, and believe we are in a similar situation with heat prevention and stormwater prevention, as we were before the cholera in Hamburg. **So many people think that doesn't affect me, or they think it is enough to take individual precautions.** Still, we need a different ‘blue-green’ infrastructure, and at this point we have to think about the environment and health together and define what nature-based solutions we would like to have as precautions. **But we also have to be aware that the infrastructure will be as expensive as the drinking water and sewage system was in the 19th century.**”

– *Employee, BMUV*

While individual precautionary measures are important, systemic (infrastructural) solutions, similar to those developed to improve public health in the past are crucial.

3.3.8. (Global) multi-crisis leads to lower prioritization of climate action

The range of urgent topics, which are dominating the public debate and are competing for attention of policy-makers, makes it difficult to keep climate action on the agenda.

“Competition with other issues that are simply more pressing, more urgent. The political business is simply incredibly fast-paced. In times of globally unfolding mega-crises [...] every topic is in constant competition with topics that are also important and may suddenly become even more urgent.”

– *Head of Academic Institution*

At the level of the national health system and health policy, one participant also mentioned the challenge of long-term strategic prioritization due to the dominant focus on short-term problems in the health sector.

“I suspect that the biggest obstacles are the setting of priorities, because it can't be a lack of information. I believe that all the key players [...] in the health policy arena, know the issue and its importance, but their priorities are different. In other words, **in health policy we are so busy and preoccupied with other serious political issues and also with health finances that there is often no room for longer-term and strategic issues.** [...] the prioritization relative to other problems, to short-term problems, which sometimes also involve very significant resources and distribution issues, is relatively low.”

– *Employee, National Health Association*

In this context, participants (particularly from the field of health policy) perceived a loss in momentum and prioritization of health after the COVID-19 pandemic:

“During COVID-19 almost everyone understood and felt how important health is. But after an upscale of funding during COVID-19, we are back at pre-pandemic levels now. Back in a situation where health is no longer given a priority. While for many of us, the impact of the climate crisis might be obvious, it is not being recognized as a crisis and being underestimated by most. So, if you want to be Devil's Advocate, we need another crisis in order to act.”

– *Employee, Government Development Agency*

On the other hand, a participant from a climate advocacy organization also mentioned the reduced capacity of health sector actors during the pandemic.

“We were also in contact with the Robert Koch Institute, which was going well, and then the pandemic actually came in between. **We [...] actually wanted to set something up in terms of climate and health, and then it really disappeared** because then a lot of other things came to the fore.”

– *Head of NGO/Advocacy Organization Climate*

Germany's political system is characterized by the formation of coalition governments at both federal and state levels, requiring parties to negotiate compromises and trade-offs to secure governing majorities. The federal structure includes regular state elections held between national elections, which influence both regional governance and the composition of the Bundesrat (Federal Council). This creates a dynamic political environment in which parties must balance national goals with state-level objectives, often leading to strategic positioning and policy decisions to maintain or improve their standing across both levels.

“One issue might be that not all the political parties have the same opinion of how important the climate crisis is and how important it is to combat the climate crisis. At the moment we have two parties, who are really pushing, maybe another third one, that are really into combating the climate crisis and therefore supporting also health related issues. The other parties do not want the state to interfere. They deny the climate crisis or they are liberals [belong to the Free Democratic Party]⁷.”

– *Head of NGO Climate*

Participants noted that when reforms are potentially unpopular or conflict with the economic interests of healthcare system stakeholders, a strong political commitment is required. This commitment may come more easily from politicians who are not seeking re-election. One example cited by participants is the ongoing debate surrounding hospital reform in Germany. This reform could potentially lead to a reduction in the number of hospitals, which is likely to be unpopular among the general population.

⁷ The Free Democratic Party (FDP) is a liberal political party in Germany that advocates for free-market economics, individual liberty, and limited government intervention.

“It takes a strong commitment to challenge a powerful industry. The current Health Minister is doing this with the hospital reform. He has some powerful supporters, such as Karl-Josef Laumann, who is already doing that in North Rhine-Westphalia. Laumann has nothing to lose as he plans to retire after this term, allowing him to act on his convictions. However, politicians typically avoid such bold moves due to the risk of public backlash, as many people believe that more hospitals are inherently better.”

– *Employee, Think Tank Social Policy*

Participants also mentioned the complexity of navigating different interests and priorities within policy-making processes. For instance, aligning various interests at the European level and balancing the competing priorities of health, climate, and other areas can be challenging, leading to delays and compromises in policy implementation.

Several participants mentioned the current decision gridlock in the Federal Government due to the conflicts in the governing three-party coalition between the Alliance 90/Green Party (Bündnis 90/Die Grünen), the Social Democratic Party and the Free Democrats (Freie Demokratische Partei, FDP). Ongoing tensions and public disagreements, particularly about issues like fiscal policy and climate action, reflects the complexity of balancing the ideological positions and policy priorities of three distinct political parties in a single government.

“I think it's a problem that between the different ways of achieving the climate transformation, we're stuck in a no man's land in the middle because of this complicated government constellation: we're not increasing CO₂ pricing, but we're also not really making any kind of public investment push. And then you end up at a level where something happens, but not enough. I would immediately see that as the biggest short-term danger. This is a recurring problem and saying that the answer to solving this would simply be better government cannot be the actual answer for a path forward.”

– *Employee, Think Tank Climate*

Recent changes that were made to the Federal Climate Protection Act were perceived as weakening climate action. By replacing binding sectoral targets with a more flexible approach, sectors can compensate for each other's emissions, effectively removing individual accountability for specific industries to meet their climate goals. The softening of sector targets has been criticized by environmental groups and experts, who argue it could lead to less ambitious climate action in sectors like transport and buildings, potentially jeopardizing Germany's overall climate objectives.

“The current Federal Government has actually given the issue of climate policy a different weighting, a much higher weighting than the previous government. At the same time, however, they have also softened the sector targets, for example for the transport sector, so this is contradictory.”

– *Member of Parliament (The Left)*

“It's really difficult that we no longer have any sector targets for climate protection at the federal level. [...] This is quite problematic, because experience has shown that along with buildings, **transport is the sector in which the reduction of CO₂ or emissions is progressing most slowly, and so this is the usual issue that has been raised in the debate. If there are no longer any departmental accountabilities, then it will of course be much more difficult to argue that a specific department has to take action** and that makes it much more difficult to demand targeted measures and to push them through in the political arena.”

– *Employee, Think Tank Transportation*

“In the case [of] the softening of the Climate Protection Act, the fact that we now only have a blanket result [for emission reduction] and that [one] buys a ministry out of it a bit. [...] I find it destructive and actually also a softening of responsibility. There should actually be a jolt everywhere that everyone bears responsibility and that everyone has to do their bit.”

– *Employee, Health Professionals' Association*

3.3.9. Public opinion and resistance to policies may have a negative impact on progress

Participants also perceived resistance in the population to change, especially if policy measures imply costs or restrictions, or if other areas of life already pose a significant burden for people. They also mentioned the divisive public debate about the Buildings Energy Act (Gebäudeenergiegesetz) also known as the Heating Act (Heizungsgesetz). The law, aimed at phasing out fossil fuel heating systems, sparked significant controversy in German politics and in the population.

“I believe that the Buildings Energy Act has given us a very big backward step, because we are now simply going through another debate loop. [...] I think that there is a certain resignation or fear on the part of politicians towards their own people. [Minister for Climate and the Economy] Habeck [Vice-Chancellor] also stated that the Buildings Energy Act was a test of how much you can expect of people and that he had gone too far. It's a fear, but it's certainly also a fear that political and popular support for climate protection is really declining, perhaps because there's not enough success to sell and say: hey, progress is actually happening.”

– *Employee, Think Tank Climate*

“At the moment, we have a situation where large sections of the population actually want everything to remain or return to the way it was 30 years ago. [...] That's because we're experiencing massive repression [of climate change and associated emotions] at the moment. People don't want to be bothered, they are so preoccupied with their everyday lives. [...] There is a permanent aggravation of one's own life situation, so that you no longer know how to pay the rent, that you don't know whether you will keep your job, that you have to assume that when you are old you won't get enough pension and so on. These are all stressors that put people under pressure, we have a work intensification due to digitalization in all areas. There are hardly any periods of rest.”

– *Member of Parliament (The Left)*

“The problem is actually that there will always be resistance to adapting to the climate crisis and climate protection, we both know that well. This requires changes in lifestyle. Many things will change, which will also cause fears of separation and resistance.”

– *Employee, State Department Health (and Care)*

Several interviewees both from policy and science underlined the overwhelming complexity of the climate crisis and required solutions that can seem unsolvable and can easily overwhelm both individuals and institutions.

“I have the impression that **many people view this as an almost insurmountable task because there are so many areas that require change**. When I start listing them - from converting all cities into '15-minute or even 5-minute cities' to reduce car dependency, to drastically improving food systems everywhere, changing agriculture and supermarket structures, to reimagining our entire approach to housing and urban planning - **it can seem overwhelming**. I usually view these challenges positively but I'm also in a role where I feel I can shape decisions. However, I understand why many people might feel discouraged, wondering, ‘how can we possibly manage all of this? It is not going to work anyway’.”

– *Member of Parliament (SPD)*

One participant questioned to what extent one can convey issues to the general population with statistics and data.

“If we experience another month with temperatures exceeding 40 degrees Celsius in July, it will significantly increase public awareness and acceptance of heat-related issues and climate impacts. However, some might argue, 'Yes, but it rained constantly during the first three months of the year, so on average, the situation can't be that dire.' The key question is: to what extent can we use statistical data to address or counterbalance such subjective perceptions?”

– *Member of Parliament (CDU/CSU)*

3.3.10. Party positions and coalitions determine government action on climate and health

Navigating the political landscape and aligning advocacy efforts with political priorities were identified as significant challenges by participants. There is a recognition that political support for an issue often depends on the parties in power, highlighting the need for continuous engagement and adaptability to ensure that climate and health issues remain on the agenda, despite shifting political dynamics and leadership.

“I always have the impression that, even if we have contact with politicians, it still depends to a large extent on their party how open they are to certain topics or not.”

– *Employee, Health Professionals’ Association*

Participants mentioned a change in political majorities both as an opportunity and a threat to climate and health policy action. As a consequence, ambitious climate policy needs to be institutionalized to prevent roll back in times of political backlash.

“Well, **there's always the danger of a backlash when the government changes** and of course now we see populism in policy in many countries and we are facing the European Parliament elections very soon and [...]. But on the other hand, [...] some pieces of legislation will remain in place and will remain binding.”

– *Head of Research Department Climate*

The need for and difficulty to gather and maintain sufficient support in parliaments for ambitious climate policies in times of waning public support also raised questions around democratic dilemmas. Participants underlined how strong movements or voices from civil society can support politicians who are aiming at more ambitious climate policy.

“So, what I can say is: there's no way around it, policies always have to gain majorities, otherwise they can't be implemented in a democracy – and I wouldn't like to live in a country where there is no democracy. [...] So it always needs both. **It takes courageous politicians, but if they fail to convince the people, they simply won't be re-elected, and then it falls by the wayside** because the wrong people will be re-elected. So it's always a balancing act.”

– *Head of NGO/Advocacy Organization Climate*

“**We are living in democratic societies and one also has to realize these are really complex issues** and we need to get this through the democratic negotiations and deliberations which just takes time [...]”

– *Head of Research Department Climate*

Climate as well as health participants demanded a commitment from political leaders to prioritize the common good and the bigger picture over party interests.

3.3.11. Economic interests lead to a prioritization of decisions for short-term profit over long-term benefits for climate and health

Several participants mentioned economic interests in general, as well as in relation to certain players as impeding climate and health action.

“You have organizations with economic interests, and **the people who work for them have to put those economic interests first – that is their job**. And even if they personally think, 'Well, we should do something about climate change,' the economic interests are prioritized.”

– Employee, Think Tank Social Policy

“**The economic system that underlies our society, and that at the moment, as far as planetary boundaries are concerned, is acting completely against the interests of climate and health**, if only because of the systemic disposition. I believe that this is also a discussion and that we will certainly have to deepen these discussions. We will have to do this as a society, and here, too, you get the feeling that it is still very much in its infancy.”

– Employee, Advocacy Organization/NGO Health and Climate

“The other [barrier/challenge] is lobby interests. **We don't need to believe that politics in Germany takes place [...] purely in the political arena, so to speak, but there are strong influence groups [...]**. The coal lobby or the fossil fuel lobby in general, the car industry and other lobbies [...], these are powerful groups and they have a lot of money at their disposal.”

– Member of Parliament (The Greens)

Interviewees also applied this argument to the context of the German healthcare sector. In their view, financial incentives are the primary driver of decisions and prioritization. In contrast, the lack of incentives to act on climate change and health, the absence of dedicated budgets mentioned above, and the lack of short-term benefits aligned to interventions, result in lack of action.

