SREDA
Sustainable and Renewable Energy Development Authority

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DEUTSCHE ZUSAMMENARBEIT

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Newsletter

National Solar Help Desk

The National Solar Help Desk (NSHD) is an undertaking of Sustainable and Renewable Energy Development Authority (SREDA), to support the proliferation of primarily Solar Rooftop programme under net metering. Initial establishment of NSHD was supported by GIZ Bangladesh. At present, NSHD is covering different activities under the leadership of SREDA. SREDA envisions to enlarge the scope of NSHD to cover all Renewable Energy solutions in the future.

Rooftop Solar Potential at Ashuganj Power Station Company Limited

Ashuganj Power Station Company Limited (APSCL), one of Bangladesh's largest state-owned power producers, is now turning to solar energy as part of its commitment to reducing fossil fuel dependence and advancing national renewable energy targets. In a noteworthy development, APSCL is exploring the deployment of rooftop solar under the Net Metering Guideline, an initiative that could make the station a model for other utilities.

On 22th July, a delegation from the Sustainable and Renewable Energy Development Authority (SREDA) led by Director (Renewable Energy) Engr. Md. Muzibur Rahman, along with Assistant Director (Solar) Engr. Md. Rashedul Alam and National Junior Expert Arif Istiak Abeg visited the APSCL compound in Ashuganj, Brahmanbaria, to conduct a technical feasibility assessment.

The study identified roughly 81,397 m^2 of usable rooftop space across 22 buildings, suitable for a system of 1,133 kW_p (DC) and 967 kW_p (AC) with a DC/AC ratio of 1.17. Energy modelling through PVGIS TMY 5.3 projects annual generation of about 1,632 MWh, with conservative estimates ranging from 1,535–1,557 MWh, supported by an average performance ratio of 80.6%. The rooftops comprising mainly RCC and steel truss structures will require civil engineering evaluations to confirm structural integrity and load capacity.

Uniquely, APSCL represents a special case for rooftop solar integration. Unlike typical industrial or commercial sites, APSCL operates both on its own auxiliary power supply and through the Bangladesh Power Development Board (BPDB) distribution network. For grid connection, BPDB-fed buildings with an 800 kW sanctioned load may connect directly to the main busbar, while auxiliary-fed facilities may require localized connections or routing via BPDB, pending detailed electrical studies.

If implemented, this ~1.1 MW_p rooftop solar project could deliver over 1.6 GWh annually, cutting operational costs while positioning APSCL as a leader in Bangladesh's clean energy transition. As one of the country's largest power stations taking a proactive step toward renewable energy, APSCL's initiative not only strengthens energy security but also sets a strong example for other state-owned enterprises to follow.

Figure 1: Inspecting rooftops at Ashuganj Power Station Company Limited

National Solar Help Desk Assesses Rooftop Solar Sites in Chattogram

At the beginning of June, a visit by the National Solar Help Desk (NSHD) team to Chattogram managed to span three very different sectors: higher education, luxury hotel, and heavy industry, each taking steps toward a cleaner energy future. Responding to independent requests, National Junior Expert Arif Istiak Abeg and Mina Akther assessed rooftop solar opportunities at the Chattogram University of Engineering & Technology (CUET), the Radisson Blu Chattogram Bay View, and the General Electric Manufacturing Co. Ltd. (GEMCO) facility in Patenga, Chattogram. These studies illustrate how Bangladesh's renewable energy transition is taking shape across diverse sectors.

CUET: Solar for Education and Innovation

The first stop was CUET, located along the Chattogram, Kaptai road in Pahartali, about 25 km from the city. Spread over 171 acres, the campus blends technology with nature rolling hills, water bodies, and lush greenery create an inspiring environment for learning and innovation.

