

INSIDE THIS ISSUE:

Editorial - 1,2,3 | Tamil Nadu News, India news - 4 | Consumer Focus - 5 | World News, Publications, Statistics - 6

Power outage alerts in Tamil Nadu : Awareness and action

Consumers are all too familiar with the frequent power cuts - both from personal experience and from the many newspaper reports on this. Tamil Nadu is witnessing unpredictable severe [heatwaves](#) and variations in [rainfall](#) patterns. Changing weather patterns, while [accelerating](#) the already rising demand for electricity, also increases the [frequency](#) of power outages.

So, what is a power outage and why is it caused?

An interruption in electricity supply to the end users is called a power [outage](#) or power cut. Depending on the reason behind it, the power interruption/cut/outage can be short or [long-term](#).

Common [reasons](#) behind outages: a) Planned maintenance b) Equipment(s) or technical failure c) Grid overload/ high energy demand d) Weather and weather-related disasters e) Trees falling on overhead electricity lines or poles f) Human error or wildlife interference. A power cut can be planned(scheduled) or unplanned(unscheduled). A planned outage is a deliberate power shutdown by the electricity authorities or distribution company for regular [maintenance](#) of the electricity transmission system or its components. All the other causes mentioned above fall under the category of [unplanned](#) outages.

Should consumers be warned of upcoming power outages?

Electricity is a [basic](#) need and all our modern-day activities in one way or another depend on access to electricity. Hence, a power outage implies a disturbance or block to one, some or many of these activities. Along with this, the absence of electricity supply is also a safety concern and comfort issue. Quick communication and timely [alerts](#) to consumers about power cuts help them to stay informed, make decisions accordingly, and plan their work and safety.

How are consumers informed about planned outages?

TANGEDCO sends SMS alerts to registered mobile numbers to inform them of any planned outages/shutdowns in the neighborhood. To do this, TANGEDCO first updates details of the outage on [Urja Mitra](#) - the union government's portal for power outage information dissemination, which then automatically sends out the SMS to consumers. Other than this, area-wise power updates of Tamil Nadu are available on the official [website](#) and social media [pages](#) of TANGEDCO.

Other authentic information dissemination modes:

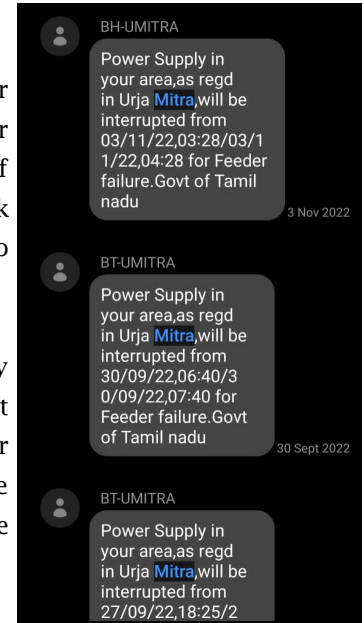
- Consumers can access the Urja Mitra portal, to get information regarding local power cuts. The facility of Urja Mitra outage alerts can be utilised by registering through the official portal and mobile app.
- Outage alerts are published in [newspapers](#) to disseminate information to the readers.

No SMS received? What next?

An early-hour power cut could possibly indicate a planned maintenance shutdown. When an outage during the morning that lasts for hours happens in your area, about which you did not receive an SMS alert, check the official online sources or that day's newspaper for information.

If the outage information is mentioned on the websites/social media/newspaper, then the issue might be with the SMS channel. If no resident from your neighborhood received the SMS, raise the issue with TANGEDCO to get it resolved.

(Concluded)



Simple measures for Electricity consumers to participate in the circular economy - Do It Yourself series (Part -3)

The [previous issue](#) discussed how the R's (Refuse, Reduce, Repair and Reuse, Repurpose, Recycle) of the circular economy can be put into everyday use, in relation to air conditioners. In this edition let us look at some more appliances that these principles can be applied to:


2. Ceiling Fans

Fans are a commonly used appliance when it comes to household cooling appliances, with almost every room in India equipped with one for the summers. Fans direct the airflow towards the ground, to create a cooling effect in the room.

This is called evaporative cooling, because the air promotes evaporation of sweat from the skin and makes the person feel cool. The major components of a fan are a motor and the fan blades. The motor rotates the blades which in turn creates a flow of air that helps to cool the room.



FAN - CIRCULAR CONSUMPTION





REFUSE

While purchasing a new ceiling fan, refuse brands that do not have star ratings (star ratings indicate the efficiency of the fan). Also, refuse brands that do not offer repair, regular maintenance & refurbishment services. Buy products that provide adequate guarantees and long-term warranties.



