CURRENT NEWS

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EMPOWERING SOLAR ADOPTION : TNERC'S NEW SOLAR ENERGY METERING MECHANISMS

KIRUBAKARAN.B

The Tamil Nadu Electricity Regulation Commission (TNERC) published a draft regulation on Grid Interactive Solar PV Energy Generation Systems (GISS) on 14th June 2024. This regulation marks a significant step toward sustainable energy transition in Tamil Nadu for several reasons:

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- PM - Surya Ghar: Muft Bijli Yojana: Announced by the Central Government in March 2024, this initiative aims to install rooftop solar power plants in 1 crore residences in India, providing Central Financial Assistance to prosumers to achieve this target. Tamil Nadu has seen a significant increase in rooftop solar applications, with 59,206 residents registering for installations in the past three months alone. This surge in interest underscores the potential impact of the new regulation.
- Rising Electricity Costs: TNERC raised tariff rates by up to 4.83% for all categories starting July 2024, affecting both energy and demand charges. This increase has driven consumers to seek more economical alternatives, such as installing rooftop solar power plants.

The TNERC draft regulation introduces two new types of metering systems for billing and accounting solar energy generated in GISS, in addition to the existing Net Metering, Net Feed-in/Net Billing, and Gross Metering. These are Group Net Metering (GNM) and Virtual Net Metering (VNM).

GNM was already implemented by Delhi and Maharashtra in their 2019 regulations. VNM was already implemented by Himachal Pradesh and Uttar Pradesh in their 2018 and 2019 regulations respectively.

1. Group Net Metering (GNM)

Eligibility: Domestic consumers under tariff IA (Domestic, Handloom, etc.) can use Group Net Metering for service connections of the same consumer located anywhere within the same distribution licensee's area of supply, up to the level of sanctioned load/contracted demand of the service connection where the GISS is installed.

Metering Arrangement:

- A single bidirectional energy meter records energy import from and export to the licensee grid at the interconnection point.
- The meter must be a digital four-quadrant vector summation energy meter configured for bidirectional energy measurement, displaying both imported and exported active energy readings.
- If the eligible consumer is within the ambit of Time-of-Day (ToD) Tariff, the bidirectional energy meter to be provided shall have programmable ToD registers with a minimum of four energy import ToD registers and four energy export ToD registers.

Billing and Accounting Procedure:

- In GNM there will be a primary service connection in which GISS is installed with the maximum capacity up to the level of contracted demand of that service connection.
- Surplus units injected into the grid can be adjusted against the energy consumed in the bi-monthly bill of other service connections of the same consumer located anywhere within the same distribution licensee's area of supply.
- The surplus exported energy from the primary service connection is credited as energy units in the billing account of the participating service connections and adjusted in the same billing cycle or ensuing cycle.

Other Charges :

- The 7% of energy towards line loss will be deducted from the exported units in the mother service connection (ie the primary service) itself where the GISS is installed. In case the mother service connection and the participating service connections are fed by the same Distribution Transformer, the line loss is not applicable and no deductions will be made towards line loss.
- Apart from this, network charges are applied only on those units utilised by the prosumer, and not on units exported to the grid. For FY 2024 - 25, network charges have been determined as ₹ 1.48 / kWh.

Example: Imagine a consumer in Chennai has a primary service connection (mother service) with a GISS installed and two other service connections in different parts of the city. If the GISS generates 200 units of surplus energy in a month after deducting the energy imported from the grid for the primary service connection, and if the consumer specifies a sharing ratio of 75% for the first service connection and 25% for the second, after deducting the 7% line loss, 140 units will be credited to the first service connection and 46 units will be credited to the second service connection. This adjustment will reduce the consumer's overall electricity bill significantly.

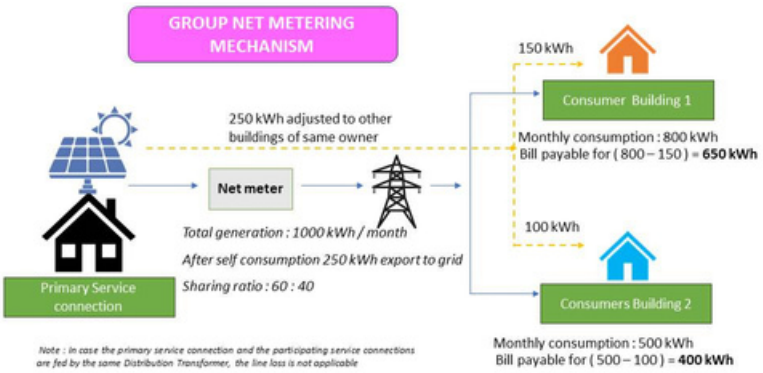


Image 1: An example of how group net metering works

2. Virtual Net Metering (VNM)

Eligibility: Distribution Licensees, and government / local bodies are eligible for Virtual Net Metering. The minimum capacity for GISS under VNM is 5 kW, and it can be set up under CAPEX or RESCO models.