A robust 10 MVA substation supports the campus, stepping down 33 kV transmission lines to 11 kV distribution, with transformers and backup generators ensuring uninterrupted power. With Chattogram receiving nearly 1,700 kWh/m^2 of solar radiation annually, CUET is ideally positioned to harness renewable energy. CUET identified 11 priority buildings for rooftop solar, including academic blocks, dormitories, the auditorium, workshops, and administrative offices, totalling 15,440 m^2 of usable roof area. Preliminary findings show a potential of 1,059 kW_p (DC), corresponding to 871 kW AC capacity. The workshop alone could host 167 kW_p, generating about 250 MWh annually. Academic Buildings 1 and 2 follow closely with substantial capacity. Collectively, the system could generate 1,558 MWh in the first year, nearly half of CUET's total demand.

Figure 2: Rooftop View of Chattogram University of Engineering & Technology

Though the system size limits export under the Net Energy Metering (NEM) framework, it will significantly reduce CUET's energy expenditure. Beyond cost savings, the project positions CUET as a leader in renewable energy adoption in higher education, providing hands-on learning for students and reinforcing its reputation for sustainable engineering innovation

Radisson Blu: Hospitality Turns to Clean Energy

Next, the team visited the Radisson Blu Chattogram Bay View, a 20-story landmark in Lalkhan Bazar standing 92 meters tall. Its rooftop features a distinctive design: a square deck with a recessed glass-covered centre, surrounded by four tilted tin-shed sections at 20 degrees, forming a donut-like structure. Each section spans about 750 m^2, providing ample solar potential.

The varying orientations shape solar performance:

- South-facing slope: Best exposure (118 kW_p), ~182.3 MWh/year, 1,543 kWh/kW_p yield.
- East–west slopes: Overall output (236 kW_p), ~320.9 MWh/year.
- North-facing slope: Least viable (118 kW_p), ~135.7 MWh/year.

The hotel, supplied by BPDB's S&D Stadium distribution with a sanctioned load of 4,800 kW, is well-suited for rooftop solar under NEM. With annual consumption exceeding 5,700 MWh, all solar power would be consumed on-site maximizing benefit.

Figure 3: Assessing Roof Conditions of Radisson Blue

Beyond financial savings, the initiative strengthens Radisson Blu's standing as a sustainability leader in Bangladesh's hospitality sector, setting a strong example for the growing service industry.

GEMCO: Powering Industry with Rooftop Solar

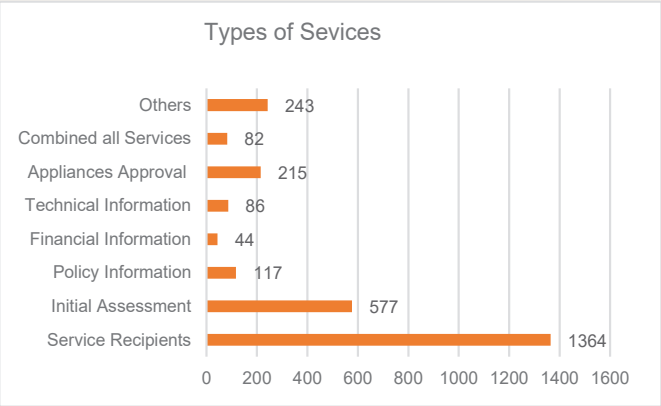
The tour concluded at GEMCO, a government-owned enterprise under the Bangladesh Steel and Engineering Corporation (BSEC). Specializing in the production and repair of power transformers, GEMCO is preparing to adopt rooftop solar to reduce costs, improve efficiency, and support the national clean energy agenda.

