SOLAR
WE DO IT ALL
Ground, Rooftop, Water, Space

Think Solar  Think BHEL
About BHEL

Established in 1964, Bharat Heavy Electricals Limited (BHEL) is an integrated power plant equipment manufacturer and one of the largest engineering and manufacturing companies of its kind in India. It offers a wide range of state-of-the-art products, systems and services to core sectors of the economy, viz. Power, Transmission, Industry, Transportation, Defence, and Aerospace, Renewable Energy, Oil & Gas and Water.

BHEL’s mammoth size of operations is evident from its widespread network of 17 Manufacturing Units, 2 Repair Units, 4 Regional Offices, 8 Service Centres, 4 Overseas Offices, 6 Joint Ventures, 15 Regional Marketing Centres and more than 150 project sites across India and abroad. The company has an overseas presence in over 80 countries across all the six continents. All facets of its manufacturing and service operations have ISO 9000 series certification.
Harnessing the Sun ... since 1983

BHEL is one of the first engineering enterprises to manufacture solar photovoltaic (SPV) cells and modules in the country and was successfully able to demonstrate its capability even before the solar sector witnessed active growth and development in India.

Since then, BHEL has been continuously developing its solar portfolio and today, is one of the few companies in India which provides end-to-end in-house solutions for all solar power needs - including conceptualisation, design, engineering, manufacturing, erection, testing, commissioning and O&M - with proven expertise of over three decades.

Solar on ground, solar on rooftop, solar on water to solar in space - We do it All!

With state-of-the-art manufacturing facilities, best-in-class cell efficiency, a dedicated R&D centre and proven quality, support & assurance - BHEL is a one-stop solution for all your solar power needs.
Concept-to-Commissioning and Beyond...

Practicing the philosophy of concept-to-commissioning and beyond, our endeavour is to provide customer-oriented cost-effective solutions and services for the whole spectrum of solar energy.
Manufacturing Capability

BHEL manufactures high-efficiency mono and polycrystalline silicon PV modules in its state-of-the-art production facility at Bengaluru. It is the only enterprise in India which possesses the capability of developing and manufacturing almost the entire range of equipment for solar PV plants, comprising:

- Cells - Mono/Polycrystalline
- Modules - Mono/Polycrystalline
- Module Mounting Structures (MMS)
- SCADA (Supervisory Control & Data Acquisition) System
- Solar Inverters (630 kW/1250 kW)
- Switchgear Panels (all kV ratings)
- Power Transformers (15 MVA and above)

In addition to the above, BHEL has a dedicated facility for manufacturing space-grade panels and batteries.

Research & Development

BHEL has a dedicated industrial R&D Centre for PV at its Amorphous Silicon Solar Cell Plant (ASSCP) in Gurugram, Haryana. The centre is equipped with state-of-the-art facilities and testing characterization equipment. Its R&D team is engaged in developing high-efficiency silicon (Si) solar cells and process optimization.

At its R&D facility, BHEL has invented innovative and easy to use testing and process tools which include among others, single side etcher, diffused reflectance setup, calibration setup, plasma texturing setup, etc.

BHEL has also developed Passive Tracking System and the same is under field trials.
Rooftop

- Rooftop portfolio of more than 10 MW
- Grid-connected systems with net metering
- Hybrid with D.G. & Grid-synchronized systems
- Off-grid with battery backup

Major References

Commissioned
- 160 kW SPV plant at BGGTS, Hyderabad

Under Commissioning
- 3.6 MW SPV plant, Surat Municipal Corporation, Surat
- 2 MW SPV plant, Indian Railway Organization for Alternate Fuels, DMW, Patiala

Ground Mounted

Customer-centric large scale utility power plants integrated with megawatt sized battery energy storage system (BESS).

Major References

Commissioned
- 50 MW SPV plant at NTPC, Kadiri, Andhra Pradesh
- 20 MW SPV plant at GEDCOL, Manmunda, Odisha
- 15 MW SPV plant at NTPC, Singrauli, Madhya Pradesh

Under Commissioning
- 65 MW SPV plant at NLC, Neyveli, T.N. (One of the largest solar plants in India)
- 50 MW SPV plant at NTPC Mandsaur, M.P.
- 15 MW SPV plant at BEL, Medak, Telangana
**Canal Top**

- In-house design and development of module mounting structure suitable for canal tops
- Patented design of BHEL makes optimum use of canal top space with a tiltable design
- Innovative concept of merging cable tray, walkway, fencing and illumination posts into the girder have reduced civil works, thereby increasing the viability of this design
- India’s first seasonal-tilt canal top SPV plant of 1 MW capacity commissioned by BHEL at Bhimavaram, Andhra Pradesh

**Floating Solar**

- BHEL designed floating SPV power plants can be installed on City lakes /Reservoirs of hydel power Plants/Drinking /Irrigation water ponds
- The design uses recyclable, UV and corrosion-resistant HDPE (High density poly ethylene) floats
- BHEL has established a 25 kW floating SPV plant at Narsapur, Hyderabad, deploying technology developed in-house

**Solar Pumps**

- Solar based water pumping systems for irrigation and drinking water purposes
- Supplied solar based water pumping systems in various villages of Punjab and remote locations of Arunachal Pradesh
- Major customers include M/s PEDA (Punjab Energy Development Agency), M/s APEDA (Arunachal Pradesh Energy Development Agency), M/s GWSSB (Gujarat Water and Sewage Service Board)

**Space Grade Solar**

- BHEL is the exclusive supplier of space-grade panels and batteries to ISRO (Indian Space Research Organization) for their space programs since 2001