

Do Energy Efficient LEDs affect our health?

(Part - 2)

Health impacts of blue light

Health concerns arising from the usage of artificial lighting that produces blue light, largely revolve around the fact that High Energy Visible (HEV) wavelengths flicker more easily than longer, weaker wavelengths. Additionally, the human adult eye does not block the blue light. All visible blue light passes through the cornea and lens, and reaches the retina. Longer exposure to blue light can cause irreparable damage to our eye cells in the retina and could even cause [blindness](#).

Further to affecting our vision, exposure to blue light also disrupts our sleeping patterns as it impedes the release of melatonin, a sleep-promoting hormone secreted by a gland in the brain that maintains the body's [circadian rhythm](#). When [blue light from the sun](#) hits the body, it inhibits the release of melatonin during the daytime and increases its release during the night time. Increased release of melatonin promotes normal, restful sleep. Prolonged exposure to blue light during night time due to screen-time and indoor lighting would lead to lower levels of melatonin and in-turn to poor sleep quality, difficulty in falling asleep, and daytime fatigue. Some studies also link lower levels of melatonin to cancer. There is some [experimental evidence](#) (preliminary) that supports the same.

Blue light filtering and lens innovation

In recent times, several brands providing LED technology are making conscious efforts to reduce the flickering and harmful glare of the LEDs. The launch of easy-on-the eye or Eye Comfort LED range is an example of a step taken in the right direction. Further, an increasingly high number of display devices have incorporated a blue light filter in their system. The most significant discourse on blue light filtering can be seen as heralded by the field of vision-care. Most of the advanced vision enhancement technology and lens innovations developed as of today include blue light filtering.

There is an increase in awareness about the harmful effects of blue light and the need for blue light filters or protective eyewear, but it remains inadequate due to the massive presence and popularity of LED technology. Now, more than ever, there is a strong need to make cautious and informed decisions with respect to choosing devices with LED technology.

(to be continued).

INSIDE THIS ISSUE:

Editorial	1,2
Tamilnadu News	3
India News	3
Consumer Focus	4
ECC Voice	4
World News	5
Publications, Statistics	5

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The Do-It-Yourself Energy Audit Series

For Household Consumers (Part 1)

Introduction

Background:

Energy consumption trends in India have been characterized with surges in demand for energy and high levels of energy intensity in select sectors. Given the projected demand in the growing economy, the need for efficient usage of energy resources has been established.

In line with the identified energy needs, the nation can be seen taking several policy measures to promote energy efficiency and conservation. The Energy Conservation Act enacted in the year 2001, and establishment of the Bureau of Energy Efficiency (BEE) in the year 2002 are steps in the direction. Adding to the policy measures and mandates, several interest groups and NGOs have been developing initiatives to disseminate the idea and essence behind energy conservation. As a result, interest around ways and means to conserve energy has been growing and energy auditing is being seen as the first step in the process.

Energy Audits:

[Energy Audit](#), as defined by ISO 50002 standard, is a systematic analysis of energy use and energy consumption within a defined energy audit scope, in order to identify, quantify and report on the opportunities for improved energy performance. The method of auditing performed are governed by factors such as (a) consumer category, (b) consumption demand in a given site and (c) the budget that can be allocated for the audit. For household consumers, a simple [walk-through energy audit](#) would be the most suitable method of energy auditing. Walk-through audits typically involve a) a thorough inspection of the site b) mapping the main uses of energy in the facility and c) pointing out ways to save energy. It helps identify energy losses which can be corrected at little or no additional costs through maintenance, operational actions, or purchasing choices. Given the nature of the method, a simple or preliminary walk-through energy audit can be done by consumers on their own.

Do-It-Yourself (DIY) Energy Audits for Household Consumers is a self-assessment method which provides certain guidelines to consumers on how to perform a walk-through energy audit in their households, based on prescribed checks and corresponding recommendations. The DIY Energy Audit would involve checking for the following: a) Structural gaps, b) Passive efficiency, c) Electrical safety and d) Heating, Lighting and Cooling patterns. This series, in its future editions will aim to provide household consumers with guidelines on how to perform their own simple walk-through energy audit.

(to be continued)

Do-it-Yourself Energy Audit !



Tamilnadu News

TANGEDCO stares at power deficit this summer

TANGEDCO has said there will be power shortage in summer season due to issues such as coal shortage and delay in completion of projects. To overcome the problem, TANGEDCO is planning to procure 1,000 MW of power on a short-term basis and 500 MW of peak-hour power from March to May 2019. The proposed quantum is higher than 650 MW short-term power procured in 2016-17 and 500 MW short-term power procured in 2017-18 respectively. "As per the long-term demand-supply projection (without considering the renewable), there will be a deficit of 1,391 MW for 2018-19," TANGEDCO said in its petition to the Tamil Nadu Electricity Regulatory Commission (TNERC). Based on short-term demand availability, TANTRANSCO has forecast a deficit of 125 MW to 680 MW during morning peak hours (06:00 to 9.00 hrs) and 600 MW to 1800 MW during evening peak hours (18.00 to 23.00 hrs) from October 2018 to May 2019, it added.