“So what really bothers me a little is the fact that the healthcare sector is so dependent on the market economy and that many things are divided into costs and services and what we understand today as care work. **If we put more focus on what is not remunerated in monetary terms, I think we would do a lot for the climate in many areas, but also for health.**”

– Employee, Health Professionals' Association

“Our healthcare system in Germany is not underfunded — let’s be clear about that. In fact, it is the second most expensive in the world after the U.S. when you consider spending per capita and as a percentage of GDP. **However, despite this high level of funding, the health outcomes in many areas, such as cardiovascular disease and diabetes, are only mediocre. This is because much of the money isn’t always directed where it could make the most impact,** but instead often ends up in the pockets of private investors and shareholders.”

– *Member of Parliament (The Left)*

Two interviewees argued that economic interests in the healthcare sector may go both against the patients’ best interest and against climate action.

“**It is about protecting people from the economization of the health system – the profit-seeking aspects of health providers – which threatens their lives.** We have a high number of hip surgeries, knee surgeries, and back surgeries. Especially in the West of Germany - **far more hip surgeries than in the rest of the European Union.** [...] In this region - Bonn, Cologne, Aachen - there are as many magnetic resonance imaging machines as in the whole of France. As a hospital needs to perform a certain number of knee surgeries per year to keep its license, they always do [the required amount], nobody ever does [less]. [...] They will find a patient. And they make a lot of money per surgery.”

– *Employee, Think Tank Social Policy*

“In combination with the economization and privatization of the healthcare system the two [debt brake and privatization, note] are also intertwined. **The debt brake is also always a brake on investment, as well as a privatization storm, because if the state artificially impoverishes itself, then there are always arguments for privatizing social services,** public tasks and transforming them from being oriented towards the common good. This is already very far advanced in many areas in our healthcare system and things are continuing like this. Of course, private investors are initially very interested in making as much profit as possible from their investments. In other words, to increase sales or profits and not to invest in very effective long-term investments - things like climate protection.”

– *Member of Parliament (The Left)*

Participants also underlined the role of vested interests in influencing public opinion and delaying progress or diluting ambition of policy-making for climate and health. This can be both from corporations and industry interests, but also from professional associations or health stakeholders.

“There are many vested interests in the healthcare sector - in my view even more so than in the environmental sector [...].”

– *Employee, BMUV*

Additionally, one participant working on transport policy outlined how significant the German car industry was and continues to be for the German economy, which has an impact on structures, politics and mentality.

“So in this respect, the major obstacles are not simply the party landscape or the party program. **Behind this, of course, there is also the fact of the economic importance of the automotive industry**, the corresponding development in Germany with the economic miracle of a post-war period, in which the car industry played a large role, and the way in which habits have developed in Germany, how cities have been built, been created and what kind of mobility is promoted and preferred as a result. And this has of course led to certain, I would say, cementing both in terms of infrastructure and structurally in the behavior patterns of the population. So, sometimes you are left with the feeling that it is difficult to change people's minds and habits. This ranges from industrial policy and economic interests to politics and the individual sphere. And there is no one silver bullet that we can use to get to grips with this issue.”

– *Employee, Think Tank Transportation*

3.3.12. Participants described a lack of indicators and data

Participants also mentioned that monitoring of progress was difficult due to a lack of data and indicators. Especially actors responsible for policy implementation mentioned that weekly (e.g. in the case of the heat-related mortality reporting by Robert Koch Institute) or monthly updates in data were missing for their work. Participants argued that the absence of real-time data and data sharing may impede data-informed decision-making.

“I would like to mention one example that I believe is still somewhat underexposed, but in my view is a very important topic, and not only for the environment, but also for the area of health, namely the question of data, data availability and data exchange. In my view, there are still considerable gaps and a considerable need to reach an agreement on this. What data do we need? What data do we use and is it all at the same level? Yes, because I believe that nothing is collected as much as federal data. The federal states, local authorities, they all collect some kind of data, but they don't really want to give it out. And I consider this to be a very important issue, because I believe that politics without a data basis has legitimacy problems.”

– *Employee, BMUV*

“Unfortunately, until now, [we can only use/analyze] data that was gathered weeks or months back. **I would like to see data analyzed on a daily dashboard** or actually only dashboard so that we can steer for example ambulances or, usage of emergency rooms, from the side of the city during peak times of high temperature days.”

– Director, Public Health Authority

“At the moment we have no access to the [data of the] entire hospital sector. And neither does the Ministry of Health.”

– Employee, BMUV

3.3.13. Translation of commitments from COP28 into action is insufficient

Several participants perceived a lack of follow-up on the commitments and declarations after COP28 and insufficient structures or processes to implement the commitments.

“**The focus since then has not really been on the follow-up to the COP.** That hasn't happened yet, which actually means that the debates in the health sector itself and health at the interface with climate are showing too little political will, at least that is my impression.”

– Head of Academic Institution

“I do have the impression that health enjoyed increased attention at the last COP. There was explicit focus, meetings were held and a special structure was formed for this purpose, where key decision-makers from our health policy system were also involved. But I don't have the impression that there was any lasting impetus. **For a moment the attention was significantly increased. But in my view, this fizzled out again in the weeks that followed. So, in my day-to-day work, the COP and the results in relation to health play no role.** [...] The attention caravan after COP has moved on, and no structures, papers or resolutions have emerged from the COP and been carried into the health policy community in Germany and the health care sector that we could or should use as a guide.”

– Employee, National Health Association

“I think currently the political commitment is not yet concrete enough. Yes, there is a commitment towards supporting the WHA resolution⁸, to working towards supporting the COP28 health declaration and any coming activities along those lines. But **it hasn't really translated back yet into actual funding or into actual setting of own internal goals.** The question is whether without some sort of accountability mechanism or framework this is going to happen.”

– *Employee, Government Development Agency*

Additionally, one participant with a municipal perspective underlined the limited impact of international policy on the decision-making at the local level.

“How much do we take into consideration what's happening on an international level? You know, none of that is relevant for decision-making on the local level.”

– *Director of Public Health Authority*

3.4. Opportunities for strengthening the integration of climate and health policies

3.4.1. Health sector reforms present opportunities for integrating climate resilience

At the time when the interviews were conducted, the planned establishment of a new national public health agency, the BIPAM, was seen by participants as a significant opportunity to align health and climate initiatives more closely. This planned new institution could serve as a platform for fostering collaboration between health and climate sectors.

“[It's] possible that the new national public health agency [...] that's supposed to be set up next year could also provide more opportunity for more work in this or for linking health with climate change.”

– *Employee, National Agency*

However, some participants doubted whether the focus of BIPAM had been appropriately defined and advocated for a broader mandate.

⁸ WHA77 resolution on Climate Change and Health adopted at the World Health Assembly in May 2024.

“Unfortunately, in my view, **the current draft bill** [for the establishment of the BIPAM] is **missing the real central issues of health in all policies, more structural prevention, climate, health**. But if we had such an institute, with a very clear public health mandate, which would also include a health communication mandate in the direction of climate health, if we were able to pass the appropriate legislation in the course of this legislative period, that would be a huge step forward.”

– *Member of Parliament (The Greens)*

Interviewees also saw potential in health reforms, such as the hospital reform, to contribute to both social and climate benefits. Reducing unnecessary procedures and optimizing hospital infrastructure could reduce consumption of energy, products and services, resulting in fewer emissions while also improving patient outcomes.

“If we implemented the hospital reform, fewer people would die in hospitals. Fewer people would undergo unnecessary operations. [...] From a climate perspective, we would simply have fewer buildings to heat, fewer operations, and therefore less use of narcotic gases and pharmaceuticals that need cooling.”

– *Employee, Think Tank Social Policy*

3.4.2. New or updated climate strategies and other reforms present opportunities to integrate health aspects

Interviewees pointed out various opportunities for enhancing the integration of health into climate policies, such as the German Climate Adaptation Strategy. Additionally, processes like the heat protection plan and the roadmap for this year (see section 3.1.1) were noted as opportunities to foster multi-sectoral and interministerial collaboration, despite being coordinated primarily by the BMG.

Furthermore, the integration of health into foreign policy strategies was identified as a key opportunity. Interviewees discussed how the Federal Foreign Office’s 2023 Strategy on Climate Foreign Policy includes references to health.

“We have been working on a foreign policy strategy, on climate foreign policy [which] also includes references to climate change and health. [...] There’s a reference to the global health strategy, which also includes references to climate change and health. And there’s a reference to the One Health approach.”

– *Employee, BMG*

Platforms such as the COP Health Day were specifically noted as essential for advancing the climate-health intersection at a global scale (see section 3.1.9). However, interviewees underscored that engagement in these global forums must lead to concrete actions to maintain credibility.

“If governments continue to advocate on such a high level about the importance of climate change and health, it naturally eventually needs to translate into practice. It has to, right? Otherwise you lose your credibility [...]”

– *Employee, Government Development Agency*

At the municipal level, interviewees noted that recent reform of the Road Traffic Act and the planned reform of the Road Traffic Regulations (see section 3.1.5) could provide new opportunities to link health and climate goals. The reforms would give municipalities the competence to adopt best practices that prioritize both climate resilience and public health and to set examples for others.

3.4.3. Political developments and dedicated people can open windows of opportunities

Interviewees emphasized that the success of climate initiatives within health organizations often hinges on having the right people in decision-making positions who are open to addressing climate issues.

“It still depends on certain people or constellations of people and it also depends [on] who is the head of the house [ministry].”

– *Employee, Health Professionals’ Association*

The same health sector interviewee also mentioned the significance of initiatives like the Lancet Countdown on Climate Change and Health. Publications in renowned medical journals promoting the integration of climate and health can influence the medical community.

“One of our first measures was the Lancet Countdown process, which is basically a very renowned medical journal that also has a good reputation in certain circles, including established medical circles.”

– *Employee, Health Professionals’ Association*

Recent political shifts and (forthcoming) elections, both in Germany and at the EU level, were seen as risks by many interviewees, especially with regards to the increased votes to far-right parties. However, other interviewees highlighted elections as key opportunities to advocate the integration of ambitious climate and health policies.

“We are always using the opportunities of elections in Germany. For example, at the moment we are developing our asks for the elections next year in Germany. [...] We are doing that one year ahead because we are trying to influence the positioning of the parties.”

– *Head of NGO Climate*

Some interviewees voiced concern of a potential weakening of climate policies if conservative parties gain the majority in the next government. Others saw a silver lining in this, as it could potentially reduce polarization on climate protection in the public discourse.

“I think there may even be a certain opportunity in it. **If we had a CDU/CSU-led federal government again** and that government would still advance certain climate policy measures, **that might take out the culture war element of climate politics** a little. But that is, to be honest, an optimistic scenario.”

– *Employee, Think Tank Climate*

3.4.4. Global challenges can present opportunities to change the status quo

Furthermore, interviewees discussed how crises such as the COVID-19 pandemic, biodiversity loss, and the climate crisis have underscored the need for systemic reform in Germany’s health system. While disastrous, these crises have raised awareness and even created hope for some to build up momentum towards necessary changes.

“We have seen an increasing awareness in both houses [ministries] over the past few years that cooperation is necessary; the COVID-19 pandemic has also contributed greatly to this, as has the biodiversity crisis and the climate crisis, especially with regard to heat-related deaths.”

– *Head of Academic Institution*

“I don’t see a window of opportunity, but I’m hoping for some momentum to come from climate change.”

– *Employee, Think Tank Social Policy*

According to interviewees, crises can often act as catalysts for change by forcing policy-makers to rethink existing structures. These disruptions can shift political priorities and lead to opportunities for reform that might not have been considered otherwise.

3.4.5. Leveraging co-benefits for climate, health and environment can be an opportunity

Co-benefits of climate action were repeatedly mentioned as opportunities to improve both health outcomes and mitigate climate change. The win-win of co-benefits could be made more explicit and leveraged further.

“Reducing air pollution will have positive effects on human health and [...] slowing down global warming will have positive effects for the health systems.”

– *Employee, BMG*

Another participant emphasized that stronger communication about health benefits of climate action could foster greater public and governmental acceptance.

“If we clearly communicate the health benefits of environment and climate action and underline that while measures may incur costs, they ultimately improve human health and the environment, I believe it could lead to greater acceptance among the public.”

– *Employee, BMUV*

This underscores the potential of framing climate action around tangible health benefits to enhance support and drive implementation, leveraging the overlap of climate, health, and environmental goals.

Some participants noted the connection between climate change and health in implementation, particularly where support programs provide co-financing for climate adaptation measures in social institutions that have an impact on health, like shading of retirement homes.

“Something is happening in Germany, as evidenced by the existence of support programs. For example, social institutions can receive co-financing for measures related to climate change and its impacts on health - this program is being implemented through our ministry.”

– *Employee, BMUV*

3.4.6. Local action and industry transformation can catalyze change

Interviewees also highlighted the growing engagement of businesses with climate-conscious practices as a helpful support or even driver for climate-friendly policy changes. They described important momentum in different sectors, including renewable energy, nutrition, and sustainable transportation.

