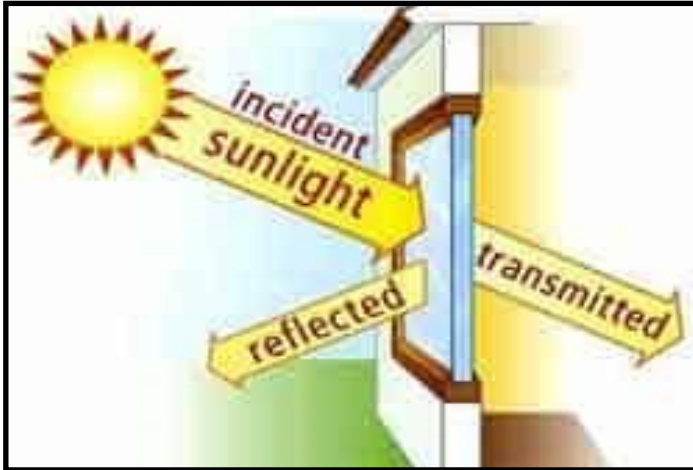


Energy Conservation Building Code for Residential Buildings (Part-4)

This issue is in continuation of the previous [part](#) which explains the standards to be considered for energy efficient building design.

Visible Light Transmittance (VLT): Light can either give a cooling effect or heating effect. VLT is an indicator of how much light that hits a window is allowed to enter into a home. This will also determine how much heat protection the window offers. A [higher VLT](#) means more natural daylight entering the building. The right design and fixtures of a building should allow optimal amounts of light into a building, thus reducing the need for artificial lighting. In this way, VLT has the potential to reduce electricity costs. [Several factors](#) affect VLT, such as:

Window-to-wall ratio (WWR) ie, the proportion of the exterior covered by windows.



Visible Light Transmittance
Source: truglaze.com.au

Higher WWR may not necessarily contribute optimal transmittance. However, proper planning of the windows considering factors such as building's position, orientation etc has potential to minimise total annual energy spent on cooling, heating, and lighting a building. The coating and tinting of the glass panel. The number and thickness of glass panes in the used glass unit. Thickness of frames in the window.

Thermal/heat transmittance:

• **Thermal Transmittance of Roof (U_{Roof}):** Thermal transmittance is [defined](#) as the rate of transfer of heat through a structure, also called U-Value. Thermal transmittance of a roof or U_{Roof} describes the heat transfer between a building and the external environment through the roof of that building. This important because the roof is a major source of heat gain and loss in a building. Therefore, limiting its thermal transmittance, or the amount of heat or cold that it transmits, effectively safeguards residents from inconveniences. It also reduces the energy required for cooling or heating of a building.

• **Agencies** like the Bureau of Indian Standards (BIS) and Bureau of Energy Efficiency (BEE) advise to maintain lower U_{Roof} values as this is ideal for satisfactory thermal comfort inside the building environment. There are several ways in which a lower U_{Roof} can be achieved viz. [cool roofs](#) like [filler slab](#) roofs, [green roofs](#) or roof shadings.

(To be continued)

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

Electricity Consumer Cells (ECCs)

ECC Tiruvallur
No. 118, Fourth Street, Kamaraj Nagar, Avadi, Tiruvallur District. Chennai - 600 071,
Phone: 9382828286
Email: ecctiruvallur@gmail.com

ECC Tirunelveli
No.17/1,Shenbagavana Street, Palayamkottai, Tirunelveli - 627 006
Phone: 9443555097
Email: ecctirunelveli@gmail.com

ECC Cuddalore
No.23, Saraswathi Nagar, Thirupapuliur Cuddalore - 607 002
Phone: 8608615621
Email: ecccuddalore@gmail.com

ECC Tiruvannamalai
Avalurpet Road, Tiruvannamalai - 606 604
Phone: 04175 - 298033
Email: ecctiruvannamalai@gmail.com

ECC Salem
31/20, Sree Rangan Street, Gugai, Salem - 636 006
Phone: 9994941050
Email: eccsalem1@gmail.com

ECC Vellore
No: 10, Pillayar Koil Street GriblesPet Arakkonam Vellore District - 631 002
Mobile : +91 98946 32302
Email id: eccvellore@gmail.com

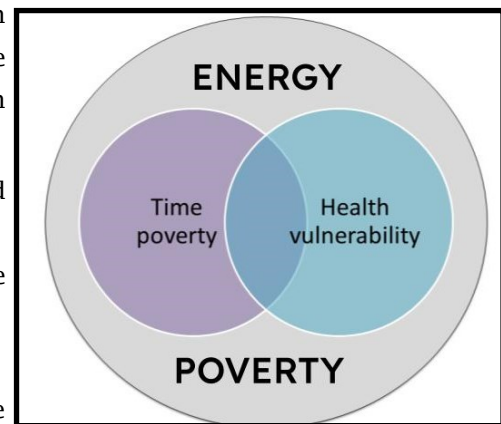
ECC Trichy
No: 4/74, Sangililyandapuram Pettavaithalai & Post Tiruchirapalli District - 639 112
Landline : 0431-2612597
Mobile : +91 9788203997
Email id : ecctiruchirappalli@gmail.com

