GLOBAL
CLIMATE & HEALTH
ALLIANCE

Healthy NDCs 3.0

Embedding Health in National Climate Plans for 2035

CONTENTS

ACKNOWLEDGEMENTS

This report was written by Fabio Cresto Aleina and Jess Beagley. The Global Climate and Health Alliance is deeply grateful to Caroline Brouillette, Fernando Carvalho, Natalie Unterstell, Mabel Zúñiga, and other experts for sharing their insights.

This report was produced by the Global Climate and Health Alliance, published in February 2025. Design elements were created by Beatriz Francisco and Soapbox.

INTRODUCTION

The growing health impacts of climate change, including the hazards of extreme heat, infectious disease, malnutrition and widespread mental health threats, are growing around the world. The same unsustainable systems which drive climate change, including in energy production, food systems and urban planning, further jeopardise wellbeing through risk factors including air pollution, unhealthy diets, and physical inactivity.

Under the Paris Agreement, governments are mandated to submit national climate plans, referred to as nationally determined contributions (NDCs) once every five years, with increasing levels of ambition for each new cycle. In 2025, governments are due to submit third generation NDCs, (NDCs 3.0), with targets and plans extending to 2035. The 150 governments which have endorsed the COP28 UAE Declaration on Health and Climate Change[1] committed to pursuing "taking health into account, as appropriate, in designing the next round of nationally determined contributions". As of 2023, 91% of countries included health in their NDCs[2]. However, the 2024 UNFCCC NDC Synthesis Report indicates that if national climate plans for 2030 were fully implemented, global temperatures would reach 2.1-2.8°C above pre-industrial levels by the year 2100[3], depending on factors including the delivery of adequate climate finance by developed countries for the delivery of actions in developing countries. The cost alone of adaptation for the health sector is estimated at USD 11.1 billion per year even for 2030 in developing countries[4], without taking into account the costs of mitigation and addressing loss and damage, or costs in other health-determining sectors. Warming of 2.8°C would be extremely detrimental to human health, with far reaching associated costs compounding barriers to development.

As such, it is vital that NDCs 3.0 not only address the health threats of climate change, but also minimise future health-harming events and prioritise triple win solutions to slow climate change, promote health, and ensure productive economies. Governments have an opportunity to publicly commit to actions which will deliver for human, planetary and economic wellbeing. Failure to do so is a missed opportunity and puts lives on the line.

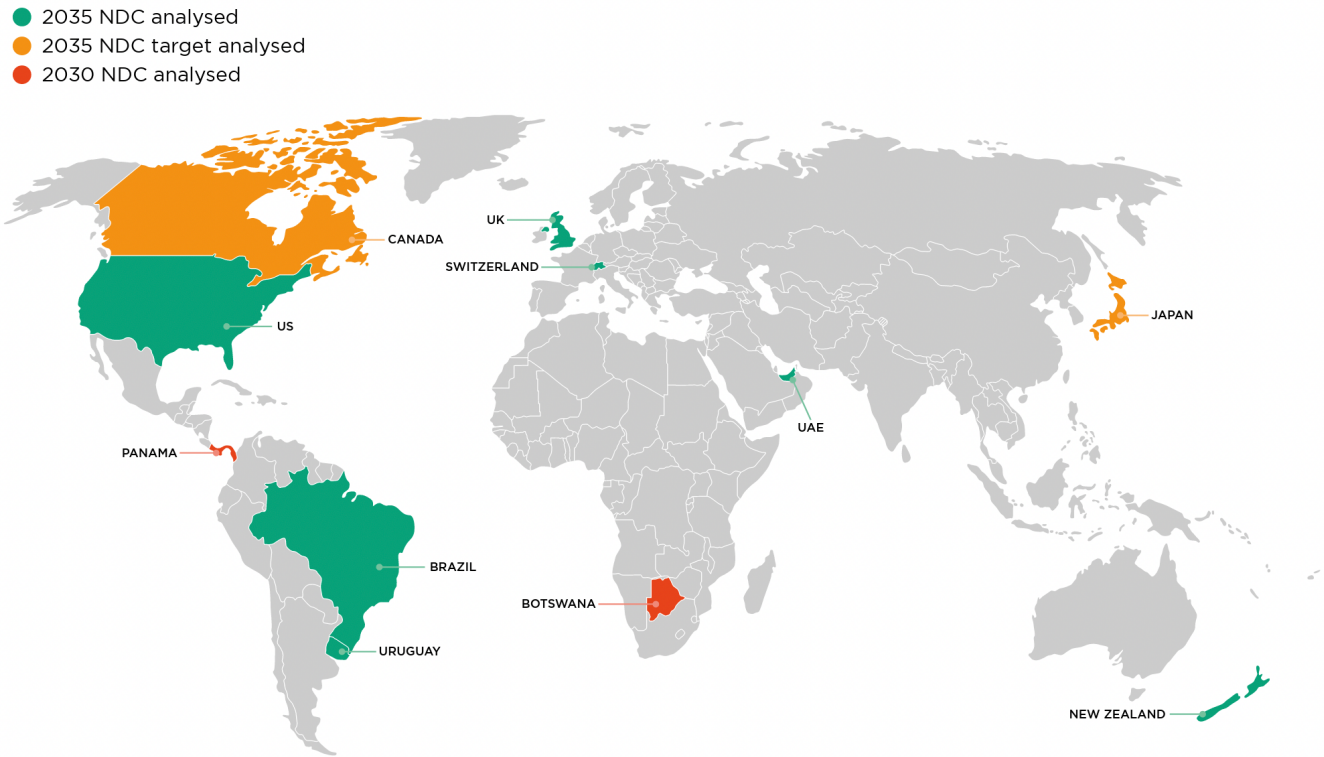
This report provides an assessment of recently submitted NDCs to reveal examples of good practice and issues where greater ambition is needed on a global scale, to produce recommendations for policymakers in a year when ambitious climate plans are needed more urgently than ever. It builds on series of NDC Scorecards produced by the GCHA between 2021 and 2023[5,6,7] to evaluate inclusion of health and health-related considerations in NDCs.

METHODOLOGY OVERVIEW

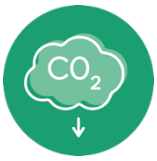
This report presents a review of the first seven NDCs 3.0 submitted in advance of the official deadline of February 10th 2025, namely Brazil, New Zealand, Switzerland, the United Arab Emirates, United States, United Kingdom and Uruguay, to evaluate the integration of health-relevant objectives and recommendations within their frameworks. In addition, the 2035 targets of Canada and Japan, which were announced prior to the submission of the full NDC, were reviewed. Finally, the 2030 NDCs of Botswana and Panama, submitted in the latter months of 2024 were analysed, to further contribute an understanding of the current landscape of health in NDCs[8].

This analysis employed a combination of desk research and targeted interviews. The desk research comprised a systematic assessment of each NDC, using a comprehensive evaluation framework to assess issues such as health integration in climate goals, health benefits of mitigation, and financial commitments to health-related adaptation measures. A summary of the categories analysed is below, and full details can be found in the annex. Complementary targeted interviews with key stakeholders, including government officials and policymakers, health sector representatives, and/or experts who participated in the NDC elaboration process, and civil society were also conducted to provide additional critical insights into the development process, implementation challenges, and context-specific considerations of each NDC. This mixed-methods approach supports a robust and nuanced understanding of how health is addressed in climate strategies while identifying gaps and opportunities for improvement.

Healthy NDCs 3.0: NDCs and Targets Analysed



CATEGORIES EVALUATED



Emissions target ambition: Whether the NDC aligns with the Paris Agreement's goal of limiting global temperature increase to 1.5°C, and considering which greenhouse gases are included in emission reductions.

Integrated planning and governance: If the NDC explicitly mentions health in its overall climate goals, framing health as a central outcome, or makes links with other health- and climate- related strategies, plans or government departments / ministries.

Climate impacts on health: Mentions of climate-related health risks such as extreme weather, vector-borne diseases, and poor air quality.

Action in the health sector: Actions targeting climate-related health risks such as extreme weather, vector-borne diseases, and poor air quality.

Action in other health-determining sectors: Whether the NDC highlights health benefits from action across sectors such as energy, agriculture, sanitation, and transport.

Financial commitments for climate-health action: Whether resources are allocated for health-related climate actions.

Participation and equity: How the NDC addresses equity and justice, focusing on health impacts and inclusion of vulnerable groups.

Monitoring and reporting: Whether the NDC includes a specific monitoring, evaluating and reporting system and/or measurable health-related targets.

