

No. 30/71/2015-16/NSM
भारत सरकार/Government of India
नवीन और नवीकरणीय ऊर्जा मंत्रालय /Ministry of New & Renewable Energy

Block No. 14, CGO Complex
Lodi Road, New Delhi-110 003
Dtd. 15th July, 2016

To

The Pay & Accounts Officer
Ministry of New and Renewable Energy
New Delhi.

Subject: Implementation of a Scheme for Development of Solar Zones in the country commencing from 2016-17 and onwards (i.e. from the year 2016-17 to 2020-21)

Sir,

I am directed to convey sanction of the President for implementation of a Scheme for setting up of 10 solar zones each having around 10,000 hectares of government owned or privately owned wasteland, uncultivable land or fallow land in one or more than one patches; in a span of 5 years from 2016-17 to 2020-21; with an estimated Central Financial Assistance (CFA) of Rs. 44.00 Crore (Rs. Forty Four Crore only), as per provisions of the Scheme enclosed at Annexure.

2. Objective

The scheme aims to provide a huge impetus to solar energy generation by acting as a flagship demonstration facility to encourage project developers and investors, thereby helping the country in achieving its target of 1,00,000 MW by 2022. The solar zones will enable the States to bring in significant investment from project developers, meet its Solar Renewable Purchase Obligation (RPO) mandate and provide employment opportunities to local population. The State will also reduce its carbon footprint by avoiding emissions equivalent to the solar zone's installed capacity and generation. Further, the State will also avoid procuring expensive fossil fuels to power conventional power plants.

3. Implementation arrangements

3.1 Applicability: All the States and Union Territories are eligible for benefitting under the scheme.

3.2 Implementation Agency: The solar zones will be developed in collaboration with the State Governments and their agencies. The State, applying under the scheme, will have to designate an agency for the development of solar zone in the State. Solar Energy Corporation of India (SECI) would be MNRE's Agency for handling this Scheme. The choice of implementing agency for developing the solar zone is left to the State Government.

3.3 Capacity: Land with at least 10,000 hectares of contiguous or near-contiguous government owned or /and privately owned wasteland, uncultivable land or fallow land in one or more than one patches and with daily average insolation of over 4 kWh per meter square may be declared as Solar Zone.

4. The State Government shall carry out survey to identify area having daily average insolation of over 4 kWh per meter square and having around 10,000 hectares of government owned or privately owned wasteland, uncultivable land or fallow land in one or more than one patches to be declared as Solar Zone. Based on the survey, the State Government shall commission a techno-economic feasibility report. SECI will first evaluate the techno-economic feasibility report carried out by the State and recommend this Ministry for further approval for preparation of DPR.

5. Central Financial Assistance (CFA):

- CFA of up to Rs. 10.00 Lakh (Rupees Ten Lakhs only) for techno-economic pre-feasibility survey and preparation of feasibility report of the Solar Zone will be provided to the implementing agency through SECI as per the mile stone mentioned under para 7 of the Scheme.
- CFA of up to Rs. 50.00 Lakhs (Rupees Fifty Lakhs only) for preparing Detailed Project Report (DPR) of the Solar Zone will be provided to the implementing agency through SECI as per the mile stone mentioned under para 7 of the Scheme.
- Thereafter, CFA will also be provided for setting up of one nodal office, Solar Radiation Resource Assessment (SRRA) Station in each Solar Zone. The State Government (where the Solar Zone is located) will also appoint up to five staffs in each Solar Zone to facilitate Solar Project Developers in setting up of solar power projects. The salary of the staffs (up to around Rs. 50,000/- per month) will be borne through Central Grants for five years.
- The grant will be managed and released by SECI on behalf of MNRE for which SECI will be given a fund handling fee of 1%.

6. If there is need for making any amendment to this Scheme for better implementation or any relaxation is required in the norms for Solar Zones, MNRE will be competent to make such amendments with the approval of Secretary, MNRE, without increasing the financial requirements.

7. The funds for implementation of the above scheme would be met from Demand No.61-Ministry of New & Renewable Energy, Major Head 2810-New & Renewable Energy, Minor Head: 101-Grid Interactive & Distributed Renewable Power, Sub Head 01- Grid Interactive Renewable Power; 04-Solar Power, 01.04.35 – Grants for Creation of Capital Assets during the year 2016-17 (Plan).

8. This sanction issues in exercise of powers delegated to this Ministry and with the approval of competent authority and concurrence of IFD vide their Dy. No. FTS dated 19.5.16.

