

15.02.2017

Solar tariffs to rise 10% if tax exemptions curtailed in GST roll out: CEEW

ECONOMICTIMES.COM | Updated: Feb 14, 2017, 02.04 PM IST

NEW DELHI: India's emerging solar sector could see tariffs rise by nearly 10% if current tax exemptions were curtailed in the roll out of the Goods and Services Tax (GST), a study released by the Council on Energy, Environment and Water (CEEW) said.

Multiple GST rates and their uncertain applicability to different equipment and services for solar projects is a growing concern from solar project developers and investors. GST could also impact the pace of the second phase of solar park development for additional 20,000 mw capacity announced in the recent budget, it said.

CEEW study finds that GST could increase capital cost of a solar project by Rs 4.5 million per megawatt if current tax exemptions were curtailed, setting back the sector in terms of cost competitiveness by about 18 months.

The key contributors to the increase in solar tariffs, as a result of GST, would include increase in operations and maintenance cost, panel costs, and financing costs. The increase in solar tariffs would also vary across states; higher for states such as Rajasthan where VAT and Entry Tax exemptions are currently provided for solar equipment, as opposed to Andhra Pradesh and Gujarat where VAT and Entry Tax exemptions are not provided, it said.

CEEW said GST will give a boost to the government's 'Make in India' initiative, improving competitiveness of Indian manufacturers of solar cells, panels and modules eliminate the cascading effect of the existing tax structure and introduce an input tax credit. Increased competitiveness of domestic solar manufacturers could create an additional 37,000 new jobs in the solar manufacturing sector by 2022.

Solar project developers have approached the government with requests to ensure that the current tax exemptions applicable to the sector continue so as to not negatively impact the efforts to achieve grid parity. The government currently collects less than 0.1% of its total indirect tax collection from the solar sector.

"With annual solar power capacity addition expected to be more than 12 GW in 2017-18, it is vital that major hurdles for deployment, such as the potential impact of GST on the sector, be ironed out as early as possible. GST offers many long term benefits, but the Ministry of New and Renewable Energy (MNRE), Solar Energy Corporation of India Limited (SECI) and other related agencies must provide clear guidelines regarding the applicable GST slab for upcoming solar power projects and introduce government mechanisms to offset the short term negative impacts of GST," CEEW CEO Arunabha Ghosh said



If current tax exemptions are curtailed, the impact of the increase in solar tariffs could be partially offset by policy instruments, such as accelerated depreciation benefits or viability gap funding for projects incurring increased capital investments, Ghosh said.

The recent Budget proposes to benefit domestic solar manufacturers with the reduction of basic customs duty to nil for tempered glass used in the manufacture of solar cells, panels and modules and the reduction of countervailing duty from 12.5% to 6% for parts used in the manufacture of tempered glass which is used in solar PV cells, modules, etc.

Finance Minister Arun Jaitley announced last month that the GST may be implemented on 1 July 2017.

India can't write-off coal-based energy so soon: World Coal Association

By *Sarita Singh*, ET Bureau | Feb 14, 2017, 03.40 PM IST

NEW DELHI: Reacting to a report citing India will need no coal-based power plant after 2025, the World Coal Association (WCA) said it is not credible to suggest that the country can achieve universal energy access and develop its economy without coal in the next 10 years, regardless of the country's investment in renewables.

WCA chief executive officer Benjamin Sporton said, "India's energy needs are too huge for any suggestion that it will not need coal in the future. In a country where 244 million have no electricity and 819 no access to clean cooking facilities, it is impossible to find a solution without coal being part of the energy mix- Coal is essential to global efforts to achieving universal energy access. "

The Energy and Resource Institute (TERI) on Monday said that excess power generation capacity provides India an opportunity to shift completely to green energy. The study by TERI said if the country can halve storage technology prices by 2024 it can do without the need for new coal-based plants. TERI report is partially in line with a recent report by the Central Electricity Authority that said the country does not need new coal based power generation capacity till 2022.

WCA said for a country like India, it's not a choice between coal and renewables - both are needed and both will play a big role. Renewables have an important role to play but coal will remain the driving force behind electrification and industrialisation and according to the International Energy Agency (IEA), coal will continue to make the largest contribution to electricity generation in India through to 2040.