Role of electricity in the lives of Indian women & girls (Part-3)

As explained in the [previous](#) issue, the combination of factors viz unfair, unpaid and domestic responsibilities, poor education and ensuing low employment opportunities, intra household power dynamics and gender imbalances in awareness about energy schemes and technologies creates a vicious cycle that keeps women and girls trapped in an energy and time poverty cycle.

The very people that need the most consistent access to energy (by virtue of being the ones entrusted with the household chores of washing, cooking, milling etc) are the ones that are now shut out of making decisions that could have given them what they needed. And their lack of access to energy is what is driving that cycle! Moreover, females' health is a crucial factor within the energy - time nexus. Poor access to clean energy impacts on women and girls' [health](#) in any of the following ways:

- Reliance on traditional energy sources for cooking exposes them to [indoor air pollution](#), and allied physical and mental health issues.
- Lack of modern energy resources and appliances results in gruelling hours spent on chores allowing little [time](#) for self care and development, social/family interactions etc. All these can accumulate as mental stress depreciating their wellbeing.
- Inaccessibility to energy technologies could [affect](#) household food security, clean water and sanitation availability; this subsequently makes the women and their families more vulnerable to infections and [malnutrition](#). These deficiencies are already widespread among our country's women and children.
- Recovery from the resultant health complications furthers time poverty.



Energy poverty's interrelated consequences

Electricity- the great leveler!

Since household needs for electricity vary, it has so far been impossible to draw a [clear line](#) to determine 'energy poverty'. Equitable access to electricity, however, can have a direct effect on [empowering women](#). It is seen that women and girls in India living in households having [electricity](#) spend more time in income generating activities, education and also in leisure, healthy and fitness routines.

[Improved electrification](#) imparts enhanced workday effectiveness. With availability of lighting and supportive electrical appliances in their households, they feel more [assured](#) to leave some chores for night or comfortable part of their day and focus more on formal activities related to their career. Apart from reducing drudgery at home, electricity expands the employment and entrepreneurship scope for women. It gives rise to diverse new [opportunities and assistance](#) in areas like agriculture, [self help groups](#), clean energy businesses, [Micro, Small & Medium Enterprises\(MSME\)](#), work from home jobs etc. A charged basic keypad phone can do wonders, creating employment [opportunities](#) for women even in rural areas. Women can also transform into prosumers thereby becoming self-reliant for their energy needs while also earning money through their energy exports.

As women bring in incomes, it results in more positive self-concepts, more bargaining power and overall, a better standing within society. All these have innumerable benefits for the woman, her family and the society at large.

Though we might often fail to appreciate it, electricity is a prime factor behind several means that aids to accomplish easy and extended achievement of equitable knowledge and progress. Gender just electrification [measures](#), policies and [schemes](#) are therefore undeniably crucial for the country's overall sustainable and inclusive development.

(Concluded)

Tamil Nadu News

Create online facility to claim compensation: TNERC to Tangedco

Consumers will soon be able to claim compensation from Tangedco through an online facility if their complaints such as interruption of power supply, voltage fluctuations, delay in replacing faulty meters and other service deficiencies, are not addressed. Though the provisions for getting compensation for not adhering to the Distribution Standards of Performance (DSOP) regulation have been functional for several years, it was seldom used by consumers due to a lack of awareness of such provisions. In line with the Union Power Ministry amending the Electricity (Rights of Consumers) Rules, 2020, TNERC has proposed amendments to incorporate certain provisions from the rules in the existing Distribution Standards of Performance Regulations 2004.

The public are invited to give their views on the draft regulations by May 26. In the proposed amendment, TNERC said that Tangedco should compensate consumers for deficiency in service either automatically or upon the claim. "Consumer shall be automatically compensated for those parameters which can be monitored remotely when it can be successfully established that there was a default in performance. Tangedco shall establish a remote monitoring mechanism to establish whether or not the parameters specified in this regulation were fulfilled by their performance to enable automatic payment of compensation," it said. An aggrieved consumer also has the right to claim compensation for non-compliance with the standards if Tangedco fails to pay the compensation within the next billing period.