Yours faithfully,


(Devendra Singh)

Under Secretary to the Govt. of India
Tel: 011-24360625

Encl: As above

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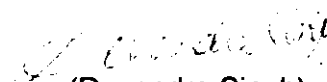
Dtd. 15.07.2016

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3. All State/UT Energy Secretaries
4. All Heads of State/UT Nodal Agencies
5. All State/UT Utilities
6. All Municipal Commissioners
7. CMD, IREDA, August Kranti Bhawan, Bhikaiji Cama Place, New Delhi
8. Managing Director, SECI, New Delhi-110017

Internal Distribution:

1. PS to Hon'ble Minister, NRE
2. PSO to Secretary, MNRE
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(Devendra Singh)

Under Secretary to Govt. of India

Scheme for Development of Solar Zones in India

Background

India, with its large population and rapidly growing economy, needs access to clean, cheap and reliable sources of energy. India lies in the high solar insolation region, endowed with huge solar energy potential with most of the country having about 300 days of sunshine per year with annual mean daily global solar radiation in the range of 4 - 6 kWh/m²/day. Solar power projects can be set up anywhere in the country, however the scattering of solar power projects leads to higher project cost per MW and higher transmission losses. Individual projects of smaller capacity incur significant expenses in site development, drawing separate transmission lines to nearest substation, procuring water and in creation of other necessary infrastructure. Also it takes a long time for project developers to acquire land, get change of land use and various permissions, etc. which delay the project.

In order to avail the benefit of solar projects located in a concentrated zone, this Ministry is implementing a scheme for development of Solar Park and Ultra-Mega solar power projects. Under this scheme, it is proposed to set up 25 solar parks with aggregate capacity of over 20,000 MW of solar power. Development of solar parks is now going on.

It is now proposed to develop solar zones in the country. Solar zone may be defined as "A zone of land having good solar radiation and having around 10,000 hectares of government or privately owned wasteland, uncultivable land or fallow land etc. in one or more than one patches for setting up of solar projects and with the possibilities of developing transmission / evacuation systems for evacuation of power in an economically feasible manner".

The difference between solar zone and solar park would be that while Government will acquire land in case of a solar park, land acquisition will be facilitated by the Government in a solar zone but Government will not acquire the land. While transmission is provided for every project in a solar park, in a solar zone several inter-connection points will be created where developers can connect at their own level in such a manner so that no developer has to build a line for more than 25 kms.

2. Proposal

MNRE through this scheme plans to set up 10 solar zones, each zone having daily average insolation of over 4 kWh per meter square and having around 10,000 hectares of contiguous or near-contiguous government owned or privately owned wasteland, uncultivable land or fallow land in one or more than one patches. Farmers' Co-operatives may also be encouraged for creating land pool.

Each Solar Zone will have at least one Solar Radiation Resource Assessment (SRRA) Station, one Nodal Office with adequate staffs (up to five staffs) to facilitate Solar Project Developers in setting up of solar power projects. The land for setting up Nodal office for each solar zone is to be provided by the State Government.

Central Transmission Utilities (CTU) and the State Transmission Utilities (STUs) will be involved to build transmission infrastructure to provide the evacuation from the areas declared as Solar Zones based on the proposals from the State Governments. The Solar Zones may be included in the next phase of the Green Energy Corridor programme so that adequate funding for power evacuation facilities is available for development of these Solar Zones.

Independent Power Producers (IPPs) would be free to select and acquire land in the solar zones as per existing rules for setting up of solar projects on case to case basis. MNRE will have no direct role in acquiring of land. Feed-in Tariff (FIT) or bidding based projects can come up in the solar zones. Solar Manufacturing Units may also come up in the proposed solar zones.

2.1 Techno-Economic Pre-Feasibility Study:

The solar zones will be developed in collaboration with the State Governments & their agencies. The State Government would first conduct a techno-economic pre-feasibility survey, through a suitable agency. Thereafter, the State Government shall identify an area having daily average insolation of over 4 kWh per meter square and having around 10,000 hectares of government owned or privately owned wasteland, uncultivable land or fallow land in one or more than one patches to be declared as Solar Zone. Based on the survey, the State Government shall commission a techno-economic feasibility report which inter alia addresses the following:

- (a) Demarcation of the proposed area.
- (b) Details of land i.e. whether the land is Government land, assigned land, unassigned land or private land etc.
- (c) Available transmission infrastructure and transmission infrastructure required for evacuation of solar power from the proposed solar zone.

The Central Financial Assistance (CFA) of up to Rs. 10 Lakhs will be provided by this Ministry for carrying out techno-economic pre-feasibility survey and preparation of feasibility report.