WCA said although the competitiveness of renewables and gas-fired technology in India is likely to improve over time, coal is expected to remain the most affordable option through to 2035.

Given India is exploring emerging technology such as battery storage we would encourage them to also support CCS. In India there is an unsubsidised, fully commercial CCUS facility which has been operating since 2015. This CCUS project from Carbon Clean Solutions in the port of Tuticorin has been able to significantly reduce the costs associated with capturing the CO2. .

"There is an assumption that we can get rid of coal, and only by doing so can we meet climate objectives. This is false. Coal plays a critical role in the world's energy mix and is going to do so



for a very long time to come, especially for a country like India where the need for stable, reliable and affordable energy has never been greater," Sporton said.

TANGEDCO has introduced Online application filing of New Service Connection in respect of HT service connection through Web Portal.

Source : TANGEDCO Website

The applicant has to select the type of application and fill in the required details in Form 4 prescribed by TNERC and submit the application and upload the supporting documents as prescribed in the Tamil Nadu Electricity Distribution Code through the web portal.

On submitting the application, the 'Acknowledgement' would be generated along with the 'Application Reference Number'. Web links to print the submitted application form and 'Acknowledgement Notice' are provided in the portal. The status of the application can also be viewed through the webportal.

The following is the [HT APPLICATION PROCESS FLOW](#) :

HT - New Service Connection process flow 1. After Registration through Online, the applicant has to send the hard copies of the printed application and uploaded supporting documents duly certified as per the provisions in the Tamil Nadu Electricity Distribution code through post/courier etc to the respective Circle office within 7 days from the date of receipt of Acknowledgement.

2. The verification process will be started from the date of submission of hard copies to the circle office by the applicant.

3. During verification process of the application and documents at circle office, if any discrepancies are noticed, a notice would be generated to intimate (through E- mail) the applicant about defects for rectification and resubmission within 7 working days.

4. If the hard copies are not received at circle office within 7 working days from the date of online filing of application or the documents are not re-submitted to the circle office after rectification of defects within the 7 working days from the date of receipt of intimation about defects, the application would become null and void automatically and the applicant has to submit a new application through on line again.



5. On verification of the hard copies of the application along with documents if they are found in complete shape the applicant would be informed by the Superintending Engineer concerned through E-mail that the application is in order and after conducting feasibility study, a demand notice will be issued immediately for the payment of Registration fee (Rs.500/-) and EMD charges.

6. The applicant can make payment through on line within 15 days from the date of receipt of demand notice. The facility for the on- line payment of the charges towards the HT New Service Connection application has been enabled through Indian Overseas Bank and Tamil Nadu Mercantile Bank at present. As and when this facility is extended to other banks, the same may be availed by the New Service Connection applicants.

7. On payment of Registration fee and EMD, the application will be registered and the registration no. will be generated and intimated to the applicant through E-mail.

8. If the Registration fee and EMD is not paid within 15 days, the application would become null and void automatically and the applicant has to submit a new application through on line again.

9. After registration, estimate shall be prepared and sanctioned and after sanctioning of estimate, the applicant would be informed through E-mail to pay the Development and other applicable charges and to execute an agreement within 15 days from the date of receipt of such notice.

10. The Development and other applicable charges shall be paid by the applicant within 15 days from the date of receipt of notice through online through Indian Overseas Bank and Tamil Nadu Mercantile Bank. If the Development and other applicable charges is not paid / executed agreement within 15 days, the application would be cancelled forfeiting EMD and the applicant has to submit a new application through on line again.

11. On payment of estimation and other applicable charges and execution of agreement by the applicant, TANGEDCO will commence the work. Also the status of the application can be viewed through web portal.

12. On completion of works by the TANGEDCO, supply availability notice will be issued to the applicant to avail supply within 3 months by the Superintending Engineers concerned. If the consumer fails to avail supply within the above period, a further 3 months notice will be sent to the consumer to avail the supply on payment of monthly minimum charges for the extended period in advance. If



the consumer does not avail the supply during this notice period, the application will be treated as cancelled, terminating the agreement. All the amount paid by the New Service Connection applicant except Meter Caution Deposit will be forfeited.

