CURRENT NEWS

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GRID CONNECTED ROOFTOP SOLAR AND TARIFF 1D CONSUMERS

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The electricity tariff system in Tamil Nadu is designed to serve two distinct categories of consumers: Low-Tension (LT) and High-Tension (HT). These tariff categories are determined by the Tamil Nadu Electricity Regulatory Commission (TNERC), a regulatory body outlined in the Electricity Act 2003. TNERC determines the electricity tariff rates as well. This is based on the tariff petition of TANGEDCO, a distribution company (Discom), which gives its suggestions on tariff rates based on electricity usage and consumers' intended purposes.

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The Low-Tension category consumers include domestic, multi-tenement, commercial establishments, handloom, cottage industries, and other industries with an electricity load not exceeding 112KW.

In the 2022 Tariff Order, the TNERC introduced the LT Tariff 1D, which applies to electricity usage in common facilities in multi-tenements that have more than 10 dwelling units, that use amenities such as water pumps, common lighting, elevators, and other common facilities . This is via a separate service connection to the building. The Tariff 1D rates were established at Rs. 8/unit with fixed charges of Rs.100/kW/month, mirroring commercial tariffs.

Prior to the implementation of Tariff 1D, the electricity bill for the common facilities was billed under the domestic tariff, which is set much lower. A news article states that tariff 1D rates have hiked electricity bills by a minimum of 2.5 times.

In Tamil Nadu, most multi-tenement/apartments are managed by a group of residents or residential associations who handle the building's maintenance costs, including electricity charges. They oversee maintenance by collecting a standard maintenance fee. Apart from the consumption charges, fixed costs are an additional burden for residents. To meet these new rates, most residential groups or associations were compelled to increase their maintenance costs to successfully maintain the buildings.

Long-term solution to reduce electricity bills

Grid-connected rooftop solar for common facilities can reduce electricity bills. For example, an apartment complex in Bengaluru saves a substantial Rs. 400,000 a month on common area electricity costs. With a rooftop solar system, electricity can be utilised for self-consumption and it can be stored in a battery during non-solar hours. Additionally, it can be exported to the grid, if there is any surplus production. CAG has a user-friendly handbook that provides clear instructions for installing a grid-connected rooftop solar PV system in Tamil Nadu.

Billing mechanism: The Grid Interactive Solar PV Energy Generating Systems Regulations, 2021, when introduced, had net metering for domestic consumers, while other consumers were eligible only for a net feed-in mechanism. In 2022, Commission directions to TANGEDCO allowed net metering mechanisms to domestic consumers under tariffs such as Tariff 1A and Tariff 1D. This decision was made because both tariff 1A and tariff 1D are intended for domestic use. This provides the eligibility for installed consumers to change it from net feed-in billing to net metering billing.

Net metering	Net metering mechanism allows consumers to export excess power to the grid, and offset energy consumption.
Net Feed-in	The energy imported from the grid and the energy exported to the grid are valued at two different tariffs. The values are netted at the end of the billing cycle.

While this has been a welcome move, there has been a disparity with calculating network charges that could still burden consumers.

Network charges calculation: Network charges are calculated by multiplying the generated units X network charges (Rs.) X network charge percentage. The network charges for LT tariff 1A is calculated at 20%, whereas the network charges for tariff 1D is calculated at 100%. This is despite using the same infrastructure (distribution transformers, wires etc) for domestic consumers and Tariff 1D in the same premises. The collection of network charges at a higher percentage for Tariff 1D therefore seems unwarranted.

The difference is apparent and marked as seen in the following calculation:

Tariff 1A (20% of network charges)	
Generated units	1512
Network charge per unit	Rs.1.59/-
Network charge percentage	20%
Calculated network charge	**Rs.480.81**

Tariff 1A (100% of network charges)	
Generated units	1512
Network charge per unit	Rs.1.59/-
Network charge percentage	100%
Calculated network charge	**Rs.2408.08**

This difference highlights the financial implications of network charges on Tariff 1D consumers, who pay approximately five times more than their Tariff 1A counterparts. The Regulatory Commission's decision to implement net metering for Tariff 1D aimed to alleviate the financial burden on consumers However, this contrast in network charges could demote solar energy adoption among residential consumers, particularly those in common service connections.