Based on the outcomes of the feasibility report, the State Government will submit a proposal along with the feasibility report to this Ministry for creating Solar Zone. After the proposal is approved by this Ministry, the State Government will take up further activities. A Detailed Project Report (DPR) for each Solar Zone will be prepared by the State Government or the agency identified by the State Government. The DPRs will include surveys to indicate locations, available Government and private land which can be used for development of solar power projects, information on solar resource assessment data, availability of water, roads, nearest evacuation facilities available and transmission infrastructure required for evacuation of solar power from the proposed solar zone etc.

These solar zones will be set up within a span of 5 years commencing from 2015-16 and the solar projects may then come up as per demand and interest shown by developers.

At the State level, the solar zones will enable the States to bring in significant investment from project developers, meet its Solar Renewable Purchase Obligation (RPO) mandate and provide employment opportunities to local population. The State will also reduce its carbon footprint by avoiding emissions equivalent to the solar zone's installed capacity and generation. Further, the State will also avoid procuring expensive fossil fuels to power conventional power plants.

The solar zone will provide a huge impetus to solar energy generation by acting as a flagship demonstration facility to encourage project developers and investors thereby helping the country in achieving its target of 1,00,000 MW by 2022.

These solar zones will also display areas of synergy with other renewable energy sources for hybridization, such as of wind and solar.

Out of the total solar potential in the solar zone, 25% area will be set apart for deployment by manufacturers of ingots, wafers, solar cells and modules etc. to promote 'Make in India', 25% area for small and medium enterprises, farmers and unemployed youth and 50% area for solar project developers. This however, is an indicative allocation and may be changed with approval of this Ministry.

2.2 Applicability: All the States and Union Territories are eligible for benefits under the scheme.

2.3 Capacity: Land with at least 10,000 hectares of government owned or /and privately owned wasteland, uncultivable land or fallow land in one or more than one patches and with daily average insolation of over 4 kWh per meter square may be declared as Solar Zone.

3. Implementing agency

The solar zones will be developed in collaboration with the State Governments & their agencies. The States applying under the scheme will have to designate an agency for the development of solar zone. The MNRE Nodal Agency would be Solar Energy Corporation of India (SECI) on behalf of Government of India (GOI) for handling this Scheme. SECI will also handle funds to be made available under the scheme on behalf of GOI. SECI will administer the scheme under the directions from MNRE. SECI will first evaluate the techno-economic feasibility report carried out by the State and recommend this Ministry for further approval for preparation of DPR.

The Implementing Agency as identified above, shall undertake following activities:

- i) Identification of wasteland, uncultivable land or fallow land, Government owned for privately owned land in one or more than one patches having at least 10,000 hectares of area.
- ii) Carry out techno-economic pre-feasibility survey and preparation feasibility report.
- iii) Preparation of DPR.
- iv) Setting up Nodal office with staff for the proposed solar zone.

- v) Setting up Solar Radiation Resource Assessment (SRRA) Station if necessary and its Operation & Maintenance.
- vi) Other activities as envisaged under the Scheme.

4. Detailed Project Report:

The Detailed Project Report (DPR) for each Solar Zone will be prepared by the State Government or the agency identified by the State Government. The DPR shall contain the following information:

- i. Identification of wasteland, uncultivable land or fallow land, Government owned or privately owned land in one or more than one patches having at least 10,000 hectares of area.
- ii. Details of land i.e. whether the land is Government land, assigned land, unassigned land or private land etc. and their proposed cost of acquisition of land.
- iii. Details regarding conversion of land utilization for setting up solar power projects.
- iv. Statutory & non-statutory clearances required for setting up solar power projects in the Solar Zone. To ensure that no disputed land is covered under the Solar Zone.
- v. To make solar resource assessment data available for the proposed solar zone and to ensure the average insolation is over 4 kWh/m² /day.
- vi. Study on availability of canals, ponds or ground water.
- vii. Availability of approach roads.
- viii. Rain fall study for the last 50 years.
- ix. Topographical survey, contour survey of land and soil testing etc.
- x. Study on evacuation facilities already available.
- xi. Study on transmission infrastructure required for evacuation of solar power from the proposed solar zone etc.
- xii. Proposed location of several inter-connection points where the developers can connect solar project at their own level in such a manner so that no developer has to build a line for more than 25 km.
- xiii. Scope of setting up of solar equipment manufacturing facility within the solar zone.
- xiv. Requirement of necessary evaluation of environmental and social impacts of utility scale solar deployment as per law.
- xv. Details about local employment generation.
- xvi. Details about solar power projects already installed or in pipeline.
- xvii. Any other relevant information under the Scheme.