“If you look at industry and technology, I see a lot of momentum there. **Many companies in different sectors [...] are actually [...] building new business models**, whether it's renewable energy, alternative protein or plant-based food products, or new modes of transportation. [...] **That will make it also easier again for policy-makers** to say that we can actually implement more ambitious climate policy instruments because the alternatives are now there [...].”

– *Head of Research Department Climate*

The importance of grassroots initiatives and dynamic bottom-up developments in driving renewable energy expansion was emphasized. For instance, balcony solar systems were mentioned as promising examples for positive change, often largely independent of political processes.

“I believe a lot in positive change, like renewable expansion being driven by economic factors – enabled by policy – and people’s decisions. There is a lot of momentum with, for example, balcony solar systems, generating bottom-up processes which can be a good reason to be hopeful.”

– *Employee, Think Tank Climate*

3.5. Strategies to advance climate and health integration

3.5.1. Develop strategies with measurable goals and indicators to track progress

Both policy-makers and non-state actors working in research and think tanks articulated the need for a clear assessment to inform better prioritization, alignment of strategies and strengthening of intersectoral collaboration. In this context, many health stakeholders stressed the urgency of developing a national climate

and health strategy or action plan for Germany accompanied by measurable goals and indicators to allow effective monitoring. Such a policy instrument would provide clear guidance, define problem areas, and facilitate coordinated action across sectors.

“We need goals, indicators, milestones, i.e. clear strategies with packages of measures. We have so many strategies that are just so incredibly vague.”

– *Employee, Think Tank Nutrition*

“I think we need much more of a strategic approach, a strategy that defines the goals, that identifies the problem areas and that we then come up with legislation or statutory standards through joint governance of the health system.”

– *Employee, National Health Association*

“We need to have a clear agenda in place now. How will this affect our care system? [...] **I think we need to conduct a thorough analysis of which factor leads to which effect, and then priorities would need to be sensibly ranked.** Of course, the ranking would also need to consider factors such as quick implementation, individual manageability, and cost justification.”

– *Member of Parliament (CDU/CSU)*

3.5.2. Increase funding by mobilizing existing and new funding opportunities

Many participants outlined the need for sustainable and increased (public) financing. This requires utilizing existing budgets and identifying new funding opportunities. In this context, some interviewees suggested the need to amend the debt brake to remove a major barrier to investments (see section 3.3.2).

Implementing available but largely unused political instruments for reaching social policy or public health goals were mentioned as strategies as well. Some participants suggested raising funding through innovative financing mechanisms.

“That we use ‘Steuern, um zu steuern’ [taxes for steering] - as the Germans say. This could include e.g. taking back the reduced VAT rate for animal products and reducing the VAT for fresh fruit and vegetables. But it could also include a sugar tax etc. to support climate-friendly and healthy eating.”

– *Employee, Think Tank Nutrition*

Participants also specifically mentioned the removal of climate harming subsidies and the measure of providing ‘climate money’ (Klimageld) to the population.

“[Environmentally harmful] subsidies need to be reduced and climate-friendly behavior needs to be promoted. [...] I would also like to see this climate money for the general public, especially for people in need of care and caregiving relatives.”

– *Employee, Health Professionals’ Association*

One participant from a health agency proposed the idea of creating joint budgets as a way to foster collaboration and reduce competition between sectors.

“I think one of the things I hear that really helps and that people are asking for and that I could personally see would really help is to have joint budgets. [...] **I think having a shared budget for some of this work would really help to remove that competition between them [ministries and agencies]** and to [...] support the synergies between health and other climate change related issues.”

– *Employee, National Agency*

Another parliamentarian outlined their opinion that a fundamental orientation towards the global good is needed, and that individual regulations or policies are insufficient.

“We need a fundamental orientation towards the common good. This must be placed in the foreground. The healthcare system is an area of public services of general interest and is therefore part of the common good and must be publicly financed, and no profit interests should be allowed to influence the key decisions. And of course, what we can already do now is regulate things or use subsidies to ensure that, for example, new buildings in the healthcare sector are renovated to make them more energy-efficient, or that solar panels are installed on the roofs of hospitals, etc., so everything that can be done with relatively little effort. Of course, you have to support that, but I don't think it will bring about a big change.”

– *Member of Parliament (The Left)*

3.5.3. Strengthen and use the evidence base to identify, implement and evaluate policy options

Scientists and think tank employees also pointed to the importance of robust evidence and a strong scientific foundation for policy-making.

“**You really need good science and strong publications**, [...] to just have a solid base and to say this [...] is peer reviewed, this is the best quality [...] not just the one paper, you have to continuously work on these things.”

– *Head of Research Department Climate*

Participants highlighted that there are still significant research gaps, particularly in understanding the role of environmental factors in the interaction between human and animal health.

“You simply have to do even more research, and that's what this [One Health] research platform is supposed to do. How the interaction is actually not only between human and animal health, but also how the environmental factors affect health. **I believe that there are still considerable gaps in our knowledge and we have to continue to close them.**”

– *Employee, BMUV*

Additionally, it was underlined that science could help identify and evaluate policy options and cost of (in)action.

“A good evidence base, which is always played out in public reports, analyses, economic considerations, is important. What are the benefits of dealing with this topic? What are the long-term benefits of investing in this topic? Or what would be the cost of not acting?”

– *Employee, National Health Association*

Participants also mentioned that – even if there are difficulties with accounting for long-term effects in decision-making (see section 3.3.11 and 3.3.8) – it would be useful to quantify expected health gains and averted costs from the implementation of climate policies.

“When faced with conflicting objectives at the content level, such as balancing climate protection and improved living conditions against increased financial expenditure, one must find a way to articulate how the additional benefits in terms of quality of life and climate impact justify an increase in costs.”

– *Member of Parliament (SPD)*

Beyond academic institutions, participants also highlighted the role of non-state actors in identifying and addressing knowledge gaps. One participant described how their NGO regularly commissions think tanks or research institutions to develop reports on specific policy-relevant questions which can then be used to support advocacy efforts.

“Once in a while we are commissioning studies. [...] We ask think tanks or scientific institutions to go into the details of certain questions. On the basis of the results of the study we come up with recommendations, and we discuss our recommendations with government representatives. The typical lobby work.”

– *Head of NGO Climate*

One participant also described how their municipality had directly used a specific piece of research for the development of their municipal heat action plan:

“For the [City] Heat Action Plan, we also based our approach on the recommendations for action published by the Fulda University of Applied Sciences [...] who contributed a great deal from a socio-medical perspective.”

– *Employee, State Department Health (and Care)*

On the other hand, participants argued that there was enough evidence to act. They rather saw challenges lying in prioritization and using existing information, which impedes agenda-setting and implementation.

“There is enough evidence. There are enough good practical examples, and the decision-makers can also provide orientation [...] it is **a question of setting priorities** and the individual decision to put this topic on the agenda.”

– *Employee, National Health Association*

3.5.4. Strengthen the science-to-policy nexus

Participants also reflected on the kind of communication required to make scientific findings on climate change and health more accessible and relevant to policy-makers. Communication needs to be better tailored and more actionable.

“What I [...] miss with many research projects and publications is that results are communicated in a way that can be understood by those that need to work with the results – and go beyond the publication of a report and/ or article.”

– *Employee, Think Tank Nutrition*

Parliamentarians mentioned the importance of evidence for their work. One participant rated research findings that are directly applicable to the policy-making context as strategically helpful.

“What would help us as Members of Parliament or put us under pressure in a positive sense? I believe that providing more concrete evidence and placing greater emphasis on the inevitability of certain measures would be more helpful. Saying 'The world is coming to an end because of climate change' is too vague. Instead, stating 'We will experience floods like those in the Ahr valley more frequently' is what has truly shaken Germany. However, even this is not sufficient – it has to be even more concrete, it has to be even more tangible.”

– *Member of Parliament (SPD)*

In a fast-paced policy environment, some participants saw a need for strengthening the interface of science and policy to evaluate the robustness of evidence for policy recommendations through specifically trained staff.

“Not having enough members of staff who have skills in knowledge translation, knowledge transfer and evidence-based or evidence-informed policy is a huge issue. [...] **I think there are not enough people who understand things like negotiations and communication, how to produce or communicate the right [information] to the right people at the right time.** [...] I think this knowledge to policy translation skill is lacking [...]. There's so much [...] pressure to generate the scientific evidence that you need people who are able to really quickly get to grips with this space and to very quickly be able to say: ‘Hold the brakes – we don't have the scientific evidence right now to support the policy that's going to be developed next week’.”

– *Employee, National Agency*

At the same time, scientific recommendations, despite being well-supported by evidence, may fail to translate into policy action due to political resistance. For instance, evidence that a speed limit on highways in Germany would significantly reduce CO₂ emissions and save lives at minimal cost exists. It has not been implemented because of opposition from political parties and interest groups representing the car industry and others.

“The speed limit debate in our country is an example of where scientific evidence fails to translate into policy. The facts are clear: implementing a speed limit would significantly reduce CO₂ emissions with minimal drawbacks, simply restricting highway speeds to 130 km/h. Even those opposing it acknowledge these benefits yet resist the policy. While this shows the limitations of scientific arguments in policy-making, presenting overwhelming evidence does make it harder for politicians to justify inaction in the face of compelling reasons for change.”

– *Member of Parliament (SPD)*

Building on this, a scientist highlighted the potential of advisory boards that are appointed by and report to several ministries as a mechanism to strengthen science-to-policy translation, such as a board operating between the BMG and the BMUV.

“A joint advisory board tends to demand cooperation, which is then also practiced, because of course you can only afford an advisory board if you also ensure a recipient structure for it.”

– *Head of Academic Institution*

3.5.5. Improve collaboration between ministries and different levels of government

Many participants identified a need for increased communication and collaboration between sectors both at the federal level and across other levels of governance (e.g. municipal level) (see section 3.3.6). This includes fostering interministerial cooperation, particularly between ministries of health, environment, and research, as well as strengthening ties between federal and local authorities. Participants also highlighted the unique insights local health and environmental agencies bring. As they are closer to the challenges on the ground they can complement federal-level perspectives and policies.

“At the federal level, we must continue to promote communication, including interministerial communication, communication between institutions, between committees.”

– *Member of Parliament (SPD)*

“A first important step would actually be more cooperation between the ministries. Yes, the BMG, the Federal Ministry of Education and Research and the BMUV. That has been started, but it can still be intensified. [...]. [It is also] very important [...] that we work more closely with the public health service in Germany, i.e. with the environmental authorities, with the local health authorities because they of course know exactly what the problems are, because the problems that we have here on the ground are visible. They have a different view of it than the Federal Government and the federal states, right?”

– *Employee, BMUV*

Several interviewees emphasized the challenges posed by federalism in health policy and civil protection (see 3.3.6). One participant advocated for nationwide standards to improve efficiency.

“We need to tweak federalism a bit, because health policy is a federal matter in our country. **In my view, civil protection suffers extremely from federalism, so we really need nationwide standards** and that's because it's simply easier, cheaper, more pragmatic and so on.”

– *Head of NGO/Advocacy Organization Climate*

While many participants mentioned federal structures as barriers, there were few concrete strategies mentioned on how to overcome them or deal with the resulting challenges.

When participants outlined the ways in which intersectoral governance could be improved, they emphasized the importance of including relevant stakeholders at all stages of the process and respecting the decision-making hierarchies of ministries. This was seen as necessary to ensure that projects are informed by respective expertise and aligned with the goals of all sectors involved.

“So first of all, it has to be very clear: Which units have to cooperate with each other across departments, i.e. this interface design, that is often the big problem. What has to take place before it goes up in the [ministries] and is then united or agreed at state secretary level and then goes down again from there.”

– *Head of Academic Institution*

Additionally, participants outlined benefits and synergies of increased collaboration.

“The results [of increased collaboration between health and climate sector/agencies] are now definitely better data collection.”

– *Employee, BMUV*

3.5.6. Foster (informal and formal) exchange between sectors and actors

Participants highlighted the value of fostering communication channels that encourage trust, tolerance, and cooperation among the diverse set of stakeholders. These strategies not only enhance understanding but also pave the way for more inclusive and informed decision-making processes, participants argued.

One participant emphasized the importance of proactively seeking dialogue, even if faced with bureaucratic hurdles. Direct engagement with ministry specialists was seen to enable a better understanding of existing considerations and to anchor these insights into political decision-making:

“As a Member of Parliament it's just one topic that I deal with, but I've come to realize there is always the possibility of improvement through dialogue. In Germany, it's possible to approach the specialist departments within ministries, although the process can be bureaucratically challenging. Despite these hurdles, you can have these conversations and engage in direct exchanges with the relevant experts.”

– *Member of Parliament (SPD)*

Another interviewee underscored the importance of creating spaces for open and private exchanges, where dialogue is not influenced by public scrutiny. This was seen as a way to foster tolerance for diverse perspectives and allow for more candid and constructive discussions.

“**Tolerance for all positions** [...]. I recognize that this is incredibly challenging in politics. It's sometimes possible to achieve this behind closed doors, during discussions that are not yet public. However, the moment the debate becomes public, position battles inevitably emerge. I completely understand this dynamic. Of course, I am partly a participant in this system, but in the evening, behind closed doors, such an open exchange can be successful.”

