

Challenges facing the renewable energy sector in India

The electricity sector in India is sure in a transition phase with a greater emphasis on expanding and moving towards clean energy. According to a [report](#) by WWF, it is estimated that India will be able to produce electricity from 100 percent renewable energy sources by 2050 with complete phasing out of coal. However, there are quite a few challenges for scaling up renewable energy in India. These challenges can broadly be classified into

- i) Governance and policy barriers
- ii) Institutional and regulatory barriers
- iii) Technical barriers.

Governance and Policy Barriers: Solar and wind are the major sources of clean energy. Both the central and several state governments had come up with a slew of initiatives like the Solar India and Tamil Nadu Solar Energy Policy 2012 to boost solar power. The intended benefits of these schemes can only be truly achieved with appropriate policy and market mechanisms.

Though solar tariffs have drastically fallen from Rs.17 a unit in 2010 to below Rs.5 per unit now, there are still no significant rooftop capacity additions because of several reasons like competitive coal market, price subsidy and free electricity that has implications on the operational efficiency of the renewable energy producers.

Measures such as Feed in Tariff and Renewable Purchase Obligation (RPO) were introduced as means to boost generation of renewable energy but there is no clarity in the way it is being implemented. Feed in tariff is a policy mechanism where individuals, business and utility get guaranteed cash payments for each unit of electricity they sell to the grid. Similarly, RPO mandates the state utility to purchase certain percentage of power from renewable energy sources. By enforcing RPO on a several categories of consumers, this could help to avoid high curtailment rates of solar and wind. There are still many states in India that do not have 100 percent net metering regulations in place, while RPO is not being strictly enforced. Moreover, there is also ambiguity in distinguishing RPO as solar and non solar.

Institutional and Regulatory Barriers: As renewable energy technologies are new to the market the cost of electricity generation from renewable sources is at present relatively higher than the conventional sources. However, this cost may significantly come down to as low as possible in the future, as a result of market and technology development. The market for renewable energy expands with increasing adoption and use of renewable energy.

As a developing nation, India has limited financial resources to scale up renewable energy and lack investments in Research & Development (R&D). These two factors make India dependent on developed and other developing nations where the technologies are much cheaper than those that are manufactured domestically. For instance when consumers demand for lower tariff it only makes economic sense for the manufactures to go for cheaper Chinese imports which has increasingly proliferated the Indian solar cell market.

Absence of proper financing mechanism is slowing the progress of renewable energy. Much of the present renewable energy projects particularly at the rural level are supported by Multi lateral banks such as ADB and World Bank. Achieving 2022 target of 175 GW of renewable energy requires significant support from commercial banks which at present provide debt at a much higher rate than the developed nations. Government and banks in India need to come up with alternative financing options like generation based incentive and green bonds.

Technical Barriers: The transmission and distribution infrastructure in India is weak which poses serious limitation in the purchase of renewable power by the state utilities. One of the major bottlenecks is evacuation of renewable energy. At some point, the government should realize that transmission capacity should match to the increasing generation capacity. The achievement of RPO and power deficits can be addressed only if adequate transmission infrastructure is in place. New energy storage technologies have already started to penetrate the Indian market. The price of such technologies at present is quite expensive but it is believed that it can significantly reduce in the future and could very well help in reducing wastage of electricity. Since wind and solar are highly seasonal, technologies that better forecast the demand and supply of power are essential for better decision making.

