FABRIC Asia

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On-site solar regulation and policy framework

Bangladesh

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On-site solar regulation and policy framework

BANGLADESH

Who this is for

Factory owners in the textile and garment industry

In this note, you will learn about:

1. Configuration of on-site solar systems
2. The net energy metering (NEM) scheme
3. System requirements for NEM
4. Required permits and licences for NEM
5. NEM application procedure

Value proposition

Getting to know the policies and regulations that govern the installation of on-site solar PV in your country is important to ensuring that your investment in a solar system is the one most suited to your factory and making sure it is legally permitted.

Bangladesh

This document will provide factory owners with insights into the policy and regulatory framework for implementing on-site solar photovoltaic (PV) in Bangladesh.

Practical context – drivers of on-site solar PV systems' implementation in Bangladesh

The Bangladeshi government has shown strong support for fostering the use of on-site solar power for different user groups.

For commercial and industrial (C&I) users, lighting and fan power needs should be met by renewable energy (RE), with the criteria as follows:

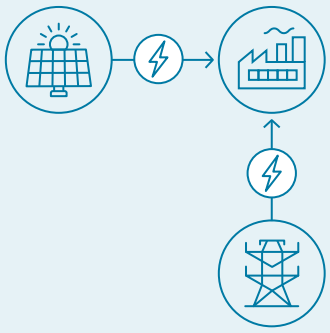
- 7% for users with load of up to 50 kW
- 10% for users with load of >50 kW
- 5% specifically for garment industry users, irrespective of the load level

Along with the government's renewable use mandate, the following points also provide incentives for C&I users to implement on-site solar PV systems:

- the existing power tariff structure for the C&I segment is higher, which is intended to cross-subsidise residential users. Installing an on-site solar PV system would provide the C&I segment with cost-savings if you are purchasing your electricity from the grid.
- many industrial users are using diesel generators as well as LNG turbines to ensure a stable power supply, which requires proportional fuel costs. It is expected that the cost of these fuels, especially LNG, will increase. On-site solar PV would provide cost-saving alternatives to the diesel generators, and more.

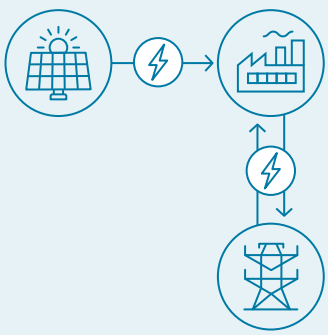
The basics: configurations of on-site solar systems

Generally, there are two configurations for the installation of on-site solar systems in Bangladesh.



1. Behind-the-meter (BTM) for self-consumption

- Typically designed for 100% self-consumption
- The system is not designed to generate a surplus of power unused by the factory