Source : [DTNEXT](#), May 02, 2023

India News

Electric two-wheeler subsidy cut to hurt mass adoption of EVs

The Union Ministry of Heavy Industries May 19, 2023 reduced the subsidy for electric two-wheeler vehicles under the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME II) scheme from Rs 15,000 per kilowatt-hour (kWh) to Rs 10,000 per kWh. The ministry also reduced the cap on the maximum subsidy on an electric two-wheeler's ex-factory price to 15 per cent from 40 per cent. The notification will come into effect from June 1, 2023 and apply to all electric two-wheelers registered on or after June 1, 2023. FAME was launched in 2015 by the central government with the aim of catalysing the adoption of EVs in the country. FAME II, the extended form of the original scheme, came into effect in the year 2019.

The three-year FAME II scheme was approved by the government on April 1, 2019, with an outlay of Rs 10,000 crore, of which the Rs 2,000 crore allotted for electric two-wheelers has already been exhausted. In June 2021, the scheme got a two-year extension, taking the effective period of the subsidy scheme to March 31, 2024. The sharp reduction in subsidy announced last week will definitely hurt the market and consumer sentiments towards buying an electric two wheeler. The premium bikes will see the biggest decline in sales due to the subsidy cut. The original equipment manufacturers (OEM) will rush to launch stripped-down models of their vehicles to keep the market shares running, and several players in the industry will follow the trend for keeping the market sentiment intact. EV sales peaked in March 2023 when 85,793 units were sold in the country. The Union Minister of Heavy Industries Mahendra Nath Pandey had announced the sanction of Rs 800 crore under FAME II to the public sector unit oil marketing companies, including Indian Oil Corporation Ltd, Bharat Petroleum Corporation Limited and Hindustan Petroleum for setting up 7,432 public fast charging stations across the country.

The central government committee had recommended certain changes to improve the viability of the development of public charging infrastructure. It includes supporting the upstream infrastructure such as distribution transformer, low tension and high tension cables, alternative current distribution boxes, circuit breakers / isolators, protection equipment, tubular or plain concrete cement, mounting structures, fencing and civil work. These generally cost up to 60 per cent of the overall cost of setting up a public electric vehicle (EV) charging station.

Source: [DTE](#), May 23, 2023

Consumer Focus

Ombudsman Case:

The appellant (consumer) requested the respondent (utility) to shift a newly fixed pole to a different place stating that it was in the middle of the road and would disturb the public. The respondent declined this request stating that the pole was fixed next to a storm drain and did not obstruct road use in any way.

Unhappy with the respondent's reply, the appellant along with other residents of the street submitted a complaint to the Consumer Grievance Redressal Forum (CGRF). The CGRF rejected it on the 28th January 2023, stating that the pole was no hindrance to the public.

Aggrieved by this Order, the appellant filed a complaint before the Electricity Ombudsman.

The appellant argued that the pole was fixed in the middle of the road and that this hindered the movement of vehicles. The appellant also stated that the position of the pole had already been objected to by the local residents and the plan subsequently dropped. Now, without considering public safety, the utility had gone ahead and erected the electric pole. It was further argued that the pole would cause frequent traffic jams on an already narrow road.

During the CGRF hearing, the appellant had requested the estimation copy, sketch and drawing details of the new pole, with the officials offering to share it through WhatsApp; however, according to the appellant, this was not done. The respondents stated that they had already shifted the high voltage power pole from another planned location to this, erecting it close to a storm water drain. This was done following a request from another resident of the street, who stated that its planned location was too close to their home.

The respondents also argued that in its current location, it was not a hindrance to the movement of vehicles on the road, submitting a photo as evidence during the hearing. Respondents further submitted that the estimation and plans were sent to the appellant, submitting the speed post acknowledgement card for the same.

Respondents finally stated that the pole meets all the clearance levels as listed in [Rule 58 of the CEA \(Measures relating to Safety and Electric Supply\) Regulations 2010](#). According to this rule, the vertical clearance between the ground area and the installed electrical line should be 5.8 meters. In this case the pole erected is 9 meters and there is a sufficient ground clearance of 7 meters.

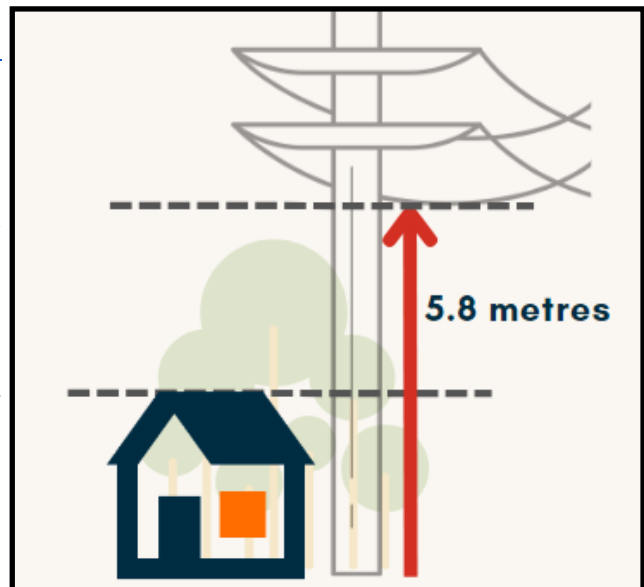
The Ombudsman observed that the pole was not in the middle of the road, it was opposite to the appellant's residence and at an adequate distance as per safety regulations.

