

## NITI AAYOG – A CASE STUDY ON THE ‘BUILDINGS ENERGY EFFICIENCY PROGRAMME’ BY EESL

NITI Aayog, in consultation with EESL, introduced energy efficiency interventions in March 2014 to implement retrofitting of energy efficient appliances in its premises. EESL analysed the premises and identified the target areas for intervention. The interventions were monitored by EESL and physical verification was carried out by replacing the energy systems with wattage and operating hours.

The total project cost was Rs 2.67 crore (\$410,533). The retrofitting and installation resulted in annual energy savings of 114 million kVAh and annual monetary savings of Rs 10.2 million (\$156,833). Additionally, annual CO2 reductions of 966 tons were reported.

EESL has retrofitted 3,061 LED lights, 591 energy-efficient fans, 415 energy-efficient air conditioners, and installed two energy efficient chillers in the NITI Aayog premises. Additionally, CEMS (Central Energy Management Systems), which tracks the building's energy consumption was also installed.

Following these interventions, BEE certified the NITI Aayog building with 5-star rating and an Energy Performance Index of 72 (kWh/Sqm/annum). EESL executes retrofitting and installation of appliances in two phases under different models of implementation.

Phase-I was implemented through the PMC (Project Management Consultancy) mode under which the entire capital cost was paid upfront by NITI Aayog. Resultantly, the savings arising out of lower electricity bills accrue to NITI Aayog.

The second phase was carried out under the ‘ESCO Shared Saving Model’ in collaboration with CPWD (Central Public Works Department). Under this model, the upfront capital cost was borne by EESL and the resultant savings from projects were used by NITI Aayog to repay EESL on a deemed basis. The features of the NITI Aayog building, based on EESL's interventions, are as follows:



**3061** nos. of LED Lighting.



**591** nos. of BEE 5 – Star ceiling fans.



**87** nos. of BEE 5-Star ACs.



**328** nos. of energy saver ACs.



**2** nos. (120 TR) energy efficient chillers.



Other EE products like efficient water pumps, solar films for reducing the heat load for the space and APFC control are also installed.

**23.7**  
Lakh

Pre  
Implementation  
Annual Energy  
Consumption  
(kVAh)



**12.3** Lakh

Post  
Implementation  
Annual Energy  
Consumption  
(kVAh)



**11.4** Lakh

Total Annual  
Energy Savings  
(kVAh)



**1.02** Cr.

Total Annual  
Energy Savings  
(INR)



**966** Tons

Annual CO2  
reduction  
(Tons of CO2)



**2.67** Cr.

Total  
Investment  
(INR)

