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(Energy Conservation : It Doesn't Cost. It saves)

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'Tangedco's thermal plants didn't adhere to pollution norms'

The Hindu : July 20, 2017

Report cites absence of effluent, sewage treatment plants

The thermal plants belonging to the Tamil Nadu Generation and Distribution Corporation (Tangedco) continue to function without adhering to the norms governing air, water and noise pollution, according to the Comptroller and Auditor General (CAG) report for the year ending March 2016.

A quantum of 69.58 million tonnes of ash remained in the ash dyke in three power plants, running counter to the guidelines of the Ministry of Environment and Forests for phasing out accumulation of ash on the land, the report said.

The CAG also noted that the plants polluted the sea and river water due to the absence of effluent and sewage treatment plants, while the envisaged equipment and green belt areas for controlling noise pollution were not maintained.

Hazardous waste

The report stated that the management of hazardous waste was not in accordance with the requirements set out by the Tamil Nadu Pollution Control Board, adding that of the Rs. 625.93 crore in revenue earned through the disposal of fly ash, Tangedco spent only Rs. 61.91 crore on environment management, in violation of the Environment Ministry's norms. Pointing to the other shortcomings of Tangedco, the CAG said that two private producers supplied power in excess of the contracted quantity, without any authorisation, as was required in the power purchase agreements. However, the utility paid Rs. 11.45 crore for such excess quantity, in violation of the contractual terms.

'Turnaround by Tangedco model for all discoms'

Times of India : July 22, 2017

In two years solar energy for residential sector would be cheaper than electricity grid: Solar players

The financial turnaround by Tamil Nadu Generation and Distribution Corporation (Tangedco) has become a model for other power distribution companies across India to follow, the Centre believes.

At Union power minister Piyush Goyal's request, Tangedco chairman M Saikumar provided the Centre and Power Finance Corporation (PFC) details of the steps the utility took to cut losses. They will be presented at a meeting of discom chairmen and secretaries in New Delhi on Saturday.

Tangedco's losses started to shrink even before it joined the Ujwal Discom Assurance Yojana (Uday) scheme. Now that Tangedco is part of the scheme, its officials hope to post a profit of 2,000 crore in 2017-18.

"The Union power minister asked us to show others how we were able to achieve the turnaround," a senior Tangedco official told TOI on Friday. "We sent a document with details



to PWC, which will make a presentation to all discom chairmen and secretaries at the meeting on Saturday."

Officials said the Union power ministry called the meeting to discuss the energy situation in all states as well as the status of Uday. The ministry has been holding such meetings in New Delhi around once in two months.

Tangedco's turnaround came in large part from cost-cutting measures and its decision to stop purchase of power from companies that had marked up costs.

"By halting power purchase from high-cost companies, we saved no less than 2,425 crore per annum," the official said. "The state has also added 10,496mw of power generation through thermal and hydro units."

As power supply increased, Tangedco withdrew restriction and control measures for industrial and commercial categories of consumers, he said. "Due to this, revenue increased by 3,450 crore in 2015-16," the official said. "During this time - in December 2014 - the government also revised the tariff and this helped Tangedco increase its revenue," he added.

The average tariff revision on all categories of consumers increased the utility's revenue by 6,450 crore.

"With the introduction of static meters, Tangedco's assessment of consumption became more effective and accurate and its power sale revenue increased by 15%," the official said.

The discom also stopped the use of imported coal and saved approximately 400 crore through this.

Tangedco to save Rs 2,000 crore per year

Times of India : July 18, 2017

It is raining discounts for Tamil Nadu Generation and Distribution Corporation (Tangedco) from private thermalrenewable energy companies.

Solar power tariff has been falling in the last one year and Tangedco, as per the TNERC merit order, should not evacuate power from high cost power firms when power is available at lower cost. To remain in business, companies like Sembcorp Gayatri Power Ltd, IL&FS and Coastal Energen that signed MoUs with Tangedco at high rates, offered to lower tariff by 0.70 paise unit.

"As per the merit order, most of the time we could not evacuate power from these private companies as the tariff was around ` 4.91 per unit. These companies had signed MoUs when the state was fac ing power shortage," a Tangedco official said. Since June, private power generators in Tamil Nadu and Andhra Pradesh began giving discounts to Tangedco.

