Climate resilient and environmentally sustainable health care facilities

World Health Organization

WHO Manifesto for a healthy recovery from COVID-19

Six Prescriptions for a healthy and green recovery

Protect nature 🐝

Ensure basic services 🚰⚡

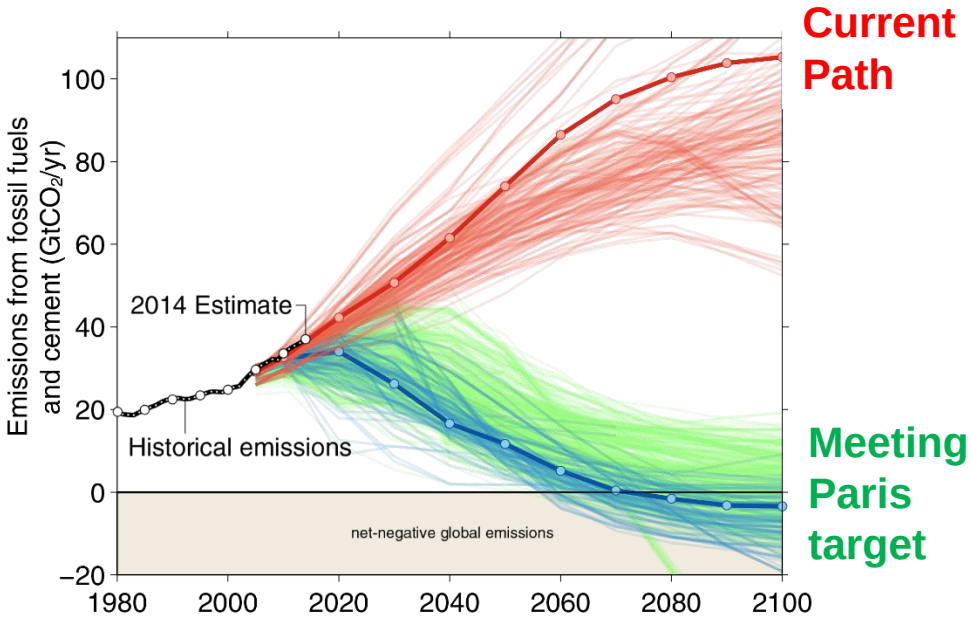
Shift to clean energy ☀️

Promote healthy, sustainable food systems 🥦

Build liveable cities 🌇

Stop subsidizing pollution 🔥💸

Three tasks for public health in the face of climate change

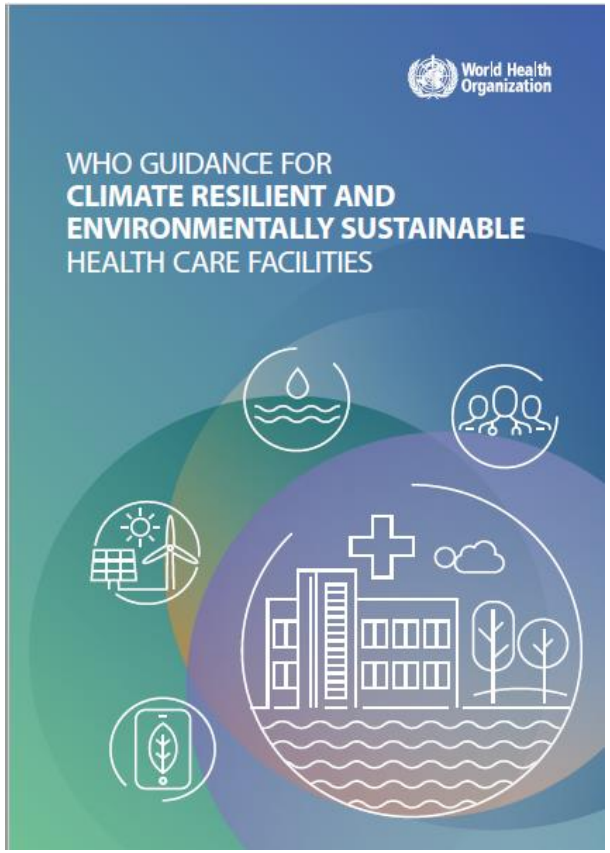


Help reduce carbon emissions, while promoting health (e.g. ↓ air pollution)

Protect health from full range of rising climate risks

Make health systems/facilities resilient and sustainable

New WHO Guidance on climate-resilient and environmentally sustainable health care facilities