– *Member of Parliament (CDU/CSU)*

Similarly, focused and informal discussions among mid-level administrators and ministry officials were highlighted as a crucial mechanism for advancing policy. These interactions allow for the exchange of knowledge and enable civil servants to better prepare legislative frameworks and related documents.

“What I know from other colleagues [about what works] is private, focused discussions between mid-level administrators and ministries, not just the highest level, but within the ministerial bureaucracy, the people who prepare the documents and collect the information.”

– *Head of Research Department Climate*

Additionally, more formalized or institutionalized structures, such as committees that cut across sectors can be helpful. Parliamentarians mentioned the existing structure of subcommittees in the German Parliament. In contrast to committees, subcommittees can be linked to several ministries providing a platform for increasing collaboration.

“We were able to significantly expand this through the Subcommittee on Global Health, which links to all departments. In the Subcommittee on Global Health, in principle every ministry can be asked to report about a topic, which is very beneficial.”

– *Member of Parliament (CDU/CSU)*

One interviewee shared an example of creating a structured, multi-stakeholder working group to draft comprehensive policy measures.

“This interdepartmental networking aspect is also very important. That's why we set it up for our [city's] process. With a lot of effort, we were able to convince everyone that it had to be a cross-sectoral working group.”

– *Employee, State Department Health (and Care)*

Parliamentarians also mentioned the Parliamentary Group One Health as an example of a structure that fosters collaboration. As a strategy, strengthening participation in such groups and expanding their activities could enhance intersectoral dialogue. Additionally, raising issues in the committees on a regular basis was seen as a strategy.

“There is a parliamentary group called One Health, I think that's very good [...]. There are events on offer, however not so many Members of Parliament are involved. Additionally, addressing the issue again and again in the various committees, also in the form of expert discussions, is certainly good.”

– *Member of Parliament (The Greens)*

Strengthening the connection between the technical and political levels within ministries and institutions was also seen as important. Ensuring that expert insights inform political decision-making, while also recognizing the influence of political priorities was seen as critical for aligning technical expertise with actionable policies.

“[The] sticking point is always active networking and communication. This is perhaps also important for the administration, the connection between the political management level and the actual expert level. [...] Politics does not always arise from what is recommended as sensible by experts, but often also from what the politicians at the top decide because it somehow seems opportune or right to them. Even if the expert level has a different assessment.”

– *Employee, State Department Health (and Care)*

3.5.7. Change agents are crucial to drive transformation before establishing sustainable structures

Participants highlighted the importance of motivated individuals to drive collaboration across sectors, particularly in the absence of established structures or strategies. These change agents were seen to play a key role in pushing issues forward and strengthening commitment to shared goals.

“It is crucial that we identify the leaders within these various teams [...] - team climate, team health - identifying [...] and really working with those as change agents [...]. It needs to have people that are really behind this and pushing for it.”

– *Employee, Government Development Agency*

At the political and administrative levels, forming alliances among those who are personally invested in climate action was seen as crucial. Such individuals were described as actively promoting collaboration and ensuring that addressing the climate crisis remained central to their work.

“Especially at the political and administrative level, for which I'm speaking here, it is crucial to forge alliances of people who don't just attend a meeting because it is compulsory, but who find the issue important and who actively promote it because they identify with the task. You have to create an understanding of [...] the relevance of the climate crisis and the scenarios involved. This must also be conveyed to the people involved and they must be reminded that their task is actually to provide services of general interest for the population and not just to bridge the gap until retirement.”

– *Employee, State Department Health (and Care)*

Participants also pointed to the influence and importance of those in leadership positions who are committed to prioritizing and advancing action on climate and health.

“Within our institutional settings we are often stuck in hierarchical and firm structures. And unfortunately, it is often the case that in order for real change to happen, those that hold decisions and financial power make the decision and these decisions are not always driven by evidence.”

– *Employee, Government Development Agency*

While motivated individuals can be an important start for action they may transition to other roles or new positions. Thus, several participants highlighted the importance of establishing sustainable structures to institutionalize commitments to climate and health.

“Change agents and frontrunners are super important for generating momentum. But we are working in a fast-paced environment and political leaders tend to move on. So **unless you institutionalize and create structures, there is always the risk that topics will come and go with those that stand for them.**”

– *Employee, Government Development Agency*

3.5.8. Use legislation to mandate or introduce binding requirements

Several participants from both implementing agencies and policy-making noted that introducing restrictions, mandatory criteria, or binding requirements could play a bigger role to advance climate and health integration.

“One could be more progressive in terms of limitations. [...] To do additional tasks/activities you need to have extra money, but **you could actually come up with legislation prohibiting certain things**. [...] It wouldn't cost a lot of money, right?”

– Director, Public Health Authority

“We are also **considering making climate protection a mandatory municipal task** [...], which would mean that **municipalities would be obliged to make a certain proportion of their budget available for climate protection** and could ensure financing even in the context of municipal financial scarcity [...] I would support making climate protection more binding for local authorities. At the same time, we need to **implement this in a way that doesn't overshadow other important local priorities**. If people perceive that essential services are being neglected in favor of climate and health protection, it could create negative associations. [...] One specific suggestion is **to anchor sustainability in the Social Code** so that we can resolve trade-offs/ conflicts of objectives, e.g. when decisions in favor of sustainability are more costly.”

– Member of Parliament (SPD)

Participants also shared what they saw as best practices from other institutions or countries, such as the binding criteria of the National Health Service (NHS) in England, or that every program proposal from the World Bank has to be aligned with climate targets.

“The first positive thing that comes to mind is the NHS, with this initiative that they have taken to actually oblige their suppliers to meet certain climate targets with a certain lead time with the clear announcement that if these targets are not met, the contracts with the NHS will no longer be extended.”

– Employee, Advocacy Organization/NGO Health and Climate

“According to my understanding every single program proposal at the World Bank has to be Paris⁹ aligned and approved at the highest level. I am not sure whether the same rigorous processes have been established across our setting.”

– Employee, Government Development Agency

⁹ Refers to the Paris Agreement.

Participants working at local level and for federal ministries or agencies associated with ministries underlined the need for clear directives and sectoral guidelines with earmarked funding to strengthen implementation and institutionalization:

“As always, the political level is very hesitant to put things into clear directives. [...] if they **put things into a legal directive, they need to come up with money for it** as well. And I think in the public sphere that is always one of the major obstacles to find funding for what you want authorities to do. [...] You can write a lot of plans, but then how to get things into action is a different story. [...] **I would like to see some very clear legislation.**”

– Director, Public Health Authority

“I think ideally in a couple of years, we have sectoral guidelines for climate and, vice versa, for health that provide concrete guidance for implementing organizations and that are backed with sufficient means and maybe even those projects are incentivized that are exceptionally good for integrating health and climate considerations.”

– Employee, Government Development Agency

“We need levels of protection that go beyond the local hazard prevention. So standardization is a very important point.”

– Employee, BMUV

Another participant mentioned a possible change in the Social Code.

“There was a discussion about whether this should be included in Social Code Book V as an additional goal, that would also be an anchoring alongside the aspects of economic efficiency¹⁰ and some health insurance companies and other actors have also indicated that if you have only formulated economic efficiency as a goal, then the health insurance companies must also adhere to it and cannot, for example, finance climate-friendly products. This would then basically have to be excluded from the assessment of economic efficiency. That would be an option, so to speak, to take a closer look at whether this should be included in the Central Code¹¹.”

– Employee, Health Professionals' Association

¹⁰ The principle of economic efficiency in the German Social Code Book V mandates that benefits provided by statutory health insurance must be sufficient, appropriate, cost-effective, and not exceed what is necessary. This principle guides the assessment of healthcare services and technologies, ensuring that only those that demonstrate medical necessity and cost-effectiveness are included in the benefits catalogue, thereby balancing high-quality care with financial sustainability.

¹¹ The central code in Germany regarding health is the Social Code Book V (Sozialgesetzbuch V). This legislation forms the foundation of the German statutory health insurance system.

Several parliamentarians and individuals working on the science-to-policy interface suggested evaluating the health impacts of policies routinely.

“Currently, all laws must take the sustainable development goals into account. Laws are assessed by the administration, and the MPs who are members of the parliamentary advisory board oversee the correct monitoring/assessment. Currently, this check is not detailed enough, which means conflicts between objectives cannot be made visible. This simply needs to be intensified, from my point of view, while being well aware that there are also difficulties in the process. It's about embedding the principle/ensuring that when MPs draft legislation, they must from the very beginning consider its implications for sustainability, its specific topical impact, and its health impacts.”

– *Member of Parliament (SPD)*

“From my point of view, **a relatively simple tool would be the means of choice here, and that would be a health check for every law.** For every piece of legislation, just as you have to check the gender impact of every law, you could introduce a health impact check for every law that passes through the Bundestag and the state parliaments, and then you would immediately see a difference. So, a health check for every piece of legislation would be great.”

– *Member of Parliament (The Greens)*

However, some participants also reflected on the question of how powerful such evaluation would be in reality, or whether it would merely be an additional bureaucratic burden.

One conservative parliamentarian expressed a preference for free-market competition over regulations to foster action, as well as giving more freedom to start-ups:

“Demonstrate the effectiveness, and then encourage positive competition. In other words, promote participation as a means of achieving change. I believe that by fostering a sense of personal reward and added value, you can inspire people to accomplish a great deal—not through regulations, coercion or prohibitions, but by making them feel that you have proven yourself to be particularly clever and resourceful, serving as a role model for the community. [...] We should perhaps give a little more freedom in some areas and give initiatives such as start-ups more influence.”

– *Member of Parliament (CDU/CSU)*

Several participants emphasized the need to translate international commitments into concrete national measures and frameworks. They highlighted the importance of aligning national policies with global goals to ensure effective implementation and accountability (see section 3.3.13).

3.5.9. Ensure integration of health in international climate policy processes

Participants highlighted ongoing efforts to ensure the integration of health considerations into international climate negotiations and frameworks. This includes advocating for health impacts to be recognized in key global processes, such as the G7, Group of Twenty (G20), and COP summits, and ensuring their operationalization in national and bilateral strategies.

“In the aftermath [of COP28], our main focus is to stay relevant internationally on the nexus topic, shaping the global agenda, particularly in processes like G7 and G20, and the preparation for COP29. COP30 in Brazil is also significant for us, as we aim to shape international policy processes and keep the topic visible, while also advancing the operationalization in bilateral and multilateral cooperation. [...] We are looking at how we can ensure health impacts are reported in the next global stocktake in 2028 and possibly even implement health as an overarching indicator. This is quite a challenge. We also want to incorporate health impacts and the decarbonization of health systems into the National Determined Contributions, advising our partner countries where necessary.”

– *Employee, BMZ*

3.5.10. Use best practices as models for implementation and governance

Participants emphasized the value of learning from successful examples in other countries to inform domestic policies and build support for climate and health initiatives. International best practices, such as England’s Greener NHS initiative and the Dutch Green Deal were highlighted as structured and data-driven approaches that demonstrate how healthcare systems can reduce emissions and adapt to climate challenges while maintaining efficiency. Prominent examples like the mobility reforms in Paris were also cited as effective ways to demonstrate the potential for success and build momentum for similar measures in Germany.

“One is the Greener NHS project in England, which has been approaching the issue of mitigation in its healthcare system in a very structured way for over a decade, and which takes a planned, data-based approach, which I find very exemplary despite all the difficulties of transferring it to our system.”

– *Employee, National Health Association*

“There is a strategic framework that **the Dutch have chosen to make their healthcare system climate neutral** and also to adapt to the new challenges. The Dutch Green Deal, which has now been refined, is a good example of how you can establish such a systematic approach in a healthcare system that is characterized by a diversity of providers and a social insurance system.”

– *Employee, National Health Association*

“We show politicians by using examples of other places, for example Paris, that another mobility is possible. It has been done and it's possible and the quality of life is better. And the people are supporting the efforts in the transformational processes.”

– *Head of NGO Climate*

By integrating lessons learnt from international best practices into national advocacy and policy-making, Germany could facilitate implementation, avoid common challenges, and build stronger support for climate and health initiatives, participants said.

3.5.11. Pilot projects are a start, but scale-up requires funding

Several participants outlined that showcasing the benefits and feasibility of climate action through concrete projects is a useful strategy to convince citizens of its value.

“When politicians actually take a bolder approach and create examples in the sense of real-world laboratories, then people can see an example that the implementation of climate policy has a positive impact on their lives. What I used to say is: **even if climate change didn't exist, any city with only half as much traffic would be a better, more beautiful and safer city.**”

– *Head of NGO/Advocacy Organization Climate*

“For example, a project called ‘Kantine Zukunft’, advising communal catering facilities on more organic, more plant-based, better guest communication, etc. can be seen as a success project. [...] **Research projects and ‘Living Labs’ that closely collaborate with practitioners can also be a very good approach as they often become an inspiration to others** and show what can work under which conditions.”