REPAIR & REUSE

Sometimes your ceiling fan may not work because one or more of its components have failed completely or partially. Do not hastily decide to replace it. Repair the faulty components and reuse your ceiling fan to extend its life as long as possible. Examples of parts that can be easily replaced to lengthen the life of your fan include capacitor, and electric motor.

For the appliance to be healthy and energy efficient, ensure regular maintenance along with cleaning of the blades.

However, if you are going to buy a new ceiling fan to replace the old one, look for exchange offers. You may also donate or sell your old ceiling fan, instead of disposing it off.




REDUCE

Reduce the usage of ceiling fans. Adopt passive strategies like natural aeration and remember to switch off your ceiling fan when you leave the room. Wear light clothes to facilitate air circulation.

Reducing ceiling fan use might not directly contribute to the elimination of waste, but does play a vital role in reducing energy use.

Install your ceiling fan in the optimal position to maximise its cooling capacity. This usually is placing a ceiling fan 10-12 inches away from the ceiling, with the blades ideally at least 7-8 feet away from the ground for maximum efficiency.



REPURPOSE

When disposing of your ceiling fan, dismantle the components with professional guidance and consider repurposing its components like metal and plastic parts, cables, etc.



RECYCLE

Ceiling fans contain metals, plastics and cables. If your ceiling fan reaches its end of useful life, do not dump it in a landfill. Give it responsibly to an e-waste reclamation or recycling facility who can handle it safely.

(To be continued)

ToD solar premium tariff in Tamil Nadu

Are you a commercial consumer who has grid connected rooftop solar systems? The [previous issue](#) explained the charges paid by commercial consumers for using electricity in peak hours under Time of Day (ToD) tariff. This article seeks to a) demystify the concept of Time of Day (ToD) tariff for commercial consumers who have installed rooftop solar b) incentives for battery storage systems provided by TNERC.

Battery Energy Storage Systems for Solar PhotoVoltaic (PV): [Battery Energy Storage Systems \(BESS\)](#), are rechargeable batteries that can store energy from different sources, providing additional power supply when it is needed most. The [four main types of batteries](#) used in the world for solar PVs are lead-acid, lithium ion, nickel cadmium and flow batteries. BESS consists of one or more batteries which are made of lithium-ion components. Lithium-Ion is commonly used in the battery systems to offer a high energy density, long life-cycle, and low self-discharge rate. The [cost of a battery storage system](#) used for solar PV depends on various factors such as the size of the system, the type of battery, availability of inverters etc.

Why combine battery energy storage system with Solar PhotoVoltaic (PV)? The [solar PV generates](#) electricity only when there is sunlight or during day time, otherwise known as intermittent supply. When [connected to battery storage](#), this will enable solar PVs to supply power uninterruptedly. This is possible as the electricity generated can be stored in the battery system, helping energy supply even during night time. The combination of battery energy storage systems and solar PV is the [solution for intermittent power supply](#). The advantages of combining energy storage systems with solar PV for commercial consumers are :

1. It reduces the dependency on the utility's grid, as energy from the battery storage will act as a [power backup](#).
2. Reduction of electricity bills during peak hours i.e. switching load from utility's grid to storage system
3. Balancing electricity loads: During peak hours, electricity demand will be high. The electricity stored in the storage system will feed to the utility's grid to flatten the [demand curve](#).
4. When commercial consumers feed energy into the grid at peak times, the exported energy will be valued for higher feed-in tariff rates compared to normal feed-in tariff rates. This is called the ToD solar premium tariff.
5. Battery storage contributes to [lowering carbon emissions](#) by reducing reliance on conventional sources
6. This will incentivise consumers to generate more from solar PV and feed excess electricity to the grid.

What is the ToD solar premium tariff? In Tamil Nadu, Generic Tariff order for [Grid Interactive Solar energy generation System](#) (GISS) has introduced Time of Day (ToD) solar premium tariff for commercial and industrial consumers, who have installed capacity of less than 1 mega watt. This is currently between 6 pm to 9 pm which are the evening peak hours. The aim of the ToD solar premium tariff is to encourage consumers to install solar energy storage systems and feed energy into the grid, when the power demand is high.

If there is a surplus of energy (ie, energy generated beyond the consumer's requirements) either during the morning or the evening peak hours, the energy storage systems will export it. For the commercial consumers, the electricity exported during the evening peak hours (6-9pm) will have a monetary benefit under the ToD solar premium tariff.

What is the incentive? As per [Generic Tariff Order for Grid Interactive PV Solar Energy Generating System](#) (GISS) 2021, only commercial and industrial consumers are eligible for net feed-in metering mechanism. The exported energy will be valued under the ToD solar premium tariff, which is 20% higher than the regular net feed-in tariff. At present the net- feed in tariff for 11kW to 150kW is Rs.3.37 per unit and ToD solar premium tariff will be Rs.4.044 per unit. If a consumer exports 100 units under this tariff, export amount of Rs.404 will be adjusted in the electricity bill .