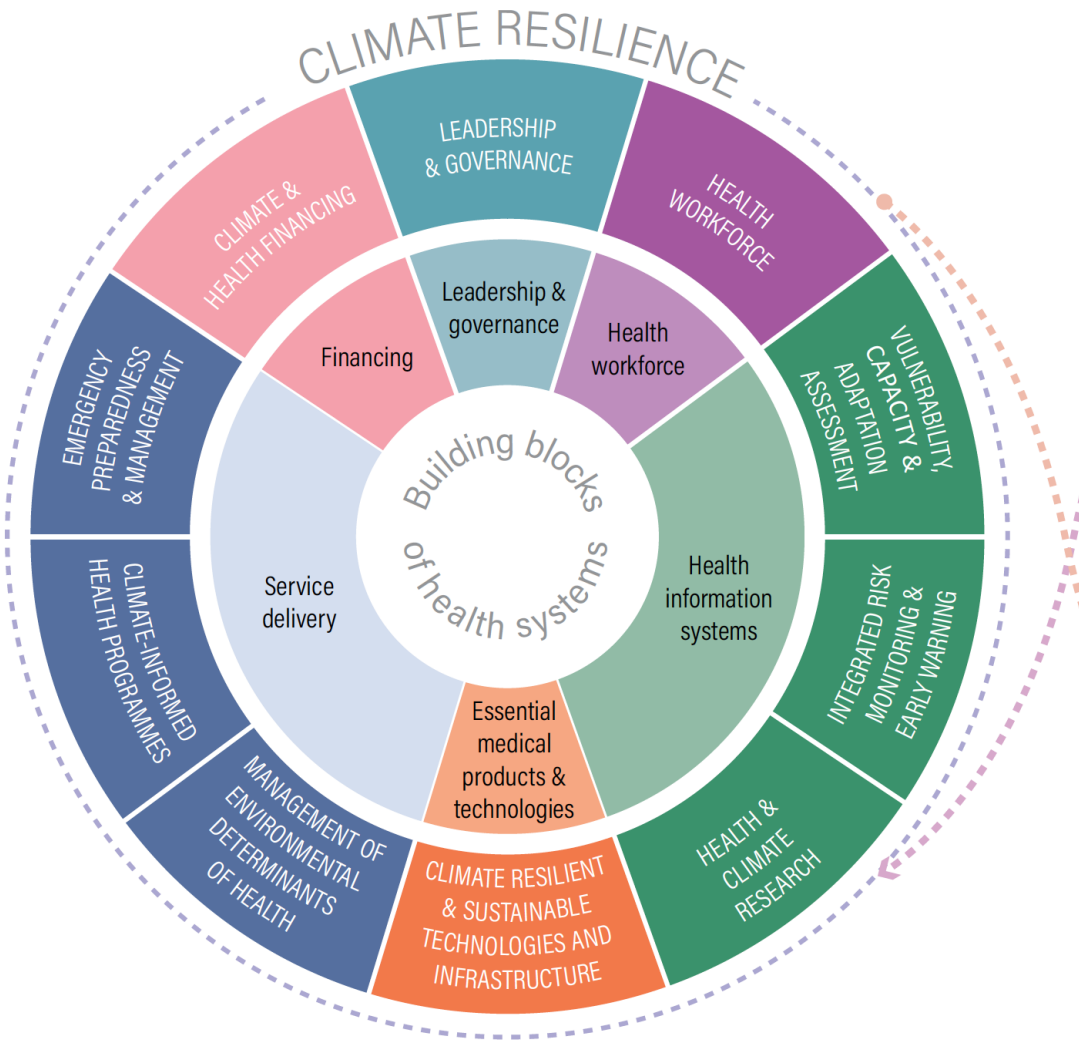
GOALS

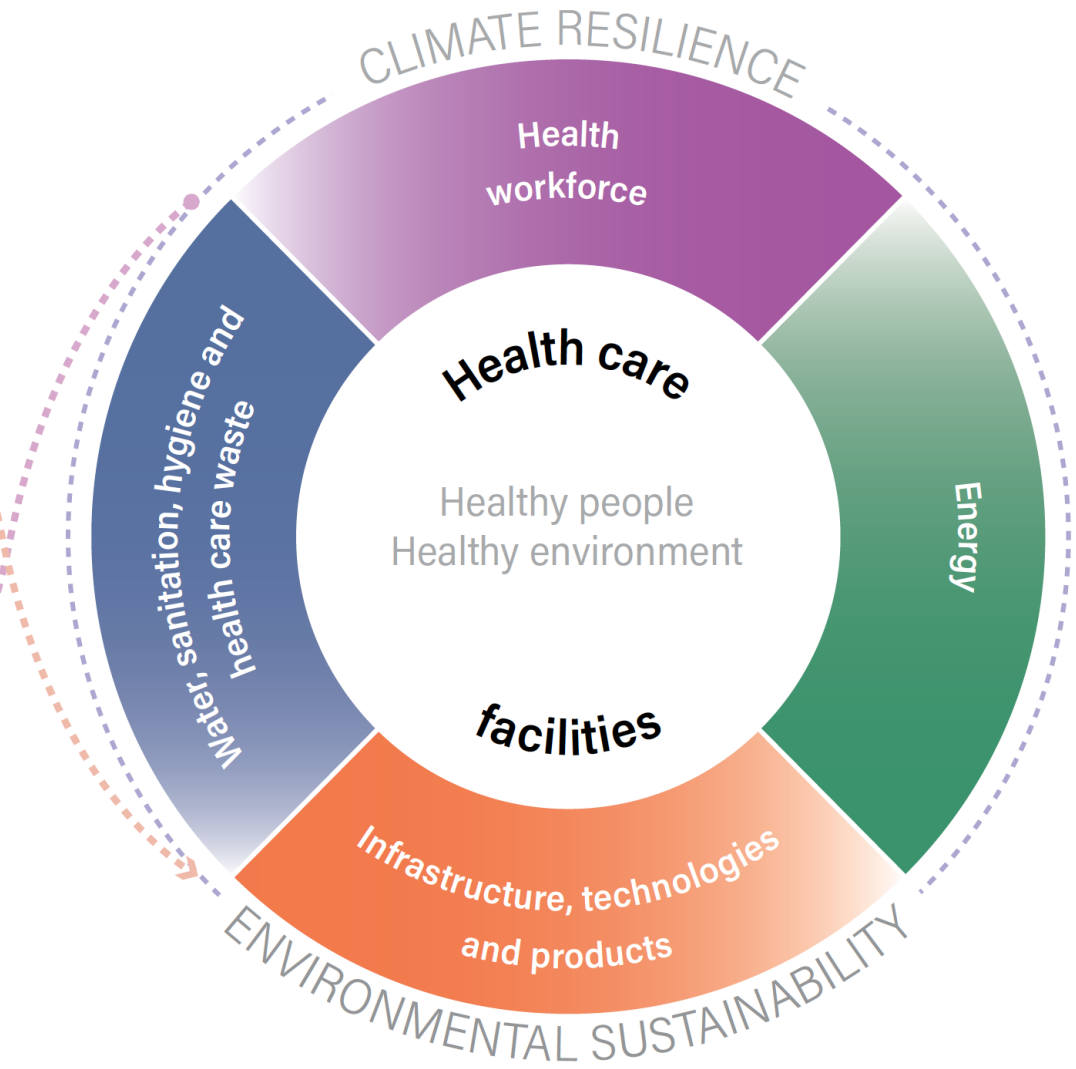
To increase the climate resilience of health care facilities to protect and improve the health of their communities in an unstable and changing climate, while optimizing the use of resources and minimizing the release of wastes by becoming environmentally sustainable.