– *Employee, Think Tank Nutrition*

One participant outlined that while pilot projects quickly illustrate feasibility and can help strategically, it is important that the scale-up of proven pilot projects is the next step.

“Pilot projects can show a big impact for a small investment, demonstrate a proof of concept and can serve as positive example. However, scaling these projects nationwide inevitably increases costs, leading to debates over funding sources/over who has to finance it. It is a pity when successful pilot projects with proven effectiveness fail to achieve widespread implementation.”

– *Member of Parliament (SPD)*

Additionally, this participant also raised the need of tackling more systematic, less tangible aspects of policy-making.

“The big systemic changes are usually less tangible, more distant to the people and more costly. I can implement small, immediate, concrete solutions. But we also have to set the bigger changes in motion.”

– *Member of Parliament (SPD)*

3.5.12. Litigation as a strategy for enforcing climate action

Actors from research institutions and think tanks observed that civil society and public actors have been using lawsuits as a strategy to enforce climate action.

“And there are these climate litigation cases. Some of them [were] successful, [...] some still pending. [...] There's quite some legal framing now which sets into motion [...]”

– *Head of Research Department Climate*

3.5.13. Regulate the influence of commercial and vested interests

One parliamentarian explicitly suggested regulating the influence of lobbyists and vested interests on policy-makers. One step in that direction is the establishment of the Federal Parliament's lobby register to improve transparency. It requires individuals, companies, associations and other organizations that contact members, bodies, committees, parliamentary groups of the Bundestag, the Federal Government or related commissions to directly or indirectly influence the decision-making processes to register. Additionally, the example of tobacco control was mentioned as an example of regulating health-harming industries (see section 3.5.18).

“It is very important that we have introduced the lobby register in the federal state. That is certainly a step in the right direction.”

– *Member of Parliament (The Greens)*

3.5.14. Increase collaboration with and among non-state actors

The importance of fostering stronger collaborations and networks between public authorities, non-state actors, and civil society was emphasized by participants. They pointed out the need for more structured dialogue and partnerships to bridge existing gaps and create synergies for addressing complex challenges in the context of climate change and health.

“There should be more [...] structured exchange with civil society. [...] It's two different worlds, [...] there's the public authorities, they do their work and there's civil society, they do their work. There's very little interaction between the non-governmental scene and the government scene. I think that would be very helpful also to see how things could be supporting each other. Interaction [...] is based on personal connection. It's not really structurally set up.”

– *Director, Public Health Authority*

Participants also highlighted the potential for greater cooperation with professional organizations, such as medical associations and hospitals, to better address the impacts of climate change.

“The same [need to improve cooperation] applies, of course, to cooperation with the medical associations and perhaps also with hospitals, to see how we can adapt to the consequences of climate change and how we can deal with them.”

– *Employee, BMUV*

With regard to building alliances and networks that include both civil society and state actors, collaboration to enhance heat protection were mentioned as best practices (see section 3.1.1).

Non-state actors also mentioned the building of networks and sharing of best practices as strategies for joint learning and advocacy.

“We are also strengthening the network by helping organizations understand who has already had some good ideas and how they can benefit from the work of other organizations.”

– *Head of NGO Climate*

One participant from a climate NGO also called for increased cooperation between actors at the climate and health nexus and beyond:

“Perhaps simply an appeal for cooperation. Yes, the climate issue has more aspects than health. Health is extremely important and essential, but it's not the only thing, and it's really important to keep talking to different stakeholders. I think that's really important. **The challenge is to make progress in cooperation.**”

– *Head of NGO/Advocacy Organization Climate*

3.5.15. Use participative mechanisms such as citizens' councils

Participants – both policy-makers and non-state actors – mentioned participative and innovative governance mechanisms, such as citizens' councils.¹² These councils, also referred to as citizens' assemblies, were seen as an opportunity for enhancing participatory governance. They consist of a randomly selected group of citizens who deliberate on a policy issue and provide recommendations to the German Parliament.

¹² Citizens' Councils are participatory bodies in Germany that gather direct feedback from a randomly selected group of residents to discuss specific political issues. These councils aim to represent diverse perspectives and produce a citizens' report with recommendations for action, which are then considered by the German Parliament. While the councils provide valuable input, final decision-making authority remains with the members of the German Parliament (German Bundestag, n.d.).

“Organizing and showcasing social support is always beneficial. For instance, we recently held a citizens' council on nutrition, which produced specific recommendations. These align with proposals/demands my party and I have previously argued/advocated for. Now, we can present these ideas more objectively in debates. We can emphasize that these are societal demands, not just our own. This approach has strengthened our arguments, even for costly initiatives, by demonstrating broader public support. Whether they can now be legally binding remains to be seen, but it contributes to the political discourse and debates in parliament.”

– *Member of Parliament (SPD)*

3.5.16. Pressure from civil society and the public is needed

Several participants outlined the importance of public opinion and protests of civil society for increasing pressure on politicians to develop and strengthen climate and health policies. The influence of disasters and the public reaction to politicians' actions or scandals in this context was mentioned as an example.

“I think the pressure from the street is important when so many other issues are also playing a role and happening at the same time.”

– *Employee, Health Professionals' Association*

“Clearly the disaster in the Ahrtal 2021 was a wake-up call for politicians of all parties. In particular the bad decision of the county commissioner who decided to save his Porsche first and thus missed to declare a disaster situation in time leading to the high number of fatalities and the loss of job and reputation for him. That is an embarrassing dilemma everyone can imagine. That even convinced the liberals (FDP) in the government that a precautionary Climate Change Adaptation Strategy is rational. However, personal concernment on the part of politicians was a game changer. And if this drives policy more than science we have to ask ourselves: How to deal with this?”

– *Employee, BMUV*

Participants outlined the impact of public opinion and social trends on policy-making and shifting the political discourse. If politicians feel that they can gain public support for certain policies, they are more inclined to favor cooperation on such policies:

“As a Member of Parliament your ability to act on issues depends on social trends and public opinion. My impression is that MPs from conservative parties are more open to talk about climate change in formats like the Climate Dialogue¹³, where an interested group of citizens from their constituency is present. Realistically, the MPs participating in such formats are often those who are already more open to the topic and see common ground – however it can still be helpful to broaden the discussion.”

– Member of Parliament (SPD)

“But at the end of the day, it's also about political decisions, and at some point, the pressure from the population must become greater than the forces of inertia or the desire to keep everything as it is.”

– Member of Parliament (The Left)

“The ideal period was of course Fridays for Future in 2019.”

– Head of NGO/Advocacy Organization Climate

Participants mentioned the importance of advocacy and lobbying from civil society:

“Many players for whom this topic is important keep bringing this topic forward and also try to enter into an exchange with the key decision-makers. [...] Exchange formats and [persistent advocacy], including in discussions with the various players in legislation, [is essential] to keep the issue on the radar.”

– Employee, National Health Association

One participant stated that inviting policy-makers to panel discussions strengthens their engagement with the topic:

“Using the simple format of panel discussions, inviting people from as many democratic parties as possible - always only the democratic parties - and discussing concrete questions [...] with each other makes a difference, not only for the people who might be listening. That is perhaps an additional effect but above all because the politicians engage with the topic. Hardly anyone approaches such a podium unprepared, and this preparation certainly makes a difference.”

– Member of Parliament (The Greens)

¹³ Refers to Climate Dialogues at the Day of Climate Democracy (Tag der Klimademokratie) organized by GermanZero, Together for Future and Bürgerlobby Klimaschutz.

3.5.17. Tailor advocacy to priorities and preferences of policy-makers

Regarding strategies for advocacy to influencing policy-makers, several participants emphasized that there is no one-size-fits-all approach. Policy-makers respond differently to advocacy and communication strategies ranging from personal stories to economic reasoning and statistics.

“I think that each policy-maker ticks a bit differently. [...] I think there are others who really resonate more with personal stories, for example about their grandmother who was affected in some kind of way or their friend who works in the field and is exposed to some kind of a zoonotic disease.”

– *Employee, National Agency*

“I think you have to adapt your communication style. So, when I think of Mr. Lauterbach [health minister], I would say that you can't come up with emotionalism, you need a study. I think you have to adapt your communication style to the personality or preferences of the respective decision-makers.”

– *Employee, Health Professionals' Association*

“It can also be the case that people in politics are personally affected by their own or their family's health problems or simply relate to the topic due to a corresponding capacity for insight. We currently have a doctor as Federal Minister of Health, so how close you are to the topic and how important prevention and population health is to you is also somewhat inherent in your personality and history.”

– *Employee, State Department Health (and Care)*

Participants from municipal government institutions argued that politicians who are in the opposition are receptive to different arguments than those in government. Policy-makers were seen to focus primarily on opportunities to gain support from voters:

“It's always the question: is this a photo opportunity? How will I be perceived – better or not so well? [...] If I work on this topic will I gain votes or not? You know it's rarely about [...] how interesting the topic is and what kind of effect it has. I think that's maybe 10% of relevance in the decision of a politician if something will be picked up or not. But if you provide a good environment, it's a great photo opportunity, that's what attracts politicians mostly. [...] On the opposition side, they also don't focus on what is good and necessary. They rather evaluate what painful question they can ask the government, that actually puts them in a good light again and gives them the opportunity to be recognized by the press – then they will go for it.”

– *Director, Public Health Authority*

“Policy-makers either get the feeling that this is expected of them or that they are more likely to score points with it. [...] The decision-makers need to get the impression that they are getting a positive response. [...] And they also need to have the feeling that it is possible to actually win/change something. I think that is also something satisfying for people in political power, to have the feeling that they're making good decisions and that they're actually successful in shaping a positive future.”

– *Employee, State Department Health (and Care)*

However, one non-state actor also outlined that the perception of politicians regarding what is supported by voters might often be distorted and that the public may be more supportive of policies than decision-makers believe:

“On the other hand, there is often distortion. If you at least look at representative population surveys - which are not necessarily about the majority of a group that represents a certain political party grouping - **it is certainly the case that again and again you find some willingness to change or even that the desire for change is stronger than is often perceived in politics** and different from the arguments that are used as the basis for policy decisions. So, it's definitely also a communicative issue, no question about it.”

– *Employee, Think Tank Transportation*

3.5.18. Show persistence in the face of resistance

Participants mentioned the need to be persistent even when facing resistance, both within their own institutions and with regards to policy-making. The opportunity to overcome resistance with ambitious policy-making was also mentioned. A comparison was drawn with the long debate about smoking bans in Germany.

“Persistence. Tenacity and persistence. This has definitely worked for us.”

– *Employee, Government Development Agency*

“First there is resistance. It's similar to the smoking ban that was once [introduced at] the time when I was a student. There was a decades-long argument about whether a smoking ban made sense or not, and in the end, now the vast majority is in favor of it. So I think you have to do it and show it.”

– *Head of NGO/Advocacy Organization Climate*

“Fifteen years ago, people were saying ‘climate change is not important’. It has completely changed. Even though there's still resistance, **the perception and the level of discussion has really changed**. So, it takes endurance.”

– *Head of Research Department Climate*

“I sometimes felt frustrated by the need to repeat myself [regarding the importance of the connection of climate and health], but persistence can lead/has led to change.”

– *Employee, BMUV*

3.5.19. Focus on justice and equity in policy measures

Several participants outlined the importance to focus on policy measures that are just and take into account equity dimensions.

“There is a second central issue, and that is **social justice**.”

– *Member of Parliament (The Greens)*

“Looking at the **social aspects of mobility**, there are important questions in the area of distributive justice, and which instruments will be developed and to what extent they will be designed specifically, both group-specific, i.e. for those who are really affected, and also climate-friendly.”

– *Employee, Think Tank Transportation*

“**The concept of environmental justice is also important to me, because environmental justice is not established [as a concept] in Germany**, except in Berlin and the federal state North Rhine-Westphalia, while we are increasingly discussing what a fair distribution of all environmental risks (chemical, physical and spatial) actually means and how a fair distribution of environmental resources and services might be reached.”

– *Employee, BMUV*

3.5.20. Create awareness about impacts of climate change on people’s lives

Furthermore, interviewees noted that as more people understand the effects of climate change, this knowledge could contribute to advance climate action.

“Perhaps you could say that there is a development, because more and more people understand the connections.”

– *Employee, Health Professionals’ Association*

The growing visibility of climate change impacts, such as extreme weather events, was perceived to increase public and political awareness. Although it was seen as a challenging reality, it was viewed as an opportunity for policy-makers to act by showing concrete examples of climate impacts and the steps they take to address them.

“They will all gain momentum if the consequences of climate change continue to be felt, are really tangible for people and are not something abstract. [...] Politicians need to say: look, here are concrete examples. You can already see it, you can already feel it, but we can also take action.”

– *Employee, BMUV*

Another participant mentioned the need to clearly communicate the connection of extreme weather events to global warming, while another underlined that this communication has limits, as people might not feel affected if they are not directly impacted might not feel affected.