2035 NDCs

BRAZIL

While Brazil's 2035 NDC discusses adaptation in the healthcare sector, its emissions reduction target is not in line with pathways required to protect health. Further warming risks exceeding the limits of adaptation. Brazil's 2035 NDC demonstrates a notable effort to integrate health considerations within its overarching climate strategies, though some critical gaps remain.

A study conducted nationwide in Brazil revealed that wildfire waves were linked to a 23% rise in respiratory hospital admissions and a 21% increase in circulatory hospital admissions. In the Northern region, which encompasses much of the Amazon, the impacts were even more significant, with respiratory admissions increasing by 38% and circulatory admissions rising by 27%. The financial burden is also significant, with hospitalizations costing R$11 million (approximately USD 2.2 million) more in 2024 than in 2023[9].

Emissions target ambition

Brazil's NDC includes a target range of 59% to 67% emissions reductions from 2005 levels by 2035, which is, as some commentators remarked[10], comparable to total current emissions by Colombia[11]. While this reduction represents progress, the lack of alignment of the upper bound of the target range with 1.5°C-compatible pathways is a critical shortfall. The reliance on offsets and a wide target range adds uncertainty, hindering the delivery of mitigation-related health gains such as improved air quality and increased physical activity. Greater ambition and transparency are needed, particularly in addressing health-harming super-pollutants.

Integrated planning and governance

The NDC does not feature a dedicated health section, but articulates health as a benefit of its broader ecological transformation vision and highlights resilience-building measures. Its stated goals align with several Sustainable Development Goals (SDGs), particularly SDG 2 (zero hunger) and SDG 13 (climate action). References to national frameworks, such as the forthcoming national adaptation strategy, national energy policy, and the Action Plans for the Prevention and Control of Deforestation in the Legal Amazon and in the Cerrado Biome, show an intent to connect climate goals with national governance. However, the absence of measurable health targets and detailed plans undermines the document's ambition at the climate and health nexus.

While Brazil's NDC identifies synergies between health and climate outcomes, its approach is more focussed on narrative than implementation. For example, it mentions cross-sectoral approaches involving health, water resources, and urban planning but lacks a concrete strategy for aligning these with quantifiable health benefits. Greater specificity is needed in describing how health outcomes influence broader climate policies and vice versa.

Climate impacts on health

The NDC identifies some significant health risks stemming from climate change, including air pollution. Actions such as "safeguarding the health and well-being of populations while respecting the ways of life" are among the national adaptation objectives listed in the document, but they are not explicitly part of the NDC.

Action in the health sector

The NDC states that Brazil will elaborate specific sectoral plans by mid-2025 (including a sectoral plan for the health sector) to diminish climate-related health impacts. These include efforts to reduce air pollution and address extreme weather events. The absence of explicit health-focused targets or metrics in the document makes it difficult to assess the effectiveness of these measures. Public health considerations could be more robustly integrated into emergency planning and mitigation strategies. While the plan of elaborating such strategies is commendable, the lack of precise timelines, quantitative targets, and integration into broader climate actions, diminishes their impact within the NDC itself.

Action in other health-determining sectors

Brazil's unique challenges at the nexus of climate and health, such as deforestation's direct and indirect effects on public health, are acknowledged but insufficiently addressed. The reliance on deforestation offsets rather than elimination potentially undermines long-term health and climate goals. Similarly, the health benefits of renewable energy and active mobility, while mentioned, remain underdeveloped, with no detail on their direct contributions to public health.

Brazil's NDC acknowledges the importance of health benefits in other sectors, including renewable energy, urban planning, and agriculture. For instance, strategies promoting active mobility and sustainable food systems are mentioned as indirect health enhancers. Despite these references, the document lacks a clear framework for quantifying and monitoring these benefits, limiting their potential impact.

Financial commitments for climate-health action

Brazil's new tax reform, initiated in 2023 to restructure and simplify the country's consumption tax system, includes a "selective tax" on the "production, extraction, sale or import of goods and services that are harmful to health or the environment". This new initiative can provide a concrete opportunity to tax fossil fuels and fossil fuel-derived products, as well as products derived from deforestation or forest degradation. It is an important step in demonstrating the economic case against environment- and health-harming activities, and should be protected during tax reforms.

The NDC also has a specific section on "incentives and means of implementation", which outlines several funding mechanisms for adaptation and resilience, including the Amazon Fund and the newly created Tropical Forests Forever Fund (TFFF). While these funds indirectly benefit health, there is no specific allocation for health-related climate actions. The lack of cost estimates for health adaptation projects and vague references to international financing opportunities further weaken this section. This information could be included in the national adaptation strategy for the health sector due in early- to mid-2025.

Participation and equity

Brazil's lack of a participatory approach in drafting the NDC is a weakness, and the document received criticism because of the lack of input from Indigenous communities, women, and marginalized groups[12]. The document itself does not provide sufficient detail on how stakeholder feedback influenced health-related strategies. This lack of stakeholder participation had led to frustration and questions about legitimacy from both Indigenous peoples' organizations and the private sector. Additionally, while equity is highlighted, the lack of tailored measures for the unique health needs of vulnerable populations detracts from the NDC's inclusivity.

Monitoring and reporting

The NDC mentions tools such as the AdaptaBrasil platform for real-time climate risk analysis but falls short of integrating health-specific indicators into its monitoring frameworks. Metrics such as reductions in vector-borne diseases or heat-related illnesses are absent, and the connection to national health reporting systems is weak. A stronger emphasis on accountability mechanisms would enhance the credibility of Brazil's health-climate integration.

Conclusion

Brazil's NDC, with its focus on combating deforestation and alignment with current policies and plans, reflects progress in integrating health considerations into climate strategies but falls short in critical areas. The lack of measurable health targets, vague financial commitments for the health sector, and insufficient alignment with 1.5°C pathways undermine its overall effectiveness. While its approach to tackling specific issues including deforestation, just transition, and recognising health gains are commendable, the NDC requires a more structured and ambitious framework to achieve meaningful health and climate outcomes.

Reducing deforestation could yield significant health gains by curbing air pollution from forest fires. Furthermore, forest preservation plays a critical role in ensuring access to clean water and maintaining the biodiversity necessary for sustainable food systems. These health gains underscore the importance of addressing deforestation not just as an environmental issue but as a cornerstone of public health, making it imperative for Brazil to implement its commitments in this area.

NEW ZEALAND

The NDC of New Zealand does not refer to health considerations. Furthermore, its emissions reductions target is insufficiently ambitious to protect human health.

Physical inactivity is responsible for 10.6 percent of premature death and disability in New Zealand[13], and one third of children do not meet recommended levels of physical activity[14]. Meanwhile, transport remains the leading source of energy-related emissions. Investments in urban active transport infrastructure and electrified public transport could reduce emissions while increasing physical activity.

Emissions target ambition

New Zealand aims to reduce net emissions to 51-55% below gross 2005 levels by 2035, a target described as "shockingly unambitious"[15] and a negligible improvement on the 50% reduction target by 2030 set out in the former NDC. This level of mitigation ambition is wholly inadequate to protect health. While several super-pollutants are included in the NDC, the document does not draw links between these gases and health, representing a missed opportunity for short term gains for the climate and human health.

Integrated planning and governance

The NDC refers to "targeted engagement and public input" carried out by the government in October and December 2024, but provides limited detail on which Ministries or other stakeholders were consulted. The NDC is aligned with the "Climate Change Response Act", a framework that is periodically updated (most recently in 2024) and provides a 2050 target for emissions, an adaptation policy, and a financial framework for enabling the Ministry of Finance to support the implementation of climate action.

Climate impacts on health

No reference to the health impacts of climate change are contained in New Zealand's NDC, nor is health mentioned in any context.

Action in the health sector

No actions in the healthcare sector are described in New Zealand's NDC. The Climate Change Response Act only mentions "health" as a sector to be taken into consideration for the development of a future climate risk assessment and an adaptation plan, not considering the interconnection of health with other sectors and with mitigation actions that would constitute the basis for a "healthy" climate policy.

Action in other health-determining sectors

While New Zealand's NDC target covers multiple sectors, limited information is provided on the actions to be implemented in each sector. Despite noting the "high proportion of biogenic methane from agriculture" driving national emissions, and a high burden of diet related diseases nationally, the NDC suggests that New Zealand intends to rely on technological solutions to reduce agricultural emissions, which are unlikely to yield diet-related health gains. Similarly, while reference is made to the need for decarbonising transport (responsible for the highest proportion of national energy-related emissions), consideration of health-promoting active transport modes such as walking and cycling are omitted.

