

# IDCOL Targets 4,800MW Solar Capacity By 2030

IDCOL will begin field-level activities this month under its Distributed Rooftop Solar (DRS) program, targeting at least 500MW of new capacity by next February. At the same time, the ongoing rooftop solar program is expected to add another 500MW of rooftop solar capacity in the industrial sector. Overall, IDCOL aims to facilitate the development of 4,800MW of solar capacity by 2030 through IPP, Merchant Power Plant (MPP) and rooftop solar projects.

Infrastructure Development Company Limited (IDCOL) Managing Director (Acting) S.M. Monirul Islam disclosed this in an interview with Energy & Power Editor Mollah Amzad Hossain.

**The government has announced an incentive package to promote rooftop solar projects with battery storage, aiming to achieve significant progress within the next six months. How effective do you think the incentives will be in encouraging new projects? There are also questions about the decision to purchase surplus electricity at Tk 10.50 per unit for only three years. What is your view?**

There is no doubt that this program's implementation period is short. However, the potential of the sector is enormous. So, although there are challenges, the target is achievable. Institutions like IDCOL have extensive experience in implementing residential off-grid solar programs in rural areas. Therefore, we believe the target can be achieved.

Regarding the price and purchase of surplus electricity, the government has already clarified the relevant issues. As part of the financial incentives, exemptions from duties and taxes have been provided for solar equipment.

Under the net-metering guidelines, consumers were initially allowed to install solar systems with capacity below their total demand and adjust the electricity exported to the grid against their electricity bills. The issue of surplus electricity has emerged as the scope of solar installation has expanded.

Initially, the net-metering ceiling allowed

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solar systems up to 70% of a consumer's sanctioned load. This was later increased to 100%. Under the current guidelines, systems of up to 80kW can be installed under the applicable arrangement.

For example, if your electricity demand is 500 units but your rooftop solar system can generate 1,000 units, you can generate the additional electricity and

sell the surplus to the government at Tk 10.50 per unit.

Does this create an opportunity for investment under an OPEX model? Residential consumers may not always have the capacity to invest themselves.

IDCOL is going to launch a Distributed Rooftop Solar (DRS) program for the residential sector. We previously implemented similar programs in the off-grid sector.

Under the new program, we have finalized Demand Aggregators (DAs). They will assess local demand and install rooftop solar systems with battery storage for consumers. They will also be able to obtain refinancing from IDCOL on favorable terms.

The financing model will require the customer to provide a 20% down payment, while the Demand Aggregator will contribute another 20%. IDCOL will provide the remaining 60% as a loan.

**IDCOL's Solar Home System program is considered a successful initiative and is still being followed internationally. Drawing on that experience, you are now launching a domestic rooftop solar program. What is its objective? How much capacity do you expect to add by next February?**

Let me first explain the system sizes. Considering differences in consumer demand, we have identified several rooftop solar packages with battery storage. Each package has been designed with battery storage equivalent to three hours of the consumer's full demand.

Through efficient use of electricity, the three-hour backup can potentially be extended to around five hours. We have



S.M. Monirul Islam

**The issue of interest rate on financing projects has not yet been finalized. However, IDCOL will provide loans to Demand Aggregators (DAs) at an interest rate of 5% for seven years. The DAs will then provide loans to residential customers for five years, with the interest rate expected to be around 9-10%. The final lending rate will be determined once implementation of the program begins.**

finalized different packages for systems ranging from 2kW to 80kW.

However, considering the availability of rooftop space in residential buildings, we expect 3-5kW systems to be the most popular packages.

**How much investment would be required for a 3-5kW system with the planned battery storage?**

A 3kW system with three hours of battery backup, a hybrid inverter, and an energy meter will cost slightly more than Tk 200,000.

We have also determined prices for other packages based on a review of market conditions. However, it is important to understand that these prices represent the maximum investment levels under our program. A Demand Aggregator or investor can offer the system at a price lower than the ceiling we have set.

I believe that as the market expands and competition increases, prices will gradually come down.

**Will these Demand Aggregators (DAs) be IDCOL's partner organizations? How are they being selected, and how will they operate?**

Essentially, the DAs will work as our partner organizations. As you know, the implementation period is very short. Therefore, we want to deploy organizations with the necessary experience as quickly as possible.

During the implementation of the off-grid Solar Home System program, we worked with a number of partner organizations that have extensive experience in this field. Among them, organizations with good records, including loan repayment performance, have been selected initially as DAs.

Alongside them, we will issue an Expression of Interest (Eoi) to enlist other organizations that have gained experience in solar installation. Interested organizations will be evaluated and enlisted as DAs as quickly as possible.