“It's not clear whether this connection is being drawn, when there is a hot summer or a heat wave. People might say it's a hot summer and not say it's global warming. This is something that really has to change so one has to show and explain the scientific reasoning for the existing impacts.”

– *Employee, BMG*

“I saw an interesting study yesterday. It showed that demonstrating the impacts of extreme weather is not very effective, even though you can already see these effects very well in Germany. There is always the hope that [showing the effects of extreme weather] would drive climate policy forward. However, **if people are living in Berlin and the extreme weather event happens in Bavaria, they don't feel affected. And we certainly can't wait until everyone of 82 million people is personally affected**, so it's not that simple.”

– *Head of NGO/Advocacy Organization Climate*

The importance of building public awareness and understanding the interconnectedness of climate, health and other policy areas was highlighted by several participants. Efforts to inform both the public and policy-makers about these links were seen as crucial for promoting a more integrated approach to tackling these issues. One researcher reflected on the use of (social) media in the context of science communication, while an MP underlined the need for research results to be covered beyond scientific journals to make them more accessible to the general public.

By increasing awareness and fostering a more comprehensive understanding of these interconnected challenges, advocates aim to build support for policies that address both environmental and health outcomes, encouraging more holistic and effective solutions.

“In the area of nutrition, we have currently included both climate policy and health policy issues and demands, which we communicate politically and then try to explain publicly, with the aim of showing the interconnectedness and connections between these different issues. We are thus promoting the various objectives that exist in the area of health through nutrition, but also environmental protection and climate protection through nutrition, by demonstrating these connections and the positive gains that can be achieved in all areas together.”

– *Employee, Advocacy Organization/NGO Health and Climate*

Several interviewees mentioned the importance of awareness campaigns to increase understanding on the effects of climate change on health and related prevention and protection measures for the general public and vulnerable groups.

“I believe that we have already achieved a certain level of visibility, especially with our ‘Bärenhitze’ campaign, where we printed and distributed around 75,000 flyers and postcards with behavioral tips last year. We have tried to raise public awareness of the issue not only with our press conferences, but also with small clips in the subway and with advertisements and other channels. And also to better address the particularly vulnerable groups at risk by distributing these flyers in a targeted manner via, for example, meals on wheels or food banks and pharmacies and district offices and the like, in order to improve both heat sensitivity and competence in relation to heat among the Berlin population.”

– *Employee, State Department Health (and Care)*

Several interviewees also outlined the importance of political education of the public for strengthening the democratic system and for the public to make informed choices.

3.5.21. Use positive narratives and communication that fosters agency

Promoting positive narratives around climate action was seen as a critical strategy for raising awareness and encouraging individual public engagement. Instead of focusing on the negative impacts of climate change, participants suggested the use of messaging that emphasizes achievable solutions and potential benefits, such as better quality of life and improved public health.

“We are trying to support this with a positive narrative, not that everything is bad and we cannot achieve anything, but that people by doing certain things can have a positive impact. That the future is not dark, but green.”

– *Head of NGO Climate*

Additionally, one participant from an NGO outlined the need for communication strategies that appeal to a wide range of stakeholders to foster collaboration.

Highlighting improvements in public health as a result of climate policies, such as those related to the transport sector, were perceived as a compelling way to make the case for change. By demonstrating how shifts towards sustainable transportation can lead to better health outcomes, advocates aim to connect climate actions with tangible, everyday benefits for individuals and communities.

“We always communicate the co-benefits when we talk about climate policies, about the progress of climate change, [...] health is considered under the heading of co-benefits.”

– Head of NGO/Advocacy Organization Climate

“A second great opportunity lies in the factor of co-benefits. So, **if we look at mobility and see how our cities are still built for cars and not for people, then this has an impact on the climate and also on our health**, and if this is something that is perceived more strongly by the population, [...] that makes a difference. And we also know that if we no longer travel short distances of up to five kilometers by car but by bike, [...] that is beneficial for climate protection and also for health [...]. I believe that **if this is brought to the forefront in terms of communication, it can encourage more people to get involved in this direction.**”

– Member of Parliament (The Greens)

Similarly, a participant heading a climate NGO underlined the responsibility of the media to communicate solutions and positive narratives, and use the benefits for health as a good argument.

“The media are called upon to communicate this consistently, not just the disasters. The media’s inner logic is rather communicating disasters than solutions. **I believe that communicating positive narratives consistently achieves more than just disaster reports.** Yes, and I think health is another super good argument.”

– Head of NGO/Advocacy Organization Climate

Another participant underlined the need for positive communication both towards the public and policy-makers to avoid a feeling of helplessness and to generate a feeling of empowerment and self-efficacy.

“**We are not only criticizing everything, but as [an NGO], we show what is positive**, that we’ve already achieved something. **And we show that we can achieve even something better.** In our work, through position papers, we try to highlight what can be done. We want to make sure that people don’t have the feeling that it makes no sense at all.”

– Head of NGO Climate

Two parliamentarians reflected on strategies to communicate to the public without leaving citizens overwhelmed. One participant shared the strategy of breaking down complex problems to concrete points, while the other noted that it is important not to “catastrophize”.

“I believe a useful strategy is to break down the larger issue into manageable parts. Instead of presenting the entire picture at once, provide specific reasons for individual actions. For example, focus on the heat action plan now, and address the cycle path later, or vice versa. This approach can help prevent overwhelming people and reduce resistance to change.”

– Member of Parliament (SPD)

“Of course, it is difficult for the discussion with the general public to be so objective that it does not directly give rise to fears on the one hand or disinformation activities on the other, which then make the work even more difficult.”

– Member of Parliament (CDU/CSU)

3.5.22. The health argument can be a strategy to make climate change personal but risks individualizing the issue

Participants – both from the climate and health sectors – argued that the health narrative can be useful to make climate impacts more personal, illustrating the impact on the individual and emphasizing the urgency and need for (preventive) action.

“These are examples that **show people that all this [climate change] is not far away**. That [climate change] is here now, and I think it will be important to make it clear: There are very **concrete effects on your life and on your health**.”

– Employee, BMUV

“[...] The **individual person feels the impacts of climate change** when it comes to impacts on human health, which is not the case so much for when it comes to the impacts of climate change on the environment. You can see it, but you cannot really feel it. But **when [...] it affects your own health, that is a different way of perception**.”

– Employee, BMG

“We have the feeling that it is **easy for people to understand**. So therefore, it is very effective to use these health messages because **everybody is affected**. Everybody wants to be healthy. [...] I think it also helps people to understand: Yes, **the climate crisis is already here** in Germany.”

– Head of NGO Climate

Many participants – from both the climate and health sectors – supported the idea that communicating the health impacts of climate change can increase willingness to act and strengthen support for climate policies.

“I believe **health is a compelling argument**, because it illustrates that every single person is affected, [...] Health is simply something incredibly emotional/emotionalizing [...] if we manage to link climate concerns/climate action to health impacts, this can create exactly the personal connection that is needed to generate a willingness to act.”

– *Member of Parliament (SPD)*

“People are generally less interested in abstract and future-oriented political issues, but rather in **issues that affect them directly**, either themselves or their own family. [...] if they become aware of how much the climate crisis affects their own health or that of their children, then [...] **there is a greater willingness to campaign for climate protection**. So, there is a great communicative opportunity here.”

– *Member of Parliament (The Greens)*

“I also believe that **taking these health aspects into account can promote support for climate policy.**”

– *Employee, BMUV*

“This consideration of health aspects can encourage support for climate policy. [...] because we know that health, including personal health, is a very high value for many people.”

– *Member of Parliament (The Left)*

“Experience has shown that it is always relatively difficult for most people to speak out against a measure when it is quite explicitly clear that it is being carried out to protect health.”

– *Employee, Think Tank Transportation*

On the other hand, several participants underlined that using the health argument was not enough. They stated other factors such as the understanding of the policy landscape and personal factors playing a bigger role with regards to advocacy or influence on policy-making.

“I see **climate actors who want to use health arguments to reach the middle class or those who are not interested in climate change**, believing that even if these individuals aren't concerned about climate issues, they care about their own health. If you look at all the books on nutrition and mental well-being, it's clear that many people are interested in their health. **So, they use this as a vehicle to engage them, but they don't understand the landscape of actors.**”

– *Employee, Think Tank Social Policy*

“I don’t think it has necessarily to do with the topic itself whether the health argument is convincing or not. **I think it's actually more about who is representing health? Who are the players and how well do they cooperate with other players or actors in relevant sectors? [...]** So I think it comes down to actually much more personal things. And also down to structural factors.”

– *Employee, BMG*

Some participants with a focus on climate or other related sectors pointed out that while the health argument catches attention, it risks putting the focus too much on the individual. This could mean that health actors overestimate the impact of the health argument or value health (individual vs. collective) differently compared to actors from other sectors.

“Health is a very, very good start, it generates attention because everyone is interested in his or her own health but I don't think that's enough. I think it is a very important element, but it is not sufficient, especially in the case of health, which is also communicated and implemented in a very individualized way.”

– *Head of NGO/Advocacy Organization Climate*

“There was always this argument that telling the climate impact story through the health impacts should have a big impact because everyone realizes health is something personal, it affects me directly. I thought this was a good idea. I'm not so sure if it works so well. It makes sense, but I don't know if this has created additional momentum [...] maybe it's because this gets too individualized and focuses on individual behavior and lifestyles rather than the broader context.”

– *Head of Research Department Climate*

While more participants with a health focus mentioned the benefits of the health argument, the participants voicing disagreement with the benefit of this argument were both from climate and health sectors. Other participants outlined that while the argument might be helpful for the public, they are unsure of its benefits with regards to concrete policy-making.

One participant also raised the question whether the health argument might be perceived differently after the COVID-19 pandemic and the polarization of health policy during the pandemic:

“Politically I wonder whether the polarization of health policy in and after Corona somehow changes the benefit of connecting climate and health.”

– *Employee, Think Tank Climate*

3.5.23. Use measurable (health) impacts in communication towards policy-makers and the public

Several participants outlined that a communication strategy towards policy-makers would be to quantify the health impacts of climate change and potential policies more clearly both in lives saved and economic terms.

This might help strengthen the argument for health policy-makers towards other sectors and convince others that might not have seen the relevance before.

“And of course, it is always good for political decision-making if you can make very concrete, tangible arguments, for example monetization, years of life-lost or premature deaths. These are figures that are often impressive in their size and dimension, but I think they are too abstract for most people. So that doesn't lead to people saying, ‘Good grief, we have thousands of premature deaths due to air pollution from traffic in Germany’. **Something absolutely should happen, but it doesn't, because benefits are simply too far in the future and not specific enough** for a local authority to really say, let's do something now, then we'll have saved so many people's lives. [...] **if you could do it in such a way that, for example, health costs or the costs of illness would become much clearer in the system, [...] what amounts would really be saved if we could get a better grip on certain issues**, I think that would also be a more powerful argument for road safety at the political level.”

– *Employee, Think Tank Transportation*

Additionally, finding ways to make climate impacts tangible or using concrete examples was mentioned as helpful.

“My experience is that when you work with images, for example, when you **show that an MRT of the knee corresponds to the CO₂ emissions of a flight from Berlin to Milan**, that's something that suddenly makes people take notice.”

– *Member of Parliament (The Greens)*

A participant from the health sector recalled the messaging from the Health Minister to gain political support for heat protection.

“An example of this is the heat protection plan for health last year which [the Minister of Health] was responsible for coordinating. **He stated that Germany will halve the heat-related deaths over that summer. And that was something that I could observe was really kind of his hook**, [...] I could see he was trying to sell it that way to others as well, it was a hook that was being used for communication.”

– *Employee, National Agency*

Finally, participants also stated the need for developing measures for co-benefits.

“There is an absolute need for establishing common norms and measures for co-benefits. Allowing for transparency and comparison.”

– *Employee, Government Development Agency*

3.5.24. Skilled communicators and health professionals can help convey messages

Several participants outlined that it is not only about the messages but also about the messengers. Good communicators and trusted members of society, such as health professionals, play an important role.

“It's important to combine information about the climate crisis with a clear narrative, framing it in a way that helps people easily understand the problem and how to address it. Having people who can make this connection is essential when approaching policy-makers and others.”

– *Head of NGO Climate*

“I remember that I once went to the doctor, and there was a poster from the German Alliance on Climate Change and Health. I thought it was really nice to see it there, because medical staff have a very high credibility and combining this can be very valuable.”

– *Employee, Think Tank Climate*

4. Summary of potential implications

4.1. Summary of findings

The participants' description of the current status of climate and health policy integration in Germany reveals a complex landscape characterized by notable advances in integrating climate change mitigation and adaptation aspects into health governance and vice versa, as well as a significant need for more comprehensive policies that explicitly target the health impacts of climate change.

Progress has been made through local and national initiatives, yet gaps in intersectoral collaboration and implementation exist. An overarching strategy and legal frameworks, particularly regarding mitigation, are lacking. Furthermore, despite some integration, climate and health policies largely remain separate. Reforms of health and climate policies are not utilized as opportunities to incorporate climate and health aspects, respectively. Structural and cultural barriers continue to hinder effective integration.

