



BUILDING A SUSTAINABLE FUTURE  
A Turnkey Solution for All Your Solar Energy

# NGE green energy

## WHY US ?



25 Years of Successful experience in the engineering industry



A one stop solution for solar energy



Having trusted relationship with our customer on our product & service



Highest quality delivered with 0% compromise



Strong Technical team with Young & Experienced , skill , knowledge & Latest Technology



Launch & Commissioning of the Project On Time

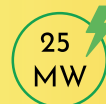


## YOUR TRUSTED SOLAR PARTNER FOR NEXT 25 YEARS

Tamilnadu's 1st 10/1 (private) Pooling SS For Solar Project



## OUR COMPLETED WORKS

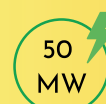


25 MW solar power park at Tiruppur district, Dharapuram under 10/ 1 SS with **110 KV** evacuation was commissioned on March 2023



A 8 MW plant at Tiruppur District, Vellakovil as CAPEX model commissioned on March 2022

## OUR ONGOING PROJECTS



50 MW solar power park at Dharapuram, Tiruppur district with **110 KV** evacuation is on the works



50 MW solar power park near Madurai district with **110 KV** evacuation is on the works

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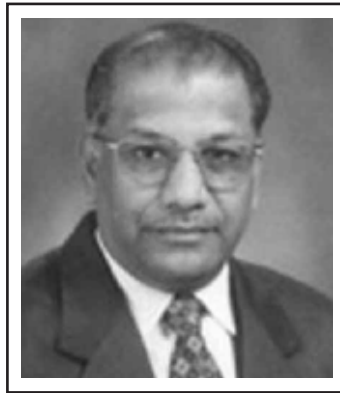
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**PAST PRESIDENTS**



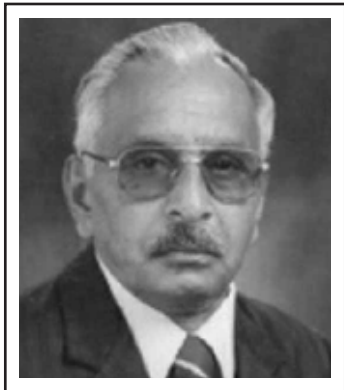
**C R Swaminathan**  
Founder President, 1998 - 2003



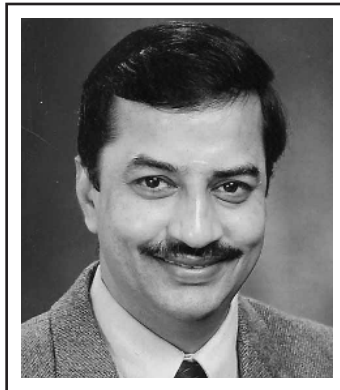
**R Palaniswamy**  
2003 - 2005



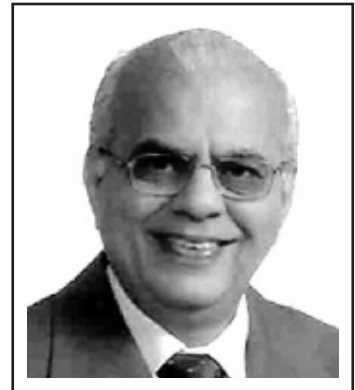
**S V Arunachalam**  
2005 - 2007



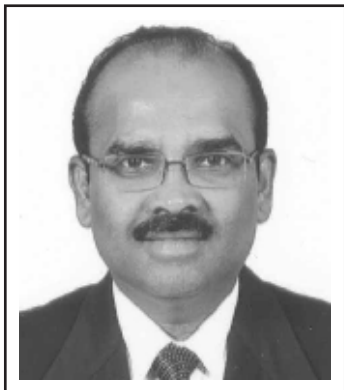
**A V Varadharajan**  
2007-2010



**Mahendra Ramdas**  
2010-2012



**D Balasundaram**  
2012-2015



**S Dinakaran**  
2015-2017



**S R Rabindar**  
2017-2020



**S Ashok**  
2020-2022

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# President's Message



## Solar scheme fails to shine in Tamil Nadu, only 18K applicants in six months

In the last six months, those who have registered for the scheme constitute just 2.8% of the target.