OBJECTIVES

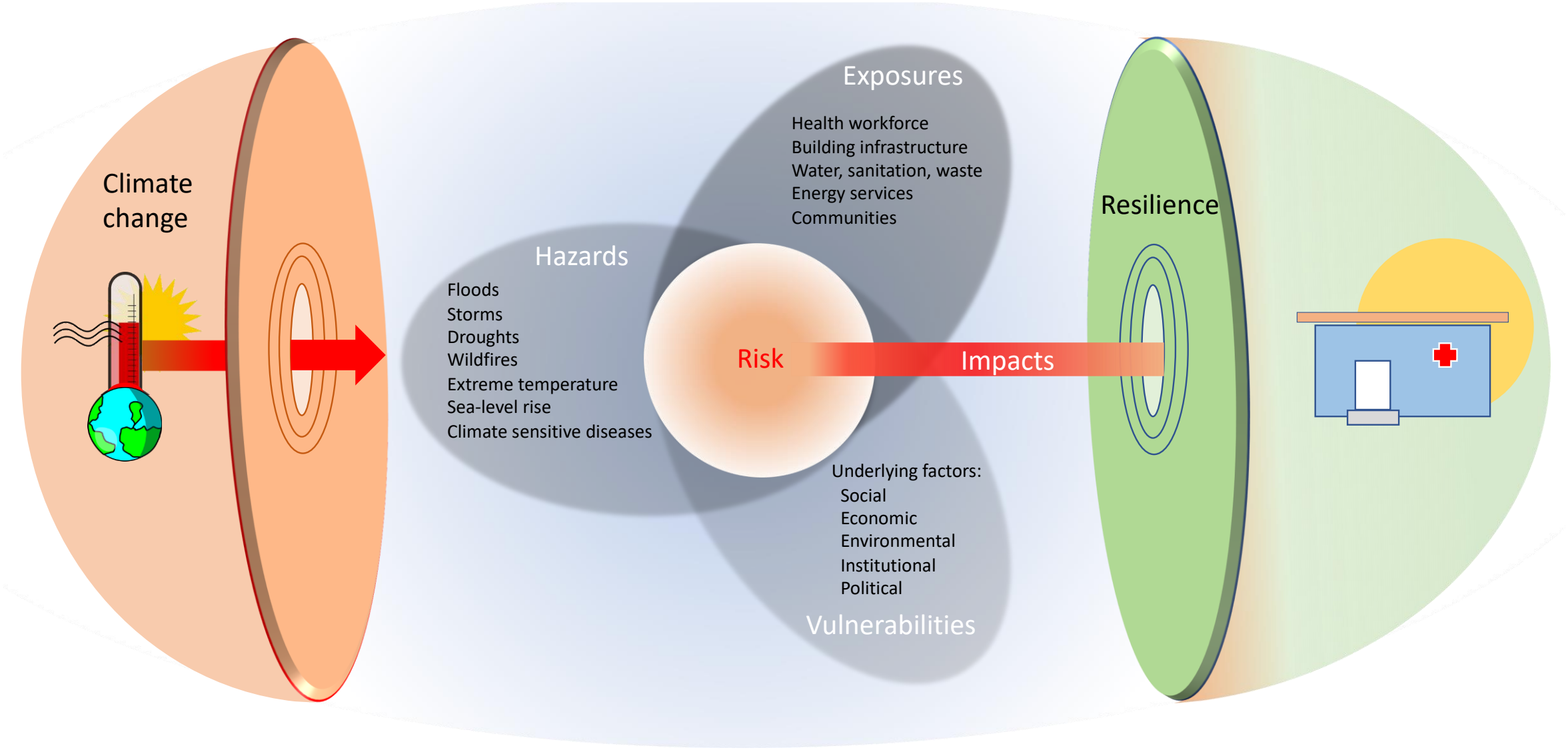
- Guide professionals working in health care settings to understand and effectively prepare for the additional health risks posed by climate change.
- Monitor, anticipate, manage and adapt to the health risks associated with climate change.
- Guide health care facility officials to work with health determining sectors (including water and sanitation, energy, transportation, food, urban planning, environment).
- Provide tools to assist health care facility officials assess their resilience to climate change threats, and their environmental sustainability.
- Promote actions to ensure that health care facilities are constantly and increasingly strengthened and continue to be efficient and responsive to improve health and contribute to reducing inequities and vulnerability within their local settings.