Participants underlined a need for greater policy coherence between the climate and health sectors. Issues such as transport, nutrition, and social policy are closely linked to both climate and health, underscoring the necessity for a long-term, strategic approach to integration. Several barriers were mentioned for holistic policy-making, including limited human and financial resources, as well as challenges in intersectoral working. Germany's federal structure was described as an impediment to decision-making and coordination due to complex and fragmented governance structures. The short-term nature of electoral cycles was mentioned to hinder future-oriented planning. Some participants emphasized that economic interests frequently prioritize immediate profits over sustainable climate and health benefits.

Despite these challenges, participants identified significant opportunities for strengthening integration. Health sector reforms present a chance to incorporate ecological sustainability aspects as well as climate resilience effectively. Additionally, leveraging international platforms and political windows of opportunities such as elections could facilitate progress. Raising public awareness and pressure, as well as positive narratives around co-benefits may also drive meaningful change.

To enhance integration further, dedicated funding for climate and health policy was identified as essential. Specific examples included the development of joint budgets and exploring additional funding sources, such as wealth taxation or a reform of Germany's strict balanced budget rules. Strengthening the science-to-policy interface through improved communication and training, as well as dedicated and skilled staff, was considered vital. Moreover, intersectoral collaboration could be fostered through effective leadership and sustainable structures, including binding requirements and legislation. Emphasizing structural prevention measures and regulating commercial interests were additionally mentioned. Participants perceived an important role for both non-state actors and policy-makers in generating majorities and political will for ambitious climate action - using health framing might help in some contexts to do so.

4.2. Potential implications for policy-making

Policy-makers could seize opportunities to integrate climate resilience into health sector reforms and strategies and include health aspects such as health co-benefits more prominently in climate strategies and

communication at federal, state and municipal level. A cohesive national strategy on climate and health for Germany, including a roadmap with clear measures, responsibilities, and a dedicated budget, as well as improved monitoring of relevant indicators was identified as vital. Aligning climate law and emission reduction targets with health policy was seen to have the potential to foster a more interconnected approach, enabling the development of comprehensive strategies that address the interdependencies between climate change and public health outcomes. Participants suggested that developing legislation that mandates binding requirements for climate and health, improving implementation, and translating international commitments (such as the COP28 Declaration on Climate and Health) into concrete measures and implementation at the local level, would be required.

Policy-makers could enhance structural prevention measures, regulate the influence of commercial interests, and ensure that climate and health policies promote justice and equity. Political windows of opportunity, elections, and international policy platforms could be leveraged to advance climate and health integration and maintain it on the political agenda to foster integration and implementation. Political parties could, for example, include the climate and health nexus in their forthcoming election campaigns. Policy-makers could ensure the prioritization and funding of climate and health policies and integration even in the context of limited budget and multiple global challenges.

4.3. Potential implications for federal ministries and agencies

To improve intersectoral collaboration on climate and health policies, clarifying responsibilities and governance structures between federal ministries, particularly BMG, BMWK and BMUV, and agencies was considered critical.

Federal agencies, such as the UBA or the RKI, could work towards establishing sustainable structures for climate and health integration, moving beyond single projects or committed individuals. They could continue to develop strategies with measurable goals and indicators to track progress. Agencies could also foster intersectoral collaboration through joint budgets or joint working groups across sectors and with European, state and municipal agencies, and long-term strategic approaches.

4.4. Potential implications for the health sector

Participants identified a strengthening of public health as a key field of action, particularly by empowering institutions that can integrate climate into health policy and practice. This requires broader intersectoral collaboration, as many public health issues extend beyond the traditional healthcare system. Building on established collaboration between the health sector, urban planning, and environmental policy could ensure more comprehensive and effective solutions.

Committed leaders in health institutions could play a crucial role in driving and implementing necessary changes. This also applies to capacity building, including training health professionals as skilled communicators on climate change and its impacts on health.

Health sector reforms could incorporate climate considerations to leverage the opportunity for advancing climate-friendly healthcare, and given Germany's self-administrative governance structures in the health sector, non-governmental actors such as hospital or health insurance associations could drive this advancement. By

linking climate and health, future reforms could promote sustainability and improve overall healthcare outcomes.

4.5. Potential implications for research

Researchers could prioritize building a strong evidence foundation for climate and health integration that identifies and addresses evidence gaps, as well as quantifiable health impact assessments related to climate change. Researchers could focus on implementation research and evaluation of existing measures, such as assessing the effectiveness of heat action plans. Potential focus areas could also include studies on governance at the intersection of climate and health at all levels, as well as research on behavioral and cultural insights. Capacity building for communicating scientific findings effectively to policy-makers and the public could be an opportunity for strengthening the evidence-to-policy nexus.

4.6. Potential implications for funders

Funders and philanthropic organizations could explore joint funding sources to support climate and health integration efforts. They could focus on scaling up successful pilot projects and supporting the development of sustainable structures for long-term impact. Funding initiatives that strengthen the evidence-to-policy nexus and improve science-to-policy translation could be prioritized. Philanthropies can play a crucial role in supporting research on governance and behavior insights related to climate and health. They may also consider funding programs that help build bridges between sectors and policy-makers to facilitate better integration of climate and health policies.

4.7. Potential implications for advocacy

Health and climate advocates could play a key role in pushing for a more systematic integration of climate and health considerations into the national, state-level and municipal policy agendas, moving beyond isolated efforts to contribute to a more unified and cohesive policy framework. Sustained pressure from civil society can be essential to drive more ambitious, effective and just climate policies. Non-state actors could help build bridges between sectors and policy-makers, identify windows of opportunity for policy change, and focus on advocacy for policy measures that promote justice and systemic change.

To advocate most effectively, non-state actors could foster networks for sharing best practices and strategic coordination. Utilizing political momentum and elections to influence party positions on climate and health issues was underlined as an important strategy. Advocates may focus on building public awareness and understanding through strategic communication campaigns and leveraging social media platforms. Developing tailored messaging that appeals to the priorities and preferences of individual policy-makers, interest groups or parties was seen as a fruitful strategy.

5. Limitations

Our participant pool comprised a broad spectrum of views and experiences of decision-makers in climate and health policy, researchers and advocacy actors in Germany. We strived for a sample that was balanced and represented diverse perspectives in terms of the political party landscape, level of governance (e.g. national, state and municipal level), and different departments, ministries and authorities. However, interviewees were not representing their respective institutions or sectors. Due to the diverse views and areas of expertise, as well as the small number of people involved in national policy-making related to climate change and health, there is no objective factuality to be captured by such a research endeavor.

Additionally, those participants who replied to our request and agreed to take part in the interviews voluntarily were probably overwhelmingly individuals with a pre-existing interest or investment in the topics of climate and health. This introduces a self-selection bias, as individuals who are more aware or concerned about these issues may have different insights, opinions, or knowledge compared to those who are indifferent or less informed. Consequently, the study may disproportionately reflect views that align with the perspectives of climate-conscious decision-makers, potentially overlooking more neutral, indifferent or opposing stances.

During the recruitment process, ministries and other decision-making bodies may have directed us to individuals within their institutions whose work already involves climate and health. This could mean that we interviewed people who were not only knowledgeable but also engaged in the subject. This creates a potential bias in the results, as the insights obtained may not reflect a wider range of opinions within these institutions, particularly from those less involved or critical of addressing climate-health issues. Such a selection bias may limit the diversity of views presented and impact the study's ability to capture challenges or barriers from a broader policy-making perspective.

Several of the interviewees may have had prior knowledge of or been familiar with our organization and its work. This pre-existing relationship could have influenced the nature of the responses given during the interviews. Participants may have been more inclined to offer favorable or supportive perspectives, either consciously or unconsciously, due to their familiarity with the organization's goals. This introduces the possibility of response bias, where participants' answers are shaped by their relationship to the organization rather than by their objective views on the topic.

Several interviews were conducted in German and were subsequently translated. This introduces the risk that subtle nuances might have been lost or altered during the translation process. As a result, there is a possibility that the translated data may not fully capture the depth and richness of the participants' original statements. However, all quotes used in this report were signed off by the interviewees for the final report.

These limitations collectively suggest that while the study provides valuable insights into the relationship between climate and health, caution should be exercised in interpreting and generalizing the findings.

6. Conclusions

Interviewed stakeholders across Germany's climate, health, and related policy arenas largely agree that current national policies inadequately integrate climate and health considerations. Participants identified key barriers to integration, including limited resources and challenges in intersectoral collaboration due to Germany's federal structure. Many opportunities exist in integrating climate into health sector reforms and vice versa, and through dedicated people and (political) developments that can open windows of opportunity. Strategies to improve the integration of climate and health considerations include strengthening collaboration across ministries, improving the translation of evidence in policy, and using legislation to mandate or introduce binding requirements. These findings are relevant for German federal and state policy-makers, the health and climate sectors, researchers, advocacy groups, and philanthropic organizations. We hope that stakeholders consider these findings to foster a more holistic and integrated policy approach.

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8. Methods

8.1. Recruitment

In order to create a purposive sample of interview participants central to the health and climate policy-making ecosystem, we recruited individuals who met both of the following criteria:

- 1) Currently working or has recently worked on climate policies, health policies, or in a relevant policy domain such as environmental policy, agriculture or transportation.
- 2) Currently working or has recently worked in academia; as a policy advocate; policy implementer for a technical agency or other department of the German Federal Government; as a member of the German Federal Parliament; at a think tank; or for a professional body relevant to the climate and health domain.

We recruited potential participants by sending email invitations to professional contacts of the research team; through snowball sampling with participants (i.e., asking participants for recommendations of other individuals we could potentially interview); as well as from the professional collaborative networks the research team is active in.

We conducted a total of 25 semi-structured interviews during the period of April 2024 to June 2024. Though our sample was non-representative, we recruited participants across a range of sectors, areas of expertise, and political parties, as well as institutions to gain diverse insights/insights from various angles. Of the 25 participants, 17 identified as female, seven as male.

These 25 participants worked as federal parliamentarians (four); in (different departments of) governmental health ministries or agencies (nine); in governmental environmental ministry or agencies (three); in think tanks focusing on climate, health, transportation, nutrition policy and finance (four); in NGOs or advocacy organizations focusing on climate and health matters (three); and in academics (two) (Figure 1). Of the 25 interviewees, ten focus on health, nine on climate change and six on both health and climate issues in their area of work (Figure 2).

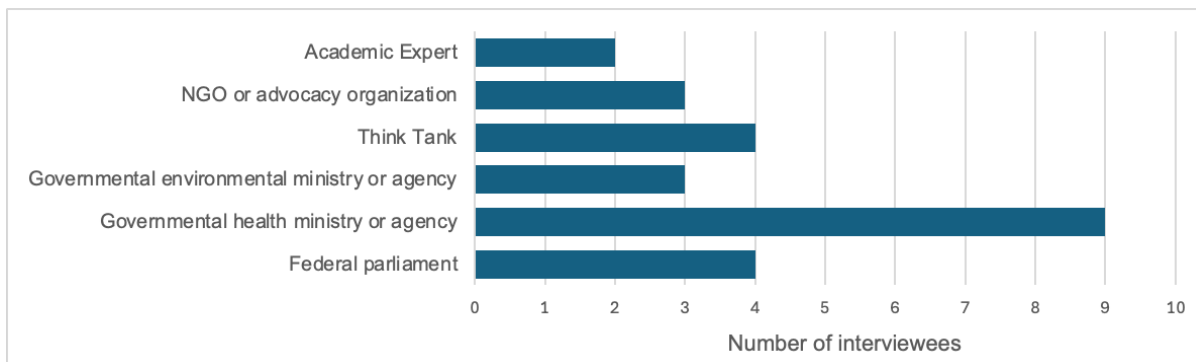


Figure 1: Numbers of interviewees by sector

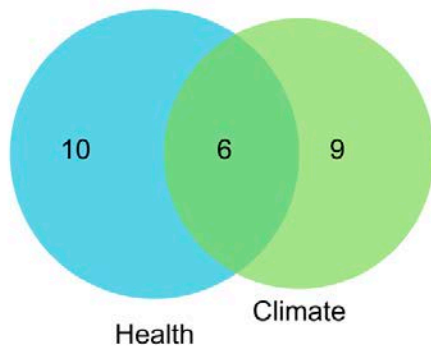


Figure 2: Interviewees' focus areas

8.2. Interviews

The interviews were semi-structured insofar that we created a pre-established list of interview questions, but maintained flexibility to ask additional questions and to ask participants to further elaborate their responses. The list of semi-structured questions is available in the appendix. The questions were divided into categories based on our research questions. They sought to elicit participants' views and experiences related to the current national status of climate and health policies; ideals for the climate and health policy relationship; barriers to advancing and integrating climate and health; and opportunities and strategies for overcoming barriers.