Metering Arrangement:

- Similar to GNM, a single bidirectional energy meter records energy import and export at the interconnection point.
- The meter must support programmable ToD registers for energy import and export.

Billing and Accounting Procedure:

- VNM allows energy adjustment for Distribution Licensees, Government, or Local bodies' buildings or solar parks/plants set up on their own/leased land.

Other charges:

- Energy adjustments are made after deducting line loss (7%) and banking charges (8%), with wheeling / network charges applicable for the balance energy.

Example: Consider a local municipality in Coimbatore that sets up a 10 kW solar plant on a leased plot of land. The energy generated is used to offset electricity consumption in municipal buildings across the city. If the plant generates 1000 units in a month, after deducting 7% for line loss and 8% for banking charges, 850 units remain. These units are then distributed among various municipal buildings, significantly reducing their electricity expenses and promoting sustainable energy use.

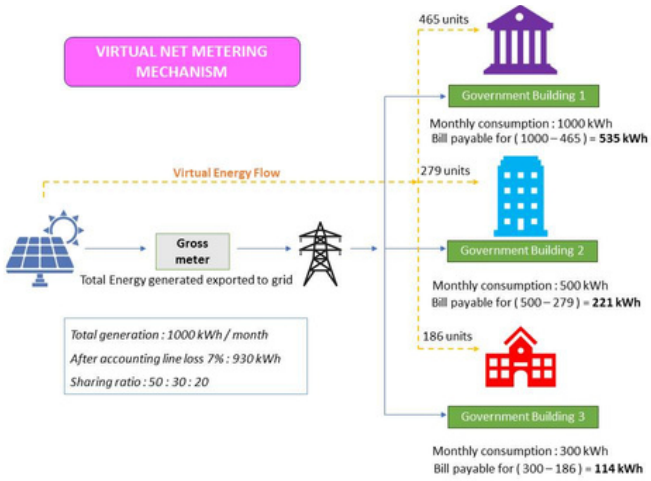


Image 2: An example of how group net metering works

The new metering mechanisms proposed by TNERC, namely Group Net Metering and Virtual Net Metering, are poised to drive the adoption of rooftop solar systems in Tamil Nadu. These mechanisms offer flexible, economical solutions for consumers and governmental bodies, enhancing the state's transition to sustainable energy.

COMPENSATION FOR POWER OUTAGES ACROSS SELECTED STATES IN INDIA (PART 1)

G.N.BHARATH RAM

A power outage (also called a power cut or power out) is the loss of the electrical power network supply to an end user. The causes for power outages could be diverse, ranging from faults at power stations, damage to electric transmission lines, substations or other parts of the distribution system. Power outages are felt keenly by consumers, as an uninterrupted supply of electricity is now fundamental to our everyday lives. An earlier blog provided a detailed explanation of resolution processes in case of power outages. In this article, we examine whether the State Electricity Regulatory Commissions (SERCs) have amended regulations in line with the Electricity (Rights of Consumers) Rules, 2020. Additionally, the article aims to outline the procedure for consumers to avail of the compensation as determined by SERCs of Chhattisgarh, Karnataka, Tamil Nadu, Telangana, and Tripura.

The legal framework

The Electricity Act of 2003 defines a "distribution licensee" as a licensee authorized to operate and maintain a distribution system to supply electricity to consumers in a specific area. According to Section 42 of the Act, distribution licensees, or DISCOMs, are responsible for maintaining an efficient distribution system to prevent overloading and potential malfunctions, thus avoiding disruptions in power supply with the Act mandating SERCs to define performance standards that DISCOMs must adhere to.