Financial commitments for climate-health action

New Zealand omits any information on budgets to deliver the NDC target, potentially leading to barriers in implementation. Furthermore, the NDC does not refer to any international climate finance and support, which would inhibit the delivery of health-promoting climate action and support.

Participation and equity

Māori are the single named population group to have been consulted in the development of the NDC, and the document recognizes that "climate change impacts Māori disproportionately". Nevertheless, the NDC does not detail the feedback received from this vulnerable group, nor whether it was addressed. Failure to address the health and wider needs of Māori will exacerbate existing inequalities.

Monitoring and reporting

New Zealand does not refer to health related actions in its NDC, much less the intention to monitor their implementation or outcomes.

Conclusion

New Zealand's NDC shows limited mitigation ambition, and neglects health considerations. Future iterations should integrate measurable health targets and more transparent financing for health adaptation. Better transparency on participation and contributions with various stakeholders would also constitute a strong improvement.

SWITZERLAND

While it incorporates long-term strategies such as the Climate and Innovation Act (2023), which aims for net-zero emissions by 2050, health considerations are notably absent in the framing of these climate goals. Unlike some other NDCs, Switzerland does not explicitly mention health as a central outcome of its strategies.

Approximately 60 percent of the 600+ heat-related deaths in Switzerland during summer of 2022 can be attributed to human-induced global warming[16].

Emissions target ambition

Switzerland's NDC aims to reduce to emissions by at least 65 percent by 2035 compared to 1990 levels, noted as "falling short" of Switzerland's fair share of emissions reductions to limit warming in line with the Paris Agreement. Concern has been expressed regarding the unquantified reliance on international carbon trading mechanisms since these can distract from domestic reductions and fail to contribute real emission reductions at the levels claimed[17], while also potentially diluting the domestic health gains of emissions reductions.

Integrated planning and governance

The overall goal aligns with national policies, including the Climate and Innovation Act. The governance framework is well-defined, with roles for both federal and cantonal administrations. However, there is minimal integration of health-related considerations, as the NDC does not refer to health or wellbeing as a central goal; nor does it make links to the SDGs or provide detail on how different Ministries coordinated to deliver the NDC.

Climate impacts on health

The Swiss NDC makes brief recognition of the impacts of climate change on human health, and describes how hotter than usual summers have already led to higher mortalities, and the danger posed by rockfalls due to melting ice to human life.

Action in the health sector

Health-related climate actions, such as strengthening health system resilience or mitigating health impacts from climate-related extreme events, are conspicuously absent from the NDC. This represents a missed opportunity to integrate health into the country's climate strategy, particularly given Switzerland's well-developed healthcare infrastructure.

Action in other health-determining sectors

While substantial detail is provided on sectoral emissions contributions and emissions reductions targets, limited information is provided on the actions to be implemented to deliver these reductions, demonstrating a lack of recognition of the potential health gains of actions which improve air quality, increase physical activity or improve healthy diets. While these initiatives have potential to offer health gains including improved air quality and healthy diets, the lack of specific quantification or direct acknowledgment of these benefits is a missed opportunity to build support for ambitious implementation.

Financial commitments for climate-health action

The Swiss NDC does not mention any financial commitments for health-related climate action. The absence of targeted funding for health projects undermines the potential integration of health into climate strategies.

Participation and equity

The document lacks explicit references to the involvement of marginalised or vulnerable groups in climate decision-making, particularly concerning health equity. Given the disproportionate impact of climate change on these populations, this omission is a critical gap.

Monitoring and reporting

Health-linked targets and monitoring are absent from Switzerland's NDC, limiting capacity to effectively track health gains of climate action.

Conclusion

Switzerland's updated NDC reflects a robust long-term climate ambition, particularly through its net-zero target and integration of economic and environmental strategies. However, the omission of explicit health considerations and metrics represents a significant gap. To enhance its impact, Switzerland's 2035 NDC should incorporate health as a central outcome of climate strategies, and develop specific health-related targets, actions, and indicators, with dedicated funding for health-focused climate actions. Integrating health into Switzerland's climate agenda would not only address public health risks but also unlock additional health gains, enhancing the overall effectiveness and equity of its climate policies. Strengthening the inclusion of vulnerable populations in decision-making and avoiding reliance on carbon trading mechanisms would further support health.

UNITED ARAB EMIRATES

The UAE NDC 3.0 sets a target of reducing greenhouse gas emissions by 47% by 2035 relative to 2019 levels (an improvement against the previous 40%). This reduction does not align with the Paris Agreement's ambition, and the credibility of the commitment is undermined by significant reliance on offsets and unproven technologies such as carbon capture and storage (CCS). As for other NDCs, this target does not include exported emissions, which in the UAE case is fundamental as 63% of the UAE's oil is exported.

An estimated 1,872 people die every year from outdoor air pollution in the UAE[18]. While some of this may be attributable to dust and sandstorms, evidence suggests that fossil fuel combustion contributes significantly[19].

Emissions target ambition

While the UAE's NDC starts with an ambitious reference ("Accelerating Action Towards Mission 1.5˚C") its emissions reduction target is insufficient and not aligned with the findings of the GST, and the reliance on offsets and carbon capture and storage (CCS) undermines its credibility. The continued expansion of oil and gas infrastructure further contradicts the stated goals, raising concerns about the alignment of domestic actions with global climate commitments. Addressing short-lived climate pollutants, such as methane, could provide immediate health and climate benefits, but the NDC lacks a clear strategy in this regard.

Integrated planning and governance

Critics have labelled the UAE NDC a "greenwashing exercise"[20], arguing that the focus on international offsets and the expansion of oil and gas infrastructure contradicts the stated climate ambitions. The NDC reflects a structured governance framework rooted in the Climate Change Law (2023), which provides a legal basis for achieving the country's climate objectives. The Climate Change Law mandates the development and implementation of climate policies across sectors, ensuring alignment with the UAE's Net Zero 2050 Initiative. This legal foundation strengthens accountability and coordination among federal and emirate-level entities.

Additionally, the NDC incorporates voluntary pledges from various stakeholders, including private sector actors and local governments, to support decarbonization efforts. These pledges demonstrate a whole-of-society approach, with the potential of engaging businesses in climate action. Despite these strengths, the reliance on fossil fuels and the expansion of oil and gas infrastructure highlights a significant misalignment between governance frameworks and the ambitious emissions reduction targets. Ensuring coherence between policy objectives and sectoral actions will be critical to enhancing the credibility and effectiveness of the NDC.

Finally, the NDC has a specific section regarding health. Nevertheless, in this section no new mitigation or adaptation objectives are listed, only existing policies and initiatives.

Climate impacts on health

The NDC explicitly highlights potential climate impacts on health, such as air quality and exposure to harmful pollutants, vector-borne diseases, heat stress and potential heat strokes, non-communicable diseases, and mental health issues. However, these references remain brief and lack measurable targets.

Action in the health sector

The NDC does not address specific health risks, such as heat stress or vector-borne diseases, despite their relevance in the UAE's climate context. The absence of detailed adaptation strategies for health undermines the comprehensiveness of the document and its capacity to address climate-related health vulnerabilities. Detail on health sector actions is notably absent from the NDC, representing a significant gap. While the NDC includes a health-focussed section with a list of existing policies and strategies nominally aimed to improve resilience-building efforts, including a new early warning system "to include elements related to health-related weather concerns", a timeline and indicators are absent. Similarly, a "set of additional policies is under consideration" regarding water and air quality, food systems, and waste management, is mentioned but unaccompanied by indicators and metrics. These omissions are particularly critical given the UAE's vulnerability to extreme heat and air pollution, which have direct and severe impacts on public health. Integrating health-specific measures, such as strengthening healthcare infrastructure and emergency response systems with realistic yet ambitious targets, would protect contribute to protecting health.

Action in other health-determining sectors

The NDC highlights several initiatives with potential health gains, including in the energy, transport and agriculture sectors. The expansion of solar and nuclear energy is a positive step towards reducing emissions and improving air quality. However, the overall energy strategy remains heavily reliant on fossil fuels, as the general reduction of greenhouse gas emissions (47%) is not aligned with the GST. Investments in low-carbon and electric mobility and sustainable urban planning are highlighted, but their scale and impact are unclear. Efforts to advance climate-smart agricultural practices are mentioned, but their contribution to improving food security and health outcomes is not quantified. These initiatives lack specificity and fail to articulate direct health outcomes, such as reduced hospitalizations from respiratory illnesses or heat-related conditions.