"To meet the anticipated deficit and to avoid load shedding in view of Parliamentary elections scheduled in 2019, 1,000 MW round the clock power and 500 MW peak power from October 2018-May 2019 is to be procured. Therefore, a short-term tender is proposed to be floated for procurement of 1000 MW RTC power and 500 MW peak power for supply from March 19 to May 19," TANGEDCO said. The financial commitment under short-term purchase will be around ₹2,700 crore for seven months at ₹5.29 per unit, while the rate for peak-hour power is yet to be worked out, it added.

Further, "The non-supply under long-term agreement from Ind Barath Utkal (500 MW), non-commissioning of 660 MW Ennore Thermal Power Station Expansion, which was scheduled for commissioning in January 2018, uncertainty in availability of at least one unit of Kudankulam most of the time in a year and anticipated increase in demand of around 500 MW to 750 MW in this FY 2018-19 compared to last year has resulted in round-the-clock power deficit in existing availability by around 2,500 MW," it said. TNERC has approved the proposal for procuring short-term power and modify its on going short-term tender for the restricted period of March 2019-May 2019.

Source: [The Hindu](#), 18 December, 2018

India News

Ministry mandates use of smart prepaid meters from April 2019

The government has mandated the use of smart prepaid electricity meters in the country beginning April 2019, as it looks to complete the transition over the next three years. This step is likely to bring revolution in power sector by way of reduction in AT & C losses, better health of DISCOMs, incentivizing energy conservation, ease of bill payments and doing away with the paper bills, power ministry said in a statement.

Smart meters are a part of the overall advanced metering infrastructure solutions (AMI) aimed at better demand response designed to reduce energy consumption during peak hours. "Move towards smart meters is pro poor steps as consumers need not pay the whole month's bill in one go. Instead they can pay as per their requirements," the statement added.

"Manufacturing of smart prepaid meters will also generate skilled employment for the youth," the statement added. The government is procuring smart and prepaid meters to be deployed across the country. State-owned Energy Efficiency Services Limited (EESL) has floated two global tenders for procuring a total of 10 million smart meters. The government also plans to install 10 million prepaid meters in Uttar Pradesh as part of Saubhagya scheme which aims to electrify over four crore households till March 2019.

Source: [Economic Times](#), 24 December, 2018

Consumer Focus

Facts

The petitioner filed a complaint with reference to the notice for revision of load stating that recorded demand exceeding the sanctioned demand for the LT service connection in his residence. The petitioner claims that for the month of August, he was certain that his consumption of electricity has not exceeded the sanctioned demand. He requests the forum to kindly look into this matter urgently.

Contentions

Petitioner :

The petitioner's contended that they have not exceeded the sanctioned demand. Further, existing load is sufficient for them and there is no need to extend the same.

Respondent :

The respondent contends that the Maximum Demand regularization in the service connection was explained to the consumer and the amount raised is towards testing charges for load enhancement from 2 to 2.2 KW.

Observation and Judgement :

The forum observed that the petitioner was satisfied by the respondent's explanation. Hence, the complaint was closed.

ECC Voice

விவசாய மின் இணைப்பின் வகைகள் மற்றும் கட்டணங்கள் :

1. சாதாரண வரிசை மின் இணைப்பு:

பதிவு செய்யப்பட்ட விவசாய மின் இணைப்பிற்கான விண்ணப்பம் பதிவு முன்னுரிமையின் அடிப்படையில் விண்ணப்பித்தவர்களுக்கு வழங்கப்படும் . தற்போதைய நிலையில் பதிவு மூப்பின் அடிப்படையில் விவசாய மின் இணைப்பு விண்ணப்பங்கள் "23" வருட காத்திருப்பில் உள்ளது .

2. திருத்தப்பட்ட சுயநிதி திட்ட மின் இணைப்பு:

A. ரூ 10,000 திட்டம்: விண்ணப்பதாரர் விருப்பப்பட்டால் பதிவு செய்த விவசாய விண்ணப்பத்தின் மீது ரூ 10,000 செலுத்தி மின் இணைப்பு பெறலாம் . தற்போது இதன் காத்திருப்பு காலம் சுமாராக 21 வருடங்கள் .

B. ரூ 25,000 திட்டம்: விண்ணப்பதாரர் விருப்பப்பட்டால் பதிவு செய்துள்ள விவசாய விண்ணப்பத்தின் மீது ரூ 25 ,000 மதிப்பு கட்டணம் செலுத்தி மின் இணைப்பு பெறலாம். தற்போது காத்திருப்பு காலம் 20 வருடங்கள்.

