Consumer guidelines for Grid connectivity of Solar Rooftop PV systems on Net-metering inCESC, Mysore

Introduction:

Solar energy is a clean, pollution free and renewable source of energy. Karnataka being located between 11°40' and 18°27' North latitude and the geographic position favours the harvesting and development of solar energy.

Karnataka state is blessed with about 240 to 300 days of sunny days with solar radiation of range 3.8-6.4 kWh/sq.m. (Summer - 5.1- 6.4 kWh/sq.m/ day, Monsoon - 3.5 - 5.3 kWh/sq.m/day and Winter - 3.8 - 5.9 kWh/sq.m/day).

The Government of Karnataka has announced the Solar policy 2014-21, grid connected solar rooftop system under net-metering basis forms an integral part of the policy. The applications are invited from CESC, MYSORE consumers who wish to install grid-connected Solar rooftop PV systems under net-metering scheme.

Please refer the Schematic diagram of Solar RTPV system on net-metering. In grid-connected solar PV systems, the DC solar energy produced by the solar panels is converted to AC (alternating current) by a solar grid inverter. The output of the solar grid inverter connected to the distribution switch board of the building through bi-directional meter.

Generated energy from the SRTPV system is first consumed (self-consumption) by the loads of the building (lights, fans, appliances, etc.). If the SRTPV generated energy is more than the building loads consume, the surplus energy will automatically be exported to the CESC, MYSORE distribution network (the grid). If there is less solar energy generated than the loads of the building requirement, the shortfall energy will be drawn from the grid (energy import).

SRTPV CONNECTION

1. The interested applicants of domestic, commercial, educational institutions, industrial establishments etc, who are consumers of CESC, MYSORE can download the Application forms from CESC, MYSORE website www.cescmysore.org(Format-1).
2. The fee payable are as follows:

Sl. No.	Capacity of proposed SRTPV system	Registration fee	Facilitation fee
1.	Upto and inclusive of 5.0 kWp	Rs.500/-	Rs.1000/-
2.	Above 5.0 kWp and below 50 kWp (67 Hp/59 kVA)	Rs.1000/-	Rs.2000/-
3.	Above 50 kWp (67 Hp/59 kVA) and upto 500 kWp	Rs.2000/-	Rs.5000/-

3. The applicant is required select a reputed system installer to install the SRTPV System, who have experience in design, supply and installation of SRTPV system.
4. The list of approved vendors for meters is available in CESC, MYSORE website.
5. Inverters of MNRE approved manufacturers shall be used. The list of approved vendors for inverter is MNRE approved inverter manufacturers which is available in CESC, MYSORE/ MNRE website. Only those inverters which meet all required IEC standards /IS shall be eligible for installation as per the Format - 5.
6. List of MNRE Channel Partners is available in CESC, MYSORE/MNRE website.
7. After installation of SRTPV system, AEE O&M Sub-division, CESC, MYSORE is the inspection authority for SRTPV systems upto 10kWp and above 10kWp, Chief Electrical Inspectorate, Government of Karnataka is the inspecting authority to meet safety standards.
8. The Applicant has to procure bi-directional meter from any of the approved vendors of CESC, MYSORE as per CEA guidelines. The vendor list of bi-directional meters can be downloaded from CESC, MYSORE website.
9. The rooftop/terrace must have easy access.
10. The applicant should be the owner of the property or authorized person. If the property is in the name of the Company, Trust, Co-operatives / partnership firms, then authorization shall be assigned to a person forcorrespondence, paperwork, execution of various agreements, etc. Such person must be authorized by the management of the organization. In case of partnership firms, the authorized signatory must be one of the partners, to whom written consent has been given by the other partners.
11. The authorization Format - 1A/1B and self-certification Format - 1C can be downloaded from the website.
12. If consumer is not availed subsidy, shall furnish self-certification for not availing subsidy from MNRE.
13. Application registered is not transferable.
14. CESC, MYSORE shall not be held responsible for any legal disputes between the applicant and SRTPV system installer arising out of the contract.
15. Net metered energy means: The difference of meter readings of energy injected by the SRTPV system into the grid (export) and the energy drawn from the grid for use by the seller (import) recorded in the bi-directional meter.
16. The tariff for injecting surplus energy by rooftop installation will be as per the prevailing tariff determined by KERC from time to time. (At present the tariff is

Rs.9.56 per unit for installations without subsidy and Rs.7.20 per unit for installations with subsidy upto 31st March 2018).

17. In case the installed (also read proposed) capacity of the SRTPV system is higher than the sanctioned load of the consumer, which may consequently requires an up-gradation in the infrastructure (service line, meter with CT (if required), transformer up-gradation (if required)), the consumer will have to upgrade at his/ her/ its own cost under prevailing conditions of deposit contribution work. For further information regarding upgradation of infrastructure can be obtained from AEE(Ele,), O&M, sub-division Office, CESC, MYSORE.

18. The list of documents to be furnished along with the application are:

a. Copy of the latest Electricity bill.

b. Authorization letter Format-1A in case of Company/Trust/Co- operatives/ Partnership and Format -1B for Partnership firms.

c. Copy of the Subsidy sanction letter from MNRE/ self-certification for not obtaining MNRE subsidy Format -1C.

