

TOWARDS CLIMATE-SMART HOSPITALS IN INDIA



Assessing the energy footprint and associated GHG emissions of hospitals

The changing landscape of India's healthcare sector and its impact on climate change

The healthcare sector is instrumental for the protection, promotion and delivery of health. However, it's also a key GHG emitter. [The climate footprint of the Indian healthcare sector at 39 million tons of carbon dioxide equivalent is comparable to the annual GHG emissions from 10 coal-fired power plants.](#) The COVID-19 pandemic has further increased the country's dependence on more advanced and accessible healthcare. Besides, there is a growing focus on air filtration and purification, which will also have significant implications on hospitals' energy consumption and GHG emissions. Moreover, warming temperatures coupled with more frequent heatwaves would entail an increasing penetration of air conditioners in hospitals to ensure thermal comfort.

There is an urgent emphasis on improving the rural healthcare infrastructure in India by ensuring uninterrupted electricity in rural healthcare facilities. [The Ministry of Health and Family Welfare, Government of India, is creating 1,50,000 Health and Wellness Centres in India under its Ayushman Bharat program to strengthen and expand the range of primary healthcare services.](#)

In the face of these changes, there is an imperative need for creating climate-smart hospitals which will play an important role towards providing healthcare to all in an environmentally sustainable way.

Growth in the Indian healthcare sector has direct implications on energy use and GHG emissions

15-20% ↑
[EPI of hospitals in India](#)
(kWh/sq.m./year)
(2017-2027)

30% ↑
[Hospital building stock](#)
(2017-2027)

45% ↑
[Total electricity consumption in hospitals](#)
(2017-2027)

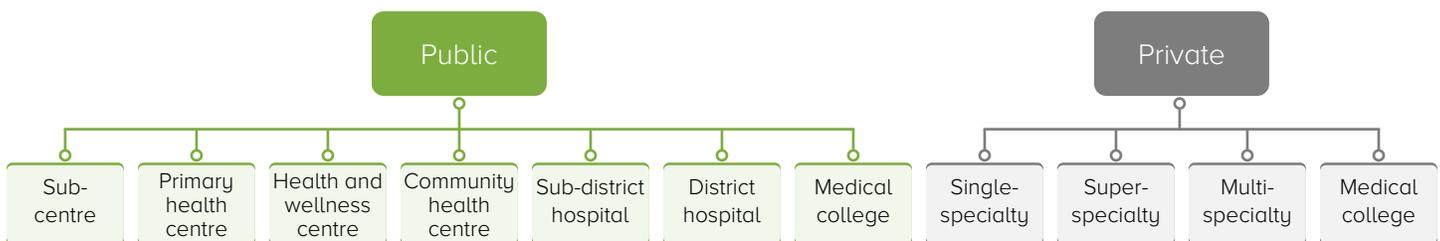
>2X ↑
[Healthcare market](#)
(2017-2022)

Effecting data-driven interventions to make hospitals climate-smart

Defining strategies and effecting energy efficiency interventions for climate-smart hospitals in India is contingent on the availability of granular end-use energy data. In order to design these interventions and assess their energy savings potential, it is imperative to accurately characterize the energy use in hospitals at the national and state level across different hospital typologies.

India's first hospital energy survey across 5 climate zones, 18 states, 1600 hospitals

AEEE in collaboration with CCDC is undertaking the first-ever nationwide energy survey in India to characterize the energy use of hospitals. The survey will comprise 75-100 data points per hospital. The baseline energy assessment of a representative sample of Indian hospitals can be leveraged to facilitate the promotion and uptake of cleaner, sustainable energy use through policies and programs.



Hospital typologies

75-100 data points across 4 building attributes

Identity	 Location	 Climate zone	 Sub-typology	 Ownership				
	 Beds	 In-patients	 Out-patients	 Revenue				
	 Area	 Building envelope	 Green-rating	 Energy use		 Onsite generation	 Metering	 Building Management System
	 HVAC	 Lighting	 Laundry	 Steam & hot water		 Water treatment	 Cooking	 Vertical transport
 Medical equipment	 ICT	 EV charging						

Intended survey outcomes

Policymakers



Develop and update energy benchmarks, codes, and standards for different hospital typologies
Mainstream the use of renewable energy in hospitals to improve healthcare delivery

Hospital owners



Benchmark against peers to manage energy consumption and strengthen ESG goals

Energy efficiency businesses



Work with hospital owners to identify and implement climate-smart solutions

About CCDC

Centre for Chronic Disease Control (CCDC) is a New Delhi based not-for-profit organization, established in December 2000. The mission of CCDC is primarily intended to address the growing challenge of chronic diseases, in varied settings of the developing countries through knowledge generation, which can inform policies and empower programmes for the prevention and control of chronic diseases and, knowledge translation intended to operationalize research results by bridging the critical gaps between relevant research and effective implementation, through analytic work, capacity building, advocacy and development of educational resources for enhancing the empowerment of people and professionals.

About AEEE

Alliance for an Energy Efficient Economy (AEEE), is one of the leading organizations in India that works on creating awareness about energy efficiency as a resource. It is a policy advocacy and energy efficiency market enabler with a not-for-profit motive. We advocate for data-driven and evidence-based energy efficiency policies and research. We foster a culture of energy efficiency in India, working with industry, government and civil society organizations. We are committed to achieve India's energy transition for a climate-resilient and energy secure future and meet India's commitments to the 2030 Nationally Determined Contribution (NDC) and UN Sustainable Development Goals (SDGs).

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