5. MNRE support

The State Government will first nominate the implementing agency for techno-economic pre-feasibility survey, preparation of feasibility report and the Detailed Project Report (DPR). The implementing agency will identify a nodal officer to deal the subject. It will then send a proposal to MNRE for approval along with (or later) the name of the implementing agency for preparation of the techno-economic pre-feasibility survey, feasibility report and DPR. The implementing agency may be sanctioned a CFA of up to Rs. 10 Lakh (Rupees Ten Lakh only) for carrying out techno-economic pre-feasibility survey and preparation of feasibility report. Based on the outcomes of the feasibility report, if the proposal is approved by this Ministry, then CFA of up to Rs. 50 Lakh will be provided (Rupees Fifty Lakh only) for preparing Detailed Project Report (DPR) for the Solar Zone.

Thereafter, Central Financial Assistance (CFA) will also be provided for setting up of one nodal office, SRRRA Station in each Solar Zone. The State Government (where the Solar Zone is located) will also appoint up to five staffs in each Solar Zone to facilitate Solar Project Developers in setting up of solar power projects. The salary of the staffs (upto around Rs. 50,000/- per month) will be borne through Central Grants for five years.

The grant will be managed and released by SECI on behalf of MNRE for which SECI will be given a fund handling fee of 1%.

Based on above, the estimated cost for the proposed 10 Solar Zones has been worked as under:

Sl. No.	Activity	Central Grant (Rs. in Crore)
1.	Cost of techno-economic pre-feasibility survey and preparation of feasibility report for 10 Solar Zones (@ Rs. 10.00 Lakh per Solar Zone)	1.00
2.	Cost of DPR preparation for 10 Solar Zones (@ Rs. 50.00 Lakh per Solar Zone)	5.00
3.	Cost of 10 SRRRA Stations (@ Rs. 30 lakh per station) in 10 Solar Zones including O&M for Five years	3
4.	10 Nodal Offices for 10 Solar Zones (@ Rs. 1.00 Crore per solar zone)	10
5.	Salary of Five staffs of each solar zone (@ Rs. 50,000/- per staff per month) for 5 years	15
	Training, consultancy & other related Expenditure	5
6.	Sub-total	39
7.	1% fund handling fee for SECI on above amount	0.39
8.	Total	39.39 or 40.00 (approx.)

6. Timelines

The DPR is to be submitted within 6 months from the date of release of first installment of the Central Grant by this Ministry. Thereafter, Nodal Office and Solar Radiation Resource Assessment Station will be established by the implementing agency within next six months.

7. Pattern of release of Central Grant

Release of the Central Financial Assistance (CFA) for approved projects will be made as per the following pattern:

Sl. No.	Milestone	% of CFA to be disbursed
1.	Initial release along with the sanction order for techno-economic pre-feasibility survey and preparation of feasibility report.	50% of CFA for techno-economic pre-feasibility survey and preparation of feasibility report i.e. up to Rs. 5.00 Lakh
2.	On submission of feasibility report and acceptance by this Ministry	Balance of actual cost for preparation of the feasibility report with an upper limit of 50% of CFA for DPR i.e. Rs. 5.00 Lakh
3.	Release of CFA along with the sanction order for preparation of DPR	50% of CFA for DPR i.e. up to Rs. 25.00 Lakh
4.	On submission of DPR and acceptance by this Ministry	Balance of actual cost for preparation of the DPR with an upper limit of 50% of CFA for DPR i.e. Rs. 25.00 Lakh
5.	Land acquisition for setting up Nodal Office for Solar Zone	50% of CFA for setting up Nodal Office i.e. up to Rs. 50.00 Lakh and 100% of CFA for SRRA Station i.e. Rs. 30.00 Lakh
6.	Completion of Nodal Office, setting up of SRRA Station and recruitment of staffs for the Nodal Office	50% of CFA for setting up Nodal Office i.e. Rs. 50.00 Lakh
7.	Release of salary of staffs in Nodal Office of Solar Zone on submission of documentary evidences of release of salary to the recruited staff.	Quarterly release of Rs. 50,000/- per staff for 5 staffs in each solar zone.

8. Power to remove difficulties

If there is need for any amendment to this Scheme for better implementation or any relaxation is required in the norms for Solar Zones due to operational problems, MNRE will be competent to make such amendments with the approval of Secretary, MNRE.

9. Monitoring progress of Scheme:

MNRE will appoint a Nodal Officer in the Ministry to help, guide and closely monitor progress of the scheme to ensure that timeliness as envisaged for completion for development of the Solar Zones are adhered to.

