# Odisha Solar Policy- 2013

<table>
<tr><th>Sl. No.</th><th>Description</th><th>Summary</th></tr>
<tr><td>1.</td><td>Nodal Agency</td><td>Odisha Renewable Energy Development Agency (OREDA)</td></tr>
<tr><td>2.</td><td>Objectives</td><td>1. Contributing to long term energy security of the State as well as ecological security by reduction in carbon emissions.<br>2. Providing a long term sustainable solution for meeting energy needs and reducing dependence on depleting fossil fuel resources like coal.<br>3. Productive use of wastelands, thereby utilizing the non-industrialized areas that receive abundant sunshine for creation of solar power hubs.<br>4. Creating favourable conditions to solar manufacturing capabilities by providing fiscal incentives.<br>5. Generating direct and indirect employment opportunities in solar and allied industries like glass, metals, heavy industrial equipment etc.<br>6. Creation of skilled and semi-skilled manpower resources through promotion of technical and other related training facilities.<br>7. Creating an R&D hub for innovation in application of solar power technologies and solar based hybrid co-generation technologies which will focus on improving efficiency in existing application and reducing cost of balance of system.</td></tr>
<tr><td rowspan="7">3.</td><td rowspan="7">Solar Purchase Obligation (RPO)</td><td colspan="3">Solar Purchase Obligations from FY 2011-12 to FY 2015-16</td></tr>
<tr><td>Year wise target</td><td>Consumption ( Grid + captive sources) in MU</td><td>Minimum quantum of Solar Energy to be purchased in % of total Energy consumption in the State</td><td>Quantum of solar power to be harnessed in MU</td><td>Cumulative capacity addition in MW</td></tr>
<tr><td>2011</td><td>44000</td><td>0.10</td><td>44</td><td>28</td></tr>
<tr><td>2012</td><td>51000</td><td>0.15</td><td>76.5</td><td>49</td></tr>
<tr><td>2013</td><td>58000</td><td>0.20</td><td>116</td><td>74</td></tr>
<tr><td>2014</td><td>64000</td><td>0.25</td><td>160</td><td>102</td></tr>
<tr><td>2015</td><td>70000</td><td>0.30</td><td>210</td><td>135</td></tr>
<tr><td>4.</td><td>Solar PV Systems</td><td>Basing on their applications, Solar Photo Voltaic Systems, under these policy guidelines, are categorised in to two broad categories namely on-grid and off grid Systems:<br>1. On-grid PV Projects<br>a) Grid tied Solar PV Power Projects, both land based and rooftop, that supply their entire generated power minus auxiliary consumption to the grid are included under this category. Such projects are further divided into the following categories:<br>b) Projects set up through tariff based bidding for supplying power to GRIDCO/ DISCOMs<br>c) Projects set up under the REC mechanism<br>d) Projects set up for supply/sale of power outside the state using</td></tr>
</table>

open access.

e) IPPs for selling Solar Power to other obligated entities through mutual tariff agreements, or to any other entity

f) CPPs for meeting obligation by the obligated entities or for normal consumption

**2. Off-grid PV Projects**

The State will promote decentralized and off-grid solar applications including hybrid system as per guidelines issued by MNRE to meet various electrical and thermal energy requirements. Such projects are further divided into the following categories:

**a) Rooftop Solar PV Power Plants**

Small Grid Interactive roof top solar power projects connected to LT Grid with individual capacities ranging from 0.5 KW to 500KW as well as completely stand alone projects.

The targets set under this scheme is as follows:

| Sr. No. | Year | Capacity in MW |
|---|---|---|
| 1. | 2013-14 | 2 |
| 2. | 2014-15 | 5 |
| 3. | 2015-16 | 10 |
| 4. | 2016-17 | 15 |
| 5. | 2017-18 | 20 |

b) Decentralized Distributed Generation for Electrification of Un-electrified Villages, Power augmentation in Electrified Villages etc.

c) c)Solar PV Pumps for Micro Irrigation, Drinking Water Supply, Sewage Treatment Plant and lift irrigation

The targets set under this scheme is as follows:

| Sr. No. | Item | Target | | | | |
|---|---|---|---|---|---|---|
| | | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
| 1. | Solar PV Pump for micro irrigation (Nos) | 50 | 100 | 150 | 200 | 250 |
| 2. | Solar PV Pump for drinking water supply (MW) | 0.5 | 5 | 10 | 20 | 25 |
| 3. | Solar PV Pump for drinking water supply (MW) | 1 | 5 | 10 | 15 | 20 |
| 4. | Solar PV Pump for Sewage Treatment Plants (MW) | 0.2 | 1 | 2 | 4 | 5 |
| 5. | Solar PV Pump for | 1000 | 5000 | 10000 | 15000 | 20000 |