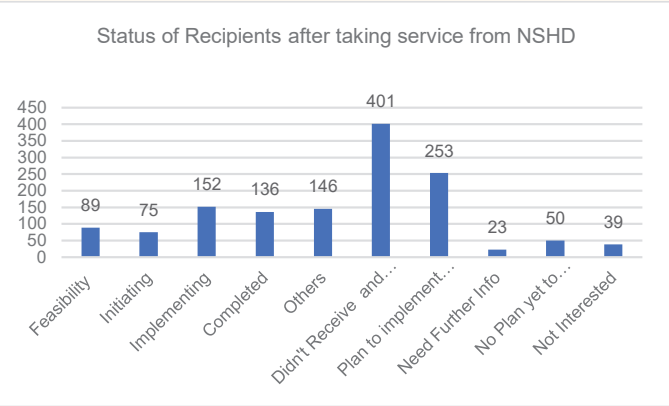
Among its existing sheds, Factory Shed-1 has been approved by the company for the installation of a rooftop solar power plant with a planned capacity of around 2 MW_p. The shed features a sawtooth roof design consisting of 17 subsections, each with a tilt of 11 degrees and an azimuth angle of 169.6 degrees, almost perfectly south-facing. The primary challenge identified during the assessment was shading from surrounding trees. The factory is supplied with a sanctioned load of 2,400 kW and is equipped with a 10 MVA substation that steps down 33 kV to 11 kV, with further conversion to 400V. This robust infrastructure makes the facility well-prepared for grid-tied solar integration under the Net Energy Metering (NEM) framework.

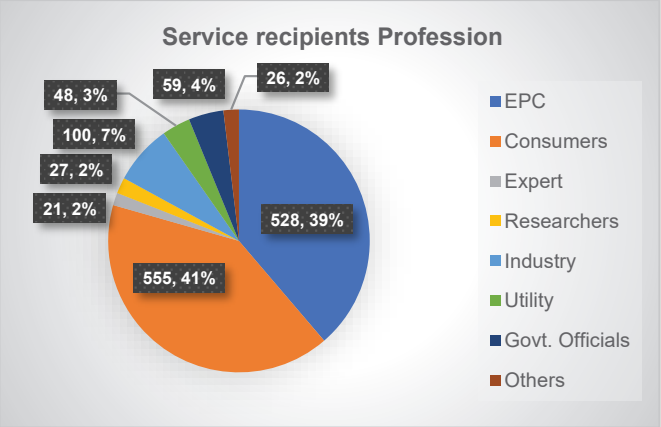
Figure 4: Visit to General Electric Manufacturing Co. Ltd.

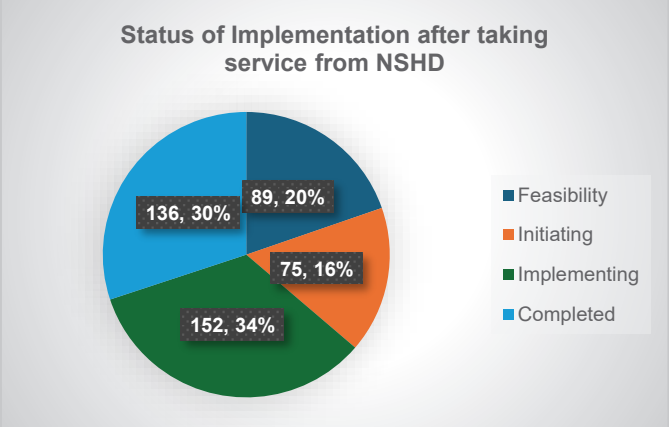
Based on these conditions, the feasibility study confirmed strong potential for a 2,002 kW_p rooftop solar system, capable of delivering 1,600 kW AC output with a favourable DC/AC ratio of 1.25. The system is projected to generate 3,057 MWh annually, which could fully cover GEMCO's electricity demand while allowing surplus power to be exported to the grid, creating both cost savings and an additional revenue stream. By advancing this 2 MW_p rooftop solar project, GEMCO strengthens its role in sustainable industrial growth and sets an example of how state-owned enterprises can lead Bangladesh's renewable energy transition.

Feedback analysis of NSHD Service Recipients









136 systems (around 78.901MW$_p$) implemented with the support of NSHD

2007 services have been provided by NSHD since its inception

Contact Details of National Solar Help Desk

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Photo Sources: GIZ Bangladesh, and the National Solar Help Desk