

A Note on Standby Power Losses

Standby electricity is the electricity consumed by electric appliances when not in use, but plugged to a source of power and ready to be used. This is also known as standby mode. Most appliances have standby mode option, which allow us to switch on the appliances very quickly, but what many of us don't know is the fact that these appliances also consume some amount of electricity while in standby mode. Electricity wasted in this manner is referred to as standby loss or electricity leakage. A study reveals that around 7-10 % of the household electricity consumption is because of this standby loss. However, there are some appliances like networked equipments, alarm system, etc. where this standby power use is necessary. The table shows some of the home appliances which use electricity while in standby mode ([Ref](#)).

Why do some appliances have standby mode:

- The standby mode helps the appliances to switch on instantly without any delay.
- Standby power may be used to power a display, operate a clock, etc., without switching on the equipment to full power.
- It may be used to power a remote control receiver, so that when infrared or radio-frequency signals are sent by a remote control device, the equipment is able to respond, typically by changing from standby to fully on mode.
- PCs connected to a network are required to be in standby mode to avoid communication problem with peripheral devices or with the network manager.

A simple calculation to understand losses due to standby mode:

Based on the number of hours an appliance is connected to the mains and is switched on, one can calculate units consumed per month because of standby power. This number will give a good indication of how much electricity bill can be reduced by taking simple measures.

For example, consider that one may watch television for 4 hours in a day. The power demand of the TV when it is working may be around 70 watts. Now imagine that after watching the TV one may use the remote to put it on standby mode so that, when the remote is used again it will immediately. As mentioned in the above table, the power demand of a TV in standby mode would be 7 W. When someone is watching TV for 4 hours then the power consumption would be 70 watts x 4 hours = 280 watt-hours. If it is kept in standby mode for the remaining 20 hours in a day the power consumption would be 7 watts x 20 hours = 140 watt-hours. This shows the excess of electricity consumed by leaving the TV in standby mode instead of switching it off. Similarly other appliances also will have similar electricity loss when placed in standby mode.

How to reduce standby power consumption

- Develop the habit of switching off appliances from plug points, when not in use.
- In case you are using a cluster of computers or video products, then, its better to connect them using a multi socket switched power strip so that you can switch everything off by using just one switch.
- While purchasing electrical equipments look for BEE energy star labelled products. Generally energy star products have lower standby power.
- Redesigning appliance circuits can reduce standby power consumption upto 90%.

From a consumer perspective, local power utilities and civil society organisations should conduct information and motivation campaigns to raise consumers' awareness and encourage purchase of equipments with reduced standby consumption.

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Tamil Nadu News

Traditional agricultural pumps can be replaced with 8K MW of solar power

The Tamil Nadu agricultural power consumption is 11,406 million units a year and a total of 8,138 MW of solar power is required to replace the traditional water pumps with solar pumps, according to a report by Greenpeace.

The white paper 'From Rooftops to Farmtops: Augmenting India's Distributed Solar Goals through net-metered solar pumps' jointly prepared by the International Water Management Institute (IWMI)-TATA Water Policy Programme and Gujarat Energy Research and Management Institute (GERMI) states that if solar pumps are to replace traditional water pumps in farms across the country, India could surpass its solar target of 100 GW by 2022.

The analysis was released at a roundtable conference hosted by Greenpeace India, GERMI, and IWMI-Tata Program to discuss steps necessary for the successful implementation of KUSUM (Kisan Urja Suraksha evam Utthan Mahaabhiyan) - a Central government scheme promoting solar irrigation pumps. Currently, while the 60 GW target assigned for large-scale solar power is on track, the 40 GW target for rooftop solar power is still to gather momentum, with only 2.4 GW of total rooftop capacity installed as of March 2018.

Interestingly, TN, which had a policy for installing solar panels on the roof-tops of private and public buildings, is going slow on implementation. It is learnt a high-level meeting was held recently to install solar roof-tops in government buildings but a concrete decision to this effect has yet to be taken.

Meanwhile, experts are of the view that Net-metered solar farmtop installations are very similar to rooftop solar installations from a technical standpoint. While rooftop solar photo-voltaic systems take away high-paying consumers from the grid, farmtop systems will actually reduce the agricultural subsidy burden for India's cash-strapped power utilities.

"Farmtops" are an excellent way to achieve target across country," said Akhilesh Magal, Head - Advisory, Renewable Energy, Environment, and Energy Efficiency, GERMI. A preliminary assessment shows that replacing 100 per cent of all agricultural consumption in the next five years would require a total solar PV installed capacity of close to 150 GW. This is far more than India's solar target of 100 GW by 2022. Even achieving a modest 10 per cent of this potential in the next five years would translate to a very significant commissioned capacity of almost 15 GW.

Source: [The New Indian Express](#), July 31, 2018.