13. If the consumer avails supply during the notice period of availability of supply, the consumer shall pay the monthly minimum charges at the notified tariff rate for the period from the date of issue of first notice of supply availability till the date of availing supply.

14. CEIG (Chief Electrical Inspector to Government) Certificate for all the applicants shall be obtained before effecting service connection. Also completion certificate to the special and multi-storied buildings in the CMDA jurisdiction shall be obtained before effecting service connection.

Message from Madhya Pradesh: Solar power is here to stay

Source : Economic Times :By IANS | Updated: Feb 14, 2017, 11.20 AM IST

The solar revolution in India marches on, with renewed momentum, if the recently concluded reverse bidding auction for a 750 MW Solar Park in Madhya Pradesh is any indication.

While the rest of the world watched in disbelief, Mahindra Renewables Pvt. Ltd., Acme Solar Holdings Pvt. Ltd. and Sweden's Solenergi Power Pvt. Ltd. successfully bid Rs 2.979/kWh, Rs 2.97/kWh and Rs 2.974/kWh to build 250MW plants each. These bids are the lowest in the history of solar tariffs in India.

The previous lowest bid was Rs 4.34/ kWh for a 70 MW unit in Rajasthan

A variety of reasons led to this unprecedented crash in solar tariffs, from reduced cost of photovoltaic (PV) modules to risk mitigation for developers and intricate financial planning.

Chinese module manufacturers dropped module prices to less than Rs 20 per watt (30 cents) because of oversupply in the market. Reports say that manufacturers are selling below cost. With major manufacturers already having preferential rates for the Indian market, it is unlikely that module prices will go up significantly in India even after the glut clears out.

Assuring developers of risk mitigation in terms of electricity offtake, by Rewa Ultra Mega Power Limited (a joint venture of Solar Energy Corporation of India Limited and Madhya Pradesh Urja Vikas Nigam Limited), also contributed to the drop. This risk mitigation aspect allows developers to access finance at lower costs and reduce their expectations on returns by a few percentage points as long as the project proves to be sustainable and financially viable.



There is a clause which allows for a 5 paisa escalation per unit in this project for the next 15 years. The successful bidders must have taken this into consideration. The resultant levelised tariff over the lifetime of plants (approximately 28 years), with degradation, works out to around Rs 3.32/kWh.

The remarkably low tariffs discovered in this auction will have far-reaching implications for the country's solar landscape. With both international and domestic investors looking at India as a serious place to set up solar businesses, the 100 GW target is no longer being brushed aside as over-ambitious and unrealistic. The result is that developers are competing and bidding aggressively, with lower margins, to get their foot in the door in states with high solar potential.

Grid parity of solar with conventional fossil fuel sources, such as coal, is no longer a distant dream and shatters most myths associated with the high cost of renewables. The model of price escalation aligns with increasing coal prices in the recent past. Large-scale solar is now in a strong position to compete with any other source of electricity in India, which is extremely encouraging for the National Democratic Alliance's plans to promote solar both in India and in the International Solar.

A Domestic and international financial institutions will now have more confidence in lending to the Indian utility-scale solar market. Now that offtake risks are reduced because of joint ventures between state and central agencies, lower interest rates with longer tenures and lower hedging of currencies will be observed in the coming years.

Engineering, Procurement and Construction (EPC) contractors will be under pressure because developers and investors will reduce costs in this aspect by either further reducing their margins or vertically integrating themselves to perform such tasks on their own. This is going to put intense pressure on EPCs to finish projects quickly whilst adhering to quality standards. Instead of taking a month to install 10 MW as was the norm two years ago, EPCs will have to finish 250 MW in less than six months to gain more contracts in one financial year and survive.

Domestic manufacturers of PV modules will feel more threatened than earlier because of the tremendous rate cuts in imported modules. They are likely to seek further protection through subsidies from the government. However, considering the fact that India is already in troubled waters with the US in the World Trade Organisation (WTO) on the Domestic Content Requirement (DCR) clause for solar, it is unlikely that more measures will be taken by the government to carve out niche spaces beyond solar ..