**You mentioned at the beginning that IDCOL wants to achieve significant progress through the DRS program by February. What exactly is your target?**

We want to add at least 1,000MW of rooftop solar capacity by next February. There are two components to this target. The first is rooftop solar in the industrial sector, where we have been working for several years. We plan to accelerate the ongoing program and add another 500MW of capacity during this period. At the same time, the new DRS program is expected to add at least another 500MW.

Thus, our immediate target is to add at least 1,000MW through these two programs by next February. In the longer term, IDCOL is working to facilitate the development of around 4,800MW of solar capacity by 2030 through different financing programs.

**The government has finalized a development strategy to expand renewable energy capacity through 2030. Under the strategy, the target is to add 10,450MW of renewable energy capacity, including 5,500MW of rooftop solar. What programs does IDCOL have to help achieve this target?**

Let me start with large-scale solar projects. IDCOL is working on financing IPP projects that are currently in the pipeline. We expect to bring around 1,000MW of projects in this segment under our financing program by 2030.

Work is also underway to finalize the wheeling charge policy under the Merchant Power Plant (MPP) Policy. Entrepreneurs have already approached us seeking investment support for around 1,000MW of solar power projects under

the MPP framework. IDCOL will work on these projects.

In the industrial sector, we are working to add 500MW of new rooftop solar capacity by February and 1,000MW by 2030. We also aim to add another 1,000MW through the Domestic Rooftop Solar (DRS) program, although the potential in this segment is much higher.

At the same time, IDCOL is working to mobilize financing. The government has already agreed to provide the funds required for such programs.

Considering the overall target, IDCOL is currently working to facilitate financing for around 4,800MW of solar capacity by 2030.

**IDCOL has been leading the development of solar-powered irrigation systems. It has been suggested that a business model is needed to replace diesel-powered irrigation with solar irrigation. What are the obstacles to developing such a model?**

We have been working on solar irrigation pumps for many years, and 1,523 projects have already been implemented. There is significant potential for success if diesel-powered pumps can be replaced with solar pumps.

The challenge is that water has to be supplied at a relatively lower cost than under diesel-powered irrigation. To achieve that, these projects currently require around a 50% subsidy. This raises questions about how long such subsidies can be provided and how long a subsidy-dependent business model can remain sustainable.

However, additional initiatives are needed to make solar irrigation more attractive. Solar capacity can be fully utilized for irrigation for around five months of the year. If the electricity generated by the system during the remaining period can be integrated into the grid and sold, it would improve the project's economics.

Therefore, just as preferential tariffs have been considered for rooftop solar, introducing a preferential tariff for solar irrigation could create new interest in replacing diesel-powered irrigation pumps with solar systems.

**Agrivoltaic solar is now receiving growing attention globally. A project has already been connected to the grid with support from the German government and IDCOL. How much potential do you see in this sector?**

A pilot agrivoltaic project has been implemented in Chuadanga under an initiative of Wave Foundation, with financing from IDCOL. GIZ is providing technical assistance through a foreign expert on the design and the types of crops that can be cultivated under the system. IDCOL has also received financial

support from KfW for the project.

However, the pilot project itself is not the main issue. The future expansion of agrivoltaics will depend largely on how agricultural practices and productivity evolve. Based on the experience and agricultural outcomes of the pilot, we will consider the scope for implementing similar projects on a larger scale.

**Financing, particularly low-cost financing, is crucial for expanding renewable energy. But globally, sources of grants and low-cost development finance are shrinking. What challenges does Bangladesh face in financing renewable energy development, and what preparations does IDCOL have in this regard?**

Low-cost development finance is continuously declining, while the terms and conditions imposed by IDCOL's financing partners have also become more stringent. For rooftop solar, IDCOL has mobilized financing from different sources and created a blended fund. We are using this fund to provide financing to the market at affordable interest rates.

**What will be the interest rate on financing provided under the DRS program?**

The matter has not yet been finalized. However, IDCOL will provide loans to Demand Aggregators (DAs) at an interest rate of 5% for seven years. The DAs will then provide loans to residential customers for five years, with the interest rate expected to be around 9–10%. The final lending rate will be determined once implementation of the program begins.

**Although electric vehicles have yet to develop significantly in Bangladesh, a large amount of electricity is being consumed to charge battery-powered rickshaws. Is IDCOL considering developing solar-based charging systems?**

We have some involvement in electric mobility. However, if IDCOL is to support any project or vehicle, it must have a legal basis. Battery-powered rickshaws are not yet fully covered by the legal framework.

A project to manufacture lithium batteries has already approached us for financing, and it is under consideration. We are also working on the development of solar charging stations and exploring how to establish a viable commercial model. If the initiative proves successful, you will see IDCOL taking initiatives in this area in the future.

In addition, we have undertaken some R&D projects on hybrid cold storage systems. Work is underway to develop an economic model for these systems. If successful, we will consider promoting such projects at growth centers across the country. ■