



# Schneider Electric India Pvt. Ltd.

## Schneider Energy Action programme

CASE STUDY

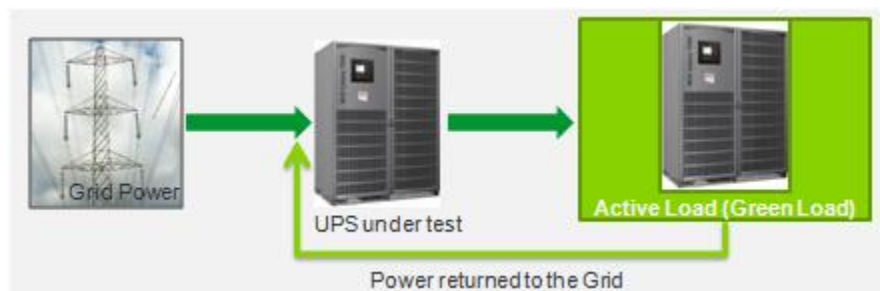


Figure 1: Installation of Green Load at two factories

### Summary

In order to reduce the carbon footprint and energy consumption, Schneider Energy Action programme was launched in 2012 with an aim to reduce energy consumption at our factories, offices, and warehouses, greater than 5,000 sqm in area (that account for about 70 per cent of Schneider Energy’s total energy footprint in India), by 10 per cent over a three-year period.

### Objective of Intervention

Schneider Electric (SE) believe in embedding Energy Efficiency in its DNA and realized early on that to have a significant impact on the environment and drive sustainable change, it’s imperative to measure performance. SE has established the “Planet and Society Barometer”, an in-house sustainability indicator, to track commitment towards people and the planet. This barometer has 14 indicators, some of which are CO2 savings, energy reduced, access to electricity etc.

Schneider Energy Action (SEA) program\*, one of the initiatives under the Planet and Society Barometer was launched in 2012, with an aim to reduce energy consumption at their most energy-intensive facilities across the world. The use of in house energy monitoring and management solutions helped them achieve 30% energy savings leading to avoidance of 8600 tonnes of CO2 in their facilities in India during 2012-2014. SE is targeting another 10% energy use reduction over the next 3 years.



## Type of Intervention and Location

- Implementation of real-time energy monitoring system at 8 factories and cloud-based energy monitoring solutions at 17 sites.
- Energy audits were conducted at 15 sites and energy conservation measures were implemented.
- Thirteen sites received ISO 50001 Certification and three sites received LEED Certification

## Description of Intervention

To continuously improve SE's processes and systems, various SE plants have adopted practices to improve industrial energy efficiency.

- At three of SE's factories in Bangalore, 100% (~424 MWh/month) energy was being wasted from UPS and batteries testing (involving continuous charging and discharging of batteries). Another UPS, acting as a green load, was installed at the factories, which used 85% of the waste energy for charging. This resulted in 42% (~1491MWh) energy reduction in a span of 4 months with 55 MINR of cost savings and CO2 avoidance of 1396 MTons. The overall payback period was ~8 months. This is now being considered for implementation at three of our other factories in Himachal Pradesh.
- At a factory in Hyderabad, air handling units (AHUs) were automated and programmed for auto switching off during lunch time and night hours. The AHU ducts were refurbished to avoid losses during air transmission and dampers or gates were installed to channelize cool air to the designated areas which helped in avoiding the switching on of all the AHU units. These resulted in an overall saving of 2.9%. New capacitor banks were installed to improve the power factor resulting in 1.1% savings and 20 kVA DG re-wired for operational requirements on weekends which helped running of 500 kVA DG on a very low load. Ventilator ducts were also modified to reduce the run-time of ACs. Apart from these, Air conditioning energy savers are being installed within AC units to reduce energy consumption by 2.4% for which the investment will be recovered in 1.1 years.
- In the Kolkata plant, Sky tubes have been installed facilitating the entry of sunlight into the building through a reflective pipe while blocking out heat and UV rays. An average lux level of 250-300 is maintained during the day without the use of artificial lighting. The installation resulted in annual savings of 40,000 units of electrical energy along with total annual savings of INR 3.1 lacs and a payback period of 21 months with an investment of INR 5.4 lacs. This resulted in CO2 avoidance of 44 tonnes

## Intangible or Tangible Benefit

Through Schneider Energy Action, SE has proven that energy efficiency has a compelling business case. With an investment of just 20 MINR, SE has achieved energy savings (~50 MINR), not only through major retrofits and project implementation, but with energy monitoring tools that enhance the visibility of energy consumption. A snapshot of the impact in India has been mentioned below:

- CO2 Savings: 8,600 tonnes of CO2 avoided at end of 2014 (2011 baseline)
  - Equivalent of taking approximately 1600 typical Indian cars off the roads annually



- Energy Savings (Electricity):
  - ~30% (~8 million kWh) savings at target sites (2011 baseline)
    - Equivalent to powering approximately 6600 typical urban Indian homes annually
  - ~11% savings (~3 million kWh) in 2014 as compared to 2013

Apart from this internal initiative, SE has also been engaging with suppliers on ISO 26000 and encouraging them to adopt green practices in order to comply with some of the important international compliance standards (such as RoHS, REACH and zero use of conflict minerals) and make sustainable development a part of our Purchasing and Suppliers' DNA. SE's suppliers are evaluated on sustainability practices and endeavours on various fronts such as environment, labour practices, fair business practices and also the sustainability performance of their suppliers.

### **About Schneider Electric**

Schneider Electric India Pvt. Ltd (SEI), a 100% subsidiary of Schneider Electric Industries SAS, is one of the top three energy management companies in India and offers integrated solutions across multiple market segments, including leadership positions in Utilities & Infrastructure, Industries & Machines Manufacturers, Non-residential Building, Data Centers & Networks and in Residential. With a strong force of over 21,000 employees in India, and a significant manufacturing presence of 29 factories out of which 8 are export units, the company is well known for its unique vision, progressive management and above all, its exemplary quality