SPOTTING GEMS IN BAD TIMES: THE ABB WAY

Bazmi Husain returned to India just as the slowdown was beginning to bite. ABB's core business of conventional power was in the doldrums. He needed fresh ideas. Looking within, he discovered that he could make a play for the alternative energy space without spending a penny. And thus began ABB's foray into solar. **BY KUNAL N. TALGERI**

SOLAR POWER COMMONLY triggers images of neat rows of gleaming panels tilted towards the sun. Each panel, a patchwork of hundreds of silicon cells, captures the rays to generate electricity. These panels, called photovoltaics, account for nearly half the cost of a solar plant. The good news: Photovoltaic prices have fallen by 40%, thanks to the Chinese commoditising it. The bad news: It's hurting photovoltaic panel makers, even if solar power developers have benefited.

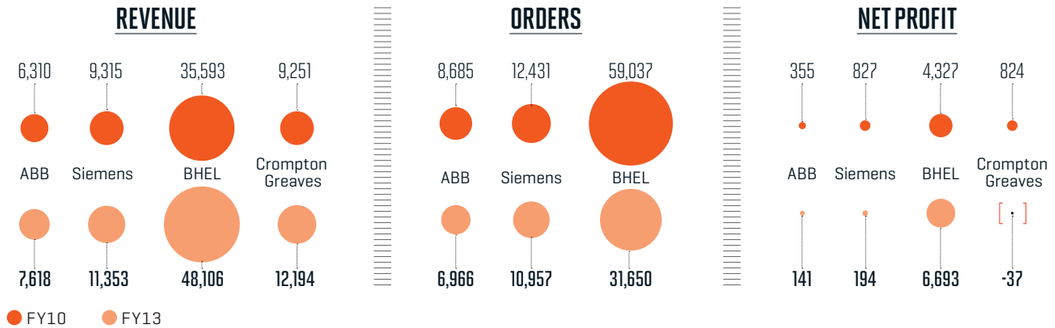
Solar energy, however, is not just about photovoltaics. Many other components, software, and services make up the remainder of a solar plant's costs. Much of this technology is protected by patent, and difficult to replicate. This part, though unseen, is remunerative. And this is where one company, the Indian subsidiary of Zurich-based $40 billion (FY12) engineering conglomerate ABB, has smartly built a new business in the last two years, even as its

Bazmi Husain, head of ABB India, is leaning on renewable energy to push growth in the power equipment maker's books.

Photographs by RONJOY GOGOI

Out of Power

For power tech and product companies, growth has been slow, profits under threat, and orders on a decline.



NOTE: FIGURES IN Rs CRORE. ABB'S FINANCIAL YEAR IS JAN.-DEC., SIEMENS IS OCT.-SEPT.; ALL FIGURES ARE FROM CORRESPONDING PERIODS. *CROMPTON GREAVES REPORTS ONLY UNEXECUTED ORDERS. DATA ON CROMPTON GREAVES ORDERS RECEIVED IN A YEAR ARE NOT AVAILABLE; SOURCE: COMPANIES

other mainstay businesses have keeled over. It is a story of imagination, improvisation, innovation, and some old-fashioned luck.

In July 2013, ABB bought Power-One, a $1 billion (Rs 6,179 crore) company in the U.S. and the second-largest producer of solar inverters in the world. Solar inverters convert electricity captured by photovoltaics into usable alternate current. This current is then either fed into a power transmission grid, or lights up a home off-grid. Power-One had been in India since 2010. Post-acquisition, it catapulted ABB India to the top in solar inverters.

ABB India (revenues Rs 7,000 crore; *Fortune India* 500 rank 145) is a listed subsidiary in which ABB holds 75%. The subsidiary started tapping into its parent from 2011 when Bazmi Husain, 55, returned to the country as managing director. Between 2005 and 2009, as director of ABB's corporate research centre in Sweden, Husain managed people with science and technology backgrounds from over 40 countries. There he noticed ABB's focus on technologies in areas as off-beat as sea waves. Aquamarine Power, a Scottish venture ABB had invested in, was a wave energy technology developer. Its product—Oyster—is installed in oceans to deliver clean energy from them. Husain's takeaway was that an acquisition in such niche areas could bear fruit, particularly in developing countries where governments were grappling with water wastage—and shortage.