India News

This Rs. 8000-crore Solar Scheme may help Indian firms boost manufacturing

A new 12 gigawatts solar energy scheme, which has been deftly crafted to mandate local manufacturing without violating WTO's trade rules, is in the final stages of approval, and will help local industry withstand the onslaught of cheap imports, senior government officials said.

The Rs 8,000-crore scheme will be a significant boost for Indian manufacturers, who are also waiting for the imposition of a safeguards duty on solar gear.

The local industry has suffered because WTO, acting on a US complaint, ruled that India had violated trade rules by mandating use of locally made cells and modules in its national solar mission.

Renewable energy is a hot area of trade tussles with many trying to dominate the sector that is expected to flourish as reliance on coal and oil dwindles. "The scheme is in final stages of consultation with various government departments and ministries, including finance, commerce, and the Prime Minister's Office," a government official told ET on condition of anonymity.

The scheme has already been cleared by the Expenditure Finance Committee, which is part of the department of expenditure in the finance ministry, another official said.

As part of the scheme, Central government's public sector undertakings will call for tenders for setting up power projects, and the electricity generated through these will be used for their own consumption. "The scheme has been carefully designed to be compliant with the WTO rules.

The government can mandate use of locally manufactured components as part of the scheme since the power is for the government's own consumption," the official added. "It will help bridge the difference between domestic manufacturing capacity in India and our imports."

The scheme will have an implementation period of four years, and by 2022, it will ensure a minimum manufacturing capacity of 3 GW of solar cells per year, which is the current size of the domestic solar cell market in India.

If approved, it will bring relief to the domestic solar manufacturers who, on account of injury from imports of solar components from China, Malaysia and Taiwan, are lobbying for a safeguards duty on these imports.

In the latest development of the safeguards case, the directorate general of trade restrictions last week recommended up to 25% safeguard duty on imports from China and Malaysia for a period of two years. "Even if the safeguard duty is imposed, increased costs can be easily absorbed by developers as prices of Chinese solar cells are going to crash," the official said, referring to the recent Chinese government decision to scale down solar capacity addition. Chinese manufacturers, as a result, will try and sell existing capacity at cheaper prices on account of a lacklustre demand in their home country.

Source: The [Economic Times](#), July 23, 2018.

Consumer Focus

FACTS

The petitioner stated that there is a risk of electrocution and fire hazard to the residents at his premises due to a coconut tree touching the HT line. But the HT line was laid in the past and now it is just above his house compound wall without considering the risk of electrocution and fire hazard. The petitioner had received a letter from the AE stating that the TNEB cannot be held responsible for the risk of electrocution and fire hazards because of the tree. And so the petitioner has come to the forum in order to take appropriate steps to ensure their safety.

CONTESTATIONS

Appellant: After the complaint was made in CGRF the AE has visited the petitioner's house and informed him that they are going to provide southern side pole soon. Thereafter, that the electric lines would be placed away from the compound wall. The petitioner agreed to it but he wants sufficient gap between the pole and the compound wall.

Respondent: For the petitioner's letter, a notice was issued by considering the building is nearer to the EB line. During the power shutdown, the unsafe coconut tree branches were cut off in the presence of the petitioner. But for removing the HT line nearer to coconut tree to safe distance, as per the regulation, the consumer has to bear the estimate charges for the shifting. The same was informed to the appellant.

OBSERVATIONS AND JUDGMENT

The LT lines should be shifted away from the petitioner premises by providing side pole, . After, shifting the Horizontal & Vertical clearances between HT, LT lines to building and HT, LT lines to ground should be as per norms of 58(2) of CEA regulations. This work should be completed within 15 days. The petitioner should maintain adequate clearance between coconut tree and lines, so as to avoid fire.

ECC Voice

Change of Tariff

திரு. ராமசாமி என்பவர் தன் வீட்டு மின் இணைப்புடன் திரு.காமராஜ் என்பவருக்கு 2018ஆம் ஆண்டு ஜனவரி மாதம் வாடகைக்கு விட்டு உள்ளார். திரு. காமராஜ் அந்த வீட்டில் ஒரு கடையை வைத்து வியாபாரம் செய்து வந்தார். அந்த வீட்டிற்கு 2 மாதங்களுக்கு 100 யூனிட்க்குள் மின்சாரம் பயன்படுத்தப்பட்டு வந்தது. ஆகவே மின் வாரியத்திற்கு மின் கட்டணம் செலுத்த வேண்டியது கிடையாது. மின் வாரியதிலிருந்து மின் கட்டணக் கணக்கு எடுக்கும் கணக்கீட்டாளர் மேற்கண்ட மின் நுகர்வோர் வீட்டில் மின் கட்டணம் எடுக்கும் பொழுது வீட்டு உபயோகத்திற்கு என்றே மின்னளவு 100க்கு குறைவாக பயன்படுத்தப்பட்டு வருவதாகவும் மின் கட்டண அட்டையில் மின் கட்டணம் "NIL" என்றே ஏப்ரல் மாதம் குறிப்பிட்டு சென்றுள்ளார். சென்ற மே மாதம் மேற்கண்ட மின் நுகர்வோரின் மின் இணைப்பினை, மின் வாரிய பொறியாளர் மற்றும் மின் வாரிய ஊழியர்கள் ஆய்வு செய்ததில், மின் நுகர்வோர் வீட்டின் மின் வின்யோகத்தை கடை உபயோகத்திற்கு பயன்படுத்துவதாக கூறி சென்று விட்டார்கள்.

