**INDIA'S TICKET TO ENERGY INDEPENDENCE**
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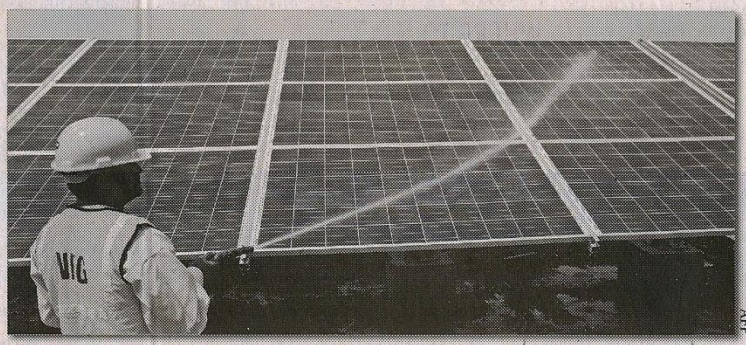
# India's ticket to energy independence

Ajay Goel



AFP

**HEAT WAVE: As solar power generation is scale and location independent, it can radically reduce transmission investment, especially in remote and difficult locations**

INDIA faces some key challenges in sustaining the growth rate it envisages for itself. One of them is the extreme dependence on imports for its energy needs. Today, India imports 80 per cent of its crude oil. While it has extensive coal reserves, due to a multitude of reasons, the country imports almost 20 per cent of its coal, primarily used to produce thermal power. Our present energy deficit is close to 9 per cent and growing, even when 25 per cent of the population is not grid connected and an additional 30 per cent (400 million) lose electricity connection during blackouts.

India is blessed with limitless solar potential with 58 per cent of its geographical area representing solar hotspots. Theoretically, by only using dessert and barren land, India has the potential to produce 2,000gw of solar energy — more than the total capacity of the US and China combined at present. Solar energy has, therefore, the undeniable potential to solve India's energy problem, while helping it achieve power independence and energy security.

A lot, however, depends on political and bureaucratic will. To achieve meaningful results, the approach has to be holistic as against the current piecemeal approach. There are four separate areas where we need distinct and mutually exclusive efforts to derive the true potential of solar energy:

**Manufacturing:** India's lack of focus on manufacturing is one of the key reasons for recurring high inflation. It is also the primary reason for slow job creation, especially for the skilled and unskilled work force; key to reducing the palpable socio-economic divide.

India should, therefore, aim at building a robust solar manufacturing sector, not only to create domestic jobs, but also to increase potential for foreign direct investment (FDI) and export of solar products. However, at present, one of the biggest hurdles in building India as a global manufacturing hub is the dumping of low-cost solar photovoltaic products, causing losses to the tune of Rs 3,000 crore to the country and Rs 1,000 crore to the domestic solar industry. To tackle these subsidised imports of solar products, the solar manufacturing industry needs a level playing field. This can only be achieved through domestic content requirement and anti-dumping duties. While both are being considered, what is critical is the need for clarity, especially in providing a timeframe to the policy and its roll-out. Another significant impetus would be to provide streamlined capital subsidy and priority lending support.

**Grid connected generation:** At present, almost 25 per cent of India's energy needs are met through imported oil. Also, India's coal deficit is growing at an alarming rate and is expected to reach 20 per cent of its demand by 2016. Since most of the coal imported is used to generate power, solar can help hedge against coal costs. Also, compared with any other energy source, solar takes the least time to add power generation capacity. However, it needs strong and decisive action by the government. The government should move to nationwide feed-in-tariff from the reverse bidding at present to help build consistencies and predictability in solar grid connected generation. It would also eliminate some non-price issues of reverse bidding like quality, technical expertise and dishonouring of contract.

Also, strict enforcement of solar renewable purchase obligation (RPO) would help increase the share of solar energy in the grid. Enforcing RPO would also help develop and support the renewable energy certificate (REC) market, in turn, attracting investment in the solar sector.

**Distributed generation:** Close to 300 million Indians do not have access to grid power, mostly due to remoteness or inaccessible terrain. As solar power generation is scale and location independent, it can drastically reduce transmission investment, especially in remote and difficult locations. Since people in these locations are either dependent on firewood or fossil fuels for their power requirement, solar energy can help hedge against diesel costs while helping reduce pressure on environment. Nationwide feed-in-tariff will not only encourage grid-connected generation, but coupled with net-metering policies, it would also incentivise domestic and small scale solar energy production, thus, creating vibrancy in the solar sector and reducing dependency on fossil fuels. While rationalised open-access policies for wheeling exist on paper, there needs a concerted effort to provide necessary infrastructure to implement them.

**Off-grid projects:** Solar power, due to its various advantages, can help provide fast and reliable energy access to close to 25 per cent of India's population that is still not connected to the grid. By bridging this energy divide, solar energy can contribute significantly in uplifting rural economies. The total installation of solar off-grid applications across the country rose to 35.09 mwp (2013-14) from 17.59 mwp (2012-13), an increase of almost 50 per cent. The total number of installations rose to 20 lakh by the end of 2013. On the flipside, due to the unanticipated increase in demand for off-grid solar products, the accumulated subsidy that the government owes to the solar products makers has exceeded Rs 1,000 crore.

There is a need to simplify funding and execute ministry of new and renewable energy (MNRE) subsidy effectively. Lack of funds provided to execute the subsidy is impacting the profitability and even the survival of solar products manufacturers. Providing easy lending support through national bank for agriculture and rural development (NABARD) and commercial banks is critical to promote solar, especially in rural areas, where the initial cost of solar is a huge deterrent.

To harness the vast solar potential of India, we need to nurture the solar industry and provide the stimulus it needs to provide energy security to the nation. A lot depends on how the government approaches the issue and the kind of focus it gives to renewable energy. While there are a number of policies that need to be introduced, even if the government implements existing policies in a proper and structured way, it would help create a robust solar industry. Going by the government's manifesto and the track record in some states, hopes are high for the solar sector.

*(The writer is managing director of Tata Power Solar)*

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By Ajay Goel Jun 30 2014
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