19. Interconnection voltages as per KERC:

Sl. No.	**System Capacity**	**Voltage level**
1	Upto& inclusive 5 kWp	240 Volts
2	Above 5 kWp to upto 50 kWp	415 Volts
3	Above 50 kWp& above upto 500 kWp	

20. If, the existing power supply of the consumer is of single phase and wishes to apply for three phase SRTPV system, installation shall be sanctioned from AEE,O&M Sub-division before applying. Otherwise the application will be rejected.
21. The nodal point of contact for Solar RTPV program shall be the AEE, O&M Sub-division CESC, MYSORE.
22. The Technical, safety, grid connectivity standards are to be followed as per the technical standards enclosed with Format - 5.
23. CESC, MYSORE personnel reserve the right to inspect the entire plant routinely at any time as per the distribution code approved by KERC.
24. The consumer shall pay the Electricity tax and other statutory levies, pertaining to SRTPV generation, as levied from time to time.
25. The Applicant shall install the meter of SRTPV system and bi-directional meter in separate meter boxes in the same proximity or at a suitable place in the premises accessible for the purpose of recording the reading.
26. Solar meter reading will be taken for statistical purpose only and not for billing.
27. In regard, of any queries/complaints/information, the Applicant/Consumer can contact the AEE, O & M Sub-division / Solar help desk at Corporate office, CESC, MYSORE
28. **Subsidy:**

- The Applicant can avail MNRE subsidy of 30% on the capital cost of the Solar rooftop PV systems.
- For availing subsidy, MNRE guidelines and standards are to be followed, details obtained from MNRE website www.mnre.gov.in
- MNRE subsidy shall be availed through KREDL or by any of MNRE channel partners.

29. **Dispute Resolution:**

All the disputes between the SRTPV consumer and CESC, MYSORE arising out of or in connection with the agreement shall be first tried to be settled through mutual negotiation. The parties shall resolve the dispute in good faith and in equitable manner. In case of failure to resolve the dispute, either of the parties may approach the appropriate Forum of law.

1. The Applicant shall submit the filled-in Application along with the necessary documents to jurisdictional O&M, Sub-division office, CESC, MYSORE.
2. On submission of Application form to concerned AEE, Sub-divisional office, will perform general screening and register the application with acknowledgment to the Applicant.
3. After revenue verification, the Application shall be sent to concerned Section officer / Asst. Executive Engineer/ Executive Engineer, O&M CESC, MYSORE as per delegation of powers for Technical feasibility report.
4. After obtaining the Technical feasibility report, AEE, O & M Sub-division will seek Technical details of the Equipments / components proposed to be used in the SRTPV system from Applicant.
5. The Applicant at his liberty to select a reputed system, installer, to gather technical information of SRTPV system and furnish the technical details of PV modules, Inverters and other equipments of the SRTPV system, proposed to be installed at the roof of the applicant within 30 days to the concerned C, O&M Sub-divisional office for technical screening as per the Format - 5.
6. On clearing of Technical screening, **Approval letter for installation** work of SRTPV system will be issued to the Applicant by the AEE/EE, C,O&M CESC, MYSORE as per delegation of powers.
7. After completion of installation work of SRTPV system, the work completion report is to be

submitted by Applicant to AEE/EE C,O&M, CESC, MYSORE with the following documents:

i. Copy of receipt of facilitation fee paid.
ii. Approved drawings and approval for Commissioning from Chief Electrical Inspectorate (CEI), GoK (for capacity above 10kWp).
iii. Test Certificate of bi-directional meter from MT division, CESC, MYSORE.
iv. Copy of Power Purchase Agreement on Rs.200/- stamp paper with CESC, MYSORE.
v. Work completion report from system Installer as per the Format - 6A.
vi. Facing sheet of Bank pass book containing details of Name of the Bank, Type of account, Account No, Name of the Branch, IFSC code etc.,

The maximum time frame for completion of installation work in all respect by the applicant is 180 days.

8. Applicant shall take clearance/approval from AEE, O&M, CESC, MYSORE upto 10kWp and for above 10 kWp, Chief Electrical Inspectorate, GoK will inspect the installation to meet safety standards.
9. After verification of all documents and completion reports submitted by the Applicant, AEE/EE will issue sanction letter for testing and commissioning of SRTPV system.
10. The testing, commissioning and synchronization of the SRTPV system shall be carried out by the concerned Sub-divisional/Divisional Engineer along with MT staff/Section Officer.
11. During the period of synchronization of the SRTPV system with CESC, MYSORE grid, the

CESC, MYSORE personnel shall inspect, calibrate and seal the bi-directional meters.

12.The concerned AEE/EE C,O&M will issue letter for synchronization of the SRTPV system.

Billing and Payment:

1. CESC, MYSORE will issue monthly electricity bill for the net metered energy on the scheduled date of meter reading.
2. In case, the exported energy is more than the imported energy, CESC, MYSORE shall pay for the net energy exported after self-consumption as per