Financial commitments for climate-health action

The UAE's financial commitments are substantial, with mechanisms such as the ALTÉRRA fund and the Global Climate Finance Centre launched at COP28 mobilizing investments in decarbonization and adaptation. The document also mentions that financial planning was a "critical component" of the NDC elaboration. However, the NDC does not specify explicit funding for resilience- or health-related climate actions, nor does it provide clear cost estimates for adaptation measures.

Participation and equity

The NDC underscores the importance of inclusivity and stakeholder engagement, citing a participatory approach used in the elaboration of the NDC, with extensive consultations with government officials, civil society, and private sector stakeholders. Over 50 bilateral meetings and 110 workshops were conducted to ensure broad stakeholder participation, emphasizing inclusivity in the decision-making process, although information is not included how these consultations contributed to the NDC, or its health-related strategies. The document could benefit from greater clarity on how the cited voluntary pledges will be monitored and integrated into national targets. The focus on equity is undermined by the absence of targeted measures for vulnerable populations most at risk from climate change, such as low-income communities.

Monitoring and reporting

The NDC includes mentions of monitoring frameworks for emissions reductions but does not extend these to health-specific indicators. The document also mentions the EARTH platform (launched at COP28 and designed to advance five key domains—economy, adaptation, reduction, transition, and health), but does not showcase the impacts of this platform on monitoring adaptation and mitigation advances. Metrics such as reductions in respiratory illnesses or heat-related deaths are crucial for assessing the health impacts of climate actions. The reliance on general monitoring systems limits the capacity to evaluate positive impacts of implementation.

Conclusion

The UAE NDC demonstrates a willingness to engage with global climate goals and highlights areas of progress, such as renewable energy expansion and stakeholder engagement. However, the heavy reliance on offsets, vague health commitments, and contradictions between stated goals and fossil fuel expansion undermine its overall effectiveness. To improve its impact, the UAE should integrate health-specific measures and targets into its climate strategies and allocate dedicated funding for health-focused adaptation. Enhanced transparency and accountability in financial and emissions reporting and reduced reliance on offsets, instead prioritising domestic emissions reductions, would improve alignment with the Paris Agreement and also enhance capacity to deliver tangible health and climate benefits.

UNITED KINGDOM

The U.K. NDC is ambitious and demonstrates the intention to both significantly reduce emissions and optimise health gains through the mitigation interventions implemented.

64.0% of adults aged 18 years and over in England were estimated to be overweight or living with obesity in 2022-2023[21], with costs to the NHS totalling £6.5 billion[22]. Considering how to optimise health gains in the U.K.'s NDC when delivering emissions reductions across sectors including agriculture and transport presents opportunities to increase access to affordable, healthy and sustainable diets and safe and affordable active and public transport.

Emissions target ambition

The U.K. commits to emissions reductions of at least 81% by 2035 compared to 1990 levels[23] - a target consistent with advice of the U.K.'s Climate Change Committee advice[24], and setting a bar for other developed countries to take more ambitious action to reduce emissions. The target demonstrates the U.K.'s ambition to reduce emissions to levels which would protect human health from climate-induced hazards, although much greater reductions would be needed to fully reflect equity, given the U.K.'s high historical emissions, with the government being encouraged to consider the target "as a floor, not a ceiling"[25]. Notably, the NDC target excludes international aviation and shipping emissions, which have far-reaching health implications.

Integrated planning and governance

The NDC includes a dedicated section on health and air pollution, and health is mentioned in the very first sentence of the NDC, indicating recognition of the close linkages between climate change and health and the case for integrated action. The U.K. NDC makes links to SDGs including SDG 2 (ending hunger). The document was prepared with cross-departmental inputs, though neither the climate and health unit of the Foreign Commonwealth and Development office nor the Department of Health and Social Care are specifically named. Devolved governments and U.K. overseas territories were additionally consulted; and multiple subnational initiatives are referred to in the NDC. Several civil society organisations are also specifically named as having their inputs taken into consideration.

Climate impacts on health

The NDC refers to the impact of the triple planetary crisis to health alongside other considerations. The U.K. (following the practice of many other developed countries) submits a separate adaptation communication and health impacts and adaptation are thus not explored at length in the NDC.

Action in the health sector

While the U.K. NDC makes many mentions of health-related actions, these tend to be in health-determining sectors (described below) rather than the healthcare sector itself.

Action in other health-determining sectors

The U.K. NDC makes multiple references to health gains of climate action across sectors, including energy, transport, and agriculture. The national Clean Air Strategy is described as supporting the right to health, with measures to decarbonise transport also being noted to contribute to cleaner air and better health. However, transport and physical activity considerations are omitted. The national food strategy seeks to provide more easily accessible healthy food to tackle obesity. Initiatives to transition away from coal and other fossil fuels, improve home insulation and upgrade boilers would also offer health gains, though these health opportunities are not detailed in the NDC. Several subnational initiatives which reflect on the public health implications of action across sectors are also featured.

Financial commitments for climate-health action

The U.K. sets out budgetary allocations for initiatives with potential health gains including the Warm Homes Plan and the Boiler Upgrade Scheme. At the international level, the U.K. NDC describes the allocation of funds to support other countries to develop their NDCs, as well as support for others to mitigate methane, though the potential health gains that could be yielded through these channels are not reflected.

Participation and equity

The U.K. NDC refers to several initiatives undertaken with youth and suggests that youth will be closely involved in implementing aspects of the NDC. However, the extent to which youth were consulted in the development of the NDC itself is unclear.

Monitoring and reporting

The NDC does not incorporate nation-wide health metrics in its monitoring and reporting framework, but it makes references to the periodical "Emissions Monitoring Report" (most recently updated in 2024) which monitors progresses in mitigation actions. Also, the future Clean Air Strategy will possibly introduce a monitoring framework for the actions proposed in the strategy. The NDC also refers to a series of monitoring efforts related to air quality carried out by local governments.

Conclusion

The U.K. NDC is ambitious in emissions reductions and incorporates health considerations in climate actions, with concrete strategies already in place at subnational level to improve air quality and with a national strategy under development. Incorporating more explicit health strategies to promote public health would improve its alignment with holistic climate resilience planning.

UNITED STATES

The NDC and its 2035 commitment on emission reductions is supported by landmark legislation including the Inflation Reduction Act and the Bipartisan Infrastructure Law. However, health integration is notably limited. While the NDC acknowledges potential public health benefits, such as improved air quality, it lacks specific health metrics or adaptation strategies. This imbalance highlights an opportunity for the U.S. to align its mitigation goals with health outcomes to enhance the health gains of its climate actions.

In 2023, a potential S$103 billion income from reduced labour was lost due to heat in the US - a record high[26].

Emissions target ambition

The U.S. NDC is not in line with 1.5˚C compatible pathways[27]. The NDC articulates an economy-wide commitment to reduce greenhouse gas emissions by 61-66% below 2005 levels by 2035 and includes sectoral targets and legislative achievements. Subnational leadership could address shortcomings in federal action. Enhanced coordination across governance levels and a stronger focus on health benefits would improve the NDC's contribution to public health and climate resilience.

Integrated planning and governance

The U.S. NDC reflects a comprehensive whole-of-government approach to climate planning, underpinned by landmark legislative frameworks such as the Inflation Reduction Act (IRA) and the Bipartisan Infrastructure Law (BIL). While the strategy is ambitious within the constraints of the current political framework, the integration of health considerations remains insufficiently detailed. Although the NDC mentions the need to protect public health and also potential health benefits such as reduced air pollution and associated mortality, these references are not systematically tied to climate policies or measurable targets. The U.S. NDC highlights its robust participatory processes, involving consultations with federal agencies, subnational governments, civil society, and the private sector. However, the document could strengthen the connection between these participatory efforts and the development of health-specific strategies, ensuring that climate resilience comprehensively addresses public health vulnerabilities.

Climate impacts on health

A detailed discussion of specific health risks of climate change, such as heat stress, vector-borne diseases, or the health impacts of extreme weather events is absent from the NDC. This omission is notable given the growing body of evidence linking these issues to climate change in the U.S.

Action in the health sector

The NDC does not include a dedicated health sector strategy. Strengthening health system resilience, enhancing emergency preparedness, and incorporating health metrics into climate adaptation plans would significantly improve the comprehensiveness of the U.S. climate strategy. Federal and state-level efforts in related areas, such as disaster response and community resilience, could be explicitly linked to health outcomes to maximize their impact.