Under Section 82 of the Electricity Act, 2003, the SERC is responsible for regulatory functions, such as issuing licenses, approving Annual Revenue Requirement (ARR) and payable tariffs, setting standards and service norms, monitoring service quality, and promoting competition in the sector. As a regulator, the SERC formulates relevant regulations for DISCOMs to safeguard consumer interests and establish standards and service norms, detailed in regulations like the Electricity Supply Code, and Distribution Code which comply with Distribution Standards of Performance.

These Distribution Standards of Performance regulations serve as a measure of the DISCOM's operational efficiency and aim to ensure a reliable power supply, ultimately safeguarding consumers. In case of consumer grievances, the SERC determines compensation for affected individuals.

According to Section 57 of the Electricity Act, 2003, the State Electricity Regulatory Commission (SERC) is responsible for setting standards related to power quality, continuity, and reliability of service for DISCOM. In India, various SERCs have established regulations based on their respective regions, with the primary focus on safeguarding consumer rights.

To further strengthen consumer protection, the Ministry of Power introduced the Electricity (Rights of Consumers) Rules 2020. These rules aim to establish uniform practices to be followed by all distribution companies in accordance with existing regulations. The Electricity (Rights of Consumers) Rule, 2020 focuses on various aspects such as new service connections, infrastructures, compensation, standards of performance of licensee, Grievance redressal mechanism etc.

The main purpose of these regulations is to direct the distribution licensee to ensure that consumers have access to uninterrupted electricity supply around the clock. If the distribution company fails to provide reliable power supply, customers are entitled to compensation as per Rule 13 of Electrcity (Right of Consumers) Rules, 2020. The compensation is to be proactively provided by distribution companies when they fail to meet specified performance standards.

(To be continued)

CONSUMER FOCUS

The appellant, a commercial consumer, received a letter on 16.03.2023 instructing him to pay an arrear amount of Rs. 50,356 for Service Connection (SC) 174 . Distressed by this, the appellant met the Assistant Executive Engineer (AEE) and stated that the appellant's service connection (meter) was disconnected in 2010. Additionally, he stated that the building was demolished in 2017 and a new building was constructed. Therefore, the appellant requested the AEE to cancel the arrear amount levied.

The AEE informed the appellant that at the time of the meter being disconnected (2010) it had an arrear of Rs.4,620/- which the consumer had not been informed about. However, now the amount had accumulated to Rs. 50,356. Dissatisfied with the reply given by the AEE, the appellant approached the Consumer Grievance Redressal Forum (CGRF) to have the arrear cancelled.

In his appeal, the respondent stated that SC No.174 under Tariff-V (commercial) was disconnected on 02-01-2010 due to nonpayment of consumption charges amounting to Rs.12,769/- until 10/2009. The appellant's meter was subsequently removed from their premises on 02-03-2018. Following this, the service connection was permanently closed (terminated) on 21-03-2020, with a total outstanding due of Rs. 50,356. On 16-03-2023, the Assistant Engineer sent the notice regarding the outstanding payment to the appellant.

CGRF upheld the validity of the notice sent to the appellant based on the documents submitted by the respondent. Hence CGRF passed an order to pay Rs.50,356. Dissatisfied with the CGRF's order, the appellant registered his complaint with the Electricity Ombudsman.

During the Ombudsman hearing, the following information was found out:

- According to the appellant's consumer ledger(SC No.174) , the following charges were not paid:

A	Current consumption charges for the period (April 2006 to October 2009)	Rs. 12,769
B	Consumption charges for the period (October 2009 - January 2010) after disconnection	Rs.4,118
C	The monthly minimum charges for up to six months after disconnection {Minimum charges are charges collected from all consumers other than those on the Domestic Tariff (Low Tension Tariff 1A)}	Rs.502
D	Belated Payment Surcharge (BPSC)	Rs.17,647
E	Half of the Disconnection (DC), Reconnection (RC) fees and dismantling charges	Rs.18,214
F	Total amount (A+B+C+D+E)	Rs.53,250
	Deduction	
G	Security deposit	Rs.2194
H	Meter caution Deposit (MCD)	Rs.700
I	Total Deduction (G+H)	Rs.2894
	Total arrears amount to be paid by the appellant (F-I)	Rs.50,356

- The appellant stated that the property was demolished in 2017, and as a result, the service connection was also surrendered. In addition, the appellant had a SC No. 175 for construction purposes, by converting an existing service connection to a temporary service connection (Tariff VI).

