

Paharpur Business Centre (PBC), the winner of 15th CII- National Award for Excellence in Energy Management has kept its energy goals focused and clear. It is an mSME in the services and real estate sector that offers serviced Office and Conference Solutions on a “plug & play” basis, in mountain fresh air ambience.

Parameters	Details
Building Location	New Delhi
Building Area	6,739 sqm
No. of Floors	GF + 6
Operating Hours	24 X 7
Maximum Building Occupancy	500
Air Conditioning Area	100%
Present Specific Energy Consumption, KWH / Sq.ft	8.13
Energy cost as % of Operating Cost	6.88%

As per IGBC Research, the Annual Average Hourly Energy Performance Index (AAhEPI) of commercial buildings ranges from 75-150 Wh/hr/sq.mt. Built to compulsory Government Design, PBC is the first retrofit building in India that is USGBC LEED Platinum EB Certified (under O & M category) in 2010. It is also a BEE 5star rated building with an annual energy hourly energy rating (AAhEPI) of 28 Wh/ hr/ sqm and currently operating at <20 Wh/hr/sqm and aims to bring it down to 15 Wh/hr/sqm. It has been constantly putting efforts to reduce energy footprints, for more than two decades.

The success of Its MDI journey from 850 to currently 325 KVA is because of the following initiatives aimed at targeting low-hanging fruits:

1. Up-gradation of lighting system:

<ul style="list-style-type: none"> Replacement of 36W fluorescent tube lights with 18 W LED lights Replacement of 16W CFL with 6W LED down lighter Installation of Motion Sensors in Elevators, Lobby Areas and Washrooms 	Period	Payback Time(Months)
	2013-14	18
	2013-14	52
	2013-14	36

Low Investment-High Returns Projects

SL.No	Projects	Period	Payback Time
2.	Installation of immersion type sensor in the cooling tower sump and close the loop for the VFD on the Cooling tower Fan motor & the sump water temperature sensor.	2013-14	5 (Months)
3.	Using AHU condensate water in Air Washer Unit	2013-14	15 (Months)
4.	Installation of Sky Lights(Second Phase)	2013-14	2.5 (Months)

Benefits drawn:

- Due to upgradation of lighting system, we have been able to save 17.7 KWh of electricity consumption and revenue of 0.833 million per year i.e. on average 60% of total energy saving as compared with the old system.
- By optimizing the cooling tower fan, we have been able to save up to 15,415 KWh in 1380 operating hours of cooling tower which amounts to approx. 1.5 Lacs.
- With the help of integration of AHU condensate water in Air Washer Unit, we have been able to save around **1500Lts.**of water and **4KW** per day, on a typical summer day.
- By replacing tube lights with Natural Skylights in Green house, we have been able to reduce the energy consumption by 15KW/day with 12 Hours of Operation with a payback period of less than 5 years and have also reduced the Maximum Demand.

Our innovation, “Integration of HVAC with IAQ system” has helped in saving energy costs by 10% (approx).

While keeping these initiatives intact, we have been able to establish a unique formula, i.e. our Occupancy level and energy consumption are in balanced mode which is quite unlikely in conventional buildings. This 72, 540 sqft building saves Rs160/ft2/year.

PBC is well known as a Unique Experience Centre for its USP i.e. incomparable Indoor Air Quality (IAQ). The building is centrally air-conditioned with Indoor Air Quality conforming to ASHRAE & WHO Standards. We keep the building under positive air-pressure, in order to maintain thermal comfort. We have taken a holistic approach for saving energy by combining indoor air quality with energy efficiency. By growing fresh air indoors, we have reduced the amount of fresh air supply on the demand side. It is replicable in all the geographies of the world. Some of the best lifestyle practices that have helped us save energy significantly are:

- Prefer using Chairs with perforated back and bottom to provide for ventilation for human comfort. This allows for indoor temperatures to be kept / set at 24 deg C +/- 2, while providing occupant comfort. (As per ASHRAE)
- Change in dress code change at the above mentioned temperature helps in saving 5% in air- conditioning costs
- White mesh & heat reflective film is used in the building to block the direct sun heat into the building
- Replacing CFLs with LEDs - Down lighters with 16 watt CFLs are replaced with 6 watt LEDs and Individual lighting control systems
- In-house Research & Development on Energy Efficiency Practices and generating Awareness using social media platforms
- Engage with the supply-chain continually; improve the components of service at source
- Maintain the highest standards of service quality and continually improve
- Harnessing Solar Energy through Skylights
- Use of BEE 5 star rated appliances only
- We turn off all electrical equipments, when not in use
- Replaced desktops with energy efficient laptops