Electricity Contacts

- Call center—1912
- Fuse Off Call Centre:
Tamil Nadu and Chennai
- RTI—[TANGEDCO](#)
- TNERC & Ombudsman: 044-28411376, 28411378, 28411379
- CGRF: [Addresses](#)
- Pay online: [TNEBNET](#)

Please send your feedback to ecc@cag.org.in

INSIDE THIS ISSUE:

<i>Tamil Nadu News</i>	2
<i>India News</i>	2
<i>Consumer Focus</i>	3
<i>ECC Voice</i>	3
<i>World News</i>	4
<i>Publications</i>	4
<i>Statistics</i>	4

Electricity Consumer Cells (ECCs)

Madras Metropolitan Consumer Rights Protection Centre (MMCRPC)
No. 118, Fourth Street, Kamaraj Nagar, Avadi, Tiruvallur District. Chennai - 600 071, Phone: 044-26554434 Email: ecctiruvallur@gmail.com

Tirunelveli District Consumer Rights Protection Sangam
No. 9, Kulapirai Street, Tirunelveli Town, Tirunelveli - 627 006 Phone: 0462-2338544 Email: ecctirunelveli@gmail.com

Southern Consumer Organisation for Protection & Empowerment - (SCOPE)
No. 49, Raja Street, FCI Nagar, Semmandalam, Cuddalore - 607 001 Phone: 0414-2233798 Email: eccucuddalore@gmail.com

Tamil Nadu News

No plans to create regional DISCOMs

Insisting that the existing institutional framework of Tangedco is functioning smoothly, State Electricity Minister P. Thangamani has said that the State government has no plans to carry out reforms whereby the power utility would be divided into a power generation company and regional distribution companies.

Asked whether the State government intended to carry out these reforms in light of the outstanding loan of the distribution wing of Tangedco having been absorbed by the government, the Minister told that no such move was being contemplated, adding, "As of now, the existing institutional framework is functioning smoothly. There is no problem."

The idea of splitting Tangedco into a power generation company and regional distribution companies is nothing new. In October 2010, the Tamil Nadu Electricity Regulatory Commission (TNERC) advised the government to set up four distribution companies (DISCOMs) with headquarters in Tiruchi, Chennai, Madurai and Coimbatore, akin to the State Transport Corporation. Giving an account of how other States had progressed in implementing such reforms, the Commission argued that there would be "greater operational efficiency and consumer satisfaction" if these reforms are carried out. TNERC had emphasized that the proposed companies should be government-controlled.

However, a senior Tangedco official pointed out that with the free power supply scheme in place, benefitting around 20.6 lakh farm pumpsets, the establishment of regional DISCOMs would not garner the desired results, as the entities headquartered in Tiruchi and Madurai, with a huge base of rural consumers, would be perpetually making losses and only the ones in Chennai and Coimbatore would be profitable. Another official contended that it would only lead to additional administrative expenditure.

All these years, the idea was not pursued because there was either the problem of acute power shortage or the poor state of finances of the power utility, said another section of officers, including one former chairman and managing director of Tangedco. They took the view that the current vertical organizational set-up is getting overstretched as the total customer strength has crossed the 2.7 crore mark, which includes nearly two crore domestic consumers.

At present, there is neither the problem of power shortage, nor the availability of funds. Capacity addition and free availability of contracted power, coupled with the sluggish demand for energy, has made the State's power situation comfortable.

By joining the Ujwal DISCOM Assurance Yojana (UDAY), a scheme meant for operational and financial turnaround of State-owned DISCOMs, Tangedco is expected to make savings of about Rs. 5,800 crore from the coming year and begin making profit by 2018-19.

The amount of savings has been worked out taking into account the State government absorbing Tangedco's debt of Rs. 22,815 crore, accounting for 75 per cent of the loan of Rs. 30,420 crore outstanding as on September 30, 2015, and the Corporation deciding to convert the remaining Rs. 7,605 crore into bonds. Also, the State government has granted approval for converting its loan of Rs. 3,352 crore into equity share capital. With all these measures, Tangedco no longer has to make interest payments and principal repayment on its debts. Source: [The Hindu](#), March 06, 2017

India News

In a first, India becomes net exporter of electricity

According to the Central Electricity Authority, the Government of India's designated authority for cross-border trade of electricity, India has, for the first time, become the net exporter of electricity. A [PBI](#) report suggests that about 5,798 million units of electricity have been exported from India to Nepal, Bangladesh, and Myanmar in the period between April 2016 and February 2017. This is 213 million units more than the 5,585 million units India received from Bhutan.