Way forward : Energy storage systems will be an important component of the power system because it not only solves the intermittent supply but also helps [to balance generation variability](#). It enables consumers to consume a higher proportion of self-generated renewable energy and reduce the dependency of electricity from the grid. With the help of incentives like government subsidies on the energy storage systems, many consumers including domestic, small scale commercial establishments will feed excess electricity into the grid.

(Concluded)

Tamil Nadu News

Consultant proposes trifurcating Tangedco to tackle debt

Ernst & Young (EY), a private consulting firm appointed by the state government in 2021, has submitted a report suggesting the splitting of the state-owned power utility, Tangedco, into three separate companies. Tangedco's debt stands at Rs 1.4 lakh crore and the report is aimed at managing the situation, sources said. The report has said Tangedco should be broken into three companies -- each one exclusively responsible for power generation, distribution, and renewable energy. Speaking to TNIE, additional chief secretary Ramesh Chand Meena, who is in charge of the energy department, said the government is yet to take a call on the issue. Many power distribution companies (discoms) across the country have already divided the power sector into generation and distribution segments. For Tangedco, the challenge lies in investing more in power generation due to the need to acquire coal from north Indian states and the huge transportation costs involved. The energy department is deliberating on ways to address these issues.

A senior Tangedco official said Ernst & Young has come up with the suggestion after analysing private competitors, trends in gross and net profits as well as expenditure. The official said they will present a comprehensive report to the government after a thorough examination of the recommendations. Furthermore, the Union government is insisting that all discoms should be profitable. Speaking to TNIE, R Murali Krishnan, legal adviser for trade union BMS's electricity division, said most of the debt is caused by the distribution end such as line loss, subsidies, free electricity and the like. "The generation wing is unnecessarily forced to bear the liability of transmission and distribution companies. Even in 2003, the idea of splitting discoms was proposed," he said. The Tamil Nadu Electricity Regulatory Commission (TNERC) had, in 2017, also suggested dividing the electricity board into separate distribution and generation companies. "However, no steps were taken by the state government then," Krishnan said.

States like Delhi, Uttar Pradesh, Madhya Pradesh, Gujarat, Karnataka, Andhra Pradesh and a few others have witnessed favourable outcomes after the division of their distribution and generation companies. When power generation becomes a distinct utility, it can more effectively compete with private utilities and make technological advancements, he added. Krishnan also brought attention to the significant role played by private power generation companies in the state, accounting for 50% of the capacity. "If Tangedco is made into three entities, state-owned power generation can thrive and perform effectively," he said.

Source : [The New Indian Express](#), 26 August 2023.

India News

India announces definition of Green Hydrogen

In a significant move for the progress of the National Green Hydrogen Mission, the government has notified the Green Hydrogen Standard for India. The standard issued by the Ministry of New and Renewable Energy (MNRE), Government of India outlines the emission thresholds that must be met in order for hydrogen produced to be classified as 'Green', i.e., from renewable sources. The scope of the definition encompasses both electrolysis-based and biomass-based hydrogen production methods. After discussions with multiple stakeholders, the Ministry of New & Renewable Energy has decided to define Green Hydrogen as having a well-to-gate emission (i.e., including water treatment, electrolysis, gas purification, drying and compression of hydrogen) of not more than 2 kg CO₂ equivalent/kg H₂.

The notification specifies that a detailed methodology for measurement, reporting, monitoring, on-site verification, and certification of green hydrogen and its derivatives shall be specified by the Ministry of New & Renewable Energy. The notification also specifies that the Bureau of Energy Efficiency (BEE), Ministry of Power shall be the Nodal Authority for accreditation of agencies for the monitoring, verification and certification for Green Hydrogen production projects. The notification of the Green Hydrogen Standard brings a lot of clarity to the Green Hydrogen community in India and was widely awaited. With this notification, India becomes one of the first few countries in the world to announce a definition of Green Hydrogen.

Source: [PIB](#), 19 August 2023.

Consumer Focus

Madras High Court Case:

The utility (petitioner) filed this petition against the order of the Electricity Ombudsman (first respondent) dated 30.03.2016.

The consumer (second respondent) applied for a change in tariff of their LT service connections. Upon inspection, the utility discovered that they had two different LT service connections in the same premises. The consumer stated that they ran two different businesses with expenditure appearing in different financial statements, and thus they required separate service connections. The utility stated that they cannot give two connections when there was no physical segregation in the premises.

This issue was raised to the Ombudsman who passed the following order on 30.03.2016:

The utility shall issue a notice to the Appellant to arrange for the physical & electrical segregation in the premises duly specifying a time limit. The consumer herein shall arrange to provide a permanent physical and electrical separation in between the premises of the two businesses, within the period as specified by the licensee in the notice and failing which the licensee may take further action as per regulation.