2. Grid-connected for net-metering

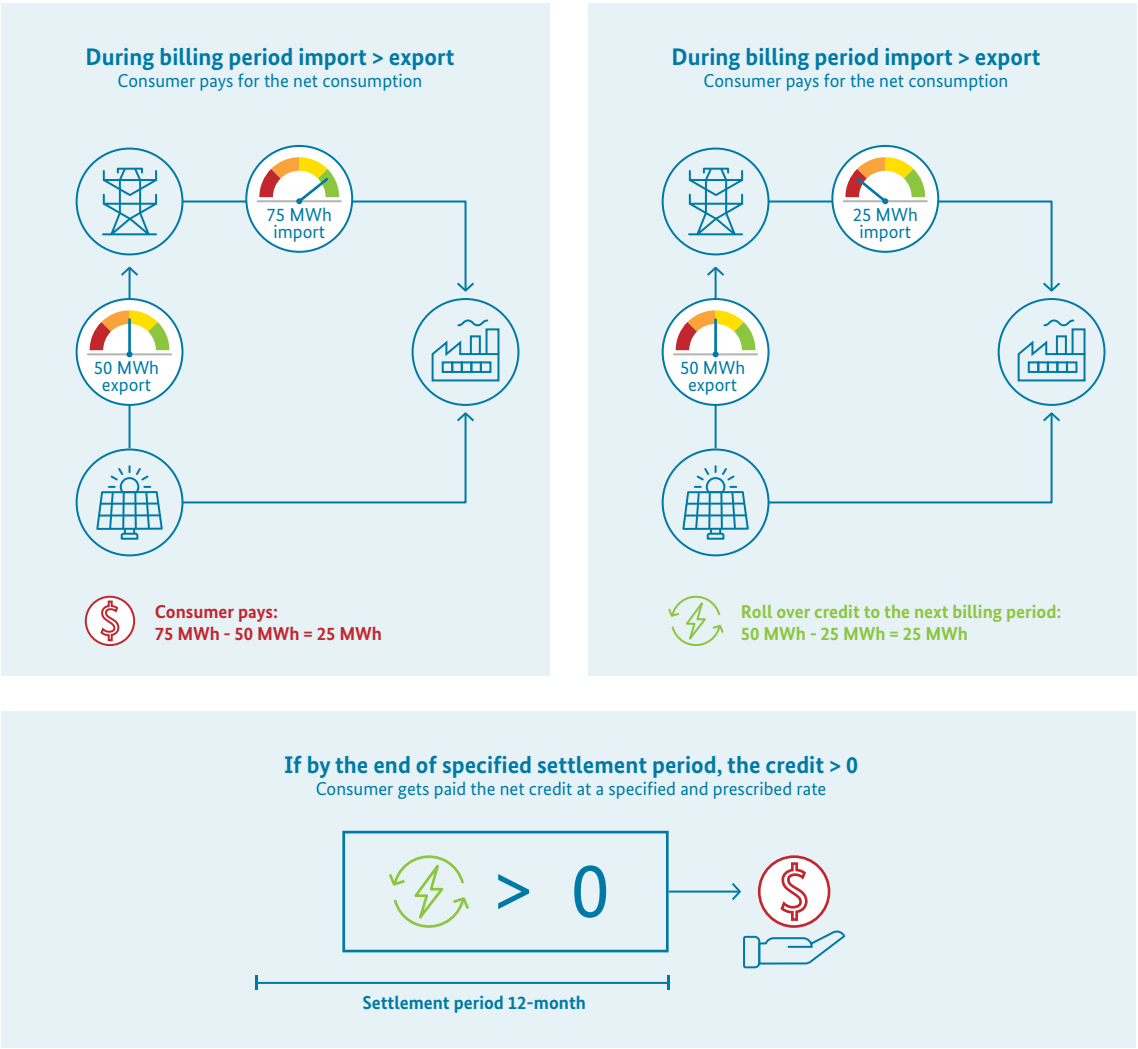
- The on-site system is connected to the grid, and the excess power is exported to the grid.
- Compared to the self-consumption/off-grid configuration, additional permits and specific system technical criteria are required for on-grid systems, which are detailed in the next section

Net energy metering scheme

In Bangladesh, the main policy incentive for on-site solar PV rooftop systems is the net energy metering scheme (NEM).

NEM concept explained:

- The NEM policy was rolled out in 2018 and allows grid-connected on-site solar PV installations, also referred to as “prosumers”, to **export any excess electricity to the grid following self-consumption.**
- If the prosumer uses more electricity from the grid than the power exported to the grid in a billing period (typically one month), they are considered a **net-importer** and will be charged the balance amount by the utility.
- If the prosumer exports more electricity to the grid than the electricity consumed from the grid in a billing period, they are considered a **net-exporter.** The excess credit will be carried through to the next billing cycle and can be used to offset the electricity consumption of the following month.
- The kilowatt hour credits are allowed to roll over throughout the **12-month settlement period** (currently set from July to June the following year). If the consumer has any accumulated kilowatt hour credit by the end of the settlement period, the utility pays the consumer at the prevailing rate, as prescribed by the distribution utility. The tariff rates are subject to change according to the tariff structure determined by the Bangladesh Energy Regulatory Commission (BERC).
- See the infographic below:



Requirements for systems under the NEM

To be eligible for the NEM scheme in Bangladesh, the following on-site solar PV system requirements apply. These requirements are applied to all grid connected systems in the country.

