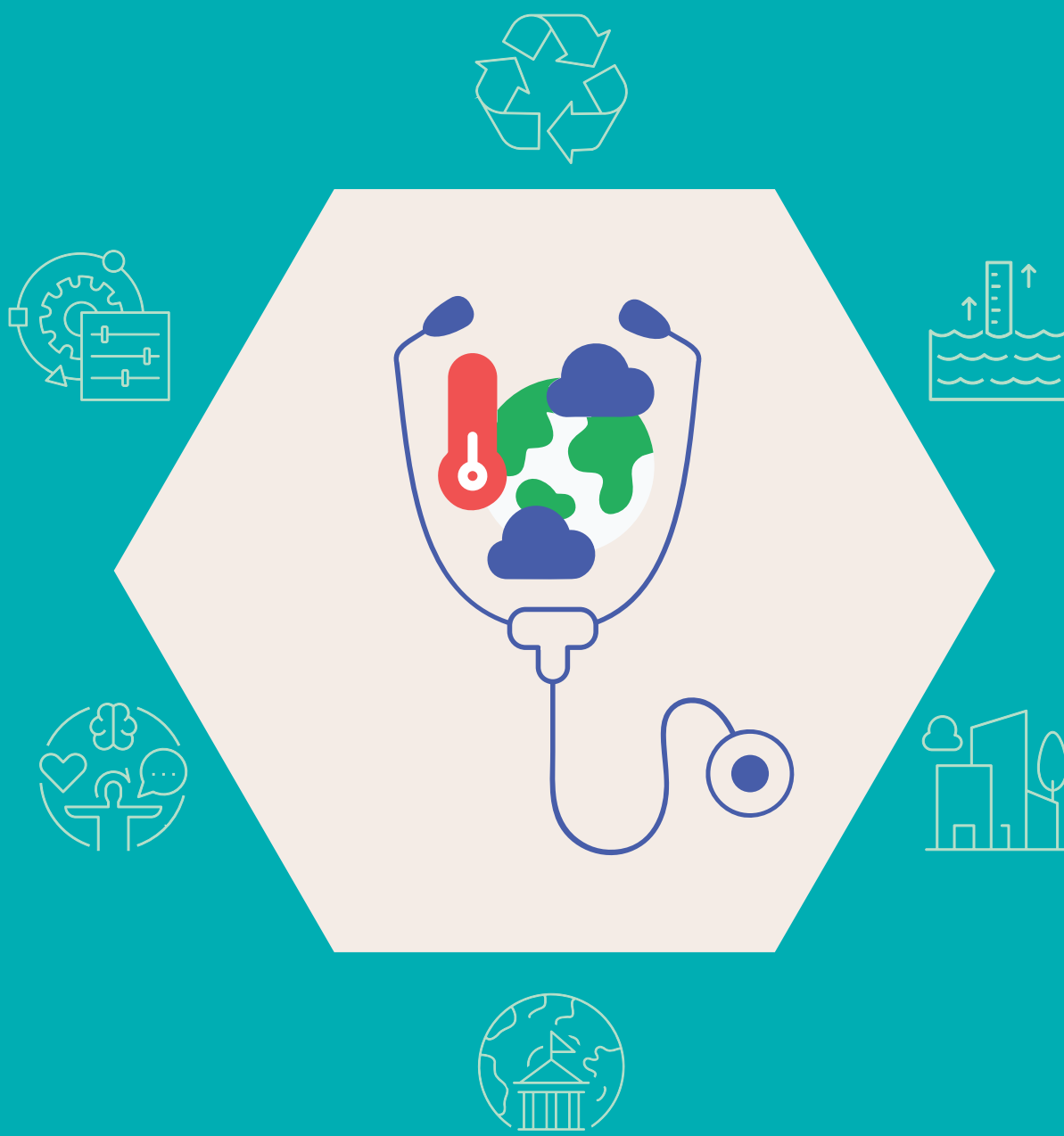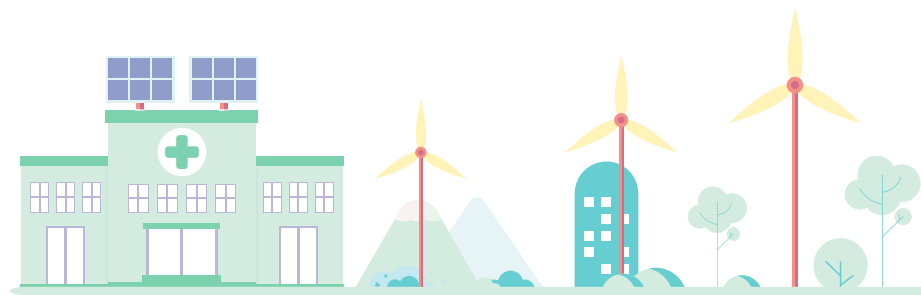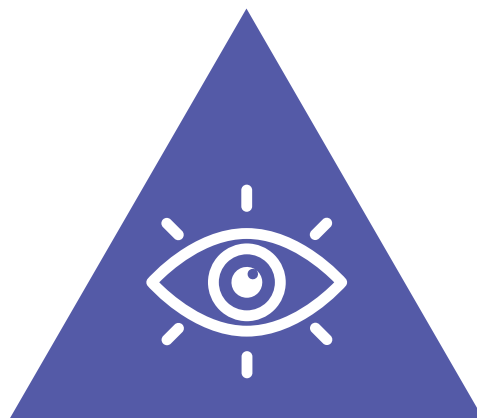# PATH