C. ரூ 50,000 திட்டம்: காத்திருப்பில் உள்ள விவசாய விண்ணப்பத்தின் மீது அசல் மதிப்பீடு கட்டணம் அல்லது ரூ 50000, இதில் எது அதிகமோ அதனை செலுத்தி மின் இணைப்பு பெறலாம் . தற்போதைய இதன் காத்திருப்பு காலம் சுமார் 5 -6 வருடங்கள் .

மேற்கண்ட திட்டங்களுக்கு மின் இணைப்பு பெற சாதாரண பதிவு செய்துள்ள விவசாய விண்ணப்பத்தின் பேரில் விருப்ப கடிதம் அளித்து செயற் பொறியாளர் அலுவலகத்தில் ரூ 500 செலுத்த வேண்டும் .

தத்கால் (TATKAL SCHEME):

காத்திருப்பிலுள்ள முதல் 10,000 விண்ணப்பதாரர்கள் விருப்பப்பட்டால், விவசாய மின் இணைப்பு துரித முறையில் பெற்றிடலாம். இதற்கு, செயற்பொறியாளரிடம் விருப்பத்தை தெரிவித்து, தற்போது அரசு நிறையித்துள்ள "ஒரு முறை" கட்டணமான Load (சுமை) up to 5 HP - ரூ 2 .50 லட்சம், Load (சுமை)7 .5 HP - ரூ 2 .75 லட்சம், Load (சுமை)10 HP — ரூ 3 லட்சம், Load (சுமை)15 HP — ரூ 4 லட்சம் செலுத்தி, தனி வரிசையில் மின் இணைப்பினை துரித முறையில் (தத்கால் திட்டம்) பெற்றுக்கொள்ளலாம்.

- ECC சேலம்

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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

Liberia electricity crisis: 'About 60% of power stolen'

People are stealing about 60% of the electricity generated in Liberia annually by making illegal connections to their homes and businesses, the state-owned power utility has said. The theft caused annual losses of about \$35m (£27m), Liberia Electricity Corporation officials told state radio. This was robbing the utility of cash for extending power supply, they said. Liberia is trying to rebuild its power sector, destroyed during a civil war which lasted from 1989 to 2003. The US is giving financial and technical aid to the West African state to increase connectivity, as part of the Power Africa initiative launched by former US President Barack Obama to bring electricity to 50 million people in sub-Saharan Africa by 2020. But up till now only 12% of Liberians and less than 20% of residents in the capital, Monrovia - have electricity, one of the lowest access rates in the world. The government has set itself the target of rolling out electricity to 70% of Monrovia's population of more than one million by 2030.

Why people steal electricity

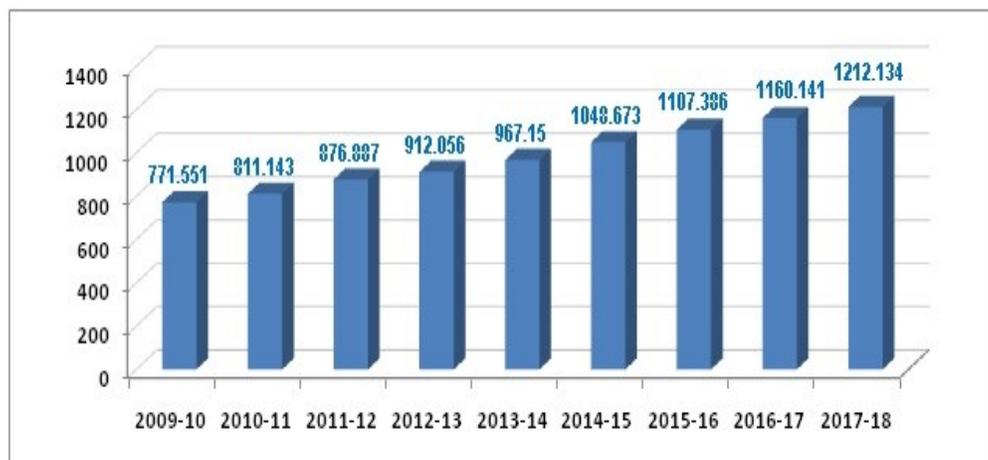
Power theft is a problem among both the rich and the poor. It is not because people do not want to pay, but because the power utility has not been able to meet the huge demand for electricity. As a result, if a person sees an electricity cable running over his home or shop, he will connect his own wires to the cable to give himself electricity. To tackle the problem, the power utility has established a taskforce, which patrols neighbourhoods and cuts off illegal supply. It has also set up a hotline, urging people to report power theft.

Source: [BBC](http://www.bbc.com) , 05 December, 2018

Publications/Regulations

- ECO Niwas Samhita 2018 - an Energy Conservation Building Code for Residential Buildings (ECBC-R) . [December 2018](#)
- The BEE (Particulars and Manner of their Display on Labels of Self-ballasted LED lamps), Amendment Regulations, 2018. [December, 2018](#)

Power Generation in India (in Billion units) ([December, 2018](#))



Source: Ministry of Power, Government of India, [December 2018](#)