Action in other health-determining sectors

The NDC acknowledges the potential for significant public health benefits from emissions reductions, particularly through improvements in air quality and reduced exposure to harmful pollutants. Key sectors identified in the NDC, including energy, transportation, and agriculture, offer substantial health gains. Accelerated transition to renewable energy under the IRA and BIL will reduce air pollution, leading to improved respiratory and cardiovascular health outcomes. Policies promoting electric vehicles, public transportation, and active mobility can reduce vehicular emissions, with direct benefits for urban air quality and public health. The promotion of climate-smart agriculture and methane reduction initiatives has potential benefits for food security and health outcomes. In order to optimize the delivery of such health outcomes, the NDC should make provisions to quantify and monitor these health benefits.

Financial commitments for climate-health action

The IRA and BIL represent unprecedented investments in clean energy, infrastructure, and climate resilience, totalling hundreds of billions of dollars. These investments indirectly benefit public health, particularly through air quality improvements and reduced exposure to climate risks. However, there are no dedicated financial mechanisms or allocations explicitly targeting health-related climate actions. Establishing funding streams for health-specific adaptation measures would strengthen the NDC's approach to addressing climate-related health vulnerabilities.

Participation and equity

The NDC underscores the importance of equity and environmental justice, with initiatives such as the Justice40 Initiative aiming to deliver 40% of federal climate and clean energy investments to disadvantaged communities. This focus is commendable, but the document could further emphasize the role of community-based health interventions, particularly in regions disproportionately affected by climate change. The U.S. NDC refers to consultations with tribal nations, but specific needs of these populations are not addressed in the NDC. Greater inclusion of vulnerable populations, including rural and low-income communities, in health-specific adaptation planning would enhance equity outcomes.

Monitoring and reporting

The NDC includes frameworks for monitoring greenhouse gas emissions and environmental metrics but does not extend these to health-specific outcomes. Including health indicators, such as reductions in hospitalizations due to heat stress or respiratory conditions, would provide a clearer picture of the public health impacts of climate actions. Leveraging existing systems such as the CDC's Climate and Health Program could support this effort.

Conclusion

The U.S. NDC reflects substantial progress in integrating climate ambition with economic and environmental policies. However, the absence of a dedicated focus on health limits its potential to address critical vulnerabilities and unlock health gains. To strengthen its impact, the U.S. should quantify and monitor health benefits across sectors and consider including a dedicated health section. Enhanced participatory processes to prioritize health equity. By addressing these gaps, the U.S. can ensure that its climate policies deliver comprehensive benefits for both the environment and public health, setting a global example of integrated climate and health action.

URUGUAY

Uruguay's emissions reductions target is ambitious and aligned with the pathways needed to protect human health. In addition, health is referred to in existing sectoral national adaptation plans (NAPs) for cities, agriculture, and coasts, and the country has committed to develop a dedicated health NAP (HNAP) by the end of 2025.

Uruguay reported its first cases of transmission of chikungunya in 2023. The Pan American Health Organization (PAHO) notes that climate change is a likely driver for regional cases[28].

Emissions target ambition

Uruguay's overall emission reduction target aims to reduce emissions below 9.3 Mt of CO2 in 2035 (current emissions stand at around 7.9 Mt, representing 0.02% of the global emissions[29]), followed by specific objectives for methane and N2O, with an objective of carbon neutrality in 2050. The targets are ambitious, focusing on maintaining net carbon neutrality in the land-use sector and advancing decarbonization in transport and agriculture.

Integrated planning and governance

Uruguay's NDC 3.0 builds upon a robust institutional framework, including the National Climate Change Policy (PNCC) and the Long-Term Climate Strategy for Low-Emission and Climate-Resilient Development (ECLP). These frameworks ensure that the NDC is aligned with national development objectives. The recent creation of the Ministry of Environment (2020), with its Directorate for Climate Change, and the National System for Climate Change Response (SNRCC) further strengthen governance, enabling cross-sectoral coordination and inclusivity.

Climate impacts on health

The NDC recognizes the physical and mental health risks associated with climate change, such as those stemming from floods, droughts, and heatwaves, but stops short of providing specific and detailed risk assessments of the health sector.

Action in the health sector

Uruguay's NDC has a short dedicated section for health sector actions that heavily refers to the country's National Adaptation Plan. The adaptation measures included in the NDC, including those to strengthen and improve capacity of the health system, are limited to the implementation of Uruguay's previous NDC (which included information on adaptation measures) and associated monitoring, rather than an updated and expanded approach. The new sectoral NAP (PNA - Salud) is due to be completed by the end of 2025. The NDC sets two health-related targets for 2035, namely, implementing the actions of the new HNAP, and implementing monitoring of climate change impacts on children and adolescents.

Action in other health-determining sectors

The adaptation measures proposed in other sectors, such as improving water infrastructure and disaster risk management, have indirect health benefits. The NDC outlines significant actions in non-health sectors including energy, transport and agriculture that indirectly affect health outcomes. Uruguay has achieved an energy transition, with over 94% of its electricity generated from renewable sources on average in the period 2017-2023. This transformation improves air quality and reduces respiratory health burdens. Efforts to promote electric mobility and sustainable transport, supported by fiscal incentives, reduce emissions and air pollution. The document also highlights the importance of active mobility, which is key for improving physical activity. Climate-smart agriculture practices, including sustainable grazing and soil management, enhance food security and nutritional outcomes. Specific adaptation roadmaps for climate actions in agriculture are available for consultation on the government's website. While these initiatives offer health benefits, the NDC does not seek to quantify these gains, limiting evaluation of progress.

Financial commitments for climate-health action

Uruguay's NDC highlights the importance of foreign aid to achieve its ambitious objectives and to implement climate actions. The document also includes information on the inclusion of a climatic dimension in the country's economic policy. Among other initiatives, Uruguay has innovative financing mechanisms, being the first country in the world to have bidirectional climate-linked sovereign bonds, which align with the country's mitigation and adaptation goals. Conditional loans from the World Bank are also linked to the implementation of climate action, showing how the country is determined to comply with its commitments. However, the absence of explicit and dedicated funding streams for health adaptation measures weakens the financial support for addressing health-related vulnerabilities. Explicit allocation of resources to health-focused initiatives would strengthen the NDC's overall impact.

Participation and equity

The participatory process is a hallmark of Uruguay's climate governance. Public consultations, workshops, and collaboration with stakeholders, including youth and civil society, are integral to the NDC's formulation. Uruguay emphasizes equity, gender inclusion, and intergenerational justice throughout its NDC. While the NDC highlights these efforts, it could better address health inequities by tailoring strategies to vulnerable populations, such as those in flood-prone or heat-affected areas.

Monitoring and reporting

The NDC's monitoring framework includes robust systems for tracking emissions reductions but does not incorporate health-specific metrics. These may be included in the HNAP.

Conclusion

Uruguay's NDC reflects a mature and inclusive approach to climate governance, emphasizing adaptation and equity. Its energy transition and participatory processes are exemplary, setting a benchmark for other nations. A lack of explicit health integration, measurable targets, and financial commitments for health-focused actions would further enhance health outcomes, and could be addressed in the HNAP.

2035 NDC TARGETS

CANADA

235,000 people were evacuated during the 2023 wildfires[30] because of danger to their health.

In December 2024, Canada established its 2035 greenhouse gas emissions reduction target, committing to reduce emissions 45–50% below 2005 levels[31]. According to analysis by Climate Action Network Canada[32], this falls far short of Canada's fair share of emissions reductions necessary to limit temperature rise to 1.5°C, which would require domestic emissions reductions of 80% below 2005 levels by 2035. Canada is falling short of properly considering and including population health needs and perspectives of Indigenous communities. Canada's next liberal leader should consider the current target a baseline, and must increase the current target in order to protect the health of the people of Canada and the world.

JAPAN

More than 120 people died in Tokyo from heatstroke in July 2024 as average temperatures hit record highs[33]. The costs of heat-related mortality in Japan in 2023 were equivalent to the income of 687,100 people[34]. Meanwhile, in 2021, 80,000 deaths were attributable to anthropogenic air pollution (PM2.5), with fossil fuels contributing to 31% of these deaths[35].

In November 2024, the government of Japan proposed an emissions reduction target of 60% by 2035 from 2013 levels. This has been the subject of criticism by scientists and climate campaigners at both national and international level on account of its misalignment with the Paris Agreement. According to Climate Action Tracker, Japan would need to implement cuts of approximately 80% by 2035 to hold the increase in global temperatures to 1.5˚C above pre-industrial levels[36]; necessitating emissions reductions across sectors in response to the target, rather than a target based on insufficient improvements beyond business as usual. Japan accounted for the fifth-largest share of carbon dioxide emissions in 2023. Japan continues to rely heavily on fossil fuels, using coal and natural gas to fuel more than 60% of electricity generation, which increases the risk of air pollution related disease. To protect the health of its people and avoid costly health and wider impacts, it is vital that Japan takes the expertise of health professionals into consideration in the development and implementation of its NDC.