Climate X Health Challenge

Program Philosophy

The effects of climate change on human health are bound to exacerbate in the coming years. Between 2030 and 2050, climate change is expected to cause an estimated 250,000 additional deaths per year and a loss of $2-4 billion every year globally. The climate crisis threatens to undo the last fifty years of progress in global health and can severely jeopardize the realization of Universal Health Coverage (UHC).

Robust and climate-resilient health systems are the primary line of defense against climaterelated shocks and stressors since they provide the much-needed care to communities affected by impacts of changing climate conditions such as vector-borne and diarrheal diseases as well as climate-related hazards such as heatwaves, floods, wildfires, and air pollution.

The presence of functional health facilities during extreme events such as landslides, flash floods, heatwaves, droughts, etc is critical to ensure timely treatment and care for the people affected and to monitor diseases. There is a need to build resilient healthcare facilities that are sustainable and can respond efficiently to climate change calamities.

The Vision

The World Health Organisation (WHO) identifies four elements for providing safe and quality care in the context of climate change:

- Adequate health workforce who are empowered and informed to respond to environmental challenges.
- Sustainable management of water, sanitation, and healthcare waste services.
- Sustainable energy services.
- Appropriate infrastructure, technologies, products, and processes, including operations that support the efficient functioning of a healthcare facility.

PATH, through this challenge, will provide a platform for low-cost, scalable, and replicable innovations which promote health systems' capacity, resilience, and adaptability to extreme climate change risks and related health effects. The challenge will provide a platform for innovators to showcase their solutions and innovations, which can be adopted and implemented in the existing public health facilities in low- and middle-income countries in South Asia and Africa.

Our vision is to accelerate the deployment of near-ready climate-responsive solutions in public health settings that focus on tackling the impact of climate change vis-à-vis public health.