The installation of domestic rooftop solar plants under the PM Surya Ghar Scheme in Tamil Nadu is facing poor response from consumers with only 70,122 registering for the scheme and just 18,032 applications submitted so far.

The union government has set an ambitious target to cover 25 lakh households in Tamil Nadu between April 1, 2024 and March 31, 2025. In the last six months, those who have registered for the scheme constitute just 2.8% of the target.

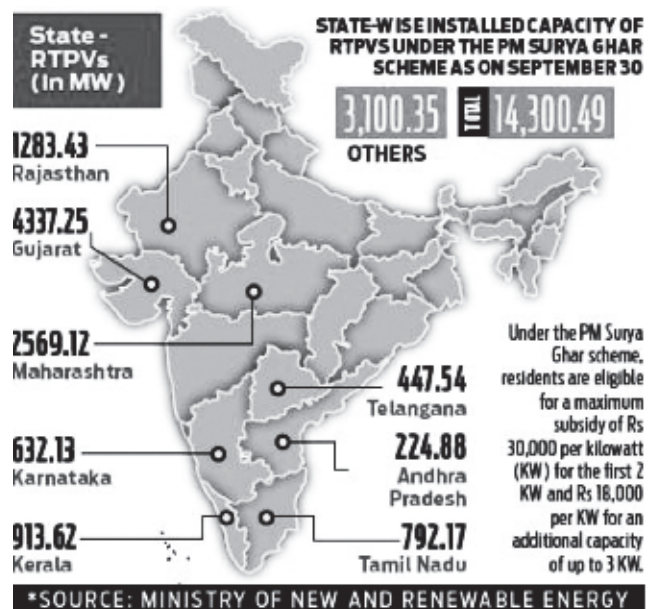
During its announcement, the Ministry of New and Renewable Energy (MNRE) stated the PM Surya Ghar scheme will aid in generation of up to 300 units of free power per month in 1 crore households. Under the scheme, a consumer can install a 2KW solar plant, at a cost of Rs 2 lakh. The centre will provide a subsidy of `60,000. For consumers using 300 units per month, their electricity bill will effectively be zero.

There is also a significant gap between registration and actual submission of applications, according to the data from the Tamil Nadu Green Energy Corporation (TNGEC), the nodal agency for implementing the Rooftop Solar Photovoltaics (RTPVs) scheme.

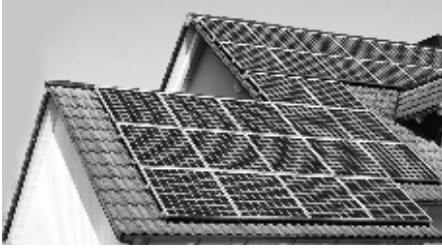
Of the 18,032 applications submitted, RTPVs have been installed in 13,000 households, while the remaining 5,032 applications are pending in various stages, officials said.

Across the country, too, the scheme has elicited only tepid response with just 1.28 crore registrations and 14.84 lakh applications submitted till September. An official from TNGEC told TNIE, "We have installed RTPVs with a combined capacity of 792.17 MW till September. This is well below our target."

Discussing the reasons for the scheme's poor response, the official said, "In major cities like Chennai, Tiruchy, Coimbatore, and Madurai, the growing apartment culture makes it difficult to install the plant for just individual houses."



Courtesy: The New Indian Express: dated 23<sup>rd</sup> October 2024



## **Gujarat Amends Net Metering Regulations for Rooftop Solar PV Systems with New Cost and Processing Guidelines**

The Gujarat Electricity Regulatory Commission has introduced new amendments to its regulations on net metering for rooftop solar photovoltaic (PV) systems. This update, known as the Fourth Amendment Regulations of 2024, aims to improve the process and cost management for connecting rooftop solar systems to the grid in Gujarat.

The new regulations require distribution licensees to update the capacity of distribution transformers available for connecting rooftop solar PV systems yearly and to report this information to the Commission. For rooftop solar systems up to 6 kW, the cost of any necessary upgrades to the distribution infrastructure, such as strengthening transformers, will be covered by the annual revenue requirement of the distribution licensee. However, for systems larger than 6 kW, additional costs for system strengthening will be charged to the applicant.

