output. Indian authorities have tried to put this concern to rest by stating that a grid can be constructed within 12 to 18 months. In addition, the "Open Access" system has been introduced to overcome potential shortfalls in the power supply. This system will allow any power producer to sell power to any user throughout India through the national grid.

Achieving CSP competitiveness

Despite the ambitious target of producing 20,000MW of CSP energy by 2022, the fact remains that CSP is still an expensive form of energy. Furthermore, India's lack of financial incentives to encourage international investment means that the country will be unlikely to benefit from international expertise relating to product development in the CSP industry. This said, the high demand for CSP energy in India is likely to encourage local developers to enter the market and by localising the production of certain CSP components (also taking into consideration low labour costs in India), it is believed that CSP technologies can reach grid parity over time.

CSP Today: According to the CSP Today Markets Report for 2012 to 2013, the "strong competition from local developers have left no room for international CSP developers as the bidding tariffs offered by local developers during the first phase of the NSM were far below the PPA tariffs seen in other markets".

Q&A

Madhavan Nampoothiri, *Founder and Director,* RESolve Energy Consultants

CSP Today: How have the regulatory and incentive structures in the market supported or hindered CSP and what do you see happening in the future?

The JNNSM has definitely given a boost for CSP in India. What will happen in future will depend on how well the 500 MW of CSP projects are executed and also how competitive CSP prices will remain compared to PV.

CSP Today: How well suited is the market for CSP (including solar resource, energy mix, needs and demand and anything else of note)?

The Indian market is well suited for CSP from the demand, energy mix and above all, solar resource perspectives. However, the long gestation periods, non-availability of performance date for CSP in India and the cost competitiveness with PV will determine the long term success of CSP.

CSP Today: What challenges are there for power evacuation and distribution for CSP in this market?

The power evacuation and distribution challenges are similar to PV, including the long distances from the grid, power evacuation point and in turn the reliability of the grid.

CSP Today: Who are the main industry players in the market?

Developers include Reliance Power, Lanco, Cargo Power & Infrastructure, KVK Ventures, Godawari Power, Corporate Ispat Alloys and Aurum Renewable Energy. Equipment suppliers are varied, from Siemens through to Areva with many more moving into the market as it develops.

To find out more about the challenges of reacting to an ever-changing industry in CSP, visit www.csptoday.com/csp/part1