Focus Areas

CLIMATE X HEALTH is seeking product and process innovations and solutions on adaptation, mitigation, environmental governance, or local community participation for climate-resilient health systems and related health risks in India and similar low and middle-income countries.
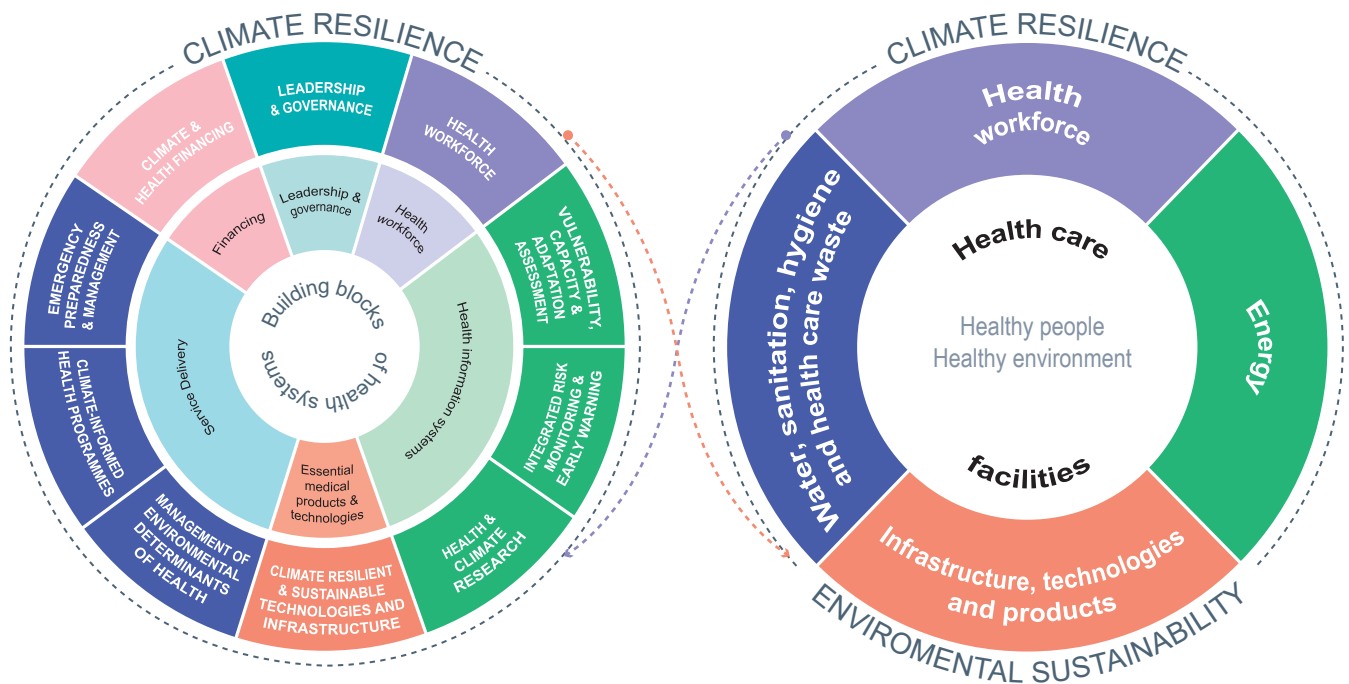
Product Innovations: Innovative technological products that help in reducing the carbon footprint of healthcare facilities, help forecast climate-related risks, provide early warning signals, and help predict climate-induced health hazards.

Process Innovations: Innovative solutions in the form of data analysis tools, communication and information collaterals, information, and communication technology (ICT) solutions, standard operating procedures (SoPs), capacity building and mentoring solutions, etc. that help build climate resilience and facilitate healthcare facilities and health system to respond to climate-related health risks.

There are three programmatic focus areas broadly:

1. **Decarbonising public health facilities:**
   Innovations that help reduce the carbon footprint of public health facilities and make operations more sustainable. The innovations within this focus area may include the following:

   - **Innovations in healthcare infrastructure:** Energy efficient, low or zero carbon, benign building design solutions for public health facilities. These shall include low-carbon architecture frameworks, cost-effective renewable sources to power the health facilities, SoPs and frameworks to track and monitor energy use and carbon emissions of health facilities, etc.

   - **Energy efficient medical devices and equipment:** Medical devices and equipment that are energy efficient, and innovative solutions to track and monitor the energy use of equipment and devices used in public health facilities.

   - **Zero carbon solutions for transportation:** Innovative zero carbon solutions such as e-mobility for patient transportation, sample collection and transport, and delivery of vaccines and medicines.

2. Risk mitigation and adaptation for health system preparedness:
Innovations that track and collate weather and meteorological data for use in public health facilities to respond to climate-related risks and hazards. These shall include:

- **Early warning forecast systems for health systems:** Innovations that combine the use of on-ground measurement data and predictive analytics to monitor the spread of climate-related illnesses and help in predicting impending disease outbreaks and epidemics. These shall also include innovative solutions that generate event-based alerts regarding heat waves, extreme precipitation, deteriorating air quality, etc that can be used by health facilities, and local administrations to enhance preparedness.

