



ASCENDAS
INTERNATIONAL TECH
PARK CHENNAI
(Ascendas ITPC)

CASE STUDY
DECEMBER 2018

Ascendas is the first IT Park in the world to achieve PEER Gold certification.

“PEER certification is an important milestone for us and we’re glad that we are pushing the boundaries and setting new benchmarks for sustainability. ITPC is one of our flagship developments in India and this certification only emphasises our strong commitment for sustainable development with higher performance.”

–Mr. Vinamra Srivastava, CEO India Operations and Private Funds, Ascendas-Singbridge

The International Tech Park Chennai (ITPC) is a joint venture between Ascendas-Singbridge and Tamil Nadu Industrial Development Corporation (TIDCO). Located along Chennai’s IT Corridor, Ascendas ITPC is a 15-acre hi-tech IT park encompassing three buildings namely Pinnacle, Crest and Zenith, operational from 2005, 2007 and 2010 respectively. The park accommodates over 45 leading IT and ITES companies and includes a 54-room guest accommodation facility with conveniences like banks, ATMs, forex facilities, gift shops, pharmacies and a travel agency. In July 2017, the IT Park recorded a peak annual demand of around 11MW. The campus is thoughtfully set up to make working life a conducive experience for tenants. With this commitment and to evaluate their electricity infrastructure to global standards – **Ascendas ITPC pursued PEER certification and achieved Gold** after undergoing a rigorous certification and review process.



Figure1. Building Management System Control Centre

KEY HIGHLIGHTS OF ASCENDAS ITPC

The project has achieved significant benefits through energy efficiency measures. The cumulative savings achieved per annum are:

- Saved 1.1 million units of energy
- Mitigated 1500 tons of CO₂ emissions
- Cost savings of INR 12 million

RELIABLE & RESILIENT GRID PERFORMANCE

Ascendas ITPC is a consumer of Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) with an annual contract demand of 17 MVA to meet their continuous power needs. Each building has been equipped with **100%**

back up Diesel Generators totaling 25 MVA capacity, auto-programmed to cater to back up power within 60 seconds during a power failure from TANGEDCO. Additional redundancy is provided through tenant installed UPS back-up systems of 8 MVA capacity. According to records provided, tenants have experienced no blackouts in the past 3 years, achieving **Zero SAIDI and SAIFI** values. Their resilient electrical infrastructure was put to test during the December 2015 Chennai floods, where power from TANGEDCO was cut-off for seven consecutive days and during Cyclone Vardah in December 2016. With their excellent network to procure DG fuels and battery back up, the entire campus faced no downtime during that crisis.



Figure2. Protected substation transformer at Ascendas

Prior to the certification process the campus had no automated infrastructure and used a log system to monitor interruptions, based on the best practices and recommendation from PEER, smart sense devices were installed at the campus to monitor and record real time interruptions, demand, and power quality events. Capacitor banks have been installed at all utility connection points to improve power factor. Further, the entire campus cables are undergrounded, and the infrastructure is designed in accordance with National Building Code and IS codes (875-1987 & 1893-2002), certified structurally safe against cyclones, earthquakes and other natural calamities. These measures helped Ascendas ITPC score exceptionally high under the Reliability and Resiliency category.



Figure3. Rooftop Solar PV installed at Pinnacle, Crest and Zenith building at Ascendas

CONTINUOUS IMPROVEMENT THROUGH DSM AND SUSTAINABILITY INITIATIVES

PEER emphasizes implementing comprehensive energy efficiency programs under the Demand Side Management (DSM) credit. By replacing conventional light fixtures, using LEDs in common areas and installing upgraded energy

efficient Air-Cooled Chillers, Ascendas realized an overall annual **energy savings of 0.22 million** and **0.83 million units** respectively, as well as cost savings of **INR 2 million** and **7 million** respectively.

Ascendas, as part of their sustainability initiative and digitalization to avoid manual bills, launched a web portal to share electricity bills and trends with their tenants, granting third-party access to the portal to track and perform analysis. To reduce their carbon footprint, they installed roof top solar PV capacity totaling to 530 kWp catering to the 2% of their total energy demand. Installation of solar has helped Ascendas save **INR 2.5 million annually** leading to **carbon emission reductions of 576 tons per annum**. PEER Gold certification demonstrates that Ascendas has set a global benchmark compared to their peers around the world by providing a resilient and reliable power infrastructure for their tenants in the IT park.

PEER CERTIFICATION

PEER, or Performance Excellence in Electricity Renewal, is the first certification dedicated to measuring and improving power system performance. Applicable to any power system or electricity infrastructure, PEER-certified systems gain a competitive advantage by differentiating their performance, documenting the value produced and demonstrating meaningful outcomes. The PEER Rating System includes four credit categories:

- ▶ Reliability and Resiliency (RR)
- ▶ Energy Efficiency and Environment (EE)
- ▶ Operations, Management and Safety (OP)
- ▶ Grid Services (GS)

PEER Certification for Campus Projects	
Certified 12 October 2018	
Total Points Achieved	62
Reliability and Resiliency	26
Energy Efficiency & Environment	07
Operations, Management & Safety	16
Grid Services	08
Innovations & Regional Priority	05
Total Possible Points	110

Out of a possible 110 points, Ascendas earned 62 points achieving PEER Gold certification under version 2 of the rating system as a Campus project. Additionally, Ascendas met all the prerequisites including reliability performance monitoring, environmental performance disclosure, system energy efficiency coefficient disclosure, triple-bottom-line analysis, and load survey. As part of the process, Ascendas identified opportunities for continuous improvement, such as improving their renewable energy mix, reducing peak consumption and managing loads efficiently to improve their load curve. These strategies have the potential to help Ascendas further reduce their overall energy cost in the long run.