For low-tension consumers installing rooftop solar systems with capacities between 6 kW and 100 kW, system strengthening charges will be based on the per kW rate for new or additional load, as approved by the Commission. If a consumer adds more capacity resulting in a total system size above 6 kW, only the additional capacity will incur system strengthening charges.

For high-tension consumers with rooftop solar systems between 6 kW and 1000 kW, system strengthening costs will be calculated based on per KVA rates for new or additional loads. If any distribution infrastructure needs upgrading, such as service line or transformer capacity, the cost will be borne by the consumer. The same per kW or per KVA rates approved by the Commission for new connections will apply to these costs.

The regulations also specify that the minimum capacity for any rooftop solar system installed should be at least 1 kW. A new time frame for processing rooftop solar PV project applications has been introduced. Applications for systems up to 10 kW, if complete, will be accepted without needing a technical feasibility study. Any necessary load enhancements will be carried out by the distribution licensee. If there are delays caused by the distribution licensee without valid reasons, they will be required to compensate the consumer at a rate of no less than 500 rupees per day for each day of delay.

The amended regulations also specify that the costs for strengthening distribution infrastructure, including transformers, will be recovered from applicants as outlined in the updated regulations. These changes are intended to streamline the process, manage costs more effectively, and ensure that rooftop solar PV systems are integrated efficiently into the state's power grid.

*Courtesy : Solar Quarter dated 5th September 2024*

## INDIA TO BE THIRD-LARGEST ELECTRICITY CONSUMER IN THE WORLD BY 2050 : IEA

In India, the daily variability of electricity demand averaged 15% in 2023 and is set to almost triple by 2050 on account of cooling, appliance ownership and EVs.

As India looks to become a developed economy by 2047, the World Energy Outlook by the International Energy Agency (IEA) released on Wednesday said India is set to become the third-largest electricity consumer in the world by 2050 because of over 4% growth in demand a year in all scenarios.

The annual report said in India, the daily variability of electricity demand averaged 15% in 2023 and is set to almost triple by 2050. Cooling will become the most important driver of daily variability in demand, though higher levels of appliance ownership and EVs are set to affect it as well.

However, the electricity demand in China and the US will be higher than India in 2050.



The IEA said that growth will be led by demand for air-conditioning in India as more people will be able to afford it due to rising incomes. The same pattern is likely to prevail in all emerging markets and developing economies (EMDEs). Electricity demand growth in EMDEs will be largely due to the affordability of home appliances as incomes rise and an increase in industrial activity, the IEA said.

The report's projections based on today's policy settings indicate that the world is set to enter a new energy market context in the coming years, marked by continued geopolitical hazards but also by a relatively abundant supply of multiple fuels and technologies.

This includes an overhang of oil and Liquefied natural gas (LNG) supply coming into view during the second half of the 2020s, alongside a large surfeit of manufacturing capacity for some key clean energy technologies, notably solar PV and batteries, said the IEA.

"We've witnessed the Age of Coal and the Age of Oil - and we're now moving at speed into the Age of Electricity," the agency said. This will define the global energy system going forward and increasingly be based on clean sources of electricity, it added.

In India, coal is set to retain a strong position in the energy mix over the next decades. Nearly 60GW of coal-fired capacity will be added net of retirements by 2030, and electricity generation from coal will rise by over 15%.

Coal has been playing a prominent role in meeting energy demand in industry, providing 40% of its energy needs in 2023, by 2035, the consumption of coal in industry would have grown by 50%, with its share in total industry demand remaining at similar levels as today, it added.

*Business Today Dated 16th October 2024*



## Windmill repowering hit by high development cost in Tamil Nadu

According to data from TNGEC accessed by TNIE, the corporation had planned to repower windmills with a combined capacity of 7,386.5 MW.

The government's new wind repowering and life extension policy, introduced on September 4 to modernise aging windmills, has seen limited uptake, with wind energy generators (WEGs) citing high development charges as a deterrent.

According to data from TNGEC accessed by TNIE, the corporation had planned to repower windmills with a combined capacity of 7,386.5 MW. However, to date, windmills with a total capacity of only 30 MW have sought repowering.