"Due to the discount, the purchase tariff fell to Rs 4.10 per unit, which is more or less equal to the Kudanku lam nuclear power tariff or wind energy rate. Even among solar power generation firms, there are companies that generate power at ` 4.40 per unit. It is only after exhausting all other sources, where the tariff is less and when the demand is high that we purchase power at tariffs above ` 5 per unit," said the official.

A calculation done by Tangedco shows that the discom will save not less than ` 2,000 crore annually on account of generation firms offering power at lower tariffs. "The discount will be given to Tangedco for the next five years. The companies have agreed to continue the discount so that the power generated by them will be evacuated and their business will continue," said the official.

The discom has also asked other solar power companies, including Adani, which have MoUs with Tangedco at Rs 7.01 per unit and Rs 5.10 per unit, to lower their tariff. "If they want



Tangedco to evacuate power generated by them, they will have to reduce their tariff. We cannot go beyond the merit order and evacuate power at Rs 7.10 per unit when power is available at ` 4 per unit," said the Tangedco official.

Though Adani signed an MoU for 648MW of solar power in Kamudhi in Ramanathapuram district, the group could not complete the entire capacity before March 2016 to get Rs 7.01 per unit for 25 years."Before March last year, Adani could complete only 30% of the total capacity . Thus 70% of the power being generated by Adani group is priced at Rs 5.10 per unit. Even this is high and unless they lower their tariff, we will not be able to evacuate power," said the official.

Tangedco profitability under scanner

The Hindu : July 26, 2017

Activists vent anger at public hearing

On Tuesday, the public hearing organised by the Tamil Nadu Electricity Regulatory Commission (TNERC) for the traffic petition filed by Tangedco witnessed social activists speaking out angrily against the "poor management" of the utility's finances and inadequate distribution infrastructure affecting power supply.

S. Gandhi, representing the Power Engineers' Society of Tamilnadu (PESOT), came down heavily on power purchase agreements signed by Tangedco with private power producers. He said more than Rs.7,000 crore has been paid to power producers as fixed charges for no power purchased.

Similarly, he said that when the power purchase agreement has been terminated, the ARR document shows fixed charges to be paid for financial years from 2016-17 to 2018-19.

Mr. Gandhi asked why an amount of Rs.2,907 crore has been allotted when the Ennore thermal power station (TPS) had been 'closed'.

The same argument could be cited for the Rs.2,284 crore allotted for the Basin Bridge gas thermal power station, the Rs.2,291 crore for North Chennai TPS, and an amount of Rs. 1,142 crore for NCTPS Stage 2.

V. Rama Rao, secretary, People Awareness Association, said the use of air-conditioners could not be termed a luxury and was a necessity. He wanted the commissioner to increase the highest slab rate to 750 units from 501 units for the bi-monthly billing cycle.

Mr. Rama Rao noted that with the coal price set to decrease after the introduction of the Goods and Services Tax (GST), the benefits should be passed on to the consumers.

K. Kalyanasundaram, treasurer, TNEB Engineers Union, requested the TNERC to insert a new tariff clause called Low Tension (LT) Part Tariff for LTCT service consumers who have been sanctioned 112 KW tariff but use more than the sanctioned load.

By bringing the new tariff rate, Tangedco could earn more demand and energy charges, which would bring in more than Rs. 1,000 crore.

Mr. Kalyanasundaram wanted the commission to advise the electricity corporation to withdraw the free 100 units for those consuming more than 500 units, which would earn Tangedco more than Rs. 1,000 crore.

Tamil Nadu all set to generate 30 to 35 per cent power from renewable sources

The New Indian Express : July 26, 2017

Tamil Nadu is going green in power generation as nearly 30 to 35 per cent of power supplied to the State is generated from renewable energy sources like wind and sun, according to Tamil Nadu energy secretary Vikram Kapur.



Addressing the 16th edition of Green Power, organised by Confederation of Indian Industry here on Tuesday, Kapur said against the installed capacity of 29,000 MW of power generated, 10,500 MW was from renewable energy. This also includes 7,800 MW from wind energy and 1,700 MW from solar with rest coming from biomass and bagasse cogeneration.

He said the State is planning to add 4,500 MW of wind power and 5,000 MW of solar power. A 500 MW solar power park is now being planned by Tangedco, he said. Kapur said the total demand of power in the State was 13,500 to 14,000 MW.

He lamented the issue of grid stability when more wind or solar power is evacuated. "A research on this front is required wherein more power can be infused without affecting the grid stability," he said. He also stressed the need to augment transmission capacity.