In the last three years, India's export of electricity to Nepal and Bangladesh has increased 2.5 and 2.8 times respectively. Bhutan has been supplying hydroelectricity to India since the mid-eighties when the cross-border trade of electricity began. The electricity imported from Bhutan is further exported to Nepal using the radial mode from Bihar and Uttar Pradesh at 33 kV and 132 kV respectively.

As per the PBI reports, India has been exporting approximately 190 MW power to Nepal using 12 cross-border connections at 11kV, 33kV, and 132 kV levels. Export to Nepal has further improved by about 145 MW following the commissioning of a 400kV line between Muzaffarpur in India and Dhalkhebar in Nepal (being operated at 132 kV) in 2016.

India also received a further boost as an exporter of electricity to Bangladesh with the commissioning of the first cross-border interconnection between Baharampur in India and Bheramara in Bangladesh at 400kV in September 2013. A further push came from the commissioning of the second cross-border interconnection between Surjyamaninagar (Tripura) in India and South Comilla in Bangladesh. Currently, India has been exporting around 600 MW of electricity to Bangladesh.

Over the past few years, India has constantly tried to invest in the generation of infrastructure as power cuts have been quite an issue in the country. The power being exported to Nepal is also expected to increase by approximately 145 MW soon using 132 kV Katiya in Bihar to Kusaha in Nepal and 132 kV Raxaul in Bihar to Parwanipur in Nepal. To boost power exports, there are a few other cross-border links with neighboring countries in the pipeline.

Source: [Your Story](#), March 30 2017

Consumer Focus

Facts

The appellant is the resident of Alwarpet, Chennai. A transformer was installed inside the compound of the residential area. The builder had accepted for that proposal. That transformer supplies electricity for residential purposes as well as commercial purposes. The prospective buyers are refusing to buy because of the fatality which could be cause by transformer. The appellant on behalf of them requested for a relocation of the transformer.

The respondents contested that they had set up that transformer based on the TNERC rules and regulations. If the residents have problem with its existence, they can pay for the relocation and prescribe a place it could be placed.

Contestation

Appellant: The transformer should be relocated as it may harm the residents.

Respondent: The transformer shall be moved by the respondent but the new place and expenses for relocation shall be arranged by the appellants.

Judgment

The forum held that the transformer is established based on valid rules and regulation hence legal action cannot be taken to fulfill the request. They insisted upon the proposal made by the respondent. The forum asked the appellants to pay for the relocation if they are willing to. It ordered the respondents to maintain the transformer regularly so as to avoid any fatality.

ECC Voice

மின்நுகர்வோர்களுக்கு மின்சார வாரியம் இருமாதங்களுக்கு ஒருமுறை மின்அளவு எடுக்கும் இக்காலங்களில், மின்அளவு எடுக்கும் நாட்களை கைப்பேசி, தொலைபேசிகளில் ஓர் அளவுக்கு இந்த நாள் இந்த பகுதி மின்நுகர்வோர்களுக்கு என்பதை தெரிவித்தால் பற்பல சிரமங்களை தவிர்க்க ஏதுவாகும்.

கணவனும், மனைவியும் பணிக்கு செல்லும் இக்கால கட்டத்தில், மின்அளவு எடுக்கும் கால நேரங்களை முன்னரே தெரிவிப்பதால், மின்அளவு எடுக்கும் நேரங்களில், மின்நுகர்வோர்களின் வீடுகளில் அளவு பதியும் வெள்ளை அட்டைகளுடன் மின்அளவு எடுக்க வரும் கணக்கீட்டாளர்களுக்கு மிகவும் எளிதாக மின் அளவு எடுப்பதற்கு ஏதுவாகவும் மற்றும் மின்நுகர்வோர்கள் தாங்கள் பயன்படுத்தப்பட்ட மின் அளவு எவ்வளவு? அதற்கு எவ்வளவு பணம் செலுத்த வேண்டும், அது எவ்வாறு கணக்கிடப்படுகிறது? என்பதை புரிந்து கொள்ளவும் ஏதுவாகும். மின்கணக்கீட்டாளர்கள், சற்று சிரமங்களை பொருட்படுத்தாமல், பயன்படுத்தப்படும் மின்அளவு மற்றும் அதற்கான தொகை எப்படி கணக்கிடப்படுகிறது என்பதை தெளிவுபட நுகர்வோருக்கு தெரிவித்தால் மிகவும் நன்றாகயிருக்கும்.