ABB spends more than $1.5 billion on R&D every year, more than even the size of ABB India. The trick, Husain says, was in being part of its inventions and leveraging its strengths. "No matter how large we get in India, what are the chances that an Indian company will spend Rs 9,000 crore on R&D?"

SOON AFTER RETURNING, Husain began looking for ideas. ABB India makes transformers that control the voltage of an alternate current; switchgears, used in the transmission of electricity; and circuit-breakers that cut off power during a surge. Among many other small and big electrical components, it also makes software to monitor transmission, and design solutions for power plants. Smallest among peers (see box above) in size, ABB India has been risk averse. Here since 1949, it has stayed away from projects where liquidity is a challenge or there are fears of default. It has rarely strayed from its domain in conventional power. Not surprising, it rode the boom between 2005 and 2008, growing operating profits by a robust 35% to Rs 902 crore by December 2008. But then came the fall, first as the global financial crisis after the Lehman collapse hurt investor sentiment in emerging markets, followed by the domestic economic meltdown. Even so, in December 2011, ABB won a massive conventional power order from Power Grid Corporation of India. At Rs 500 crore (project cost around Rs 5,000 crore), it will supply equipment for an ultra-mega transmission line across 1,728 km from

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—SUBIR PAL, country business development and marketing manager, ABB India

Assam in the northeast to Agra in the north. Once operational in 2015, some 90 million people will get electricity. But such deals are not regular.

Husain needed something different. He was staying away from the part of the business that had felled his European competitors. Bosch Solar Energy had acquired Aleo Solar AG in 2009 to produce ingots, wafers, and cells that go into making photovoltaics. Its India unit too set up photovoltaic plants. Until recently solar energy contributed to 11% of Bosch's revenue globally. But when it suffered losses globally, it sold out to SolarWorld in November.

Husain discovered that 80% of the small and medium components ABB India made for conventional power could go into solar plants. The rest could come from outside. ABB India sourced knowledge from its parent. In November 2011, a team of three engineers spent a few weeks at ABB's centre of competence in renewable energy, Finland, to learn the ropes. Husain was in business. And he had hardly invested anything.

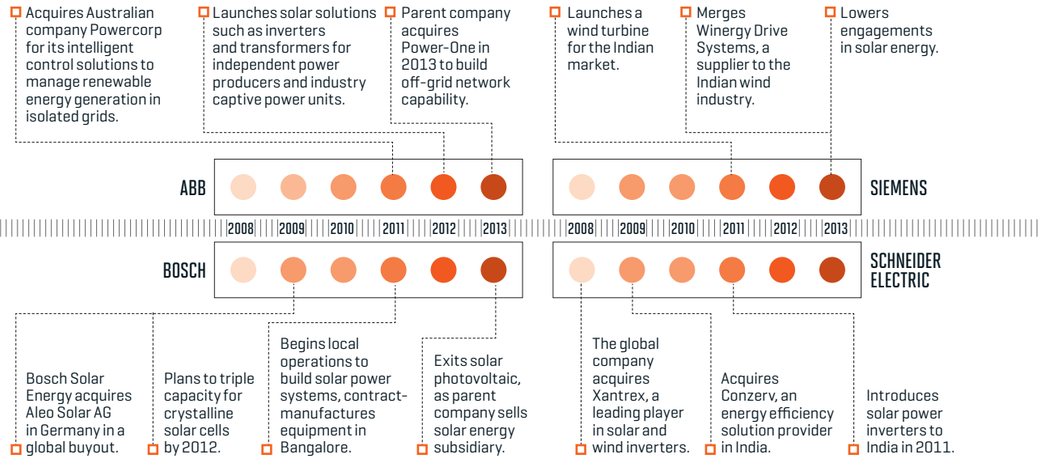
THE IDEA HAS yielded nearly Rs 800 crore worth of orders in solar energy for ABB India. "We want to be prepared," says Husain, adding that demand will rise in the coming years as more places urbanise. His optimism is based on several factors. First, the Central Electricity Regulatory Commission has mandated state governments to ensure that by 2017, at least 10% of power produced is from renewable sources. This is under the Centre's renewable power obligation policy. Second, under Phase II of the Jawaharlal Nehru National Solar Mission launched in 2010, the Ministry of New and Renewable Energy has set a target of grid-connected solar projects across India, aggregating 750 MW by 2017. This proposal alone is expected to attract Rs 5,000 crore of private investments, besides support from the National Clean Energy Fund. Third, while prices of diesel have shot up and coal has become dearer, the cost of generating solar energy has reduced. It is half what it was in 2010: over $2 million to generate a megawatt of solar power, led by falling prices of photovoltaics.