<table>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td>lift irrigation (Ha)*</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
*1 hectare is equivalent to 1.2 Kw
d) Other solar PV applications such as solar lanterns, home-lights, street lights etc for use in stand-alone mode by individuals and communities.
e) Solar PV powered Hoardings, Signage & mobile towers
</td></tr>
<tr><td>5.</td><td>Solar Thermal Systems</td><td>
Like Solar Photo Voltaic Systems, solar thermal systems, under these policy guidelines, are categorised in to two broad categories namely on-grid and off grid Systems:
1. On-grid solar thermal Projects: Grid tied Solar thermal Power Projects, that supply their entire generated power minus auxiliary consumption to the grid are included under this category. projects are further divided into the following categories:<br>
a) Projects set up through tariff based bidding for supplying power to GRIDCO/ DISCOMs<br>
b) Projects set up under the REC mechanism<br>
c) Projects set up for supply/sale of power outside the state using open access<br>
d) IPPs for selling Solar Power to other obligated entities through mutual tariff agreements, or to any other entity<br>
e) CPPs for meeting obligation by the obligated entities or for normal consumption<br>
f) Off-grid Solar thermal applications<br>
2. The state under these policy guidelines shall promote extensive use of such devices wherever applicable in order to reduce the consumption of biomass, kerosene, diesel etc.<br>
3. Solar Water Heating System (SWHS)
For the above solar thermal applications the following targets are fixed:
<table>
<tr><th rowspan="2">S/N</th><th rowspan="2">Item</th><th colspan="5">Target</th></tr>
<tr><th>2013-14</th><th>2014-15</th><th>2015-16</th><th>2016-17</th><th>2017-18</th></tr>
<tr><td>1.</td><td>Collector Area in sqm</td><td>5000</td><td>15000</td><td>25000</td><td>35000</td><td>50000</td></tr>
<tr><td>2.</td><td>No. of households</td><td>2000</td><td>3000</td><td>4000</td><td>5000</td><td>6000</td></tr>
<tr><td>3.</td><td>No. of government /Private buildings</td><td>50</td><td>100</td><td>150</td><td>200</td><td>250</td></tr>
<tr><td>4.</td><td>No. of Institutions</td><td>100</td><td>200</td><td>300</td><td>400</td><td>500</td></tr>
</table>
4. Solar Steam Systems<br>
5. Industrial Applications
</td></tr>
<tr><td>6.</td><td>Development of Solar Parks in State</td><td>
1. The State will develop Solar Parks by following two different models. In the first model suitable waste land will be identified for setting up solar power project and the same will be sold to selected development as per provisions of IPR, government of Odisha.<br>
2. In the second model OREDA will own the land where it will develop infrastructural facilities like approach roads, boundary wall, water, auxiliary power, power evacuation facility, etc. and provide the land to selected
</td></tr>
</table>

| | | |
|---|---|---|
| | | developers on 30 years' lease basis at predetermined lease rent. |
| **7.** | **Registration of Solar Power Project** | Every solar power project proposed to be set up in the state (excluding those set up through competitive bidding process) has to be registered with OREDA |
| **8.** | **Single Window Clearance of Projects** | OREDA will act as Nodal Agency for single window clearance of the projects.<br>List of clearances required for setting up a solar Power Projects:<br>a) Capacity allocation by STC<br>b) Pollution Control Board<br>c) MoEF Clearance<br>d) Forest Clearance<br>e) Water drawl Permission<br>f) Airport authority clearance<br>g) Mining clearance |
| **9.** | **Creation of Odisha Renewable Energy Infrastructure Development Fund** | 1. State Government will create a separate Odisha Renewable Energy Infrastructure Development Fund for accelerated development of solar/renewable energy in The state. The resources mobilized by collection of development charges will be credited to the said fund.<br>2. This fund will be utilized for creation of infrastructure such as transmission network, roads etc. for accelerated development of renewable energy as per the guidelines issued by State Government in this regard. |
| **10.** | **Forecasting and Scheduling** | 1. The Solar energy generated for sale will not be covered under scheduling procedure for Intra-State ABT.<br>2. However, the actual solar energy injected in the grid during particular time block of 15 minutes shall be post-facto considered in drawl schedule for sale of power to licensee/third party or for giving set-off against the consumption of recipient unit in case of wheeling.<br>3. However, total available Solar Power Plant generating capacity shall be intimated to GRIDCO/DISCOMs for next day. |
| **11.** | **Metering of Power from Solar Power Plants, Rooftop and Small Solar Power Plants** | Metering arrangement shall be made as per Central Electricity Authority (Installation & Operation of Meters) Regulations, 2006, the grid code, the metering code and other relevant regulations issued by OERC/CERC in this regard. |
| **12.** | **Grid Interfacing** | The grid interfacing arrangements for power using Solar as Renewable Energy Sources will be made by Solar Power Producer/OPTCL/DISCOMs as detailed in following clauses. |
| **13.** | **Generating Plant Sub-Station** | 1. The Generating Plant Sub-station shall be developed and maintained by the Solar Power Producer as per the Grid Code applicable from time to time and the entire cost for this will be borne by them.<br>2. Plant should be integrated by installing RTUs (Remote Terminal Units) by solar power producers so that the fed power can be monitored at receiving Sub-station by the SLDC on real time basis.<br>3. The Solar Power Producer shall furnish the requisite (i) Steady State Load Flow studies and (ii) Short circuit studies etc.<br>4. Solar Power producers shall ensure that average power factor during 15 minutes interval measured at metering point of the solar power plant is maintained as per requirements of State Load Dispatch Centre conveyed to them from time to time.<br>5. Solar PV Power Producers shall ensure such average power factor of 0.95 (lagging) to 1.0 power factor. |