Disparity in the same category:

The introduction of Tariff 1D for domestic consumers already imposes a financial burden on consumers. With Tariff 1D consumers currently facing five times higher network charges than Tariff 1A consumers, it's crucial to revisit these charges. To ensure equality among domestic consumers, Tariff 1D should have the same network charges as Tariff 1A.

The primary goal of rooftop solar installation is to reduce electricity costs and contribute to co-generation. But this also has the additional aim of promoting solar energy to add to the solar target of 280 GW. To encourage growth, the TNERC should rationalize network charges for all Low-Tension (LT) consumers, particularly residential domestic consumers under Tariff 1D.

Concluded

FACTORS INFLUENCING ELECTRICITY PRICES IN TAMIL NADU - (PART 1)

MANIKANDAN.M

Electricity billing prices in Tamil Nadu have caused growing concern among households, industries, and the business sectors. The production of electricity is a complex process involving several steps. Therefore, depending on these processes, the prices of the final product itself will vary. Apart from this, market forces, government policies, and other engineering factors will also affect the price at which electricity can be distributed. This article will examine some of these factors, giving consumers an insight on what happens behind the scenes. We will be looking at fuel costs, the demand for electricity, transmission and distribution losses, renewable energy infrastructure costs, environmental restrictions, and government subsidies.

How are tariffs arrived at? The first phase of arriving at a tariff begins with the Tamil Nadu Generation and Distribution Company (TANGEDCO) submitting a revised tariff application along with Aggregate Revenue Requirement (ARR) to the Tamil Nadu Electricity Regulatory Commission (TNERC). To enable public scrutiny and consultations, the submitted application is advertised through newspapers in the state. Next, TNERC typically holds public consultations to gather responses from the different stakeholders. Finally, after considering all responses, TNERC will pass the tariff order within 120 days from the submission of application. According to Section 61 of the Electricity Act 2003, the proposed tariff will be implemented by TANGEDCO only after the approval of Tamil Nadu Electricity Regulatory Commission (TNERC).

TANGEDCO's passthrough mechanism is a regulatory process that allows the utility to adjust electricity tariffs in response to cost changes beyond its control. These costs typically include fluctuations in fuel prices, power purchase costs, and other expenses incurred during the generation or procurement of electricity.

Fuel costs: The different types of fossil fuels used for power generation include coal, lignite, gas and diesel. Tamil Nadu's electricity generation is heavily reliant on thermal power plants powered by coal. TANGEDCO procures coal from Talcher and IB valley mines of Mahanadhi in Odisha, Singareni mines in Telangana and Indonesia.

These fuels are purchased on the open market, and their prices fluctuate in response to international and domestic factors such as supply chain disruptions, inflation, demand, taxes, and geopolitical events [Example: The Russia-Ukraine war caused a spike in coal prices to ₹ 12595 per tonne, but they have since dropped to ₹ 5878 - ₹ 6969 per tonne. Tangedco has been paying ₹11336 per tonne for 7.3 lakh tonnes of imported coal since February, due to a predetermined bid rate]. This has had a direct impact on the cost of power generation, raising the state's electricity tariffs.

To ensure that the rising cost of fuel is not borne entirely by the utility (which could result in operational inefficiency or financial stress), the additional cost is passed on to consumers. This process is known as Fuel Cost Adjustment (FCA) or Fuel Surcharge Adjustment (FSA). FCA is a variable component of your electricity bill. By including fuel costs in the tariff, power generation companies can ensure that the cost of electricity reflects their actual expenses. Fuel is a major operational cost, and ignoring fluctuations could result in significant financial losses for distribution companies (DISCOMs). TNERC ensures that DISCOMs can recover the increased costs associated with fuel price increases, which aids in the financial health of these companies and ensures uninterrupted electricity supply. While fuel cost adjustments are passed on to consumers, TNERC regulates the magnitude and frequency of these changes. This ensures that consumers are not subjected to erratic price fluctuations and that tariff increases are reasonable.

To be continued

CONSUMER FOCUS

The domestic consumer petitioner who resides in a flat, registered a complaint with the Assistant Engineer (AE) to rectify a billing issue.The petitioner contested reconnection charges of Rs.21,793 claiming that his flat had been unoccupied for many months, and had no electrical fittings either. He deemed his bill to be excessive, and asserted that TANGEDCO had included irrelevant fees, such as development charges, in the additional expenses.