The interviews ranged from 20 to 60 minutes. Seven interviews were conducted in English, the other 18 in German. They were conducted over Zoom by one of the three members of the research team. The interviews were recorded and automatically transcribed using Zoom, with subsequent manual cleaning up of transcripts to correct occasional transcription errors, organize the text into a more readable format, and anonymize identifiable information. The German interviews were translated into English.

To obtain informed consent, participants were sent a participant information sheet prior to their interviews. After joining Zoom and before starting the interview, they were asked to verbally approve the participant information sheet. They were given the option to use video and audio, or just audio, depending on their preference.

8.3. Analysis

The transcripts were coded in ATLAS.ti using mixed deductive and inductive manual qualitative content analysis (Fereday & Muir-Cochrane, 2006). The six deductive codes were created based on the interview questions prior to starting the coding process. These were validated by the international members from the comparative international project coordinated by GMU:

1. *Experiences* related to climate/health policy [participant describes how climate and/or health comes up in their work, whether on a daily basis or over a longer period of time].
2. *National status* of climate/health policy [participant describes the current relationship of climate and health policy at a national level in their country].

3. *Ideals* for climate/health policy [participant describes what the relationship between climate and health policy should look like, in their opinion].
4. *Barriers* to climate/health policy [participant describes challenges for advancing climate and health policies].
5. *Opportunities* for climate/health policy [participant describes promising ways to advance climate and health policies].
6. *Strategies* for climate/health research, policy-making, and implementation [participant describes methods for advancing climate and health policies, such as communication strategies, political strategies, and any other approaches].

Inductive codes were iteratively created within these deductive categories during the coding process.

Three members of the research team conducted the coding. We coded three transcripts independently and then discussed any differences after each one to help ensure a similar coding approach. We then separately coded the full corpus of transcripts with regular meetings to discuss and iteratively update the codebook.

After the transcripts were fully coded, we used a list of pre-established analysis queries to guide the analysis of the coded data.

8.4. Engagement with climate and health stakeholders

We solicited feedback on our research questions via a survey administered to stakeholders on the mailing list of the Global Climate and Health Alliance in November 2023 (n = 264).

We invited these stakeholders, along with our research participants, to a briefing on our preliminary results in July 2024. We specifically asked them the following discussion questions:

1. How do these findings align or conflict with your experiences?
2. Are we missing any crucial insights or perspectives?
3. Is there one main takeaway that you see as most important? What is it and why?

We integrated their feedback into the potential implications section. We then solicited their feedback on our draft report via an online form in January 2025.

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10. Declaration of competing interests

Sophie Gepp serves on the Board of Directors of the Global Climate and Health Alliance. All other authors have no competing interests to declare.

11. Appendix

11.1. Interview Questions

For participants working on climate policy

1. How much do human health impacts or benefits feature in your work on climate policy?
 - a. Could you briefly give me an example of a recent time when health issues came up in your work on climate policies?

[If not]: Can you think of a time in the past when health issues came up in your work on climate policies? [if not, skip to 2]
 - b. Follow-up questions (if unanswered):
 - i. What kinds of people or organizations were involved, and what positions were they advocating?
 - ii. What were the outcomes?
 - c. How typical was this example of how health issues generally come up in your work?
 - i. What about it was typical or atypical?
2. To what extent are health and climate policies linked, or not, in [their country/region]?
 - a. If links are mentioned: In what ways are they linked?
 - b. Should they be more closely linked than they currently are in [their country/region], or more separated?
 - c. If they think climate and health policy should be linked in any way: What are the benefits of linking climate and health policy?
 - d. Do you think incorporating health considerations can build support for climate policies?
 - i. Why or why not?
3. How could climate policy or policy-making procedures be improved in [their country/region] to more fully incorporate health considerations?
 - a. *If they don't mention specific policies or policy-making procedures:* Are there specific climate policies or policy-making procedures that could be created, improved, or removed to more fully incorporate health considerations?
 - b. Do any specific success stories come to mind?

- c. Are there models from other countries that you have used, or are considering using, in your work?
4. What do you think is the biggest barrier to achieving the types of policy changes that you described?
 - a. Follow-up: What would it take to overcome this barrier? (such as communication approaches, resources, and other strategies)
 - b. *Follow-up: Are there any other important barriers? (If so, ask how to overcome them)*
5. What opportunities do you see to achieve the types of policy changes that you described earlier in our conversation?
 - a. Are there any other opportunities you see?
 - b. What would it take to move forward with these opportunities?
6. In your experience, what (if anything) has worked to influence policy-makers to support climate policies?
7. (If relevant to participant's background) How, if at all, have health considerations influenced your country's position in international climate negotiations? (*such as COP28, for example*)
8. Is there anything else that didn't come up in our conversation that you want to share before we end?

For participants working on health policy

1. How much does climate change feature in your work on health policy?
 - a. Could you briefly give me an example of a recent time when climate issues came up in your work on health policies?

[If not]: Can you think of a time in the past when climate issues came up in your work on health policies? [if not, skip to 2]
 - b. Follow-up questions (if unanswered):
 - i. What kinds of people or organizations were involved, and what positions were they advocating?
 - ii. What were the outcomes?
 - c. How typical was this example of how climate issues generally come up in your work?
 - i. What about it was typical or atypical?
2. To what extent are health and climate policies linked, or not, in [their country/region]?
 - a. If links are mentioned: In what ways are they linked?

- b. Should they be more closely linked than they currently are in [their country/region], or more separated?
 - c. If they think climate and health policy should be linked in any way: What are the benefits of linking climate and health policy?
 - d. Do you think incorporating health considerations can build support for climate policies?
 - i. Why or why not?
3. How could health policy or policy-making procedures be improved in [their country/region] to more fully incorporate climate considerations?
 - a. *If they don't mention specific policies or policy-making procedures:* Are there specific health policies or policy-making procedures that could be created, improved, or removed to more fully incorporate climate considerations?
 - b. Do any specific success stories come to mind?
 - c. Are there models from other countries that you have used, or are considering using, in your work?
 4. What do you think is the biggest barrier to achieving the types of policy changes that you described?
 - a. Follow-up: What would it take to overcome this barrier? (such as communication approaches, resources, and other strategies)
 - b. *Follow-up:* Are there any other important barriers? *(If so, ask how to overcome them)*
 5. What opportunities do you see to achieve the types of policy changes that you described earlier in our conversation?
 - a. Are there any other opportunities you see?
 - b. What would it take to move forward with these opportunities?
 6. In your experience, what (if anything) has worked to influence policy-makers to support health policies?
 7. (If relevant to participant's background) How, if at all, have health considerations influenced your country's positions in international climate negotiations, or vice versa? *(such as COP28, for example)*
 8. Is there anything else that didn't come up in our conversation that you want to share before we end?

For participants working on both climate and health policy

1. Could you tell me about a recent example of your work on climate and health?
 - a. Follow-up questions (if unanswered):

- i. What kinds of people or organizations were involved, and what positions were they advocating?
 - ii. Were climate experts and health experts in dialogue with each other?
 - 1. If so, how did that go
 - 2. If not, why not?
 - iii. What were the outcomes?
 - b. How typical was this example of your work on climate and health?
 - i. What about it was typical or atypical?
- 2. To what extent are health and climate policies linked, or not, in [their country/region]?
 - a. *If links are mentioned:* In what ways are they linked?
 - b. What are the benefits of linking climate and health policy, or of treating them separately?
 - c. Do you think incorporating health considerations can build support for climate policies?
 - i. Why or why not?
- 3. How could climate and health policy or policy-making procedures be improved in [their country/region]?
 - a. *If they don't mention specific policies or policy-making procedures:* Are there specific climate and health policies or policy-making procedures that could be created or improved to more fully incorporate health considerations?
 - b. Do any specific success stories come to mind?
 - c. Are there models from other countries that you have used, or are considering using, in your work?
- 4. What do you think is the biggest barrier to achieving the types of policy changes that you described?
 - a. Follow-up: What would it take to overcome this barrier? (such as communication approaches, resources, and other strategies)
 - b. *Follow-up:* Are there any other important barriers? (*If so, ask how to overcome them*)
- 5. What opportunities do you see to achieve the types of policy changes that you described earlier in our conversation?
 - a. Are there any other opportunities you see?
 - b. What would it take to move forward with these opportunities?

6. In your experience, what (if anything) has worked to influence policy-makers to support climate and health policies?
7. *(if relevant to participant's background)* How, if at all, have health considerations influenced your country's position in international climate negotiations? *(such as COP28, for example)*
8. Is there anything else that didn't come up in our conversation that you want to share before we end?

For participants working on a climate-adjacent issue

1. How much do human health impacts or benefits feature in your work on [their policy area] policy?
 - a. Could you tell me about a recent time when health issues came up in your work on [their policy area] policies?

[If not]: Can you think of a time in the past when health issues came up in your work on [their policy area] policies? [if not, skip to 2]
 - b. Follow-up questions (if unanswered):
 - i. What kinds of people or organizations were involved, and what positions were they advocating?
 - ii. What were the outcomes?
 - c. How typical was this example of how health issues generally come up in your work?
 - i. What about it was typical or atypical?
2. To what extent are health and [their policy area] policies linked, or not, in [their country/region]?
 - a. *If links are mentioned:* In what ways are they linked?
 - b. Should they be more closely linked than they currently are in [their country/region], or more separated?
 - c. If they think health and [their policy area] policy should be linked in any way: What are the benefits of linking [their policy area] and health policy?
3. How could [their policy area] policy or policy-making procedures be improved in [their country/region] to more fully incorporate health considerations?
 - a. *If they don't mention specific policies or policy-making procedures:* Are there specific [their policy area] policies or policy-making procedures that could be created or improved to more fully incorporate health considerations?
 - b. Do any specific success stories come to mind?

- c. Are there models from other countries that you have used, or are considering using, in your work?
4. What do you think is the biggest barrier to achieving the types of policy changes that you described?
 - a. Follow-up: What would it take to overcome this barrier? (such as communication approaches, resources, and other strategies)
 - b. *Follow-up: Are there any other important barriers? (If so, ask how to overcome them)*
5. What opportunities do you see to achieve the types of policy changes that you described earlier in our conversation?
 - a. Are there any other opportunities you see?
 - b. What would it take to move forward with these opportunities?
6. In your experience, what (if anything) has worked to influence policy-makers to support [their policy area] policies?
7. Is there anything else that didn't come up in our conversation that you want to share before we end?

For short interviews

1. To what extent are health and climate policies linked, or not, in [their country/region]?
 - a. *If links are mentioned:* In what ways are they linked?
 - b. Should they be more closely linked than they currently are in [their country/region], or more separated?
 - c. If they think climate and health policy should be linked in any way: What are the benefits of linking climate and health policy?
 - d. Do you think incorporating health considerations can build support for climate policies?
 - i. Why or why not?
2. How could climate policy or policy-making procedures be improved in [their country/region] to more fully incorporate health considerations? (*Or vice versa if they work on health*)
 - a. *If they don't mention specific policies or policy-making procedures:* Are there specific climate policies or policy-making procedures that could be created or improved to more fully incorporate health considerations?
 - b. Do any specific success stories come to mind?
 - c. Are there models from other countries that you have used, or are considering using, in your work?

3. What do you think is the biggest barrier to achieving the types of policy changes that you described?
 - a. Follow-up: What would it take to overcome this barrier? (such as communication approaches, resources, and other strategies)
 - b. Follow-up: Are there any other important barriers? (If so, ask how to overcome them)
4. What opportunities do you see to achieve the types of policy changes that you described earlier in our conversation?
 - a. Are there any other opportunities you see?
 - b. What would it take to move forward with these opportunities?
5. In your experience, what (if anything) has worked to influence policy-makers to support climate policies?
6. Is there anything else that didn't come up in our conversation that you want to share before we end?

11.3. Revised research questions

1. What is the perceived current state of integration (or lack thereof) of climate and health policy in the nation?
 - a. In what ways, and to what extent, are climate considerations influencing health policy?
 - b. In what ways, and to what extent, are health considerations influencing climate policy?
 - c. In what ways, and to what extent, are health considerations influencing climate-adjacent areas of policy (e.g., energy, transportation, agriculture, housing, urban development, natural resources)?
2. What do policy-makers and other stakeholders see as the ideal relationship between health policy and climate policy, and climate-adjacent policy?
 - a. What should policies at the intersection between climate and health look like?
 - b. What should policy-making and governance processes at the intersection of climate and health look like?
 - i. Whose voices need more representation, and whose need less?
 1. Are there tensions between representation and swift action, and if so, how could they be reconciled?
 - ii. What types of expertise are needed?
 - iii. (How) should stakeholders be put in dialogue to better serve ideal outcomes?

- c. Do policy-makers consider any other countries to be models worth learning from? In what respects?
3. What barriers currently impede progress toward the ideals (as described in RQ 3)?
4. What opportunities and strategies have the potential to create progress toward the ideal relationship between climate and health policy-making?
 - a. Can health policies be a lever to achieve more ambitious climate policies, and vice versa?
5. How do the above considerations influence each country's objectives in international climate negotiations?
6. Which communication strategies have policy-makers and other stakeholders found to be effective for influencing climate and health policy?



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