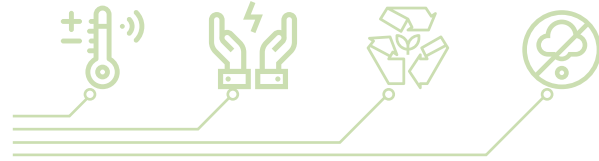


TOWARDS CLIMATE-SMART HOSPITALS IN INDIA



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)³

45% ↑
[Total electricity consumption in hospitals](#)
(2017-2027)³

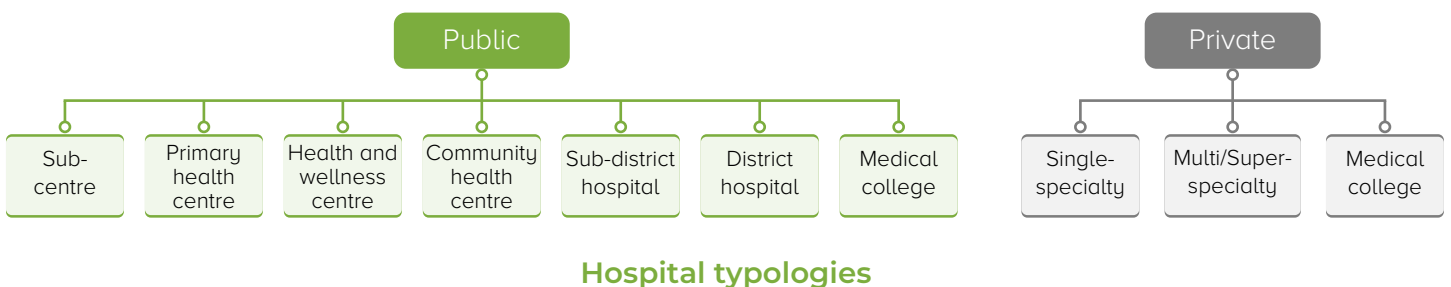
>2X ↑
[Healthcare market](#)
(2017-2022)

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, 1000 hospitals

Alliance for an Energy Efficient Economy (AEEE), in collaboration with Centre for Chronic Disease Control (CCDC), is undertaking the first-ever nationwide energy survey in India to characterize the energy use of hospitals. The survey will comprise 75 data points per hospital.



Hospital typologies

75 data points across 4 building attributes

Identity	Location	Climate zone	Sub-typology	Ownership		
Business metrics	Beds	In-patients	Out-patients			
Building energy	Area	Green-rating	Energy use	Onsite generation		
	Metering	BMS	Building envelope			
End-use energy characteristics	HVAC	Lighting	Steam & hot water	Water treatment	Medical equipment	EV charging

Why should hospitals participate in the survey?

We will use the data to

- Benchmark each hospital's energy performance internally with other comparable peer hospitals
- Share a compilation of energy-saving measures in a workshop/webinar

Additionally,

- You will have access to anonymised raw data of all public and private hospitals participating in the survey
- One staff member from each participating private hospital will be eligible for a training program on HVAC systems operations and maintenance at concessional fees

Intended survey outcomes

Policy makers



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

Hospital owners



Benchmark against peers to manage energy consumption and strengthen ESG goals

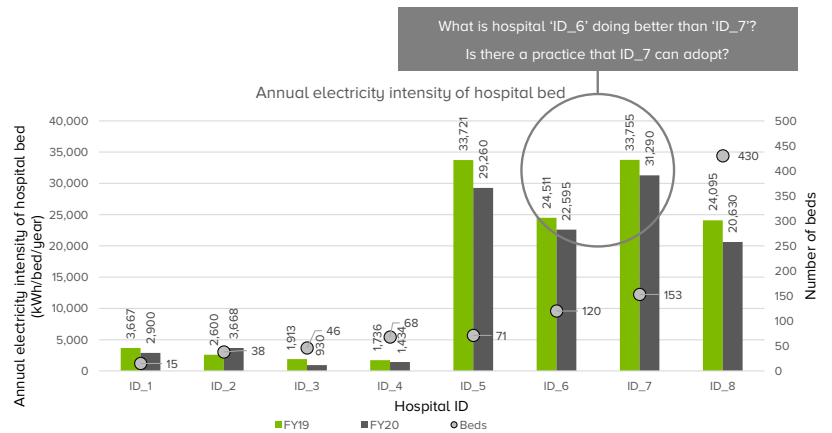
Energy efficiency businesses



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

Pilot experience

We conducted a pilot survey covering 20+ hospitals in Delhi-NCR and Bengaluru from Dec 2021 to Jan 2022. The survey has generated a lot of interest among public and private hospitals keen to use the survey data to benchmark their energy performance with peers in similar climates as a definitive step towards energy management. Sample outcomes from the pilot survey of a small number of hospitals in Delhi-NCR and Bengaluru; key performance indicators such as energy intensity of bed or area can be readily used by hospital owners to benchmark their hospitals internally and even with similarly-sized hospitals with comparable healthcare facilities.



About PHFI

Public Health Foundation of India (PHFI) is recognized as Centre of Excellence (CoE) for the domain of Green and climate resilient health systems. PHFI adopts a broad, integrative approach to public health, tailoring its endeavours to Indian conditions and bearing relevance to countries facing similar challenges and concerns. It focuses on broad dimensions of public health that encompass promotive, preventive and therapeutic services, many of which are frequently lost sight of in policy planning as well as in popular understanding.

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 contributions (NDC) and UN sustainable development goals (SDG).

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