Kapur also said that Tangedco is set to break even after suffering huge losses, although cash flow is an area of concern.

Talking about the delay in implementing roof top solar installations, the secretary said there was an issue of Net metering and pricing.

"The regulator has to fix the prices. Once it is done, then the policy will be implemented," he said.

Ramesh Kymal, chairman of renewable energy council, Confederation of Indian Industry, said steep reduction in tariffs due to increased competition in solar sector has cut the tariffs by more than 40 per cent over the last 18 months.

He also said capacity addition to financial year 2017-18 looks extremely difficult due to stand off in signing of power purchase agreements in several states at Feed-in-tariff (FIT) scheme rates determined by respective commissions with valid control periods.

How to recharge the hydropower sector

Business Line : July 24. 2017

On June 27, NITI Aayog notified its latest draft of the National Energy Policy. The draft policy proposes to bail out stranded large hydropower projects. The bailout is expected to consider close to 11,000 MW hydro projects. The new policy also suggests increase in the life of hydro projects from current 35 years to 60 years.

Given the Government's power sector reforms agenda, the plan to revive the stranded projects is a positive sign. However, the revival strategy must address the underlying policy issues that triggered this emergency.

As of May 2017, India's total generation capacity stood at 330GW, of which 44GW is from hydropower. Despite having significant hydro potential of 148GW, only 44MW (30 per cent) of the total potential is harnessed. The share of hydropower in the overall energy mix has been falling since 1962-63 when it stood at 51 per cent, against 13 per cent today.

The major reasons of low capacity addition lie in clearances delays, local issues (law and order problems, agitations, etc.), land acquisition, rehabilitation and resettlement and contractual disputes between contractors and companies.

Elusive success

The Government plan to bring private investments into the sector has not been successful either. Only close to 7 per cent hydro capacity belongs to the private sector today. Numerous projects has been stranded for decades leading to increase in various costs in the original project.



For example, the Tuirial project in Mizoram, which was expected to be commissioned in 2006-07, is in a limbo. Tuirial's original estimated cost was Rs. 367 crore; now, it is estimated to be Rs. 1,441 crore by the time of commissioning. This increase results in increased tariff for the electricity produce, which can be as high as Rs. 5-6 per unit compared to Rs. 3-3.5 for solar energy adding to the woes of discoms, which are already grappling with many requests to re-negotiate legally sacrosanct renewable PPAs. This poses a threat to the financial/business viability of projects.

The parliamentary committee on energy and sub-committees (2016) of the Ministry of power formed to advise the policy interventions in the energy sector has recommended multiple measures to revive hydro power.

Some of them are: (i) Declaring all hydro projects as renewable energy sources and introducing Hydro Power Obligation (HPO), ; (ii) Reinstating mega power benefit for hydro projects (discontinued after 2012); and (iii) proving better financing options (long-term loans, tax-free bonds, etc.).

Define it right

Classifying hydropower as renewable appears to have arisen from the willingness to accelerate the growth of the sector, motivated further with its clean and low carbon emissions status. This status could help in attracting private investments and importantly selling power. Several countries including the UK and Brazil consider hydro as renewables.

On the other hand, though hydropower is clean energy, it comes with a cost to the environment, wildlife, and relief and rehabilitation (R&R). The major problems lie in land use, emission of greenhouse gases such as methane, sitting in geological sensitive areas. But, perhaps, the larger problem faced in India is sub-optimal impact assessments and clearances by the Ministry of Environment and Forests.

In 2013, after the catastrophic Uttarakhand floods, the Supreme Court had prohibited construction of any new hydro project in the State till further orders. In December 2014, the environment ministry admitted that hydro projects might have directly or indirectly aggravated the impacts of the floods. Bringing hydro into renewables should be supported with proper regulation, rather than allowing developers a free hand in exploiting environmental and geological resources.

Similarly, Athirappilly power project (163MW) in Kerala, proposed in 1982 is planned in one of the most ecologically sensitive zones. There have been multiple protests and a number of court cases, preventing any progress on the project. It is imperative that declaring hydro renewable does not undermine the ecological issue and R&R issues.

In terms of buying hydropower, HPO will obligate the electricity companies to buy, which can be successful in assuring the investors of PPAs. However, with HPO the issues will be on compliance. The way distribution companies resisted Renewable Purchase Obligation (RPO) compliance for numerous years is a good example. From 2010, the discoms were obligated to buy costly Renewable Energy Certificates (REC) to comply with the RPOs.