The policy divides wind repowering projects into two categories: standalone projects (for individual owners) and aggregation projects (for multiple owners). Windmill owners must pay a development charge of ₹30 lakh per MW to repower their machines. This high cost has generated widespread opposition from many WEGs.

Official sources revealed that over 5,000 old windmills are nearing the end of their power purchase agreements with the power utility. For these agreements to be extended by TNGEC, the windmills need to be repowered.

V Ganesh, a windmill owner from Tirunelveli, said, "Repowering requires an investment of at least Rs 3-5 crore per MW. In addition, we have to pay Rs 30 lakh as development charges to the power utility. There will also be no income during the repowering period, making it challenging."

Ganesh further emphasised that the state could offer incentives to support WEGs during this period. "Many WEGs feel pressured to repower their windmills. This could force many small, older windmills out of the market," he added.

Another windmill owner, who wished to remain anonymous, said Tamil Nadu has significant potential for wind energy, more than its neighbouring states. Since most wind power installations are on privately owned land that is not fully utilised, the government could consider allowing a cooperative model of generation.

"This would reduce the cost for individual players and make better use of the available land. The cost of land would become equity for landowners, and the utility could continue its power purchase agreements with them," he argued.

A senior TNGEC official said, "We are in discussions with wind energy generators. But, reducing development charges and providing incentives would require a policy decision." The official expressed hope that WEGs would cooperate.

*Courtesy : Indian Express: Dated 22nd October 2024*



## 'T.N. will add 30 GW of renewable energy capacity in the next six years'

The State will add 30 gigawatt (GW) of renewable energy capacity in the next six years, said AneeshSekhar, Managing Director, Tamil Nadu Green Energy Corporation Ltd.

"We have a total renewable energy capacity of 24 GW. We have set a target of 50% of energy consumption coming from renewable energy sources by 2030," he said speaking at the Windergy India 2024 conference on Wednesday.

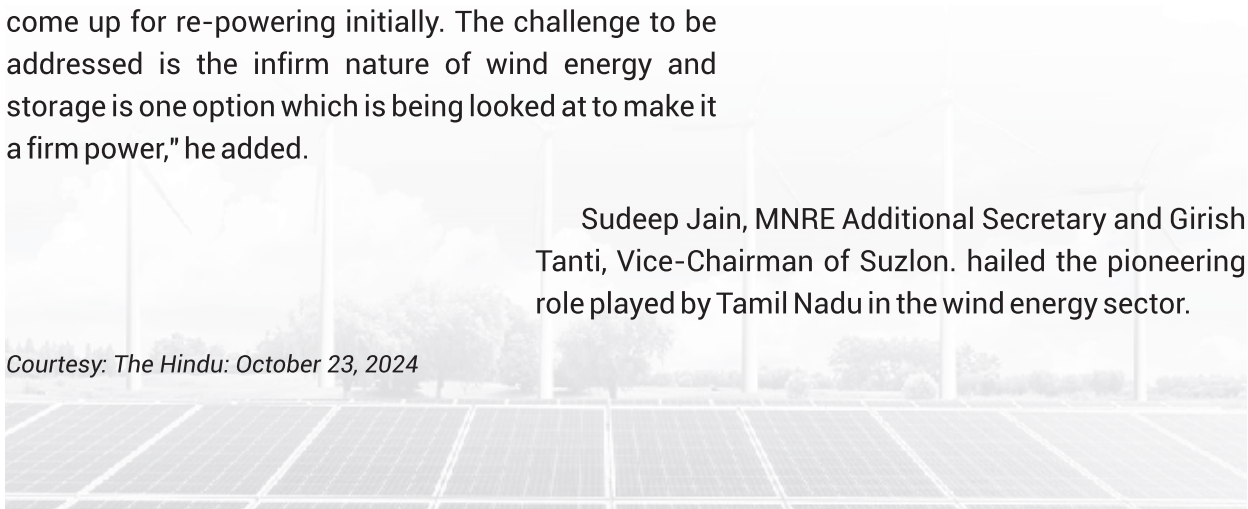
Mr. Sekhar said, "Tamil Nadu has a wind installed capacity of 10.5 GW and is a pioneer in wind energy. Wind energy will play a big role in the State's energy transition. The Union Ministry of New and Renewable Energy (MNRE) has estimated Tamil Nadu's wind potential to be 75 GW. We have an offshore wind potential of 35 GW."

