Energy & Green Buildings

1. Electricity Consumption in the City

Rationale:

Growing urban areas and urban population increase electricity consumption in cities. Electricity generation is primarily dependent on fossil fuels, leading to higher GHG emissions. Controlling the per capita consumption of electricity will lead to lower GHG emissions.

Description:

The indicator assesses the amount of electricity that is used by the city and encourages lower consumption in comparison to the best performing cities.

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1. Electricity Consumption in the City

Methodology:

Total electricity consumption (kWh) in the city is calculated. The population data of city is used for per capita calculations.

Description:

Electricity Consumption in the area is 12x3050980 kwh

Population of Area is 4733 projected in 2019

Per capita electricity consumption = 36611760/4733

= 7735.42 KWHPC

It is 23.3 times more than that of Bihar which has lowest per capita electricity consumption of 332 KWPHPC

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2. Total Electrical Energy in the City Derived from Renewable Sources

Rationale:

Fossil fuels such as coal, natural gas and oil are the major sources of energy generation in our country. Production of energy from cleaner renewable energy sources (solar PV, solar thermal, wind energy, hybrid-hydel power, small hydro, geo-thermal energy, tidal energy, biogas, waste to energy) would minimize GHG emission.

Description:

The indicator encourages the replacement of existing electricity generation from fossil fuels with cleaner renewable energy sources.

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2. Total Electrical Energy in the City Derived from Renewable Sources

Methodology:

Total electrical energy in the city is calculated by adding 80% of the ratio of total electrical energy consumption from all grid connected renewable energy sources (kWh) to total electricity consumption (in kWh) in the city and 20% of the ratio of installed capacity of off grid renewable energy sources for self-consumption (kW) to total connected load (kW) in the city.

Description:

Electricity Consumption of the area is 36611760 kwh

Total electricity consumption from renewable sources of the area is 158.4 kwphr

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2. Total Electrical Energy in the City Derived from Renewable Sources

Description:

Total electrical energy consumption (in kWh) from all on-grid renewable energy sources is 86390 kwh

Electricity Consumption of the area is 36611760 kwh

Total electricity consumption from renewable sources of the area is 158004 kwh

Total connected electrical load (in KW) in the area is 709386.5kw

Formula = 100x{[0.8 x (86390/36611760)] + 0.2 x [(158004-86390)/709386.5]} = 2.20 %

1kwp is theoritically 1000 kwh per year

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