Overall, these record low prices in Madhya Pradesh will usher in an era which will be dominated by solar headlines at every auction henceforth. If these trends of oversupply of modules, access to low cost finance, highly effective and efficient EPCs and support and encouragement from both state and central governments spread to other states, then prices might fall even further in India.

Solar power is here to stay and make significant contributions to the country's energy mix at extremely competitive rates. The solar market is wide open for both domestic and international investors and the time is ripe for innovations in both technology and finance.



(Saptak Ghosh is a research scientist at Bengaluru's Center for Study of Science, Technology and Policy [CSTEP]. The views expressed are those of CSTEP. He can be contacted at saptakg@cstep.in)

GAIL favours LNG cost support for gas based power plants

Centre mulls extending the scheme

Business Line New Delhi, February 10:

GAIL (India) is in favour of extending the liquefied natural gas (LNG) cost support scheme for gas-based power plants which is set to lapse at the end of the current financial year.

Speaking to *BusinessLine* on the sidelines of the World Energy Policy Summit, a top official said GAIL was in favour of continuing 50 per cent exemption on the natural gas pipeline tariff for gas-based power plants to boost pipeline utility in the next financial year.

He also said the Centre is positively considering extending the scheme. The government has made attempts earlier to import fuel for gas-based power plants at a subsidised rate and succeeded in firing off the plants.

The scheme did not get to see much action in the last round of bids as gas prices were at comfortable levels. However, the true story is that the players were taking advantage of the VAT exemptions and lowered transportation charges, which came along with the scheme.

GAIL is also in favour of extending VAT exemption on natural gas for gas-based power plants, but the final decision on this depends on the negotiations between the State and Central governments. The government has reduced the basic import duty on LNG to 2.5 per cent from 5 per cent to make fuel cheaper by about 20-25 cents per mBtu. But, consumers such as power producers are far from satisfied.

According to industry watchers, fuel costs account for 75-90 per cent of the cost of running a gas-based power plant at current prices. Adding to this is the depreciation of the rupee against dollar, making the customs duty cut offer from the Finance Minister not-so-attractive, said Amarthaluru Subba Rao, Executive Director-Finance and Strategy at CLP India.

Association of Power Producers Director General Ashok Khurana, said: "We are in favour of the move to extend tariff reduction and VAT exemption beyond financial year 2017."

Speaking at the event, Minister of State (Independent Charge) for Power, Piyush Goyal also said that natural gas price stability is needed to make headway in promoting gas-based power plants.

Dark side of the shift to renewable

The Business Line: Feb 14,



Energy games Renewable sources are gaining ground M Vedhan M_VEDHAN

- A rapid increase in renewable energy capacity will impact viability of investments in thermal power. A gradual shift is welcome

Harnessing renewable energy and protecting the environment are welcome intentions. But, how far can we push the agenda, and how fast? The stress is showing in terms of low capacity utilisation in thermal power, made worse by the demand slump.

Prime Minister Narendra Modi had fixed a lofty goal of reaching 175GW renewable energy (RE) capacity by 2022. This includes a five-fold rise in the National Solar Mission target to 100GW capacity in 2022. This is a policy U-turn from the coal-based capacity addition programme undertaken in 2005.

Considering the current RE capacity of 45.91GW — including 28GW wind and 8.5GW solar — an addition of 32GW wind and 91.5GW solar in five years seems impossible, especially the latter. And, that's probably the best news for the power sector at the moment. RE share in generation moved up from 5.8 per cent to 7 per cent during April-November this year. If the capacity reaches 175GW, the share of RE in generation would cross 20 per cent, inviting serious consequences.



Huge transition cost

Over the last 10 years, coal-fired capacities grew in excess of 150GW — contributing 74 per cent of generation — and is now struggling with locked finances.

A careful reading of three key documents — the draft National Electricity Plan of Central Electricity Authority (CEA); Economic Survey 2016; and the December 2015 report of the NITI Aayog expert group on 175GW RE capacity by 2022 — would reveal that each tried to justify the political goal without defining a sustainable goal. And not much is said about the impact on power tariff.

Not that they are unaware of the transition costs. The NITI Aayog, for example, emphasised that India's installed capacity (309GW) is nearly double the peak demand, and variable energy such as solar and wind can pose "significant" excess supply challenges. But they relied on OECD country experiences to recommend that 20-25 per cent RE share in generation "can be easily accommodated".