- **Climate change induced health vulnerability and risk mapping:** Solutions for assessing and mapping climate associated health vulnerabilities, risk assessment, and stratification. Examples shall include innovations working on preparing heat-vulnerable maps, areas of deteriorating air quality, as well as digital and AI/ML enabled solutions and innovations to map and track change in the ecology of vectors responsible for diseases such as dengue, malaria, filariasis, etc.

3. Enhancing community engagement and capacity development on climate-induced health risks:
Innovations that engage communities in addressing the effects of climate change on health and build the capacity of the health workforce to address climate-related health risks. These shall include:

- **Capacity development of health workforce on climate risks:** Innovative capacity building, and mentoring solutions, learning management, and decision support systems for healthcare providers for enhancing their knowledge, skills, and competencies for dealing with climate-related health risks.

- **Enhancing local community participation and local governance on climate-induced risks and hazards:** Solutions that empower communities with quality information and decentralized planning tools to adapt to the impact of climate change on human health. These shall include evidence-based participatory planning tools and templates for decentralized planning and development, solutions to increase the capacities of community structures and local institutions to respond to climate-induced health hazards, and Information Communication Technology (ICT) solutions for enhancing community literacy.
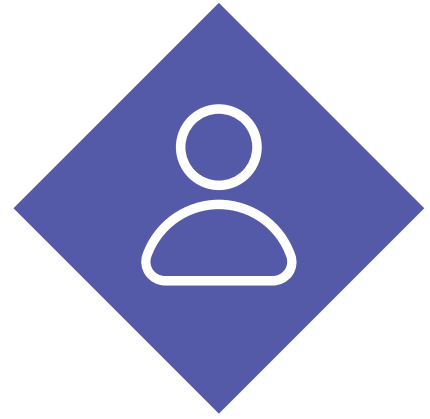
Program Offerings

Direct access to public health stakeholders: To be showcased to key stakeholders (government, health agencies, donors, development partners, etc.) in the healthcare space within PATH and partners' global and local networks.

Expert support: Provision of expert advisory in refining operational plans, navigating the regulatory landscape, and understanding national and global market dynamics. The selected innovations will be provided contextual support by PATH and program partners for fast-tracking testing and deployment at public health facilities.

Market validation: PATH and program partners will provide access and technical support to the innovators in performing market validation of their innovations.

Scaled positioning and visibility: Opportunity to strengthen their strategic positioning and develop their value within the public health space through inclusion in the compendium of the challenge disseminated across public health networks in a dissemination workshop.

Who can apply?

CLIMATE X HEALTH is seeking product and process innovations and solutions on adaptation, mitigation, environmental governance, or local community participation for climate-resilient health systems and related health risks in India and similar low and middle-income countries.

The program is for enterprises (Indian or global) including Profit/Not for Profit organizations and individual innovators.

Product Innovations that are at TRL 8 or 9 (where TRL 9 means technology has been applied in its final form and is operational and TRL 8 means technology is proven and developed but not yet operational or applied anywhere) only will be considered.

Process innovations that are beyond the conceptual stage and with a robust methodology can apply.

Processes and Timelines

25th Nov 2022

Call for applications
The applicant will be required to submit an online application following registration. Only the applications submitted online will be accepted for further evaluation. No e-mail or hard copy application will be entertained.

6th Jan 2023

Application Deadline
The window for submission of the application closes (at midnight of January 6th (IST)

1st Week of Feb 2023

Preliminary Screening to select the applications based on inclusion and exclusion criteria

4th Week of Feb 2023

Shortlisting of screened applications

2nd Week of Mar 2023

Shortlisted applicants to make a demonstration of the solution to the assessing panel

4th Week of Mar 2023

Final selection and announcement of innovations

4th Week of Apr 2023

Release of compendium and dissemination workshop to showcase the successful innovations

Program Partners

PATH

PATH is a global nonprofit dedicated to achieving health equity. With more than 40 years of experience forging multisector partnerships, and with expertise in science, economics, technology, advocacy, and dozens of other specialties, PATH develops and scales up innovative solutions to the world's most pressing health challenges.