Considering the facts of the case, arguments put forth, and the statutes relied upon, the Ombudsman passed the following order:

- The appeal is rejected
- The respondent is instructed to provide the details sought by the appellant (estimation, sketch, plan, etc)

Source: **Ombudsman Case**, [TNERC](#)

Note: Consumers can refer to [CAG's poster](#) as a ready reference to estimate if your home is at a safe distance from nearby power lines.



Citizen consumer and civic Action Group (CAG)
No. 103(First Floor), Eldams Road, Chennai 600 018
INDIA

Phone: 91-44-2435 4458,
91-44-2435 0387
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.

Editorial Team

K. Vishnu Mohan Rao

Bharath Ram G N

Akshaya S

Vanathi B

World News

Renewable Energy Is Booming But Must Triple By 2030 To Meet Climate

If the global community is to hit its net-zero goals, renewable energy capacity must triple by 2030. That's the genesis behind the new partnership between the International Renewable Energy Agency (IRENA) and Masdar, a clean energy powerhouse doing business globally. The United Arab Emirates (UAE) assumes the COP28 presidency this year, propelling the two organizations to create a practical roadmap. The goal is to vastly expand the solar, wind, hydropower, geothermal, and battery storage foundation — a hard push to prepare for the worldwide climate talks in Dubai in December. COP28 will zero in on the so-called “global stocktake,” which takes stock of national actions and assesses the collective progress — a way to ensure countries fulfill their promises.

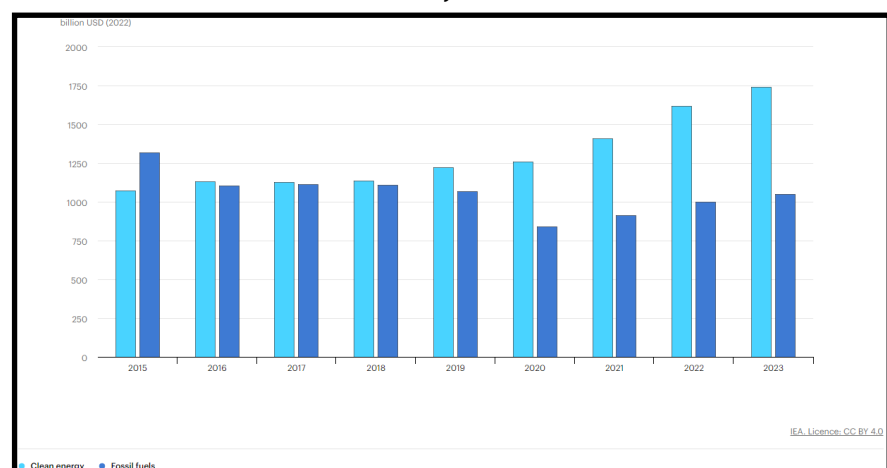
“The world needs to commit to tripling global renewable energy capacity by 2030 and to double it again by 2040. In the 17 years since the UAE's leadership established Masdar in 2006, the cost of a kilowatt hour of solar energy has plummeted to under 2 cents, and we need to harness this pioneering spirit of innovation now more than ever,” said Dr. Sultan bin Ahmed Al Jaber, Minister of Industry and Advanced Technology, Chairman of Masdar and COP28 President-Designate, in a press release. “Masdar has already committed to growing its total capacity five-fold to 100 gigawatts by the end of the decade, and this joint research project with IRENA will emphasize the vital role of renewable energy in limiting global warming when the world comes together at COP28,” his excellency added. A key highlight of COP27 in Egypt was a loss-and-damage fund, which compensates less developed nations. Indeed, 138 countries with less than 1% of annual CO2 emissions are at the mercy of 20 nations that make up 80% of those releases. While the agreement is historical, it must still determine what countries get funded and who contributes.

Source: [Forbes](https://www.forbes.com), May 15, 2023

Publications / Regulations

- Annual Report 2022-2023, [MNRE](#)
- World Energy Investment 2023, [IEA](#)
- Low-cost finance for the energy transition, [IRENA](#)
- World Energy Pulse 2023, [WEC](#)

Global energy investment in clean energy and in fossil fuels, 2015-2023



Source: [IEA](#)