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Solar energy planning to enhance the energy efficiency of Kochi city

The United Nations' Sustainable Development Goals of 2030 (SDGs) provide guide-posts to communities as it attempts to respond to many of the pressing challenges of urbanization. One of these challenges is energy and it is the key input for socio-economic development of any Nation. Thus, the SDGs have become a guide for energy policy-making. (UNDP, 2015). More than half of the world's population now live in urban areas. By 2050, that figure will rise to 6.5 billion people, that is two-thirds of humanity lives in urban areas (UNDP, 2015). Rapid urbanization and the fastest industrialization and mechanized farming methods are agents of the high demand for energy of any country.

According to BP (British Petroleum) energy outlook, India's primary energy demand jumps from 6% in 2019 to 11% by 2040. In 2017 total energy demand of Kerala state is 385.4 million gigajoules and in 2019 the total energy demand was 400.7 million gigajoules). And in every decade there 60% increase in total energy demand of the state. As per the calculations of WISE (World Institute of Sustainable Energy) there is 22% of the increase in energy consumption demand in the residential sector. The State of Kerala is also facing an important issue relating to the availability and the use of power. In the majority of the case, we are using the conventional sources of energy from the sources available now are not enough for meeting the increased demands of the population and hence we are purchasing electricity (energy) from the neighbouring States. Our country is more fortunate enough to be blessed with plenty of natural resources of energy that is non-conventional energy sources such as solar, wind, biomass and hydro-electric power.

The report comprises of the primary household survey for consumption study and to estimate the roof area of the house and solar user survey. The report employs the recommendations for solar rooftop production for residential zones of Kochi city.

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