2030 NDCs

BOTSWANA

Botswana is responsible for only 0.019% of total global annual greenhouse gas emissions, and the country strongly prioritises adaptation actions, including for the health sector. With explicit measures, a defined baseline, clear targets to measure, and a transparent subdivision between conditional and unconditional financing for climate action, the NDC shows a commitment of Botswana's government to tackling the main issues at the climate and health nexus.

While Botswana experiences lower rates of stunting in children under five years of age than the average of other countries in Africa, 28.9% of children under five years of age are still affected[37]. A focus on nutrition security could be more deeply embedded in the NDC.

Emissions target ambition

Botswana targets a 15% reduction in emissions by 2030, relative to business-as-usual scenarios. Mitigation strategies include transitioning to renewable energy and implementing energy efficiency measures. Despite this ambition, the planned expansion of coal-fired power plants undermines the country's commitment to low-carbon development and limits the immediate health benefits of emissions reductions.

Integrated planning and governance

Botswana's NDC demonstrates commendable alignment with national and international frameworks, such as the Paris Agreement, the Botswana Climate Change Response Policy (2021), and the National Climate Change Strategy for Botswana (2018). The document integrates mitigation and adaptation strategies with the Vision 2036 agenda and the National Development Plan 11 (NDP11), emphasizing the sustainable use of natural resources and resilience-building measures. However, the integration of health-specific considerations remains limited. While vulnerability assessments identify potential health impacts, such as increased risks from heatwaves and droughts, explicit links between health outcomes and sectoral climate actions are sparse.

Climate impacts on health

Botswana's NDC acknowledges the direct impacts of climate change and associated weather events on health. A specific climate and health risk assessment is not included in the document.

Action in the health sector

The NDC declares that 11% of the adaptation measures prioritized by the government are addressing direct health impacts, and states that "most of these adaptation measures are already underway". Among these actions, are continuation of the malaria elimination program; establishment of health-specific emergency response programs; and improvement of health management information systems to incorporate indicators of climate stress linked to major health impacts. Implementing these actions, along with new actions to enhance and develop climate resilient healthcare infrastructure and to address other climate-induced health risks (including all vector-borne diseases, waterborne illnesses, or heat-related conditions), would significantly strengthen the NDC. On the positive side, all actions have a baseline, indicators, and a specific 2035 target.

Action in other health-determining sectors

Botswana's NDC acknowledges the indirect health benefits of mitigation measures, such as improved air quality from renewable energy projects and enhanced water security. In particular, Botswana's NDC outlines initiatives with potential health benefits, including water management, agriculture, and infrastructure. Integrated water resources management (IWRM) and water transfer schemes to enhance water availability. Climate-smart agriculture practices, such as conservation farming and drought-resistant crops, to ensure food security. Improved drainage systems and climate-resilient building designs to mitigate the impacts of extreme weather events. While these initiatives are promising, their health opportunities remain implicit rather than explicit. As for the health sector, actions in all sectors have a baseline, indicators, and a specific 2035 target.

Financial commitments for climate-health action

Botswana's NDC provides a detailed costing framework, estimating a total cost to implement the NDC actions of USD $6.2 billion, with USD $2.5 billion allocated for adaptation and USD $3.7 billion for mitigation. However, specific allocations for health-related measures are not outlined. The reliance of conditional funding for only the 16% of adaptation needs indicates a strong commitment of the country to invest domestic financing into climate action. In contrast, for mitigation the larger share of the budget (74%) is conditional to foreign aid, a fact that could hinder implementation. This mirrors the prioritization that Botswana has given to adaptation.

Participation and equity

The NDC describes the participatory process that led to the development of this new document, that involved consultation with the relevant stakeholders (mainly line-ministries departments, parastatals, the private sector, and non-governmental organisations). While highlighting the importance of equity and fairness, particularly in prioritizing adaptation measures for vulnerable communities and addressing gender disparities in its adaptation measures. However, the representation of marginalised groups, including women and rural populations, in decision-making processes could be strengthened and more transparently reported.

Monitoring and reporting

Botswana has established monitoring frameworks under the Enhanced Transparency Framework (ETF), focusing on energy and transport sectors. However, there is no dedicated mechanism for tracking health-related outcomes, such as reductions in climate-sensitive diseases except for malaria, or improvements in public health resilience. Nevertheless, the presence of clear indicators and targets for each measure demonstrates efforts and improvements in this regard.

Conclusion

Botswana's Second NDC reflects notable progress in integrating climate action with national development priorities. The emphasis on adaptation and the commitment to finance most of the adaptation actions unconditionally to foreign aid, the presence of transparent and clear measures with targets and indicators, and the alignment with national development policies such as Vision 2036 are key strengths.

PANAMA

Panama's 2030 NDC reflects significant progress in integrating health considerations into its climate strategies. The previous NDC was limited to enhancing planning instruments for reducing population vulnerability, with a focus on epidemiological surveillance systems for environmental and climate risks. In contrast, the updated NDC introduces a dedicated section on public health and integrates health considerations across multiple sectors, demonstrating a much broader and more strategic vision.

Panama has 15 percent of its total area exposed to climate risks and 12.5 percent of its total population vulnerable to two or more hazards[38]. In June 2024, for one of the first times in the region, Indigenous islanders were forced to leave their homes due to the threat posed by rising sea levels to their lives and well-being[39].

Emissions target ambition

The NDC aligns with the Paris Agreement's goals by committing to maintaining its carbon-negative status by 2050. It includes multiple greenhouse gases in its targets but lacks comprehensively detailed interim milestones. Strategies addressing major emitting sectors, such as energy and transportation[40], are outlined, with some recognition of their benefits for health.

To strengthen this section, the NDC should provide detailed timelines, sector-specific reduction targets, and a stronger focus on health-harming short-lived climate pollutants.

Integrated planning and governance

The NDC explicitly aligns with the SDGs, particularly SDG 3 (good health and wellbeing) and SDG 6 (clean water and sanitation). It highlights clear synergies between health and climate outcomes, such as the benefits of air quality improvements and renewable energy initiatives. Furthermore, it aligns with key national strategies, including the National Socioeconomic, Inclusive, Low-Emission, and Climate-Resilient Strategy by 2050 (Long-Term Strategy, ELP); the National Climate Change Policy by 2050 (PNCC); and the National Strategy for Climate Empowerment (ENACE). Furthermore, the new NDC builds on the previous one displaying a specific public health section, and declares the right to health as one of the pillars of the national vision the NDC is built upon. Despite these strengths, the NDC could be enhanced with even more specific, measurable health targets to ensure a clearer linkage between climate goals and health outcomes.

Climate impacts on health

While the emphasis on reducing health burdens through mitigation and adaptation strategies is commendable, the document sometimes lacks quantitative timelines and specific targets for these actions. Additionally, it acknowledges context-specific health challenges, such as the risks from rising sea levels and tropical diseases, but does not provide comprehensive mitigation plans for these issues - specifically, regarding sea level rise and health-related impacts.

Action in the health sector

The NDC identifies several actions to address health-related climate risks, including policies targeting vulnerable populations such as children, the elderly, and low-income groups, and disaster risk reduction strategies and health system recovery plans to reduce the impacts of extreme weather events. More specifically, Panama's NDC outlines initiatives directly targeting climate-related health risks, such as goals for reducing health impacts from heat stress and vector-borne diseases, and plans to enhance health system resilience to climate-related shocks. Within the health sector, the sectoral targets are mostly focused on better understanding health impacts and establishing a baseline, with the objective of commissioning new studies and strengthening the epidemiological monitoring system. However, the lack of detailed quantitative targets and timelines for adaptation strategies undermines the effectiveness of these measures, as it appears that the sector's work on climate, in comparison to other ones, still is at a somewhat embryonal stage. A clearer integration of health impact assessments into adaptation planning would strengthen the health sector's role in addressing climate challenges.

Action in other health-determining sectors

The NDC highlights health gains from actions in non-health sectors, including addressing waterborne diseases through integrated water resource management; benefits of promoting renewable energy and active transportation initiatives to reduce air pollution and associated respiratory illnesses, and addressing the improvement of drinking water supplies and of sanitary and environmental conditions with the objective of reducing pollution of rivers by urban solid waste. While these initiatives demonstrate strong potential, the document could improve by including specific data on expected health outcomes, such as reductions in hospitalizations or disease incidence.