Upon receiving the complaint, the AE inspected the petitioner's service connection and found that the Consumption Charges (CC) of May 2021, totalling Rs. 1412, had not been paid. As a result, the service connection was disconnected in January 2022 after proper notice. Upon reviewing the consumer ledger, it was noted that the CC charges for the subsequent three billing cycles after May 2021 were all zero. The AE, after the inspection, informed the petitioner that the service connection had been disconnected for over 2 years, resulting in a total reconnection charge of Rs. 21793. The reconnection charges are

A	Outstanding CC Bill	Rs 1412
B	Belated Payment Surcharges (BPSC)	Rs.751.18
C	CC arrears (A+B)	Rs.2163.18
	Reconnection charges when the service connection is disconnected for more than 2 years (New Service Connection charges)	
D	CC Deposit	Rs.2333
E	Development Charges	Rs.17,005
F	Reconnection Charges	Rs.147.50
G	Testing Charges	Rs.182.90
H	Total (D+E+F+G)	Rs.19668.4
	Total charges for reconnection(C+H)	Rs.21832

Table: Calculation explaining the reconnection charges

The Assistant Engineer (AE) notified the petitioner to pay a total of Rs.21,832/- as comprehensive reconnection charges to restore the service connection. Unhappy with the AE's response, the petitioner filed a complaint with the Consumer Grievance Redressal Forum (CGRF). After considering both sides, the Forum stated that the petitioner's service connection had been disconnected due to non-payment of the electricity bill for over two years. Accordingly, the petitioner was required to pay the new service connection charges as reconnection fees to reinstate the service connection, in line with Clause 22(6) of the Tamil Nadu Electricity Supply Code, 2004. The Forum directed the petitioner to settle the necessary charges to have the service connection reinstated.

Dissatisfied with CGRF's order, the petitioner appealed to the Electricity Ombudsman. During the hearings, the Ombudsman observed

1. Should the consumer be treated as a new applicant for restoration of supply after disconnection?
2. Can the petitioner be charged twice as the development charges for the same service connection?

The Electricity Ombudsman's findings (1):

As the petitioner had not paid the current consumption charges within the due time, the service connection had been disconnected. To have the service reconnected, the petitioner had to pay the outstanding CC charges along with Belated Payment Surcharges (BPSC) charges. In this case, the petitioner did not pay the arrears, and the service connection had been disconnected for two years. Therefore the respondent had followed the 22(6) of the TNE Supply Code 2004 regulation for the reconnection of service connection.

> *22. Restoration of Supply of Electricity of TNE Supply Code, 2004 states that*
> *(6) (i) When a service connection remains disconnected for more than six months for non-payment of electricity charges beyond the notice period of three months if the consumer comes forward within the period mentioned below to pay the actual dues and agrees to remit the charges in clause (ii) below, the official authorized by the Licensee may grant extension of time beyond the notice period and revoke the termination of agreement provided that the lines feeding the service connection have not been dismantled, so as to facilitate reconnection of the disconnected service.*

Category	**Period for reconnection of disconnected Service**
Other than LT Agricultural Consumers	Within two years from the date of disconnection

As mentioned in Clause 22(6), any LT consumer other than agriculture, that remains disconnected for more than six months for non-payment of electricity charges beyond the notice period of three months comes forward for reconnection within two years from the date of disconnection, then the DISCOM will consider for reconnection. In this case, the petitioner did not represent for reconnection within two years. Therefore the DISCOM could not consider reconnection of the service connection, instead following Clause 22(7) of the TNE Supply code 2004 regulations which states that

> *(7)If the consumers of the disconnected service come forward for reconnection after the period mentioned in the sub-regulation (6)(i), the licensee shall treat them as new applicants and supply effected after recovering all charges applicable to a new service connection and all other arrears with BPSC."*

Hence, the petitioner was informed to pay the charges as a new applicant applying for the new service connection.

The Electricity Ombudsman's findings (2):

The petitioner has alleged that development charges were collected twice. Since the petitioner's service connection was disconnected, they must follow the new service connection procedures for reconnection. The charges for obtaining a new service connection include the (i) consumption charges deposit, (ii) development charges, (iii) reconnection charges, and (iv) testing charges.