Coal-fired power is still the cheapest at Rs 2.50 to Rs 4.50 a unit. But diesel generators cost around Rs 18 a unit and gas-fired plants Rs 7. In comparison, solar power has fallen to around Rs 8 per unit. In the renewable power obligation regime, state governments will ensure that solar and wind power sources grow despite cheap coal.

Typically, a solar project takes six to seven months from order to delivery, compared with a conventional power project that is completed in three years. "Certainly, faster projects mean better cash flows," says Husain. ABB India needed to create opportunities with shorter delivery and payment cycles. It has, therefore, been able to keep its factories running, improve working capital requirements, and, in less than two years, is a name to reckon with in renewable energy. ABB India has supplied equipment to over 100

Renewed Energy

How power industry multinationals harnessed global technologies and green buyouts to expand locally



SOURCE: COMPANIES

solar plants, of which it has operated nine. This has upped its factory utilisation by over 25%. Ajay Goel, CEO of Tata Power Solar in Bangalore, sees a flurry of orders by August 2014, after the new government is elected. Tata Power Solar makes photovoltaics and is into engineering, procurement, and construction (EPC) of solar plants, with electrical inputs sourced from the likes of ABB and Schneider Electric.

Meanwhile, ABB India has contributed to around 200 MW of wind energy too, out of nearly 2,000 MW added in the country in 2013. It has raked in Rs 170 crore from this. But it has been cautious because of wind power developers' poor liquidity. Subir Pal, country business development and marketing manager, ABB India, insists it is focussed on both. "It is just that in solar, the percentage of our electrical components is higher compared to wind." A renewable energy veteran—formerly with SunEdison, a solar power plant pioneer in the U.S.—who did not want to be named, says that ABB India's growth in renewable energy shows the market is maturing. He refers to three routes ABB has followed to address solar power globally. One, EPC, of which ABB has done a lot in North America, South America, and Africa, deriving typically 10% margin per project. Two, transformer and traditional electric gear, which form a huge chunk of ABB's products portfolio, and is picking up here. And three, the solar inverter business, which has hit home.

AFTER RIDING ON existing capacity, ABB India invested Rs 250 crore last year to build two greenfield factories in Vadodara, Gujarat. These are expected to go on stream by 2015. They will make next-generation gas-insulated switchgears and transformers, which future solar plants will benefit from. These are more compact and modular, which means they will take up less space in overcrowded cities. One factory is capable of producing 1,000 such switchgears a year; the domestic demand is for 600. In India, only Siemens has a factory for gas-insulated switchgears in Aurangabad, Maharashtra. It can make up to 400 units a year. For BHEL, a Rs 50,673 crore state behemoth, these switchgears are an area of research and technology transfer, because it is tying up with overseas manufacturers.