The CEA's exhaustive plan document pointed out that average PLF (plant load factor or availability) of coal-fired plants declined from 78 per cent to 62 per cent between 2009-10 and 2015-16. In November 2016, the PLF had gone down further, to 61 per cent.

This is against the declared goal of the Electricity Policy 2005, to increase PLF to 85 per cent.

The PLF of the private sector — which took a lead role in capacity addition — is dangerously close to the techno-economic viability threshold. The open market tariff indicates that too many plants are operating close to or below the operational cost.

The RE capacity addition does not offer balancing power solutions to meet evening peak demand. Since coal-based generation cannot be ramped up quickly, there are problems in meeting this demand despite having excess capacity.

Just not enough

Solar is no solution as its generation starts falling sharply after 2 pm. Wind too is a variable energy source. Karnataka, for instance, sources more than 10 per cent electricity from RE and faces peak shortage. Hydel and gas-based electricity, in contrast, can offer efficient balancing power solutions.

But India failed miserably on both fronts. Hydel capacity addition is less than one-third of the Twelfth Plan (2012-17) target. And gas supply to power sector was 32 per cent of the allocations in FY16.

That India doesn't have adequate domestic gas is no secret. But, the Modi government so far failed to tie up long-term LNG (liquefied natural gas) supplies, meaning gas generation will be open to the vagaries of global price movement.



The CEA doesn't expect gas capacity addition in the next five years. They are trying to find a solution in pump-storage capacity addition. Such capacities pump water to an elevation in off-peak hours and then use it to generate hydro-electricity to meet peak demand.

It's the right plan but it will not come to the rescue of coal-fired capacities. With 50GW under construction coal-fired plants expected to come on stream in the next five years, the CEA did a range of sensitivity analyses. Assuming that electricity demand grows at an estimated 6.34 per cent CAGR (compound annual growth rate) over the next five years, against the existing 4.42 per cent CAGR, a mere 15 per cent RE share in generation can bring down the PLF of coal-fired plants to 53 per cent in 2022, as a best case scenario. The analysis assumed RE capacity to reach 125GW — 50GW behind target — and hydro capacity addition will be on target. Higher RE capacity addition can reduce the PLF to as low as 48 per cent.

In short, nothing but a miraculous rise in electricity demand — much beyond the CEA estimates — riding on an unprecedented rush for manufacturing, can save investors in coal-fired generation.

Don't expect miracles

But miracles rarely happen. And as things stand today, not much investment is taking place even in the solar equipment sector, and energy-intensive industries such as cement are suffering from huge over-capacity. The only option left to the coal-fired generation sector is what the state-run Damodar Valley Corporation did recently. It scrapped a 2X660 MW project midway, ignoring a Rs. 500-crore hit in the balance sheet.

Many of those 50GW capacities which are in the pipeline may follow this example, sinking crores of private and public finance.

The existing coal capacities may not be better off either. They cannot sustain for long in the prevailing low-PLF low-tariff situation. Probable exits — they have already started happening — with banks taking a haircut are a distinct possibility.

Investors in power generation had already suffered due to de-allocation of captive coal mines. This debacle may seriously hamper their ability to invest. How that is helping the country's interest in attracting investment is anybody's guess.

The bottomline is clear: A rapid increase in RE capacity will increase the distress in India's power sector. A gradual shift is welcome.

(This article was published in the Business Line print edition dated February 13, 2017)

Solar tariffs crash below Rs. 3/kWhr in MP auctions

SOURCE : BUSINESS LINE

Chennai, February 10:

Solar tariffs have crashed to record levels of less than Rs. 3 a kWhr in the auctions for 750 MW of solar projects in Rewa, Madhya Pradesh.

Mahindra Renewables, ACME Solar Holdings, and Solenergi Power (which belongs to the PE firm, Actis), have won mandates to set up 250 MW each and sell power at 297.9 paise, 297 paise and 297.4 paise per kWhr, respectively (4.5 US cents).