Parameters	Requirements for grid-connected NEM on-site systems
1. Customer requirements	• All industrial customers have a three-phase utility connection (normally used in C&I facilities). • The applicant should not have any outstanding debts prior to making the application. • The applicant must either be the legal owner or have the legal permission from the owner(s) or their legal representative(s) for installing the proposed RE system on the premises;
2. Project size limitations	• The on-site solar PV system size (in AC) should not be more than 70% of the consumer's sanctioned load. • In case of a medium-voltage consumer, the on-site solar PV system size should not be more than 70% of the rated capacity of the distribution transformer or the cumulative capacity of the distribution transformers. • The maximum AC output capacity of the installed RE system for NEM cannot be more than 10 MW. • The consumer is not permitted to export more than 50% of its imported energy within the settlement period (12 months).
3. System requirements	• The system's interconnection shall comply with the interconnection rules and standards set by the local utility or other relevant governing authority.

Required permits and licences for on-site PV systems

The installation and operation of a grid-connected on-site PV system in Bangladesh requires the following permits, depending on the system category:

Category	System size	Licence requirement
Green	50 kW to 1 MW	• Environment Clearance Certificate.
Orange-B	Larger than 1 MW	• Environment Clearance Certificate; and • Site Clearance Certificate

Good practice

The Sustainable and Renewable Energy Development Agency (SREDA) E-Service desk (which can be accessed at https://solar.sreda.gov.bd/) provides a comprehensive list of documents relating to on-site solar in Bangladesh, including, among others:

- NEM application information and additional information
- Bangladesh Standards of Solar Accessories
- Links to relevant policy documents

Additional information can be found on the **National Solar Helpdesk** provided by SREDA, which can be accessed at shd.sreda.gov.bd.

❶ Environment Clearance Certificate

This permit is provided by the Department of Environment (DoE). An application for **Environment Clearance** can be made online through ecc.doe.gov.bd/login/. A list of relevant documents can also be found on the DoE website here: http://www.doe.gov.bd/site/page/7398ec78-0ee7-43c0-871e-96d16fd50a6b/-

Required documentation for the Environment Clearance application includes:

- application form: template available here (Form-3);
- general information on the industrial unit or project;
- exact description of the raw materials and the manufactured product; and
- a no objection certificate (NOC) from the local DoE (the template should be obtained from the relevant local authority).

Once the application has been submitted, the DoE will respond within 15 days of receipt of the application either by issuing the certificate upon approval or giving appropriate reasons for its rejection.

Note: the Environment Clearance Certificate needs to be renewed:

- for category Green: every three (3) years
- for category Orange-B: every (1) year

❷ Site clearance certificate

This permit is provided by the DoE as the document prior to the Environmental Clearance for the Orange-B category projects.

Required documentation for the Site Clearance and Environmental Clearance application for the Orange-B category projects:

- application form: template available here (Form-3);
- report on the feasibility of the industrial unit or project (applicable only for proposed industrial unit or project);
- report on the Initial Environmental Examination of the industrial unit or project);
- report on the Environmental Management Plan for the industrial unit or project;
- a NOC from the local DoE (template should be obtained from the relevant local authority);
- emergency plan covering potential adverse environmental impacts and a mitigation plan for the effect of powllution.