Mr. Sekhar said the key to energy transition is execution. He also said the State had come out with a re-powering policy for the wind sector. Speaking on the sidelines of the conference, Mr. Sekhar said the State received five proposals for repowering and expecting more.

"We are expecting about 1,400 MW of projects to come up for re-powering initially. The challenge to be addressed is the infirm nature of wind energy and storage is one option which is being looked at to make it a firm power," he added.

Sudeep Jain, MNRE Additional Secretary and Girish Tanti, Vice-Chairman of Suzlon. hailed the pioneering role played by Tamil Nadu in the wind energy sector.

*Courtesy: The Hindu: October 23, 2024*



## Electrical Safety - Personal Protective Equipment (PPE)

Qualified workers responsible for performing electrical work, repairs, or troubleshooting electrical equipment shall wear or use personal protective equipment (PPE), and protective clothing that is appropriate for safe performance of work. Management shall ensure that appropriate PPE is provided and ensure that employees using PPE are trained in their proper use.

9.1 Shoes- Employees should wear shoes or boots. No metal parts shall be present in the sole or heel of the shoes where nonconductive shoes are required. 9.2 Helmets- Workers shall wear helmets when working on the earth near poles, structures, buildings, or trees in which work is being done or when visiting or observing in areas where overhead work is being done. 9.3 Eye Protectors- Whenever eyes are in danger of being injured, workers shall wear safety goggles or other eye protectors. 9.4 Body Belts and Safety Straps- Line workers shall be familiar with tools like climber straps, and body belts that are used for handling or working on over head lines and poles. A careful periodic inspection shall be made of equipment used for shall be examined before each use to make certain they are in good condition.

Employees using body belts and safety straps (work positioning equipment) should apply the following: 1. All body belts and safety straps shall be inspected before each use by the employee who uses them.

2. Workers shall use their body belts and safety straps when doing any work involving danger of falling. 3. Body belts and safety straps should not be stored with unguarded sharp tools or devices.
4. Heat, sharp bends, and overstressing of body belts and safety straps should be avoided as they are injurious to leather. Wet leather should be dried slowly at moderate temperatures.

9.5 Work Gloves- When insulated gloves suitable for high-voltage are not required, suitable work gloves should be worn while handling materials and equipment to prevent the possibility of slivers, cuts, and skin irritation.

9.6 Rubber Gloves - The following requirements apply :

1. Rubber gloves shall be of appropriate voltage rating for the work being performed.



2. Rubber gloves issued for service shall be tested at appropriate voltage levels.
  3. Leather glove protectors shall be worn over rubber gloves except where leather protectors are not required
  4. Rubber gloves shall be visually inspected and field air -tested before use each day and at other times if there is cause to suspect damage.
  5. Rubber gloves shall be wiped clean of any oil, grease, or other damaging substances.
- 9.7 Rubber Sleeves And Barriers- Linemen's rubber insulating sleeves are worn to provide protection from electric shock and burn to the arm and shoulder areas. They are available in several different thicknesses, lengths, and designs, depending on the maximum voltage they are designed to protect against.
- 9.8 Work Clothes- Work clothes should be made of natural materials, such as cotton or wool, or fire resistant materials and should have full length sleeves. Sleeves should be rolled down for greatest protection.
- 9.9 Fire Resistant Clothing- Each employee who is exposed to flames or electric arcs does not wear clothing that, when exposed to flames or electric arc, could increase the extent of injury that would be sustained by the employee. Though the electric shock is a widely recognized hazard and involves current flow through or on the body, burn from electric arcs are not as well recognized.

There is no contact required and the burns can be severe if the clothing ignites or melts. The hazards to which the employee is exposed also include the clothing breaking open due to the arc pressure blast, the heat from the electric arc and subsequent secondary fires or explosions. The extent



of the employees' injury is dependent on the length of the arc gap, available fault current, duration of the arc, the distance of the employee from the arc, percentage of the body burned, the employees age, medical condition, and number of layers of the clothing system.