The utility was aggrieved by this order and filed the present petition. The utility argued that they cannot maintain two separate LT electricity service connections in the same premises. They further relied on [Clause 27\(14\) of Tamil Nadu Electricity Distribution Code \(TNEDC\)](#) to prove that a single owner cannot maintain two different LT Service Connections in the same premises even if he conducts different business transactions. In addition to this, the utility also stated that this would result in a financial loss to the utility.

The consumer argued that there is no financial loss caused to TANGEDCO. The consumer also specified that they were planning on arranging for physical and electrical segregation within the time period given in the order. The consumer stated that they will comply with the order passed by the Ombudsman in order to resolve the issues.

The Court observed that the Electricity Ombudsman cannot direct a consumer to arrange for physical and electrical segregation. This is a choice of the consumer, which has to be exercised at their discretion. Thus, it is made clear that the consumer is at liberty to segregate the premises physically and inform the authorities concerned for the purpose of conducting inspection. In case the consumer chooses not to segregate their premises, then the utility can refuse to provide two separate connections. The consumer will be given only one connection on failing to meet the requirement under [TNEDC](#).

Considering the facts of the case, arguments put forth, cases cited, and the statutes relied upon, the High Court passed the following order:

- [Clause 27 \(14\) of TNEDC](#) will apply to this case, the utility cannot provide two separate service connections when there is no physical segregation in the premises.
- The consumer can make a physical segregation within their premises to receive two connections. In case the consumer fails to do this, within a period of six weeks from the date of passing this order, the utility authorities shall conduct an inspection into the premises of the consumer and give only one service connection.

Note: Consumers must go through the conditions provided within the [Tamil Nadu Electricity Distribution Code](#) to apply for two separate connections in the same premises.

Source: [Madras High Court Case](#)

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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.

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World News

China to set up solar, wind recycling system as waste volumes surge

China, the world's biggest renewable equipment manufacturer, will set up a recycling system for ageing wind turbines and solar panels as it tries to tackle the growing volumes of waste generated by the industry, the state planner said. China has ramped up its wind and solar manufacturing capabilities in a bid to decarbonise its economy and ease its dependence on coal, and it is now on track to meet its goal to bring total wind and solar capacity to 1,200 gigawatts (GW) by 2030, up from 758 GW at the end of last year.

But as older projects are replaced and decommissioned, waste volumes are set to soar, with large amounts of capacity already approaching retirement age, posing big environmental risks. To cope with the challenge, China will draw up new industrial standards and rules detailing the proper ways to decommission, dismantle and recycle wind and solar facilities, the National Development and Reform Commission, said on Wednesday.

The state planning agency said that China would have a "basically mature" full-process recycling system for wind turbines and solar panels by the end of the decade. Photovoltaic (PV) panels have a lifespan of around 25 years, and many of China's projects are already showing significant signs of wear and tear, China's official Science and Technology Daily newspaper said in June.

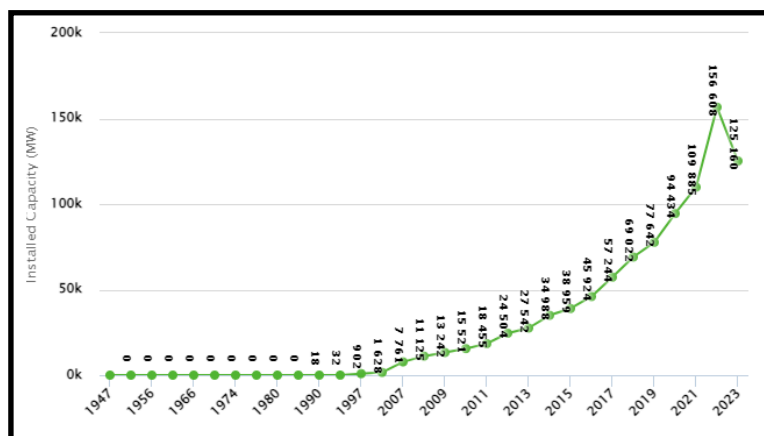
The paper cited experts as saying that China would need to recycle 1.5 million metric tons of PV modules by 2030, rising to around 20 million tons in 2050. The problem of waste from the renewable energy sector has become a growing global concern. Total waste from solar projects alone could reach 212 million tons a year by 2050, according to one scenario drawn up by the International Renewable Energy Agency (IRENA) last year.

Source: [Reuters](#), 17 August 2023.

Publications / Regulations

- Renewable Power Generation Costs in 2022, [IRENA](#)
- Decentralised Renewable Energy for SDG7, [MNRE](#)
- Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Wind Solar Hybrid Projects, [MoP](#)
- National Framework for Promoting Energy Storage systems, [MoP](#)

Growth of Electricity Generation of India, Renewable Energy Source — 2023



Source: [NPP](#)