As per the TNERC Miscellaneous Charges Order 2024, the development charges for a 3-phase overhead service connection totals to Rs. 21,450/- (Rs. 2,145/- per kW for a 9 kW load). The system automatically deducted the old development charges of Rs. 1,400/- from the petitioner's connection. As a result, the new development charge is Rs. 17,905/-.

Based on the investigation, the Electricity Ombudsman determined that the respondent had adhered to the specified procedures for reconnection charges as outlined in the regulations. Additionally, it was verified that the respondent did not levy any extra development charges. The respondent is unable to manually input the charges; they are all system-generated. Therefore, the charges applied for the new service connection were deemed to be legitimate.

SOURCE: OMBUDSMAN CASE

NEWS FROM TAMIL NADU

In a first, Tamil Nadu approves three major green policies in energy sector

The Tamil Nadu government approved three major power policies on pumped storage projects, small hydel projects, and wind repowering and life extension. This marks the first time such policies are being introduced in the state's energy sector. The approval for wind repowering and life extension of wind mills has come eight months after the release of the draft policy on January 2. The state government is aiming to boost the green energy sector with a target of setting up renewable energy power plants with a combined capacity of 20,000 MW by 2030. These policies were introduced to help achieve this goal, said Electricity Minister Thangam Thennarasu.

Though the policy details are yet to be made public, some key highlights were shared after a cabinet meeting. The government intends to encourage public and private sectors to establish pumped storage projects. Small hydel projects policy will support the development of power plants with capacities ranging from 100 kilowatts to 10 megawatts. The policy aims to encourage private companies to produce electricity for their own use while minimising environmental impact.He noted that while the policy expects developers to increase wind power generation by 25% through repowering, studies indicate that this may not be possible at all sites. In such cases, a wind-solar hybrid setup may be recommended to augment renewable energy generation. S Jayakumaran, CEO of Vayulo Energy in Tirunelveli, mentioned that upgrading old windmills could increase installed capacity, which would require improved power evacuation arrangements. He suggested that Tangedco should plan for more 110 KV and 230 KV substations and transformers to accommodate the increased capacity.

SOURCE: THENEWINDIANEXPRESS, 14 AUGUST2024

NEWS FROM ACROSS THE COUNTRY

India's power consumption rises 3.5 pc to 145.40 billion units in July

NEW DELHI: India's power consumption rose a meagre 3.5 per cent to 145.40 Billion Units (BU) in July compared to the year-ago period as rainfall brought down temperatures from the scorching heat. In July 2023, the power consumption stood at 140.41 BU, according to official data. The highest supply in a day (peak power demand met) also rose to 226.63GW in July 2024 against 208.95 GW in the year.

The peak power demand touched an all-time high of 250.20 GW in May this year. The previous all-time high peak power demand of 243.27 GW was recorded in September 2023. Earlier this year, the power ministry projected a peak power demand of 235 GW during daytime and 225 GW during evening hours for May and 240 GW during daytime and 235 GW during evening hours for June 2024. The ministry also estimated that peak power demand may hit 260 GW this summer.

Experts said with the onset of the monsoon in the country, the consumers got relief from the scorching heat and humidity which led to lesser use of cooling appliances like air conditioners and desert coolers. This led to a decline in power consumption as well as growth in power demand in the country, they pointed out. However, they opined that the demand for power as well as consumption will be steady in the coming days due to high humidity which makes use of air conditioners inevitable. According to the Indian Meteorological Department (IMD), the monsoon has covered the entire country and widespread rains are likely at various places across India.

SOURCE: ECONOIMCTIMES 01 AUGUST 2024

WORLD NEWS

Global electricity demand set for ‘strong rise’ – plus other top energy stories

Global electricity demand is expected to rise sharply in 2024 and 2025, says a new report from the International Energy Agency (IEA). Demand is forecast to grow by around 4%, up from 2.5% in 2023 – the highest annual growth rate in the past two decades, excluding the rebounds seen after the global financial crisis and the COVID-19 pandemic.

The growth is driven by factors including strong economic activity, increased use of air conditioning amid intense heatwaves, and increasing uptake of technologies like electric vehicles and heat pumps. Renewable electricity sources are expected to expand rapidly, with their share of global supply forecast to rise from 30% in 2023 to 35% in 2025. Solar PV alone is expected to meet about half of the growth in demand.