Climate resilience and environmental sustainability in health care facilities

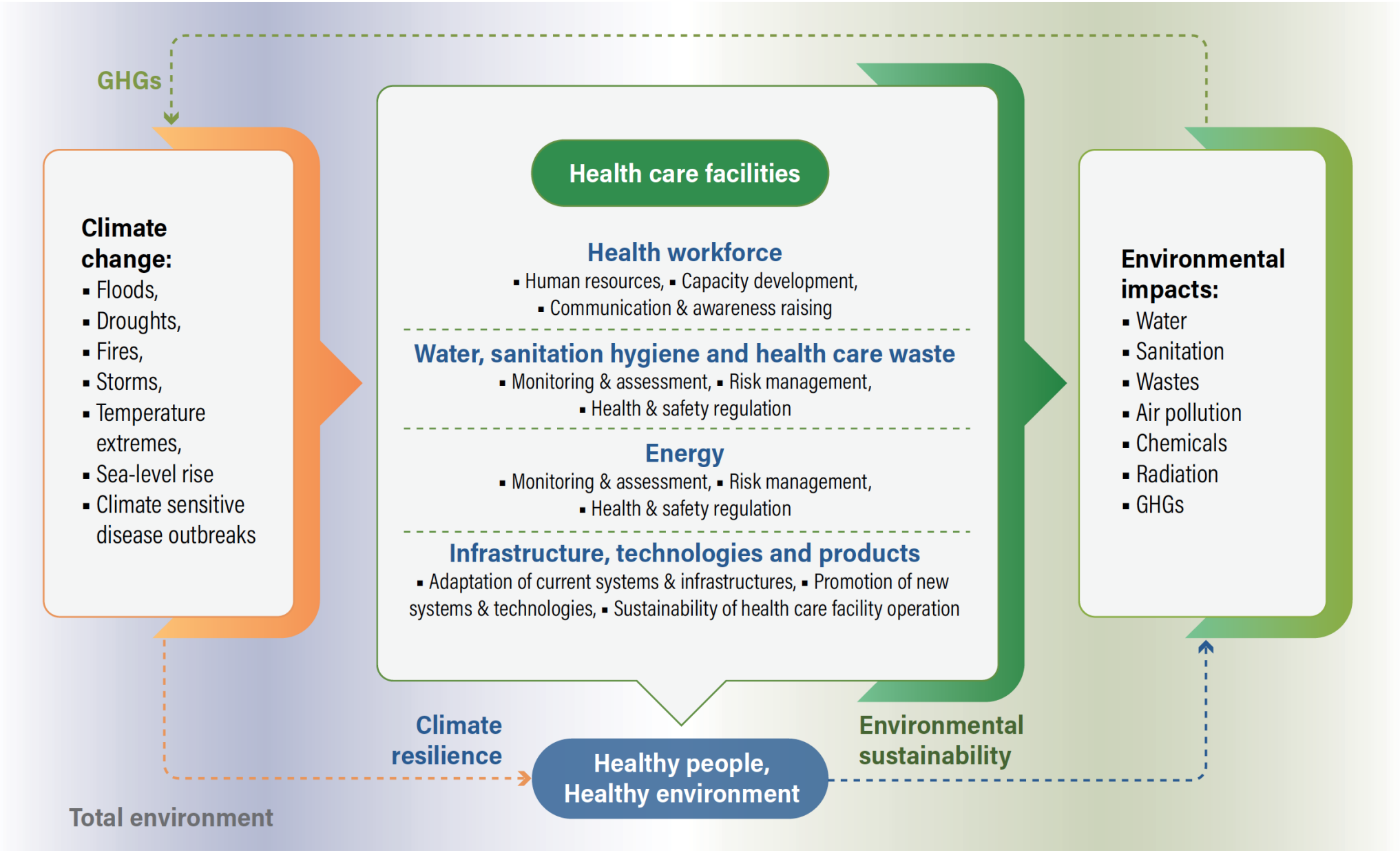




Tools and frameworks available to support countries establishing their baselines



Framework for building climate resilient and environmentally sustainable health care facilities



Example 1: HEALTH WORKFORCE OBJECTIVES

Health workers have a key role in building climate resilience and environmental sustainability of health care facilities. Because building climate resilience and environmental sustainability are relatively new approaches for health workers, building awareness, training and empowering health workers are key requirements for the successful implementation of interventions.

OBJECTIVES FOR THE IMPLEMENTATION OF THIS COMPONENT

Human resources: Health care facilities having sufficient number of health workers with healthy and safe working conditions, capacity to deal with health risks from climate change, as well as the awareness and empowerment to ensure environmentally sustainable actions.

Capacity development: Training, information and knowledge management targeted at health care workers to respond to climate risks and minimize environmental threats resulting from the operation of the health care facility.

Communication and awareness raising: Communicate, coordinate and increase awareness related to climate resilience and environmental sustainability among health workers, patients, visitors, target communities, and with other sectors.