Discoms resisted buying RECs, citing financial weakness. Close to eight million non-solar and 3.5 million solar RECs remained unsold before Supreme Court in May 2017 ordered stay on all trading of RECs.

So there has to be strict enforcement, or HPO (may not be cheaper) may become new REC, resulting in disappointment for investors. The Ujwal Discom Assurance Yojana (UDAY) scheme launched in 2015 to revive the financially weak discoms is yet to prove itself and give positive results, till then they might remain sensitive towards finances.

Plans must work



The mega power benefits scheme (2008) which offered incentives in terms of waiver of customs duties. Taxes form a significant portion of the project costs.

Another important policy proposal is extension of project life from current 35 years to 60. Earlier the loans to the hydro project were provided only for 12-13 years, which forced the projects to have a higher cash flow. The short term loans caused increased per unit energy prices for the initial period, with significantly reduced prices after the initial 12-13 years of loan repayment. The proposed change would help project developers to get long term loans and thereby possibly reducing the energy prices making it more uniform for an extended period.

The power ministry's recommendations to the Expenditure Finance Committee proposes resolution of most issues related to project financing and viability. However, the benefit of the proposed changes seems to apply to the projects that achieve commercial operation within five years of the notification. The problem may continue to persist for many delayed future projects.

The rules to acquire clearances need to be clearly defined to communicate, to what extent environmental, ecological and geological disturbances will be accepted.

Wind capacity addition to fall to 1.5 GW in FY18: India Ratings

Financial Express : July 25, 2017

Unwillingness on the part of state discoms to sign long-term purchase agreements at the higher feed in tariffs is likely to affect wind power generation as only 1,000-1,500 MW of capacity is likely to be added in this financial year, India Ratings (Ind-Ra) said today.

According to the rating agency, there could be a substantial dip in capacity addition in FY18 to 1000-1,500 MW from about 5,400 MW in FY17. (Reuters)

Unwillingness on the part of state discoms to sign long-term purchase agreements at the higher feed in tariffs is likely to affect wind power generation as only 1,000-1,500 MW of capacity is likely to be added in this financial year, India Ratings (Ind-Ra) said today. According to the rating agency, there could be a substantial dip in capacity addition in FY18 to 1000-1,500 MW from about 5,400 MW in FY17. "This will be because of the unwillingness of state discoms to sign long-term purchase agreements at the higher feed in tariffs and unpreparedness on their part to come out with auctions in a big way in the near term. However, auctions can pick up from FY19," it said. Ind-Ra further said though the Ministry of New and Renewable Energy has come up with detailed policies on repowering, hybrid and offshore wind power projects in the past, ground challenges and bottlenecks hinder a speedy progress on these fronts. "Distributed ownership of land and non-availability of contiguous land, due to urbanization in between, pose the biggest challenge to repowering the wind projects nearing the end of their life," the agency said.

According to the rating firm, although a higher 200- 250 bps equity internal rate of return can be earned in repowering projects than new plants, these practical limitations can dampen the process and limit the overall progress to a fraction of the overall potential of 3,000 MW estimated by the ministry. Ind-Ra further said hybridization of the wind with solar power has major advantages as wind power peaks at night and solar power peaks during day hours, perfectly complementing each other. "Besides, there can be saved on the land and evacuation fronts. However, infrastructure bottlenecks are preventing hybridization of the existing wind power plants, while the same can be planned for upcoming plants."

According to Ind-Ra, hybrid plants can offer about one percentage point higher returns than an individual wind or solar power plant without trackers. Given the marginal nature of incremental returns, industry players prefer to wait and watch before going up for the same in a big way.



Govt mulling hybrid green policy of wind, solar in same site

The New Indian Express : July 22, 2017

The power ministry is considering a 'hybrid policy' that allows bidding for both wind and solar power projects at the same site. Union Minister of State for Power, Coal, New and Renewable Energy, and Mines Piyush Goyal said on Friday that officials are working on the model and a draft will be placed soon for discussion.

Sources in the ministry said the policy will aim to make states partners in the project. "Currently, the policy is under discussion. The details of the sites and valuation will be done later, hopefully before the year end," they noted.

Goyal said the government has already received bids for around 2,800 Mw in the second round of wind power auctions that concluded last week. He pointed out that a bid price of Rs 3.46 per unit for wind power projects is sustainable.