Financial commitments for climate-health action

Panama's NDC identifies financial needs and commitments for health-related adaptation measures. It references international funding mechanisms, such as the Green Climate Fund and other donors, but provides limited details on specific budget allocations for health. A great advantage of this NDC, which demonstrates the scale of government effort in transparency and accountability, is the costing section, which offers an estimate of the implementation cost for the NDC goals in each sector, with the health sector being at the 4th place with an estimated cost of implementation of circa 40 million USD. This could be improved further by adding granular cost estimates for proposed actions.

Participation and equity

The NDC highlights an inclusive approach, involving diverse stakeholders in its formulation process. Key aspects include a focus on equity and justice for vulnerable groups, such as indigenous peoples and women, and policies to ensure equitable access to health resources. The document, especially in the Annex, provides evidence of the participation of different stakeholders in each workshop realized to develop the NDC. Nevertheless, the document could be more transparent regarding the type of marginalised groups involved in the decision-making processes and highlighting community-specific health challenges with tailored responses.

Monitoring and reporting

Panama's NDC includes a framework for monitoring and reporting health outcomes, and showcases developments in the construction of a national monitoring and evaluation platform. However, the accountability mechanisms could be enhanced by establishing clearer connections between monitoring systems and national health reporting frameworks, and the health sector does not appear featured in the current structure of the National Platform of Climate Transparency.

Conclusion

Panama's NDC reflects substantial progress in integrating health considerations into climate strategies, with strong alignment to national and international frameworks. Improvements in quantitative targets, financial commitments, and monitoring mechanisms would further enhance its clarity and effectiveness. Transparency in stakeholder engagement and embedding comprehensive health metrics would optimize impact, ensuring the NDC serves as a robust tool for addressing climate and health challenges.

CONCLUSIONS

The reviewed NDCs reveal a spectrum of approaches to integrating health considerations into national climate strategies. While several acknowledge the interconnectedness of health and climate, significant gaps remain in most cases. Ambitious targets and sectoral pathways are often undermined by the absence of explicit health objectives and metrics, insufficient financial commitments, and limited transparency in participatory processes.

Key strengths include:

- Acknowledgment of health gains: The majority of NDCs recognize the health benefits of mitigation strategies such as renewable energy adoption and reduced air pollution.
- Governance frameworks: Most analysed NDCs highlight alignment with national legal and institutional frameworks, which bolster cross-sectoral coordination.
- Participatory approaches: Stakeholder engagement is prominently featured in NDCs (in particular those of Switzerland and Panama), though its influence on health-specific outcomes is not always evident.

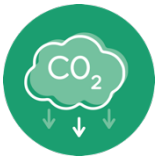
However, recurring shortcomings limit the effectiveness of these strategies:

- Inadequate climate ambition to protect health: The September 2024 UNFCCC NDC Synthesis Report indicates that if national climate plans for 2030 were fully implemented, global temperatures would reach 2.1-2.8°C above pre-industrial levels by the year 2100, depending on factors including the delivery of adequate climate finance by developed countries for the delivery of actions in developing countries[41]. The WMO confirmed this trend by validating that 2024 was warmest year on record at about 1.55°C above pre-industrial level[42]. The upper limit of the 2.1-2.8°C range would be catastrophic for human health but even high emitting countries have not demonstrated sufficient advances on previous targets.
- Lack of health-specific targets: Most NDCs fail to establish measurable goals for reducing health burdens linked to climate change.
- Insufficient financial commitments: Dedicated funding for health adaptation and resilience measures is either absent or inadequately detailed.
- Underdeveloped monitoring frameworks: Health outcomes are rarely integrated into monitoring systems, hindering accountability and the ability to track gains.
- Misalignment of actions: Ambitious emissions reductions targets are often not in alignment with the findings of the Global Stocktake and in some cases even contradicted by continued investments in fossil fuel infrastructure (as seen in the UAE's case).

To fully realize the potential of climate policies, NDCs must address these gaps by embedding health considerations more comprehensively into their frameworks.

RECOMMENDATIONS: HEALTHY NDCs 3.0

By adopting these recommendations, future NDCs can better integrate health considerations, enhancing their effectiveness in addressing the dual crises of climate change and public health.



Commit to healthy and ambitious emission reductions

- All countries must commit to and deliver ambitious emissions reductions in line with the Paris Agreement and reflecting the outcomes of the first Global Stocktake. Highest emitting countries should deliver most rapid and ambitious emissions reductions in light of their historical responsibilities and present capacities, reflecting fair share and pace of emissions.
- Prioritize robust reduction targets for major emitting sectors, such as energy, transport, and agriculture, ensuring alignment with 1.5°C pathways.
- Use methodologies, such as the Science-Based Targets initiative (SBTi), to ensure emissions reductions align with global climate goals.
- Commit to transparent reporting mechanisms, ensuring that reduction strategies are measurable, verifiable, and accountable.
- Address short-lived climate pollutants, such as methane, with targeted strategies that deliver immediate health and climate gains.
- Avoid reliance on offsets and prioritize domestic emissions reductions to maximize health gains.

Integrate health as a central pillar of action across sectors

- Establish dedicated sections for health in NDCs, including adaptation and mitigation actions in the healthcare sector.
- Consider health as a guiding axis of mitigation and adaptation strategies in health-determining sectors (e.g., energy - specifically a just transition from fossil fuels to renewable energy, agriculture, water resources, and infrastructure).
- Align national climate goals with international health frameworks, such as the 77th World Health Assembly Resolution[43] and its forthcoming Global Plan of Action, the 14th WHO General Programme of Work[44], the WHO Operational Framework for Building Climate Resilient and Low Carbon Health Systems[45], and the UAE COP28 Declaration on Climate and Health[46].

Set measurable health targets

- Define clear metrics, such as reductions in heat-related illnesses, hospitalizations due to air pollution, or prevalence of vector-borne diseases
- Set timebound targets in both health and health-determining sectors.
- Incorporate health indicators into national climate monitoring systems and ensure alignment with broader SDG tracking frameworks.

Increase financial commitments

- Allocate specific funding for health-focused adaptation and mitigation measures, supported by transparent budgeting and analyses of costs and returns on investment analyses.
- Provide international climate finance, such as Green Climate Fund allocations, to support health-related projects.

Enhance participatory processes

- Ensure meaningful engagement of marginalized groups, including Indigenous communities, women, and youth, in NDC development and implementation.
- Transparently document their participation and how stakeholder input shapes health-related strategies.

Promote equity and address vulnerability

- Tailor adaptation measures to address the specific health needs of vulnerable populations, such as those in high-risk regions or with limited access to healthcare, ideally informed by health vulnerability and adaptation assessments.
- Prioritize actions that reduce health inequities, such as improving water quality and reducing exposure to extreme heat for low-income communities and vulnerable groups.

Strengthen governance and multisectoral coordination

- Develop sustainable, just, and stable cross-sectoral governance mechanisms that integrate health ministries and agencies into climate planning and implementation.
- Establish robust frameworks for monitoring and reporting health outcomes, ensuring accountability at all levels of governance.

Additional guidance can also be found in the WHO Quality Criteria for integrating Health into NDCs[47].

ANNEX: DETAILED METHODOLOGY

The following indicators elements were considered under the eight categories assessed in this analysis.

Emissions target ambition

Description: Assess whether the NDC aligns with the Paris Agreement's goal of limiting global temperature increase to 1.5°C, considering which greenhouse gases are included in the targets and the ambition level of the emission reductions.

Indicators and elements evaluated:

- Explicit reference to alignment with the Paris Agreement's 1.5°C target.
- Inclusion of targets for a range of greenhouse gases (e.g., CO_2, CH_4, N_2O, F-gases).
- Clear timelines for reaching net-zero emissions or significant reductions.
- Mention of interim targets to ensure gradual progress.
- Evidence of robust strategies to address major emitting sectors (e.g., energy, transportation, agriculture).
- Discussion of how emission reduction targets align with national development goals and health benefits.
- Analysis of gaps and strengths in emission reduction policies, focusing on health-related outcomes.
- Specific mention of strategies to tackle short-lived climate pollutants and their health impacts.
- Details of monitoring and accountability mechanisms for emission reductions.
- Identification of synergies between emission reduction targets and health priorities.

Integrated planning and governance

Description: Evaluate if the NDC explicitly mentions health in its overall climate goals, framing health as a central outcome, or makes links with other health- and climate- related strategies or plans. Assess the extent of collaboration across sectors, particularly between health, environment, agriculture, WASH, and urban planning.

Indicators and elements evaluated:

- Presence of a dedicated health section (on the health sector or public health) in the NDC
- Inclusion of health consideration in adaptation and mitigation strategies.
- Alignment with health-focused SDGs (e.g., SDG3 on good health and well-being, but also SDG2 and SDG6), or health goals in other national and international strategies
- Presence of a defined vision connecting climate goals to health.
- Presence of explicit health-related targets and goals targets and goals.