However, despite this rise in renewables, coal power generation is unlikely to decline this year due to high demand, the IEA says. This will result in a slight increase in power sector emissions in 2024 before a decline in 2025.

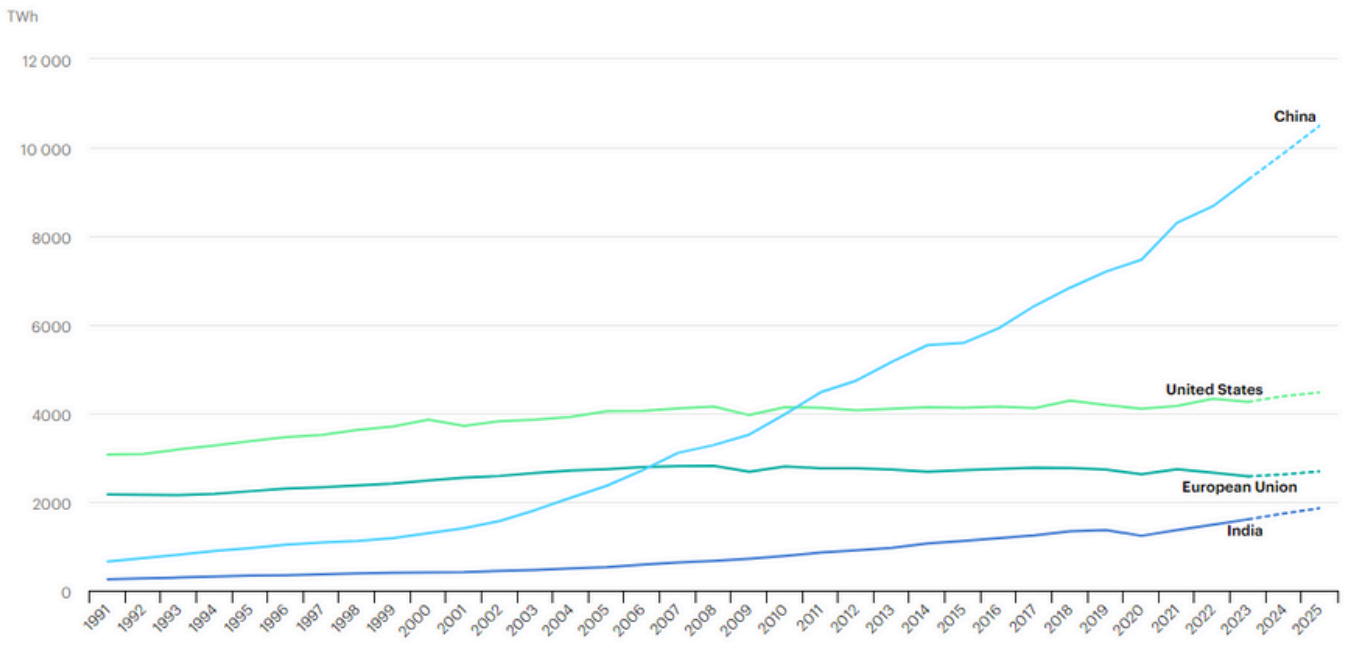
“It’s encouraging to see clean energy’s share of the electricity mix continuing to rise, but this needs to happen at a much faster rate to meet international energy and climate goals,” Keisuke Sadamori, IEA Director of Energy Markets and Security, said in a release accompanying the report. A reliable and secure electricity supply and measures to implement higher energy efficiency will be crucial, he added. A greener economy could generate more than 3 million jobs across Africa by 2030, with 70% of the projected jobs in the renewable energy sector, a new report says.

SOURCE: WEFORUM, 13 AUGUST 2024

PUBLICATIONS

- Guidelines for Implementation of Component ‘Model Solar Village’ under PM-Surya Ghar: Muft Bijli Yojana, MNRE, August, 2024
- Tamil Nadu Small Hydel Policy 2024, TN GOV, August, 2024
- Tamil Nadu Pumped Storage Projects (PSP) Policy - 2024, August, 2024
- Street Lighting National Programme, MoP, August, 2024

ELECTRICITY DEMAND IN SELECTED REGIONS, 1991-2025



SOURCE: IEA

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