The proper clothing system will minimize or reduce the burn injury. Chemically dependent fire resistant fabrics are treated with flame retardant chemicals added to the fiber or treatments applied to the fabric. These treatments are activated by heat and produce gases that smother the flame. Inherently fire resistant fabrics, by their composition, do not burn in air.

9.10 Respirators - Workers shall use the appropriate respirator when necessitated.

#### 9.11 Earthing Cables And Hardware

Personal protective earthing cables consist of appropriate lengths of suitable copper earthing cable, with electrically and mechanically compatible ferrules and clamps at each end. In addition, appropriate hot sticks are required for



installing and removing the conductor-end clamps to the conductors. Hot sticks are required for attaching earth-end clamps if the earthed system and the worker are at different potentials.

Earthing clamps are normally made of copper or aluminum alloys; sized to meet or exceed the current-carrying capacity of the cable; and designed to provide a strong mechanical connection to the conductor, metal structure, or earth wire/rod.

9.12 Tapes And Rulers- Workers should not use metal measuring tapes or tapes having metal strands woven into the fabric, brass bound rules, or metal scales when working near electrical equipment or conductors.

9.13 Metal Fasteners- Workers shall not wear articles such as loose chains, keys, watches, or rings if such articles increase the hazards associated with inadvertent contact with energized parts or can become caught under or snagged while climbing off or on structures, equipment or vehicles.

9.14 Extension Cords Use of extension cords should be minimized. Such cords shall be suitable for the intended use, such as waterproof connectors for wet or damp areas, and are subject to the same conditions as the tool or equipment cord.

Extension cords should be visually inspected before each use. Flexible cord sets used on construction sites shall contain the number of conductors required for the circuit plus an equipment earthing conductor.

9.15 Double Insulated Tools Double insulation is a system comprised of two insulation systems (basic and supplementary) that are physically separated and are not subjected to temperature, contaminants and other deteriorating factors at the same time.

Basic insulation is applied to live parts to provide protection against electrical shock. Supplementary insulation is independent of the basic insulation and provides protection against electrical shock in case of failure of the basic insulation. Also of importance is the reinforced insulation which consists of one or more layers of insulating material that, in itself, provides the same degree of protection as double insulation.

## General Precaution with Involving Electrical Works

1. Disconnect power supply before making adjustments
2. Be cautious and active while handling electrical equipments. All the electrical works should be carried out with experienced and licensed workers.
3. Do not store any flammable materials like thinner, paint or varnish nearer to the electrical equipment
4. Do not store any materials inside the electrical panels
5. loose connection should be avoid in all electrical connection
6. Avoided overloading the electrical circuits
7. Avoid using damaged wires and plug sockets
8. Area below the overhead Electrical works should be barricaded
9. Clean all the Electrical Equipments from Oil, Dusts & Water Accumulation.
10. Use flame proof & explosive proof Electrical Equipments in Flammable gases (or) Liquid storage areas
11. Inform all the Electrical unsafe conditions & Defects to your supervisors.
12. Do not touch Electrical Items in wet condition & also without proper PPE'S.
13. Use "DO NOT SWITCH ON" Board to Avoid mishaps in Electrical maintenance Activities.
14. Capacitors should be discharged before maintenance activities.
15. Always use double insulated ladders

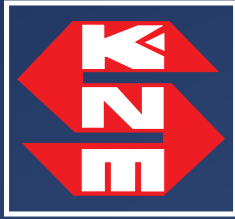


## Safety Earthing

1. All the Electrical Equipments should be Double earthed for Equipment & Human Safety
2. Use 30 mA ELCB in all Electrical connections to avoid Electrical Faults
3. All the Transportable & permanent Equipments should be earthen for safety.
4. Insulators in Equipments should be checked periodically & damaged Insulators needs to be changed
5. Display in a Conspicuous Position a danger notice in Hindi, Tamil or English for every medium, high and Extra high voltage installation.
6. Use Safety harness in Electrical posts & Height works
7. Every Person who is working on Electrical supply lines or Apparatus should be provided with tools & devices such as Gloves, Rubber Shoes, Safety Belt & Helmets Earthing Devices for protecting him from mechanical or electrical Injury.

## Electrical Safety Precautions





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