The move is bold, given the unforgiving economic slowdown, especially in a core sector like power generation and transmission. Policy paralysis was made worse by mining and coal scams. The number of power projects slipped from 1,351 in a quarter (April 2011) to 1,180 in the past one year. The Centre for Monitoring Indian Economy, a think tank, says projects worth Rs 2 lakh crore have been stalled as on October 2013. Power producers are unable to raise capital since both lending norms and interest costs have hardened.

ABB India itself has been scarred. Between FY10 and FY13, its growth (compounded for three years) slowed to 6.5%, from an average 20% in the last decade. Operating profits shrank nearly 2.5 times. Similarly, Mumbai-based Crompton Greaves's growth in the same period was 9.6%, from 23% in the past decade. Its operating profits fell three times. Siemens India's growth stood at 7% as against 21% in the past decade and profits were just a sixth. Only BHEL has fared better. Its growth slowed to 16%, from the decade's average of 21% and profits eroded just 1.5 times.

ONE COMPANY FROM which ABB India faces a challenge is France-based Schneider Electric. It has stayed out of photovoltaics and made similar acquisitions as ABB. Schneider Electric India, a subsidiary, contributed to around 20 MW of solar power, mostly in Gujarat, in 2011, and was involved in projects worth 115 MW out of 375 MW installed in the last stage of the National Solar Mission's Phase I. Looking to differentiate, it has introduced a whole solar inverter sub-station, which combines all components into one plug-and-play product. "It allows an EPC player or solar energy developer to cut down on installation time onsite," says Anurag Garg, vice president (solar), Schneider Electric India. It means even faster turnaround time for a solar project and less expense. It is also using products from Schneider's global basket to build a robust services arm.

Schneider's advantage over ABB lies with households that can't access the electric grid. To bridge this gap, ABB expects to draw heavily on Power-One. "ABB's focus has been on utility-scale central inverters," says K.N. Sreevatsa, head of ABB's power conversion unit in India. He adds that it wasn't strong in off-grid, rooftop, or the commercial market for the product. "If we had to do it, the technology costs involved would have been too high and the time window too short." Ajay Kawdikar, country head of ABB India's solar business based in Ahmedabad, says, "We ensure we have the mix of products." He adds that internally the thought is to bring the best synergy among business groups, and bundle it to match customers' requirement. The seriousness is evident. ABB India is leading its renewables sales from Gujarat, because that is where two-thirds of solar power investments have happened since 2010.

There are pitfalls of getting into solar and wind, says Pal. Photovoltaic can be unprofitable, tariffs get too low, or high exposure in one state like Gujarat strains its exchequer to repay plant owners for the energy generated.

HUSAIN SAYS THERE IS A NEED TO INVEST IN MORE EQUIPMENT AND SOLUTIONS THAT CONTRIBUTE TO A RELIABLE NETWORK.

"But the long-term attraction of renewable energy remains intact. That cannot be wished away." Investors are not sitting up yet. While analysts have a 'reduce' rating on BHEL and Siemens, they recommend 'sell' for ABB India. Husain, however, is trying to convince them that renewable energy is a Rs 18,000 crore market, particularly with grid-connected solar gathering pace. "Grid reliability is the next big opportunity."

Husain's long-term plan is to win orders around grid reliability. Historically, energy-starved India's power projects have been about building capacity, defined by size. Whether it was the 500 MW super thermal plants five decades ago, or the 4 GW ultra-mega power plants today, the thinking has been that larger and more grids will solve the country's electricity access issue. It is also believed that conventional power sources are predictable, and regular supply of fuel ensures stable transmission. Grids are built around predetermined fuel flow. In comparison, wind speeds and solar intensity are inherently intermittent. The wake-up call came in March 2012, when a massive grid breakdown in North India revealed the need for reliability, as opposed to size or capacity. Husain says there is a need to invest in more equipment and solutions that contribute to a reliable network. "When the share of renewable energy in grids was small, it didn't matter." He adds that much like buying an insurance policy, such investments feel justified only after a catastrophe or a problem. Husain hopes the power sector, particularly in renewable energy, takes heed. For now, he's put ABB India in the game.

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