திரு.காமராஜ், மின் பொறியாளர்களை அணுகி அந்த வீட்டுக்கு Tariffயை வீட்டு உபயோகத்திலிருந்து கடைக்கு மாற்றி தர வேண்டுமென கேட்டுள்ளார். அனால் மின் வாரிய அலுவலர்கள் எந்த முயற்சியும் எடுக்கவில்லை. இதனால், திரு.காமராஜ் மின் நுகர்வோர் செவைமையத்திற்கு வந்து தான் இருக்கும் வீட்டின் மின் இணைப்பை வீட்டு உபயோகத்திலிருந்து கடை உபயோகத்திற்கு மாற்றி தர வேண்டுமெனவும், மேலும் மின் வாரிய அதிகாரிகளிடம் முறையிட்டு எந்த பயனும் கிடைக்கவில்லை ஆகையால் மின் இணைப்பை கடை உபயோகத்திற்கான Tariff ஆக மாற்றித்தர வேண்டினார்.

திரு.காமராஜரின் மின் இணைப்பை கடை உபயோகத்திற்கு மாற்றி தர வேண்டுமென கடிதம் ஒன்று மின் நுகர்வோர் சேவை மையத்தின் மூலம் மின் பொறியாளருக்கு அனுப்பப்பட்டது. மின் நுகர்வோர் சேவை மையத்திலிருந்து கிடைக்கப் பெற்ற கடிதத்தை பார்த்து , திரு. காமராஜரின் மின் இணைப்பின் Tariffயை வீட்டு உபயோகத்திலிருந்து கடை உபயோகத்திற்கு மாற்றித்தர அனுமதி வழங்கப்பட்டது.

திரு.காமராஜ் அவர்கள் 2 மாத காலமாக மின் வாரியத்தை தொடர்பு கொண்ட பின்பும் இந்த பிரச்சனைக்கு தீர்வு காண இயலவில்லை, ஆனால் மின் நுகர்வோர் சேவை மையத்தின் நடவடிக்கையினால் 2 வாரத்திற்குள் மின் இணைப்பு Tariffயை மாற்றம் செய்யப்பட்டது என்று மகிழ்ச்சியுடன் தெரிவித்தார்.

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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

Investments in Electricity Exceeds 'Oil and Gas' for Straight Second Year

The electricity sector attracted the largest share of energy investments in 2017, surpassing the oil and gas industry for the second year in row, International Energy Agency (IEA). The electricity sector attracted the largest share of energy investments in 2017, sustained by robust spending on grids, exceeding the oil and gas industry for the second year in row, as the energy sector moves toward greater electrification," it said.

After several years of growth, combined global investment in renewables and energy efficiency dropped by three per cent in 2017 and there is a risk that it will slow further this year, it said.

For instance, investment in renewable power, which accounted for two-thirds of power generation spending, dropped 7 per cent in 2017. Recent policy changes in China linked to support for the deployment of solar PV raise the risk of a slowdown in investment this year," it said .

Global energy investment totaled USD 1.8 trillion in 2017, a two per cent decline in real terms from the previous year, according to the IEA's World Energy Investment 2018 report. More than USD 750 billion went to the electricity sector, while USD 715 billion was spent on oil and gas supply

globally. State-backed investments are accounting for a rising share of global energy investment, as state-owned enterprises have remained more resilient in oil and gas and thermal power compared with private actors. The share of global energy investment driven by state-owned enterprises increased over the past five years to over 40 per cent in 2017.

Meanwhile, government policies are playing a growing role in driving private spending. Across all power sector investments, more than 95 per cent of investment is now based on regulation or contracts for remuneration, with a dwindling role for new projects based solely on revenues from variable pricing in competitive wholesale markets, IEA said.

Investment in energy efficiency is particularly linked to government policy, often through energy performance standards," it added.

While energy efficiency showed some of the strongest expansion in 2017, it was not enough to offset the decline in renewables, it said. Moreover, efficiency investment growth has weakened in the past year as policy activity showed signs of slowing down, it added.

Source: The Economic Times, July 17, 2018.

Publications/Regulations

- Solar Irrigation Pumps and India's Energy Irrigation Nexus, July 2018, [Click here](#).
- Off-Grid Renewable Energy Solutions, July 2018, [Click here](#).

Renewables 2018: global status report

Hydropower Global Capacity—[2017](#)

Hydropower Global Capacity, Shares of Top 10 Countries and Rest of World, 2017

