

# **Mission LiFE: Solar Rooftop Power Plant**

# What is Mission LiFE

- LiFE was introduced by Prime Minister Narendra Modi at COP26 in Glasgow on 1 November 2021 as a mass movement for “**mindful and deliberate utilization, instead of mindless and destructive consumption**” to protect and preserve the environment.
- LiFE means “**Life Style for Environment**”
- It aims to nudge individuals and communities to practice a life style that is synchronous with nature and does not harm it.
- Those who practice such a life style are recognised as “**Pro Planet People**”.
- Mission LiFE seeks to translate the vision of LiFE into measurable impact.

# **S RTP: the way of LiFE**

- Solar Rooftop Plant (SRTP) has a measurable impact in terms of Carbon dioxide Emission.
- SRTP generate electricity but without harming the nature.
- In such a way SRTP helps to practice a life style that is synchronous with nature.
- Those who practice such a life style are recognised as “**Pro Planet People**”(PPP).
- So, all beneficiaries of SRTP are “**PPP**”.

# **S RTP: Source of Clean & Green Energy**

- Solar rooftop power plants contribute significantly to reducing carbon emissions by generating electricity from clean, renewable solar energy instead of fossil fuels.

# Emission Reduction

- The emission factor of grid electricity in India is approximately 0.82 kg of CO<sub>2</sub> per kWh, based on the CEA's average grid emission factor.
- For every unit (kWh) of electricity generated by a solar rooftop system, approximately 0.82 kg of CO<sub>2</sub> is avoided.

# Calculation Example

- A 1 kW solar rooftop system generates approximately 1,200–1,500 kWh annually in India (depending on location and sunlight availability).
- This translates to 984–1,230 kg of CO<sub>2</sub> reduction per year.

# Number of Trees Needed for Equivalent Carbon Mitigation

- Trees sequester carbon dioxide during photosynthesis, contributing to mitigating atmospheric CO<sub>2</sub>.
- The carbon offset by a single tree depends on its species, age, and local conditions.
- On average, one mature tree absorbs about 20–22 kg of CO<sub>2</sub> per year.
- A 1 kW solar rooftop plant (reducing about 1,000 kg of CO<sub>2</sub> annually) is equivalent to planting 45–50 trees in terms of annual carbon sequestration.

# Conclusion

- While both solar power plants and tree planting are crucial for combating climate change, grid-connected solar rooftop systems provide faster, scalable emission reductions, whereas trees contribute long-term ecological benefits.
- Together, they form a comprehensive strategy for achieving carbon neutrality and environmental sustainability.