Green Energy Research Laboratory (GERL)

4IR Advanced Research and Innovation Park
Department of Electrical and Electronic Engineering
Bangladesh University of Engineering and Technology

Overview: The Green Energy Research Laboratory (GERL) aims to advance sustainable energy through cutting-edge research in renewable sources like solar, wind, and tidal energy, along with energy storage technologies such as batteries and supercapacitors. It will emphasize on enhancing energy efficiency in buildings and industries, developing smart grids, and creating decentralized microgrids. GERL aims to collaborate with academic, industry, and government partners for pragmatic solutions relevant to energy related challenges of the country. With state-of-the-art research facilities, GERL aims to innovate next-generation technologies, influence policy, and drive economic growth, contributing significantly to the global transition towards sustainable energy.

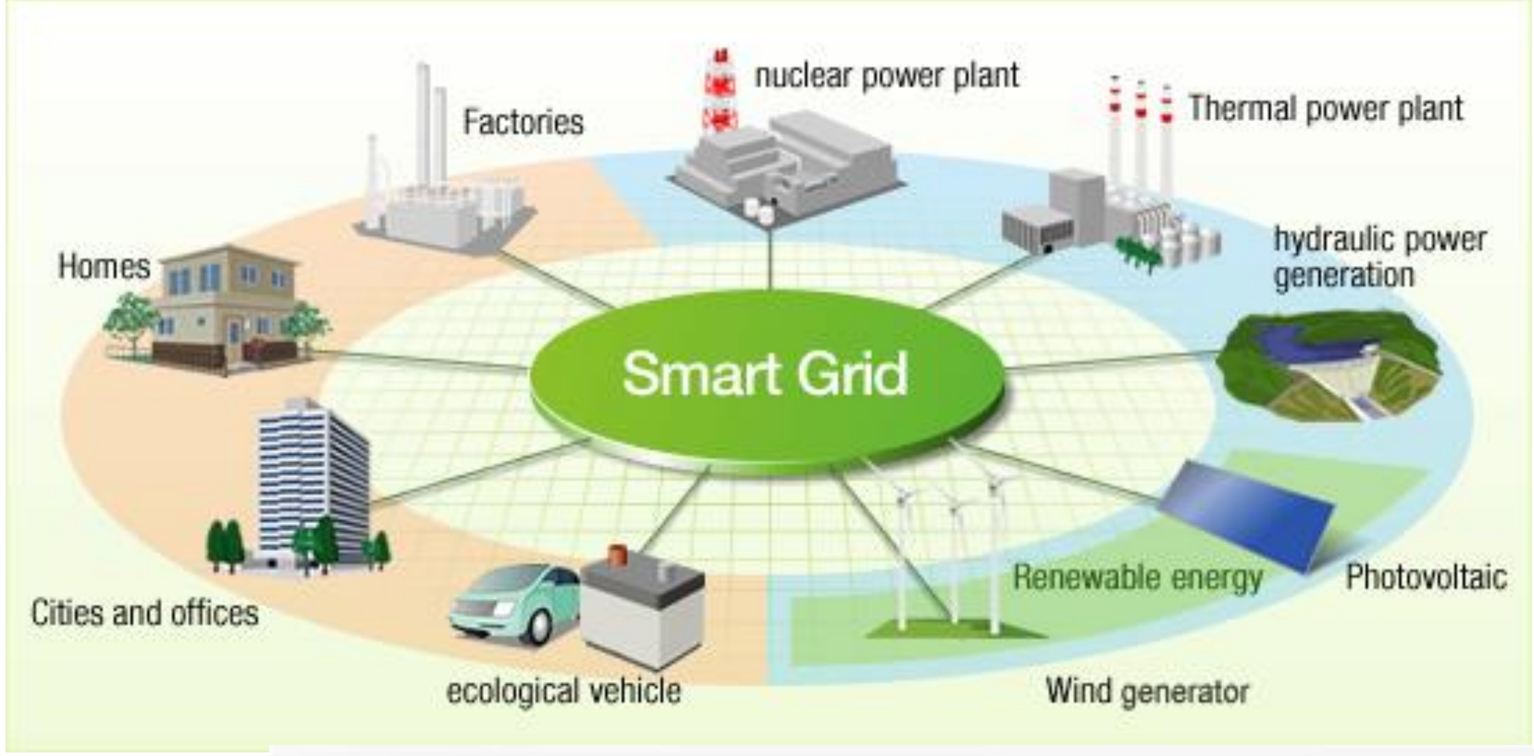
Primary Areas of Research:

- ❖ Renewable Energy Systems
- ❖ Smart Grids
- ❖ Energy Storage
- ❖ Energy Harvesting
- ❖ Energy Efficiency
- ❖ Energy Planning

75 kW AC Rooftop PV System installed on the rooftop of ECE Building of BUET

Key Facilities:

- ❖ Hybrid energy testing station
- ❖ Smart Grid Simulator
- ❖ Energy storage systems
- ❖ Photovoltaic testing systems
- ❖ Hydroelectric testing station
- ❖ Grid-tie inverter test bench
- ❖ Energy Modeling Hub



Energy Storage System

Smart Grid simulator

Hybrid Energy Testing Station

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