| | | |
|---|---|---|
| **14.** | **Receiving Sub-station** | **1. 33kV and above Grid Connected Solar Power Plants**<br>GRIDCO/OPTCL shall finalize the location of receiving Sub-station in consultation with OREDA on which the electricity generated will be received at minimum 33 kV level of 132/33 kV Sub-station or 400/220/132/33 kV Sub-station.<br>**2. 11kV Grid Connected Solar Power Plants**<br>Concerned DISCOMs shall finalize the location of receiving station for small solar power plant in consultation with OREDA on which the electricity generated will be received at minimum 11 kV level of 33/11 kV Sub-station.<br>**3. LT connected Solar Power Plants**<br>Concerned DISCOMs shall allow interconnections of solar power plants connected to LT voltage level as per standard /norms fixed by Central Electricity Authority/ guidelines of MNRE/ relevant OERC order.<br>**4. Grid Connectivity**<br>a) For creation of proper facility for receiving power, the Solar Power Producer shall pay Grid Connectivity charges as finalized by OREDA from time to time to DISCOMs /GRIDCO as applicable.<br>b) In case power evacuation from any solar power plant is made through temporary arrangement due to incomplete approved evacuation system, no charges will be payable by Solar Power Producer for shifting to the approved evacuation system.<br>c) In case there is any delay in utilization of system, a penalty @ 12% per annum for the period of delay on the amount of Bank Guarantee will be levied by OPTCL/ DISCOMs. |
| **15.** | **Transmission and Distribution Network Augmentation** | 1. Grid Interfacing, required to connect the generating units, will have to be constructed by the Developers/Promoters, all at their cost.<br>2. Scheme for the proposed interconnecting lines and Substation to the nearest 33/11 KV Substation or 132/220/33 KV Grid Substation will require the approval of GRIDCO/DISTCOS and should be included in the DPR.<br>3. Interconnection lines and Substation are to be constructed and maintained by the Developer.<br>4. GRIDCO/DISTCOS may also maintain the same by mutual agreement on payment of annual charges as per the rules and regulations of GRIDCO/DISTCOS.<br>5. The meter rent/charges does not arise The required protective devices, as approved by GRIDCO/ DISTCOS and as per prudent practices, should be incorporated.<br>6. GRIDCO/DISTCOS shall not be liable for any compensation or any damage to the Developer's equipment due to abnormal Grid conditions. |
| **16.** | **Wheeling** | 1. A Developer may utilise the Power generated through the Power Plant for Captive use at the place of generation or open access to seek transmission/distribution system of GRIDCO/DISTCOS to carry the power to the destination of its use subject to Technical Feasibility on payment of transmission/distribution and Wheeling as approved by OERC.<br>2. Transmission capacity permitting, a Developer or a Generating Company shall be allowed to transmit energy outside the State on payment of transmission/wheeling charges to be determined by the OERC.<br>3. No licence is necessary if a person generates and distributes electricity in Rural Areas to be notified by the State Government. |

| | | |
|---|---|---|
| **17.** | **Sale of Power** | 1. While the Developer does not acquire the right to sell Energy to Bulk Suppliers/Distribution Licensees, he may be allowed to do so, on a basis of a Power Purchase Agreement (PPA) with the Licensees to be approved by OERC.<br>2. Energy from the Captive Power Plant, not utilised during the year by the Developer for his captive use will be treated as sold to GRIDCO/ DISTCOS at the price to be negotiated with them and approved by OERC. |
| **18.** | **Power Banking** | 1. Banking of Energy generated though a Captive Solar Power Plant shall be allowed on Annual basis.<br>2. Unutilised Energy during the year may be paid as per the rates to be negotiated between GRIDCO/DISCOM and the developer. Banking charges as applicable and approved by OERC will be charged. |
| **19.** | **Incentives** | 1. In pursuance to the decision taken by all the States and Union Territories regarding reforms in Sales Tax, the Government have decided that no Sales Tax incentives will be extended to the Industrial Units in the State.<br>2. A power plant Generating Power from Non-conventional Sources set up after the effective date shall be deemed to be a new industrial unit. These plants will not be liable to pay Electricity duty. |
| **20.** | **Development of solar Cities** | Incorporation of solar PV and thermal applications wherever possible shall be a part of the city development plan. Various fiscal and financial incentives under these policy guidelines will be extended to solar cities on priority basis. |
| **21.** | **Applications of Innovative Solar technologies** | OREDA will take up innovative solar applications in the following areas on trial basis and also as part of research program in solar before they are launched for application in Individual Houshold/Community.<br><br>a) Triple effect<br>b) Sterling Engines<br>c) Solar Air conditioning<br>d) Hybrid systems<br>For initial promotion of innovative applications based on viability gap budgetary support will be provided on case to case basis. |