Since there is an escalation of 5 paise per kWhr per year for the first 15 years of the 25-year power-purchase period, the levelised tariff works out to Rs. 3.3 (4.9 US cents) a kWhr.

Around 20 solar power developers submitted an initial bid last month for three blocks of 250 MW each and the lowest quote — Rs. 3.64 — became the benchmark for further bidding, which began on Thursday and ended only on Friday evening. The power will be bought by Rewa Ultra Mega Solar, an equal joint venture of Madhya Pradesh Urja Vikas Ltd and the government of India-owned Solar Energy Corporation of India (SECI).

These “ridiculously low tariffs” have shocked many. “The government is the winner,” noted Sunil Jain, CEO and Executive Director of Hero Future Energies, which dropped out of the race earlier.

Industry experts said the players were assuming solar modules would be available at around 25 US cents, and betting on unhedged foreign currency loans at cheap interest rates, and constructing the plants themselves.

‘Renewables obviate need for new coal capacity’

SPECIAL CORRESPONDENT

The Hindu NEW DELHI: FEBRUARY 13, 2017 22:04 IST



The energy that would be available from renewable sources, nuclear and gas plants, both existing and planned, would be enough to meet India's energy demand for the next 7-8 years, which means no new investment in coal is needed at least till then, as per a report by TERI.

The Transitions in Indian Electricity Sector report predicts that per capita annual power consumption will increase from the current 1,075 kWh to 1,490 kWh in 2021-22, 2,121 kWh in 2026-27 and 2,634 kWh in 2029-30.

Under the report's 'high renewables scenario', the country's renewable energy capacity is set to increase to the targeted 175 GW level by 2021-22 and further grow to 275 GW by 2025-26.

“The results indicate that the energy that would be available from RE (renewable energy) sources, storage hydro, nuclear and gas plants would suffice for meeting the remainder of the demand for electricity at the national level during the next 7-8 years,” TERI said. “This would in other words mean that no new coal plants would be needed and the plant load factor (PLF) of coal based plants would be in the range of 78-80% in 2024–25 and 2025–26.”

With the energy mix set to undergo a radical change in the coming years, TERI said the Centre would do well to take steps to strengthen the grid infrastructure and build storage capacity.

“The increasing penetration of solar and wind (which have inherent high intermittency and variability) would no doubt present a number of challenges in respect to planning and operation,” it said. “...ensuring requisite flexibility in ramping up and down, improved forecasting of RE power as well as demand, improved financial health of utilities would be key factors in this context.”



Solar gear manufacturing capacity still lags demand

Adani's yet-to-start project cause for wide gulf between installed, operational capacity

Business Line: New Delhi, February 10:

Domestic solar cell and module manufacturing is way behind the country's demand for the equipment, going by data collated by the Ministry of New and Renewable Energy (MNRE) in January end. Under the National Solar Mission, the government targets achieving an indigenous manufacturing capacity of 4-5 GW by 2020.

Till December 2016-end, the country's installed solar cell manufacturing capacity stood at 2,953 MW, considerably higher than 1,468 MW installed on June 2016 end. However, this number includes the 1,200 MW Mundra Solar project of the Adani Group, which is yet to be commissioned.

Further, the operational capacity of solar cell manufacturing is 1,448.05 MW in December-end, marginally higher than the 1,123.05 MW in June-end last year.

The wide difference between operational and installed capacity is because of the uncommissioned Adani project being included in the list. Further, the operational capacity also takes into account the demand for these products.

As far as solar module manufacturing capacity is concerned, MNRE's data pegs the installed capacity at 8,113 MW while operational capacity is 5,286.55 MW as on December-end. This has grown from 5,848 MW of installed capacity and 4,307.55 MW of installed capacity in June 2016-end. Here too, 1,200 MW, a major chunk of the growth is attributed to the uncommissioned Adani project.

Chinese equipment

In this backdrop, industry watchers note that a majority of solar power projects in India will continue to prefer cheaper cells and modules from China.

Narasimhan Santhanam, Co-founder, Energy Alternatives India, a renewable energy consulting and research firm, notes that domestically produced solar cells cost 37 to 39 cents while Chinese solar cells cost 29 to 30 cents.

*****Please see the website www.tecaonline.in for previous issues of TECA News letter*****