

Business Standard



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THE MARKETS TODAY

Sensex	18,631.10	▼	162.26
Nifty	5,652.15	▼	52.45
Nifty Futures*	5,672.45	▲	20.30
Dollar	₹53.06		₹52.74**
Euro	₹68.30		₹68.24**
Yen (100 yen)	₹67.64		₹67.28**
Gold (10 gm)	₹31,260.00	▲	₹60.00

*05:30pm Premium on Nifty Spot; **Previous day's Close

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10 ISSUES AND INSIGHTS

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What's eclipsing India's solar sector?

The solar market is far from mature; the government and private players need to make concentrated efforts to nurture it

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In 2010, India launched the Jawaharlal Nehru National Solar Mission, one of the world's most ambitious solar energy programmes. With 300 days of sunshine annually, the aim is to install 20,000 megawatts (Mw) of grid-connected and 2,000 Mw of off-grid solar power by 2022. Seventy per cent of India's primary energy supply runs on fossil fuels. The Solar Mission holds the promise of tackling, in part, two problems at once: India's rapidly growing energy demand and the global threat of climate change.

India's solar market is far from mature. If the government, the private sector, research institutions and civil society work together, the possibilities are endless. But there is little room to be sanguine.

In our recent reports, "Laying the Foundation for a Bright Future, and Concentrated Solar Power: Heating Up India's Solar Thermal Market under the National Solar Mission", we analysed the building blocks needed for a robust grid-connected solar programme, namely project selection, project commissioning, financial viability, manufacturing policy, technology choices, and the ease of doing business.

Our research reveals that a nascent solar industry has begun to take shape in India. Capacity has jumped to more than 1,000 Mw from only 17.8 Mw two years ago. This is certainly progress. What's more, competitive bids for projects have rapidly driven down prices. The last round of bidding revealed prices as low as ₹7.49/kWh (\$0.15/kWh) for photovoltaic (PV) projects. This is competitive with diesel-fired captive electricity generation.

But increased capacity and low prices do not complete the picture. Some analysts have focused on short-term successes or challenges, either celebrating low bid prices or despairing every time a project is delayed. Other analysts extrapolate to the long term, betting that solar energy in India could be nothing but a success. Grid parity is the mantra that guides such thinking. As for any growing adolescent, though, the focus instead ought to be on the maturing years in the middle. For the Mission, this means that the closing days of Phase 1 and the forthcoming Phase 2 (2013-17) will be crucial in determining whether the solar industry fizzles prematurely or offers a robust environment for greater investment, lower



REUTERS

MAKING POWER WHILE THE SUN SHINES A nascent solar industry has begun to take shape. Capacity has jumped to more than 1,000 Mw from 17.8 Mw two years ago

prices, and technological and business innovation.

As the Solar Mission enters Phase 2, the solar market has to remain flexible, and a stable electricity grid is needed. Phase 1 evenly allocated power production between projects using PV and concentrated solar power (CSP) technology. While PV prices are currently lower, CSP allows for electricity storage, bringing significant benefits to India's energy mix. CSP can help India meet its base-load requirements, provide supplementary power during peak usage times, and improve grid reliability. Moving forward, we must recognise the benefits of both technologies. A roadmap that encourages PV and CSP could avoid locking-in technologies today, yet allow for policy adjustments in future. Four key areas need the government's urgent attention:

Strategic financing

While a large dose of equity financing got us to 1,000 Mw of installed capacity, India cannot reach 4,000-10,000 Mw during Phase 2 without greater bank financing. An estimated ₹100,000 crore is needed for Phase 2 targets. Interest rates remain too high. Banks remain reluctant to invest in solar energy.

Developers are currently shifting from one financier to another without realising that different funding channels have different strategic roles. Central and state government agencies, with the ministry of new and renewable energy's leadership, should develop a strategy to optimise the role of different funding sources and financial institutions. Some institutions are better suited for project financing, while others are needed for payment guarantees, long-term debt, syndicated loans, research and development (R&D) support, technical advice, or boosting skills. Projects will become less viable if renewable purchase obligations are not enforced in Phase 2, thereby undermining the market for renewable energy certificates. A comprehensive financing strategy is the prerequisite for scaling up solar energy investments.

Manufacturing and innovation

The Mission's domestic content requirement (DCR) has not grown a manufacturing base. Policies need to

be technology-neutral to avoid market distortions. Options include: (a) a DCR that all PV modules are manufactured in India, uniformly enforced across all PV technologies (currently, certain technologies are exempt and are, therefore, imported at lower cost); (b) a DCR specifying that a certain percentage of PV components be manufactured in India; or (c) consider other incentives (like production subsidies) to promote domestic manufacturing while not discriminating against foreign-manufactured components.

Without a coordinated roadmap for grid infrastructure, current lower prices and rapid commissioning will only make future failures more disappointing

Policy-makers and solar firms should also recognise that more than half the jobs and value lie in installation, operations and sales, not just making widgets. Moreover, innovations in energy storage and water efficiency in CSP plants need encouragement.

Market transparency:

Transparency in project selection alone is not sufficient. Developers, financiers, donors and R&D institutions are looking for periodic information about project commissioning, power delivery to

the grid, quality of solar irradiation data, and other performance indicators. The government could readily provide real time, credible and usable information by enforcing periodic progress reports for each project, and making rules for project commissioning in different states more consistent.

Grid infrastructure

The solar ecosystem will not develop in a vacuum where electricity sub-stations are not built on time or where connecting projects via transmission lines to the grid proves prohibitively expensive. Without a coordinated roadmap for grid infrastructure, current lower prices and rapid commissioning will only make future failures more disappointing.

These are not insurmountable problems. But they need coordination between the government and the private sector to nurture a budding industry and fully unleash the potential of India's solar energy market.

Arunabha Ghosh is CEO, Council on Energy, Environment and Water. Anjali Jaiswal is Director, India Initiative, Natural Resources Defense Council. CEEW and NRDC's joint reports on the National Solar Mission are available at: www.ceew.in/solar