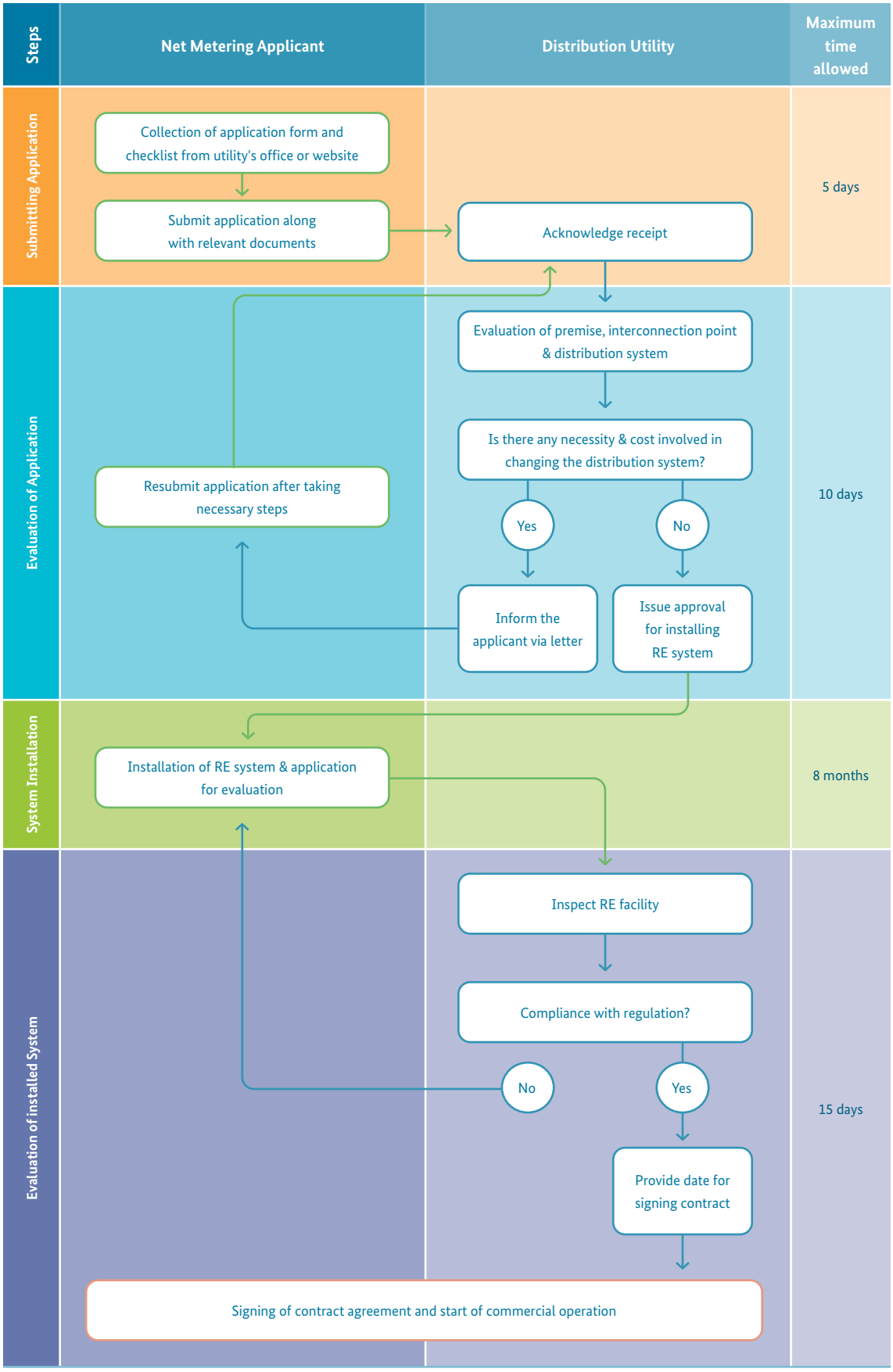
❸ NEM contract agreement

Grid-connected systems are required to obtain a NEM contract agreement from the local utility. The NEM application procedure and timeline are summarised below:

Required documentation:

- NEM application form – template available here
- NEM system checklist – template available here

NEM application process summarised



List of abbreviations and acronyms

Abbreviation/Acronym	Description	Abbreviation/Acronym	Description
BERC	Bangladesh Energy Regulatory Commission	**MW**	megawatt
C&I	commercial and industrial	**NEM**	net energy metering
DoE	Department of Environment	**NOC**	no objection certificate
kW	kilowatt	**PV**	photovoltaic
NEM	Net energy metering	**RE**	renewable energy
NOC	no objection certificate		

To explore more topics related to solar PV in Bangladesh, please review the full set of briefing notes. Topics include:

- ☐ Introduction to commercial and industrial (C&I) RE sourcing
- ☐ 101 Crash Course: How a solar system works
- ☐ Assessing suitability for rooftop solar projects (technical perspective)
- ☐ Assessing the business case for on-site solar (financial perspective)
- ☐ Different investment models for rooftop solar projects
- ☐ Local financing programmes for rooftop solar projects

Image: © GIZ / Sabrina Asche, 2017

ABOUT FABRIC

The project FABRIC (Fostering and Advancing Sustainable Business and Responsible Industrial Practices in the Clothing Industry in Asia) is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, which works on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). To successfully shape the desired economic growth in Asia's textile and garment production in a sustainable way, many parties need to be involved. GIZ's FABRIC project brings together people from the Asian industry, public sectors, NGOs and from international buyers, promoting knowledge transfer and cooperation. FABRIC is working in Bangladesh, Cambodia, Myanmar, Pakistan, Viet Nam and together with China to strengthen an industry that offers quality jobs, protects the environment and contributes to economic growth.

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