வீட்டு மின் இணைப்பிற்கோ, வர்த்தக நிறுவனங்களுக்கோ, கோவில்களுக்கோ எந்த முறையில் மின்அளவு கணக்கிடப்படுகிறது என்பது பெரும்பாலான நுகர்வோர்களுக்கு தெரிவிதல்லை. இதனால் ஆன்லைனில் மின்கட்டணம் கட்டுவதை தவிர்ந்து மின்வாரியத்திற்கு சென்று கட்டணத்தை செலுத்துவதற்கு செல்கிறார்கள். இவ்வாறு செல்வதால், மின்கட்டணம் செலுத்தப்படும் இடங்களில் நீண்ட வரிசையில் காத்து நிற்கும் அவலநிலை ஏற்படுகிறது.

மேலும், மின்அளவு எடுக்கும் நேரத்தை முன்னரே தெரிவிக்காததால், “Door Lock” என்று குறிப்பிடப்பட்டு, மின்நுகர்வோரால், இந்த காலத்திற்கு முன்பு ஏதாவது ஒரு சிலமாதங்களில் அதிகபட்சமாக மின்சாரம் பயன்படுத்தப்பட்ட அந்த மாதத்தில் எவ்வளவு மின்கட்டணம் செலுத்தப்பட்டுள்ளது என்பதை கணக்கில் எடுத்து, அந்த அதிகமான மின்கட்டணம் நுகர்வோரிடமிருந்து வசூலிக்கப்படுகிறது. இந்த மாதத்தில், மின்நுகர்வோர் மின்சாரத்தை பயன்படுத்தாமல் இருந்தாலும் அதிகமான கட்டணத்தை மின்வாரியம் வசூலிப்பது மிகவும் வேதனையளிப்பதாக உள்ளது.

மேலும், மின்நுகர்வோர், தங்கள் வீட்டு உபயோகத்திற்கான மின்பயன்பாட்டை ஒவ்வொரு மாதமும் தாங்களாகவே எடுத்து அந்த தொகையை மின்வாரியத்திற்கு மின்கட்டணமாக செலுத்தலாம். இது எங்கள் மையத்தின் ஆலோசனை. மின்வாரியம், ஆறு மாதங்களோ அல்லது அதற்கு மேலோ, ஒருமுறை, வீட்டிலுள்ள மின்இணைப்பின் மின்அளவை கணக்கீடு செய்து மின்நுகர்வோர் மின்கட்டணம் செலுத்திய தொகையை கழிப்பதால் அரசால் வழங்கப்படும் சலுகையையும் பெறமுடியும் மற்றும் இந்த “Door Lock” பிரச்சினையையும் தவிர்க்க முடியும். மக்களுக்கும், மின்வாரியத்திற்கும் இது பயனாக இருக்கும் என நம்புகிறோம். இது நெல்லை மின்நுகர்வோர் மையம் பரிந்துரை.

Citizen consumer and civic Action Group

9/5 II Street,
Padmanabha Nagar,
Adyar,
Chennai 600020.
Tamil Nadu

Phone: 91-44-24460387
Telefax: 91-44-24914358
Email: ecc@cag.org.in

www.cag.org.in

Initiative of


Citizen consumer and civic Action Group (CAG) is a non-profit, non-political and professional organization that works towards protecting citizen's rights in consumer and environmental issues and promoting good governance processes including transparency, accountability and participatory decision making.