Detailed checklists to assess health facility vulnerability to different climate-related risks

DROUGHTS

High: unprepared; unable to respond (Higher risk)
Medium: basic or incomplete preparation; low level of response (Medium risk)
Low: prepared; able to respond (Lower risk)

		Vulnerability level		
		High	Medium	Low
HEALTH WORKFORCE	**Is the health workforce,**			
	informed on how to use and follow a surveillance system to track health outcomes?	☐	☐	☐
	following guidance on risk assessments to assist in the identification, planning, monitoring and evaluation of risk reduction and adaptation strategies associated with direct and indirect impacts of drought?	☐	☐	☐
	regularly participating in community disaster planning committees to: improve knowledge on how to reduce risks, as well as be prepared and respond to direct and indirect impacts of drought hazard through adaptation measures?*	☐	☐	☐
	following an educational strategy to improve knowledge in the community on the social and economic aspects of drought impacts, and how to reduce health risks and impacts?	☐	☐	☐
	provided with an effective emergency risk communication plan?*	☐	☐	☐
	aware of keeping the facility environment cool (e.g. keep windows that are exposed to the sun closed during the day and open at night when the temperature has dropped; close curtains that receive morning or afternoon sun; turn off nonessential lights and electrical equipment that generate heat; sleeping in a cooler room or use electric fans for some relief if temperatures are below 35°C)?	☐	☐	☐
WASH AND HEALTH CARE WASTE	**Does the health care facility,**			
	(Monitoring and assessment)			
	verify water safety conditions, which include updated risk assessments to map water resources and water supplies for the facility?*	☐	☐	☐
	have an updated plan to map risks to the water and sanitation infrastructure to identify where services could be disrupted from water scarcity?*	☐	☐	☐
	regularly inspect the rainwater harvesting system for damage and contamination?	☐	☐	☐
	have an evaluation system to monitor water drips, leaks and unnecessary flows in bathrooms, laundry facilities, kitchen, etc.; and perform prompt repairs to avoid loss?	☐	☐	☐
	verify safety conditions and proper functioning of all elements of the water distribution system in preparation for drought (e.g. storage tanks, cisterns, valves, pipes and connections, and water disinfection)?*	☐	☐	☐
	have information on the water system installation that ensures lower risk of being contaminated?	☐	☐	☐
	have a water quality monitoring plan for human consumption?	☐	☐	☐
	have a monitoring plan for potable water?*	☐	☐	☐
	(Risk management)			
	have a water management plan to identify water contamination?*	☐	☐	☐
	have a contingency plan for monitoring and reducing contaminant concentrations in the facility water system supplies?	☐	☐	☐
	have a water management system to avoid or reduce vector breeding sites?	☐	☐	☐
	have anti-mosquito breeding measures to avoid vectorborne diseases?	☐	☐	☐
	have a rainwater catchment system with safe water storage?	☐	☐	☐
	have water storage tanks with appropriate covers to prevent contamination?*	☐	☐	☐
	have water storage that is protected from direct sunlight?	☐	☐	☐

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ENERGY	**Does the health care facility,**			
	have a plan or regulation to determine ways to reduce overall energy use?	☐	☐	☐
	work with energy utility agencies to prevent suspension of electricity services?	☐	☐	☐
	have an emergency plan to ensure availability of adequate lighting, communication and information systems, and refrigeration and sterilization equipment during a drought?*	☐	☐	☐
	have a plan to evacuate patients to a cooling station if the facility has lost power and has no other source of energy?	☐	☐	☐
	have a plan to ensure that the walls and roofs of the facility are insulated?	☐	☐	☐
INFRASTRUCTURE, TECHNOLOGIES, PRODUCTS AND PROCESSES	**Does the health care facility,**			
	(Adaptation of current systems and infrastructures)			
	have health workforce preparedness and training for periods of extreme drought in place?	☐	☐	☐
	perform assessments of drought conditions – current, past trends and future changes – to implement preventive actions?	☐	☐	☐
	assess the performance and vulnerabilities of each critical part of the facility (structural and nonstructural elements) that can be affected by hot temperatures?	☐	☐	☐
	have a monitoring and early warning system integrated with other areas to manage risks related to drought impacts on the facility?	☐	☐	☐
	have a mechanism to rapidly supply or restore water services to the facility?*	☐	☐	☐
	conduct ongoing and postdrought evaluations to identify success and weakness to improve preventive measures?	☐	☐	☐
	assess the capacity of heating, ventilation and air-conditioning systems to deal with increasing heat?*	☐	☐	☐
	have exterior shading devices, trees or other architectural features that mitigate heat and dryness?	☐	☐	☐
	have openable windows to provide for ventilation and to maintain habitable conditions?	☐	☐	☐
	install reflective white roofs to reduce heat impacts?	☐	☐	☐
	have pavements and roofs designed to withstand extreme temperatures or solar radiation?	☐	☐	☐
	have a mechanism to filter indoor and ambient air pollutants?	☐	☐	☐
	have a system for cooling the environment?	☐	☐	☐
	identify vulnerabilities to implement actions to reduce impacts?	☐	☐	☐
	stimulate increase of water intake by staff and patients?	☐	☐	☐
	store chemicals away from excessive heat?*	☐	☐	☐
	have a coordinated team across the health sector with a key stakeholder group including different levels of government to manage the risks of public health emergency related to droughts?	☐	☐	☐
	have an effective risk communication plan to communicate clear messages of the danger of heatwaves and dehydration emphasizing health protection as a priority?	☐	☐	☐
	(Promotion of new systems and technologies)			
	have an information system between the health sector and meteorological services to communicate about the climate hazard?*	☐	☐	☐

