

Ensuring access to climate-resilient sanitation services for 3.6 billion people by 2030:

A call to action for acceleration

Climate change is drastically altering the world we live in. The Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report in 2022 confirms that global warming is projected to intensify the global water cycle and, in doing so, directly impact sanitation systems. This will further hamper progress on SDG 6.2 and undermine the health and well-being of billions of people. Today, an estimated [3.6 billion people](#) still do not have access to safely managed sanitation services at home. Many of these people also live in [water-stressed](#) or [flood-prone](#) areas, a problem that is rapidly increasing as a result of climate change. Households that have gained access to basic or safely managed sanitation services risk losing them during climate-related disasters, changes in climate patterns and sea level rise, unless due consideration and diligence is undertaken to inform design and development of such systems, taking into account mitigation of potential risks and shocks.

Sanitation is a public good. It provides benefits across society in improved health as well as economic and social development. Making sanitation resilient is in the best interest of everybody. According to IPCC, key sanitation infrastructure systems will be increasingly vulnerable if design standards do not account for changing climate conditions. All relevant sector partners must unite to fight the devastating effect of climate change on sanitation as an essential public service that supports resilience across all sectors.

Non-climate-resilient sanitation services pose a substantial public health hazard. During more frequent and severe flooding, damaged toilets and sanitation systems have spread disease across entire communities. In drought-affected areas, non-resilient sanitation systems can exacerbate water stress or cease to function, causing families to revert to open defecation. This impact is greatest on the poorest families, especially women and girls and persons with disabilities. Unless urgent actions are taken, the impact of climate change is set to undermine decades of progress in the sanitation sector. Systems and services must be made resilient to protect investments, promote public health and ensure universal access to sustainable, equitable and safe sanitation for all. Furthermore, safe use of sanitation wastewater and sludge from sanitation systems for irrigation and energy recovery has a large unmet potential to contribute to adaptation and mitigation in the agriculture and energy sectors.

Multiple climate-resilient sanitation services and options for mitigation already exist around the world; most have yet to be taken to large scale, however, largely due to gaps in capacity and resources. [A UNICEF study in 2020](#) estimated that \$105 billion per year is needed to achieve the sanitation component of SDG target 6.2 by 2030 and additional amounts are required to adapt to impact of climate change. Sanitation especially is often underfunded at the country level and is failing to take advantage of climate funding opportunities, with [less than 1% of major climate funding](#) being allocated to the sanitation sector.

Emissions from sanitation systems are often underestimated, and global estimates do not always consider the non-sewered sanitation systems which are prevalent in rapidly growing cities in low-and middle-income countries. The global methane emissions from non-sewered sanitation systems in 2020 was estimated at [4.7% of global anthropogenic methane emissions](#), which are comparable to the greenhouse gas (GHG) emissions from wastewater treatment plants. A [recent study](#) found that in an African city, sanitation systems may account for as much as half of all city-level emissions. Yet approaches to balance cost effective access to resilient sanitation for all and lower emissions are not yet clear and projects to mitigate these emissions remain small in number. The sanitation sector in most countries must be supported to put emphasis on climate adaptation and mitigation and the opportunities for building resilience or achieving mitigation goals are incorporated as part of routine programming. There is an urgent need for the sector partners to mainstream adaptation and mitigation measures in sanitation programming.

A better path exists for the sector and society if all relevant partners can unite in the fight against climate change. **UNICEF, the Global Green Growth Institute, the University of Technology Sydney, the Bill and Melinda Gates Foundation, UN-Habitat, the World Health Organization, the Asian Development Bank, the African Development Bank, Resilient Cities Network, WaterAid and SNV** are calling on all stakeholders to work collectively to ensure the resilience of sanitation systems to maximize the public health outcome and explore the opportunities of reducing emissions along the sanitation service chain.

With this ambition in mind, we are calling on all relevant stakeholders to ensure access to safe, climate-resilient sanitation services for 3.6 billion people in developing countries by 2030.