- The respondent argued that the appellant's assertion of property demolition occurring in 2017 is questionable. This is based on the fact that the service connection (SC No. 222) was converted from Tariff IIIB (Industries, Information Technology services) to Tariff V (Miscellaneous/General purpose) during the period in question, and was assigned to the same property. Currently, SC No.222 is active, and the appellant had paid for this service connection until 2017. This casts doubt on the appellant's claim that the property was demolished in 2017. Furthermore, the appellant used SC No. 222 during the disputed period, indicating that the appellant's claim of completely demolishing the property is not supported.
- The respondent's claim for arrears is based on Regulation 17 of the Tamil Nadu Electricity Supply Code, 2004 which states that "every consumer shall pay to the Licensee, from the date of commencement of supply till the agreement is terminated, security deposit, minimum monthly charges, fixed charges, and other charges as provided in the Tariff Orders, this Code and any other orders in this regard by the Commission, from time to time". (This will also include the period between disconnection and termination).
- It is observed that the Licensee is authorized to collect dues from the Appellant by offsetting the available Security Deposit and Meter Caution Deposit as of the date of Termination of the Agreement.
- It is noted that the account closure should have been done on expiry of termination of the agreement i.e. on the expiry of six months from the date of disconnection. However, while the meter was removed in 2018 the account was terminated only in 2020
- Thus, the Electricity Ombudsman has determined that the arrears raised by Respondent's is per Supply Code provisions.

Therefore, the Electricity Ombudsman instructed the respondents to issue a fresh working sheet to the appellant, duly deducting the pending consumption charges and current consumption arrears as on the date of disconnection along with other dues on the date on which the agreement was terminated (ie, 6 months from date of disconnection).

SOURCE: OMBUDSMAN CASE

NEWS FROM TAMIL NADU

Your rooftop solar power can pay for multiple connections

Domestic electricity consumers who have installed rooftop solar systems will soon be able to split the power generated to offset electricity bills of other domestic property of theirs anywhere in the state under the proposed group net-metering (GNM). Currently, domestic electricity consumers who have installed grid-connected rooftop solar systems and opted for net-metering (compensating consumed units with generated units) can link rooftop solar account with only one service.

If the generation is surplus, excess energy will be carried forward to successive billing cycles and at the end of the financial year, excess units will lapse. However, Tamil Nadu Electricity Regulatory Commission (TNERC) has notified a revised draft regulations of grid interactive solar PV energy generating system, along with battery energy storage system, paving the way for multiple connections of the same consumer availing themselves of the generation from one solar rooftop connection in his/her name. Called group net-metering (GNM), the scheme will enable the consumer to decide what percentage of generated power should be compensated for each of his/her connections. If a rooftop solar system generates 200 units in a bi-monthly cycle, consumers owning three houses in the same or different locations can split the generated units in whatever portions they want.

SOURCE: TOI, 16 JUNE 2024

NEWS FROM ACROSS THE COUNTRY

Renewables can cut 17 per cent of India's heavy industry emissions by 2030

Renewables energy can avoid 17 per cent of the anticipated carbon emissions from India's heavy industry by 2030, according to a new report by energy think-tank Ember. It added that based on industry growth projections, electricity demand for heavy industries is expected to rise by 45 per cent. Meeting this increased demand with renewable energy could help to avoid 180 million tons (Mt) of CO2, equivalent to the total annual emission of the Netherlands.

"Besides being one of the most promising levers for decarbonising industries, renewable based electrification offers multiple co-benefits. It allows industries to benefit from low cost renewable power, improves grid flexibility, and most importantly, improves air quality within industrial facilities," said Duttatreya Das, an independent consultant and the report's lead author. Das added that switching to renewables immediately and ensuring clean air within industrial premises needs to be a people-first strategy for heavy industries. The report indicates possible near and long term strategies to smash emissions as India negotiates with the EU bloc on mechanisms to comply with the Carbon Border Adjustment Mechanism (CBAM). CBAM is a regulatory framework that imposes a carbon tariff on imports to the EU.

Aditya Lolla, Asia Programme Director at Ember, said that with emissions-related trade regulations such as CBAM are expected to take effect soon, understanding the potential for near-term emission reductions is crucial for Indian heavy industries. He added that renewables-based electrification also offers multiple cobenefits to India's wider energy ecosystem. It can open up multi-million dollar private investment opportunities, stimulate India's clean energy manufacturing sector and propell India towards becoming a global leader in clean energy.