Framework for assessing Greenhouse gas emissions in health care facilities

Carbon footprint of the Health System:
"Top-down assessments"

What fraction of all GHG emissions are from the health sector?
Where do these emissions originate (Scopes)?

	Scope 1 (Direct, controlled)	Scope 2 (Indirect, purchased energy)	Scope 3 (Indirect, supply chain)
Health workforce	Staff active travel; Virtual meetings; Telehealth	Reduced energy use by staff actions	Staff commuting; Business travel
WASH and waste	Waste reduction and recycling	Water heating and cooling	Waste disposal; Water use
Sustainable energy	Fossil fuel use; Reduced unnecessary travel	Electricity needs; Space heating and cooling	Energy used in other areas of the supply chain
Infrastructure, technologies and products	Anesthetic products Reusable medical devices	Reduced energy from energy efficient technologies and products; Electrification of transport fleet	Metered dose inhalers; Medicines; Medical devices; Food procurement; Construction

GHG Protocol Scopes

"Bottom-up assessments"

Carbon footprint of Health Care Facilities:

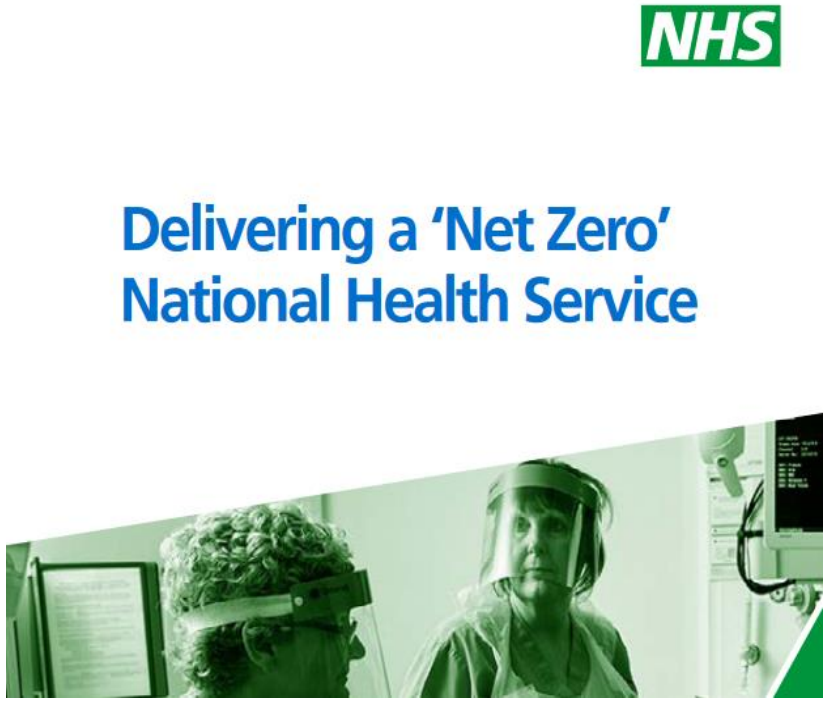
How much GHGs does each facility generate?
Where are the best opportunities to reduce emissions?

COP26 Presidency Health Actions

Build climate-resilient health systems

Health Leadership in emission reductions

Mobilize the health community - an impartial, professional voice



Conclusions

- **Building forward better from COVID should include basic services, climate resilience and improved sustainability in health facilities**
- **Healthcare provision, and particularly health facilities, are the sharp end of health impacts of climate change**
- **The healthcare industry is now a significant contributor to greenhouse gas emissions – approximately 5% globally**
- **There are now rapidly growing global advocacy initiatives, technical guidance and practical experience in bringing these priorities together**