Office of the Principal Scientific Adviser to the Government of India

Office of Principal Scientific Adviser to the Government of India provides pragmatic and objective advice to the Prime Minister and cabinet on matters related to science, technology and innovation with a focus on application of science and technology in critical infrastructure, economic and social sectors in partnership with Government departments, institutions and industry.

SELCO Foundation seeks to inspire and implement solutions that alleviate poverty by improving access to sustainable energy to underserved communities across India in a manner that is socially, financially and environmentally sustainable.
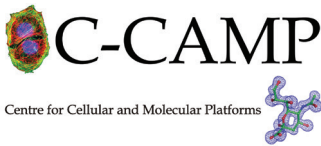
SCOPE IMPACT

Scope Impact is a global social innovation company working at the intersection of health and climate.

The Rockefeller Foundation's mission is to promote the well-being of humanity and make opportunity universal and sustainable.

Centre for Cellular and Molecular Platforms (C-CAMP) is an initiative of the Department of Biotechnology, Govt. of India. Established in 2009 with a mandate to enable cutting edge Life Sciences Research and Innovation, C-CAMP is India's one of the most exciting life sciences innovation hub bringing together academia, industry and the start-up ecosystem - all on one platform.

CDP began working in India in 2008 and was formally registered in 2012, working on disclosure and driving climate action. It serves as a source of knowledge for hundreds of Indian corporations, from those that are just beginning on the road to corporate environmental disclosure to those looking to improve sustainability and make commitments to reduce environmental impact.
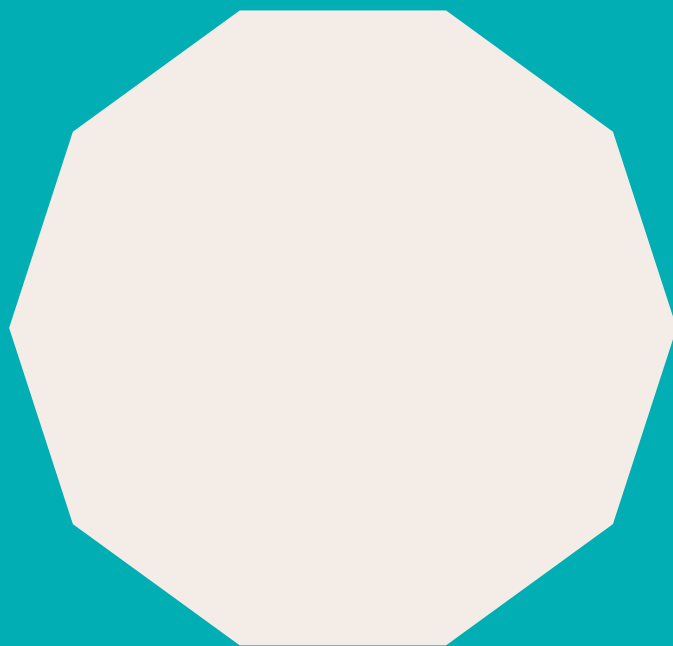

Social Alpha architecture is built around a not-for-profit platform, Foundation for Innovation and Social Entrepreneurship (FISE) and operates through a nationwide network of technology and business incubation infrastructure, sponsored, and enabled by Tata Trusts, Government of India and a number of academic, philanthropic, and corporate partnerships.

Environmental Defense Fund (edf.org) is a not-for-profit that seeks to support an Indian pathway to shared, sustainable prosperity. We support government, business, and other partners to demonstrate the viability of sustainable livelihoods (in agriculture, livestock, and fisheries), to demonstrate shareholder value creation through responsible business, to establish market-based mechanisms like carbon markets as well as to catalyze the climate tech ecosystem in India.

For any queries, write to us at indiaclimatechange@path.org
To register for the challenge, follow https://climatex.innovatealpha.org/