He also assured the government is committed to ensuring power-purchase pacts are done before the future auctions to avoid any delay in projects becoming operational. Goyal added that states should have the flexibility to decide energy mix under renewable power purchase obligation.

Goyal has cautioned that companies delaying renewable energy projects will be asked to surrender the allotted sites, if they fail to start the projects in given time period.

India aims to produce 175 Gw of power from renewable sources by 2022. It hopes to install 100 Gw of solar power capacity by then under its renewable energy mission. As on December 31, 2016, the country's installed renewable energy capacity was 45.917 Gw. This includes 8.513 Gw of solar power, 28.083 Gw wind power and the rest by small hydro, biomass and waste-to-energy sources.

In two years solar energy for residential sector would be cheaper than electricity grid: Solar players

The Economic Times : July 24, 2017

In the next two years, solar power will be cheaper than the electricity grid in the residential sector, says solar energy provider SunSource Energy which on Monday successfully implemented the first two phases of a 100 MW solar project in South East Asia.

Stating that while the solar energy in India has already reached 'grid parity' in commercial, industrial and utility sectors, soon this would be achieved in residential sector as well.

The grid parity happens when the cost of the electricity produced by an alternative source -- solar in this case -- becomes lesser or almost equal to that being supplied from the conventional source e.g coal.

At present, India has installed capacity of 327 GW (One GW is equal to 1000 MW), of which about 40 GW is Solar (12 GW) and Wind energy (27 GW) combined. About 70 per cent of power comes from coal-based power plants and the remaining from hydro and other sources like biogas.

"Solar energy in India has already reached grid parity in the commercial, industrial and utility sectors. In most scenarios, in the next two years solar power would be cheaper than the electricity grid in the residential sector as well," said Adarsh Das, Co-Founder and CEO SunSource Energy.

The solar company has designed and built over 100 solar projects across 18 states in India, with a focus on decentralised power projects. It is currently involved in nearly over 150 MW of solar projects in India and overseas.

Its rooftop projects include the India Habitat Centre.

Union Power ministry saves power worth Rs 29,000 crore, brings down DISCOM loss by 41 per cent

The power ministry has succeeded in saving power worth Rs 29,000 crore. This is a big achievement since the overall losses incurred by the DISCOMs has reduced by 41 per cent under the present dispensation at Delhi.

Under UDAY, high loss making States like UP, Rajasthan & TN have decreased their losses by 60 to 70 percent while Haryana has reduced losses by 90%.

Among the other achievements of this government in the power sector are the electrification of 13,511 across the country. Here is a breakdown of the achievements of the central government.

Annual Losses (UDAY States) – Figures in Rs Cr.

| State | Audited | | | Unaudited | |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | FY 13 | FY 14 | FY 15 | FY 16 | FY 17 |
| Uttar Pradesh | (9,778) | (16,724) | (8,675) | (7,689) | (6,619) |
| Rajasthan | (12,351) | (15,645) | (12,474) | (11,241) | (5,208) |
| Madhya Pradesh | (4,450) | (6,370) | (4,950) | (5,751) | (4,813) |
| Tamil Nadu | (11,679) | (13,985) | (12,757) | (5,787) | (3,783) |
| Jammu & Kashmir | (3,129) | (2,387) | (3,913) | (4,532) | (3,368) |
| Maharashtra | (871) | (280) | (366) | (2,794) | (2,568) |
| Punjab | 261 | 249 | 133 | (1,989) | (2,386) |
| Jharkhand | (2,668) | (4,021) | (37) | (1,161) | (2,001) |
| Bihar | (1,227) | (343) | (1,044) | (1,074) | (1,641) |
| Haryana | (3,649) | (3,554) | (2,117) | (808) | (387) |
| Others | (20,544) | (3,233) | (8,625) | (8,514) | (7,521) |
| Total | (70,086) | (66,293) | (54,824) | (51,340) | (40,295) |

Figures in parenthesis are Losses

Out of the 18,452 villages in the country, 13,511 were electrified as on May 2017. India's rank increased to 26 in 2017 from 99 in 2015 in the World Bank's Ease of getting electricity index. Record low tariffs were achieved in solar and wind energy. Wind tariff came down to Rs. 3.46/unit. Over 56 crore LED bulbs were distributed- 23 crore by government under UJALA and 22 crore by private sector. 7 Lakh energy efficient fans were distributed. 18.5 lakh LED Tubelights distributed. 7. 20 Lakhs LED Street lights installed.

Save Energy. Save Money. Save the Planet