- Discussion of synergies between health and climate outcomes.
- Consistency with national health strategies or development plans.
- Integration of global frameworks.
- Identification of overlaps or gaps between health and climate priorities.
- Discussion of how health considerations influence broader climate actions.
- Number/quality of health agencies or ministries mentioned/involved in the policy development or implementation process.
- Existence of formal intersectoral governance mechanisms.
- Number/quality of nongovernmental actors involved in the formulation of the new NDC
- Evidence of cross-sectoral dialogue (e.g., joint initiatives or funding).
- Evidence of a participatory process involving multiple stakeholders.
- Inclusion of case studies or examples demonstrating inter-agency coordination.

Climate impacts on health

Description: Identify mentions of climate-related health risks such as extreme weather, vector-borne diseases, and air quality.

Indicators and elements evaluated:

- Mentions of climate actions to reduce health risks (e.g., heat stress, water-borne diseases, respiratory illnesses).
- Mention of health-related loss and damage in NDCs.
- Depth of the discussion on health impacts.
- Specific measures for disaster risk reduction and health system recovery.
- Explicit references to reduced health burdens.
- Explicit reference to reduce health burdens because of specific reduction of super-pollutants
- Inclusion of health-focused emergency response plans.
- Discussion of gaps and needs in addressing loss and damage.
- Integration of health impact assessments in mitigation planning.

Action in the health sector

Description: Identify actions targeting climate-related health risks such as extreme weather, vector-borne diseases, and air quality.

Indicators and elements evaluated:

- Presence of specific goals and targets related to climate actions to reduce health impacts.
- Context-specific considerations for local health challenges.
- Mention of specific timelines and quantitative targets for climate actions.

- Identification of specific health improvements (e.g., fewer hospitalizations due to air quality improvements).

Action in other health-determining sectors

Description: Analyse whether the NDC highlights health gains of climate action such as improved air quality, water security, healthy sustainable diets, or active transportation – or more globally with a general long-term vision of reducing global climate impacts on health because of climate action.

Indicators and elements evaluated:

- Policies promoting renewable energy, healthy sustainable diets, sustainable urban planning, or active mobility and explicit reference to health benefits.
- Explicit references to reduced health burdens (e.g., from air pollution).
- Explicit reference to reduced health burdens because of reduction of super-pollutants.
- Integration of health impact assessments in climate planning.
- Identification of specific health improvements (e.g., fewer hospitalizations due to air quality improvements).

Financial commitments for climate-health action

Description: Evaluate financial resources allocated for health-related climate actions.

Indicators and elements evaluated:

- Mention of specific budget lines or funding for health adaptation.
- Proportion of total adaptation financing allocated to health.
- Mention of projects/costing initiatives related to health-related climate actions.
- Discussion of funding adequacy for health system resilience.
- Inclusion of international funding mechanisms (e.g., Green Climate Fund) for health projects.

Participation and equity

Description: Assess how the NDC addresses equity and justice, focusing on health impacts for and inclusion of vulnerable groups.

Indicators and elements evaluated:

- Mentions of indigenous peoples, women, children, or rural communities in health adaptation strategies.
- Policies to ensure equitable access to health resources.
- Representation of marginalized voices in NDC development.
- Identification of community-specific health challenges and responses.

Monitoring and reporting

Description: Determine whether the NDC includes a specific monitoring, evaluating and reporting system and/or measurable health-related targets.

Indicators and elements evaluated:

- Presence of health-specific indicators (e.g., reductions in heat-related illnesses/deaths, hospital admissions, reduction of illnesses related to vector-borne diseases).
- Use of metrics such as disability-adjusted life years (DALYs) or quality-adjusted life years (QALYs) in evaluations.
- Clear accountability mechanisms for tracking health-related progress.
- Integration of monitoring with national health and climate reporting systems.
- Explicit mention of an established/soon-established national climate monitoring system that includes the health sector.

REFERENCES

[1] COP 28 Presidency, 2023. COP28 UAE Declaration on Climate and Health.

[2] WHO, 2023. 2023 WHO Review of health in Nationally Determined Contributions and long-term strategies: health at the heart of the Paris Agreement.

[3] UNFCCC, 2024. 2024 NDC Synthesis Report.

[4] UNEP, 2023. Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed. Adaptation finance gap update 2023.

[5] GCHA, 2021. Healthy NDC Scorecard.

[6] GCHA, 2023. Healthy NDC Scorecard.

[7] GCHA, 2023. Clean Air NDC Scorecard.

[8] *Additional NDCs 3.0 by Andorra, Ecuador and St Lucia, and an NDC with a 2030 target by Lesotho, have been submitted between 4th February and the publication of this analysis on the 10th February. Due to timeframes required for analysis, these NDCs are not included in this report.*

[9] Requia et al, 2021. Health impacts of wildfire-related air pollution in Brazil: a nationwide study of more than 2 million hospital admissions between 2008 and 2018.

[10] 350, 2024. Brazil's NDC falls short of true ambition

[11] IEA, 2023. Colombia.

[12] Instituto Talanoa, 2024. Brazil's new NDC is paved by strong climate policies; 2035 target aimed at accessing international carbon markets.

[13] Global Observatory for Physical Activity, 2020. New Zealand Card.

[14] Smith et al, 2018. Results from New Zealand's 2018 Report Card on Physical Activity for Children and Youth.

[15] Gibson, 2025. Government's new climate target for 2035 'shockingly unambitious' - climate expert.

[16] University of Bern, 2023. Global warming caused 60 percent of Swiss heat deaths in the summer of 2022.

[17] 350.org, 2025. Switzerland's New Climate Target Falls Short: Weak Targets and Flawed Accounting of Carbon Offsets Undermine Credibility.

[18] Human Rights Watch, 2024. "You Can Smell Petrol in the Air". UAE Fossil Fuels Feed Toxic Pollution.

[19] Osipov et al, 2022. Severe atmospheric pollution in the Middle East is attributable to anthropogenic sources.

[20] 350, 2024. UAE's NDC is a greenwashing exercise.

[21] Office for Health Improvement and Disparities, 2024. Obesity Profile: short statistical commentary May 2024.

[22] Department of Health and Social Care, 2023. Government plans to tackle obesity in England.

[23] Department for Energy Security and Net Zero, 2023. UK shows international leadership in tackling climate crisis

[24] Climate Change Committee, 2024. Letter: Advice on the UK's 2035 Nationally Determined Contribution (NDC)

[25] CAN-UK, 2024. Climate Action Network UK (CAN-UK) reaction to Climate Change Committee 2035 NDC advice.

[26] Beyeler et al, 2024. Lancet Countdown on Health and Climate Change. Policy brief for the United States of America.

[27] Climate Action Tracker, 2024. USA.

[28] PAHO, 2023. With rising cases, experts discuss chikungunya spread in the Americas.

[29] Our World in Data, 2022. Uruguay.

[30] Prime Minister of Canada, 2024. Keeping Canadians safe from wildfires

[31] Environment and Change Canada, 2024. What you need to know about Canada's 2035 emissions reduction target

[32] Holz, 2024. Canada's Fair Share of 1.5 °C-Consistent Global Mitigation Through 2035.

[33] AP, 2024. More than 120 people died in Tokyo from heatstroke in July as average temperatures hit record highs.

[34] Romanello et al, 2024. Indicator 4.1.2: Economic losses due to climate-related extreme events.

[35] Romanello et al, 2024. Lancet Countdown Policy Brief for Japan.

[36] Climate Action Tracker, 2024. 1.5-aligned 2035 targets for major emitters and Troika countries

[37] Global Nutrition Report, 2022. Botswana.

[38] World Bank, 2021. Panama.
[39] CNN, 2024. Threatened by rising seas, the first of Panama's Indigenous islanders are forced to leave
[40] IEA, n.d. Panama emissions.
[41] UNFCCC, 2024. 2024 NDC Synthesis Report.
[42] WMO, 2025. WMO confirms 2024 as warmest year on record at about 1.55°C above pre-industrial level
[43] 77th World Health Assembly, 2024. Resolution on Climate Change and Health.
[44] World Health Organization, 2024. FourteenthGeneral Programme of Work.
[45] WHO, 2023. Operational framework for building climate resilient and low carbon health systems
[46] COP28 Presidency. COP28 UAE Declaration on climate and health.
[47] WHO, 2024. Quality criteria for integrating health into Nationally Determined Contributions (NDCs)