Specifically, we are calling on:

Governments (national and subnational levels)

- To incorporate climate resilience in sanitation policies, legislations, plans, budgets, systems and services at national and subnational levels; and increase political commitments for the provision of climate-resilient sanitation services for the poorest and most climate-affected communities.
- To incorporate climate-resilient sanitation in the Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) as a demonstration of commitment and a major step towards supporting the mobilization of the financing required to support resilient sanitation services at large scale.
- To consider sanitation as a public good that delivers social economic and environmental benefits across all sectors, to promote appropriate approaches, management practices, service delivery models and to strengthen systems and capacities that ensure that the entire sanitation service chain is made climate-resilient.
- To utilize climate projection data at the national and local levels in risk assessment for sanitation systems to select adaptation and mitigation measures based on local climate scenarios.
- To increase funding for climate-resilient sanitation services through the mobilization of domestic resources to support accelerated and sustained access to resilient sanitation services, particularly for the poorest and most climate-affected households. Where appropriate, targeted subsidies may be provided to the poorest to support them in accessing climate-resilient sanitation services.
- To plan sanitation system improvements in coordination with adaptation planning in other sectors, particularly water supply, urban planning, agriculture and energy, to ensure the sustainability of sanitation investments and to support adaptation and mitigation in other sectors.
- To encourage and incentivize the private sector to invest in and to support climate-resilient sanitation products and services, in addition to promoting local demand, and develop quality assurance and oversight mechanisms to ensure that services provided are sustainable and climate resilient.
- To build early warning systems that provide real-time data on extreme weather events and epidemic outbreaks, and to put mechanisms in place on how these data can be used to design or improve climate-resilient sanitation services.
- To strengthen the enabling environment for climate-resilient sanitation behaviour change and awareness campaigns that lead to its scale-up.
- To monitor access to climate-resilient sanitation services (including through the use of household surveys and regulation) and rapid assessments after extreme events, to monitor their effectiveness.

Development partners and civil society organizations:

- To support the strengthening of government systems and capacities around climate-resilient sanitation services at the national and subnational levels, and to pilot appropriate and replicable models for the scaling up of these services.
- To advocate and support the development of behaviour change campaigns that promote demand and include a climate-resilience component to help communities to better understand, prepare for, invest in the best or most climate resilient options they can afford, and cope with climate-related shocks and stresses.
- To strengthen the climate rationale for the sanitation sector to attract increased investment for climate-related sanitation financing. This could include improved identification and capacity-building around existing climate financing options and how governments especially can access them.
- To develop harmonized tools for the assessment of risks to sanitation systems, the identification of adaptation and mitigation measures and the development of investment plans.

- To support an improved collection and dissemination of evidence on the sanitation-related impacts of climate change and the benefits of resilience and mitigation options for the sector.

Donors (including bilaterals, international financial institutions and climate funds)

- To increase investment for climate-resilient sanitation services along the entire service chain, including increased financing for institutional strengthening and programmes in the least developed countries and their poorest, most climate-affected populations.
- To increase funding for data collection focused on strengthening national monitoring systems and research, to help to generate stronger evidence to support improved planning and advocacy efforts by the sanitation sector.

Academic and research institutions

- To conduct more research on the impact of climate change on sanitation service delivery along the whole sanitation service chain, including how climate change hazards have impacted sanitation systems, public health (including traditional and novel health outcomes) and the long-term demand for services, as well as research on adaptation and mitigation responses, their effectiveness and cost-effectiveness.
- To work with development partners to establish improved systems and mechanisms for engagement in research processes and findings, including supporting global and local communities of practice.
- To work with governments and development partners to identify the best of the technical solutions and the most critical strategies for scaling up climate-resilient sanitation.

The private sector

- To work with local markets to establish affordable, resilient sanitation products and services for all. This should include the use of innovative technologies and approaches for all the components of the sanitation service chain.
- To support the implementation of new, innovative mitigation options for the sector, including the promotion of technologies and services that can support the reduction of sanitation-related emissions and the reuse of emissions for energy, wherever possible.
- To support the design of appropriate technology and systems for the promotion of water- and energy-use efficiency across sanitation systems, to reduce the [environmental footprint](#) of our sector.
- To support small-scale financing for climate-resilience sanitation services, including innovative technologies for service planning, provision and monitoring and other services in the sanitation chain.

Climate activists (including youth)

- To join advocacy efforts calling on leaders to scale up climate-resilient sanitation and mitigation options, particularly for the poorest communities, advocating increased political and financial support for sanitation, wherever possible.
- To be part of the social mobilization drive to increase awareness of climate change's impact on sanitation systems and the role that resilient sanitation services play in strengthening community resilience to climate-related shocks and stresses.