SOURCE: ENERGYWORLD.COM 26 JUNE 2024

WORLD NEWS

Who is investing in energy around the world, and who is financing it?

Meeting global goals for sustainable development, climate and energy security requires a substantial increase in capital investment in the energy sector. Debate on this topic tends to focus on the headline numbers, which are measured in the trillions. But in order to understand the prospects for a rise in investment, an essential starting point is understanding who is making investments in energy today, as well as who is financing these investments. Based on first-of-its-kind analysis in the 2024 edition of the IEA's flagship World Energy Investment report, this commentary explores these important questions and identifies key trends over the past decade based on the latest data.

This commentary is divided into three parts. The first section looks at the capital structure of energy investments, or how debt and equity are used to finance spending on energy assets and companies. The second examines the entities making investment decisions, from governments and state-owned enterprises to households and private firms. The third assesses which entities are providing financing for these investments, evaluating the role of the commercial and public sectors, as well as development finance institutions. It then outlines the potential implications of these dynamics for energy transitions around the world.

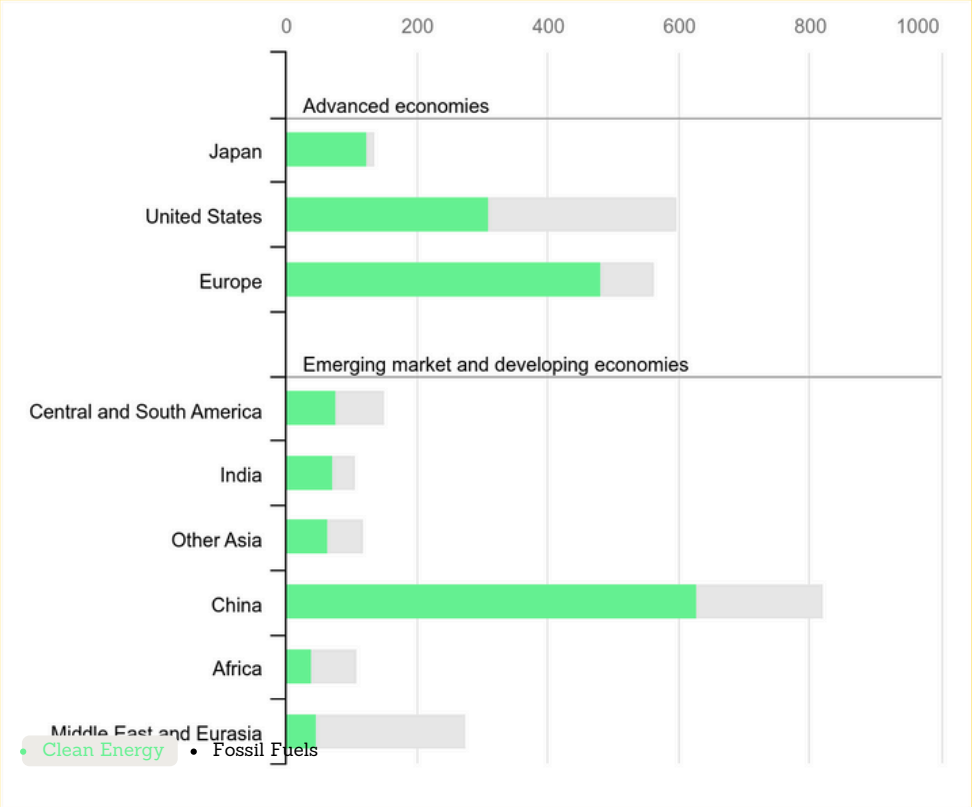
The capital structure of investment in the global energy sector has remained stable since 2015. Currently, debt accounts for around 46% of total spending and equity for 54%. Overall, debt financing is more prominent in the power sector and in Asia, while larger equity shares are seen in fuel supply, as well as in the Middle East and Eurasia.

SOURCE: IEA, 25 JUNE 2024

PUBLICATIONS

- Consolidated CGRF & EO Regulations as amended upto 31.03.2024, TNERC, June 2024
- Fostering Effective Energy Transition 2024, WEF, June 2024
- COP28 Tripling Renewable Capacity Pledge, IEA, June 2024
- Tracking SDG 7: The Energy Progress Report 2024, IRENA, June 2024

AVERAGE ANNUAL ENERGY-RELATED INVESTMENT BY REGION AND BY TECHNOLOGY, 2015-2023



SOURCE: IEA

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