Supported by


World News

Australia's 100% Renewable Energy Grid

Australia is posed to build an electricity network with 100 percent renewable energy, that is both affordable and secure, and that utilizes existing technology. The Australian National University has published a study detailing how a zero-emissions grid would work. The grid would rely on wind and solar technology, but the innovation comes from the pumped hydro storage, which would support the network. A move like this would eliminate the need for coal and gas power.

As many aging coal-fired power stations close (on which 2/3 of Australia's electricity relies) demand for new types of energy is spiking. Professor Andrew Blakers at the ANU believes that wind and solar energy could be that replacement. The short-term off-river pumped hydro energy storage (STORES) utilizes reservoirs at different altitudes to both store and generate power. This system would provide Australia with a cheap, stable, zero-emissions network that can support a larger share of renewable energy.

The details of the report estimate that wind and solar energy would contribute 90 percent of total annual electricity. Hydroelectricity and biomass sources would supplement the remaining 10 %. This energy mix is based on the widely-spread wind and energy sources, and leverages the different weather system available in Australia. The pumped hydro storage system is the mechanism by which supply and demand will be managed, as these weather systems are notoriously unreliable at providing the appropriate amount of energy at any given time. The hydro-pump can store the energy produced during peak generation hours, and then distribute it as needed.

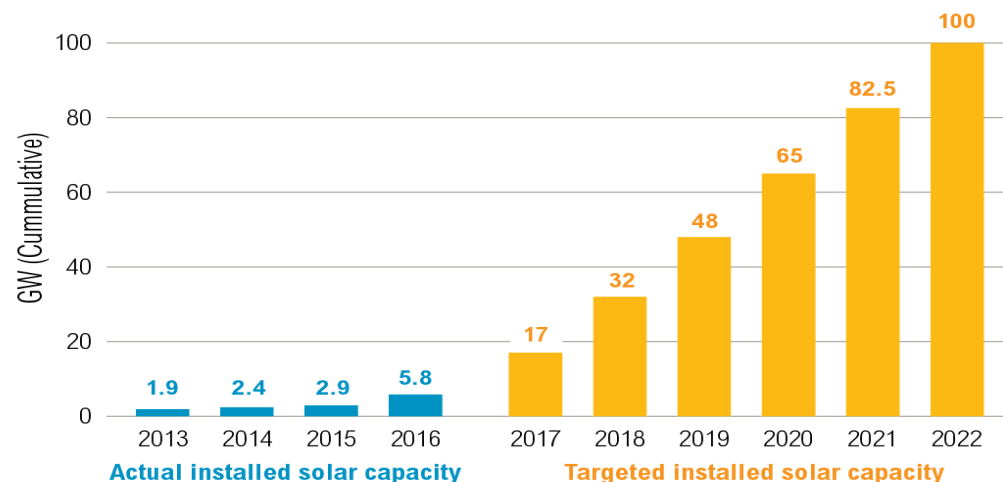
However, we need not trust the ANU's numbers alone. A recent report published by Bloomberg New Energy Finance (BNEF) supports the case for the shift to renewable energy. The report shows that the Levelized Cost of Energy (LCoE) to build new ultra-supercritical coal-fired power is much more expensive than that to build new wind, solar, and combined-cycle gas infrastructure. The coal-fired power is anywhere from \$34 to over \$100/MWH more expensive than the aforementioned alternatives.

This is extremely important to Australia, as many coal-fired stations will reach their operating life-span within the next 15 years. They will have to close regardless of any environment or emissions-based concerns. Source: [Oil Price](#), March 08, 2017

Publications/Regulations

- Ministry of New and Renewable Energy, Draft National Policy on RE based Mini/Micro Grids, [Click here](#)
- Centre on Regulation in Europe, Empowering electricity consumers in retail and wholesales markets, [Click here](#)

India Sets Year-on-Year Targets to Reach Ambitious 2022 Solar Goal, [World Resource Institute](#)



Notes: FY = All years in chart are fiscal year from April 1 to March 31; 1 GW = 1,000 MW.
Sources: Bloomberg New Energy Finance (BNEF); The Economic Times.