Jawaharlal Nehru National Solar Mission (Phase II)

HIGHLIGHTS

<table>
<tr><td>Nodal Agency</td><td>Ministry of New & Renewable Energy</td></tr>
<tr><td>Applicable Technologies</td><td>Grid connected rooftop solar, Medium and large scale solar power plant, Off-grid Solar applications</td></tr>
<tr><td>Objective</td><td>• To establish India as a global leader in solar energy, by creating the policy conditions for its large scale diffusion across the country as quickly as possible.
• The Mission has adopted a 3-phase approach: the 11th Plan and first year of the 12th Plan (up to 2012-13) has been considered as Phase 1, the remaining 4 years of the 12th Plan (2013-17) are included as Phase 2, and the 13th Plan period (2017-22) is envisaged as Phase 3.</td></tr>
<tr><td>Targets</td><td>
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<tr><td>Segment</td><td>Target for Phase1</td><td>Cumulative Target for Phase2</td><td>Target for Phase 3</td></tr>
<tr><td>Utility Grid Power including rooftop</td><td>1,000-2,000 MW</td><td>4,000-10,000 MW</td><td>20,000 MW</td></tr>
<tr><td>Off-grid Solar applications</td><td>200 MW</td><td>1000 MW</td><td>2000 MW</td></tr>
<tr><td>Solar collectors</td><td>7 million sq. metres</td><td>15 million sq. metres</td><td>20 million sq. metres</td></tr>
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<tr><td colspan="2">Scaling up of Grid-connected Solar Power Projects from 20,000 MW to 1,00,000 MW by the Year 2021-22 under National Solar Mission</td></tr>
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Revised Targets under Policy	

Year	Roof top	Ground-mounted
2015-16	200	1800
2016-17	4800	7200
2017-18	5000	10000
2018-19	6000	10000
2019-20	7000	9500
2020-21	8000	9500
2021-22	9000	8500
Total	**40000**	**57000**

*3743 MW commissioned upto 2014-15

References	http://mnre.gov.in/file-manager/grid-solar/100000MW-Grid-Connected-Solar-Power-Projects-by-2021-22.pdf

Scheme for Development of Solar Parks and Ultra Mega Solar Power Projects in the country commencing from 2014-15 and onwards (i.e. from the year 2014 – 15 to 2018 – 19)

Implementing agency

The solar parks will be developed in collaboration with the State Governments and their agencies. Solar Energy Corporation of India (SECI) would be MNRE's Agency for handling this Scheme.
The choice of implementing agency for developing and maintaining the park is left to the State Government.

Central financial Assistance

• @ Rs 25.00 Lakh per park released by MNRE to SECI for DPR preparation, surveys etc.
• Upto Rs 20.00 Lakh per MW or 30% of the project cost including grid connectivity cost whichever is lower, released to SECI on achieving milestones.

Milestone	**% of subsidy**
Date of issue of administrative approval	5%
Land acquisition (not less than 50% land acquired)	20%
Financial Closure	20%
onstruction of Pooling Substation, Land Development and other Common facilities as per DPR	25%
Construction of transmission line and Grid Connectivity	20%
Final instalment on completion	10%

Applicable Technology

Projects of any solar technology may come up in the Solar Park. The flexibility in choosing technology by the Project Developer will ensure adoption of cost effective and state-of-the-art technology which is commensurate with the dynamic requirements of the project.

Power purchase agreement	Solar developer shall enter into PPA with central utilities/State Utilities/Third parties/captive users who are willing to buy power. The tariff could be either CERC/SERC regulated price or that determined through bidding process.
Power Evacuation	• Pooling station and network within park to collect power from each project and transmitting it to the transmission sub-station at the park boundary is the responsibility of implementing agency • Transmission substation along with transmission line up to CTU/STU is the responsibility of CTU/STU For both these evacuation arrangements MNRE funds or loans form bilateral/multilateral agencies may be used. If the expenditure of evacuation arrangement is high then a spate proposal for may also be considered for funding from NCEF, Green Corridor Programme or any other r source
Additional Information	MNRE has published separate Guidelines for Development of Solar Parks, List of approved Solar Parks,
Reference	http://mnre.gov.in/file-manager/grid-solar/Scheme-for%20development-of-Solar-Park-&-Ultra-Mega-Solar-Power-Project-2014-2019.pdf

Implementation of Scheme for setting up of 1000 MW of Grid-Connected Solar PV Power Projects by Central Public Sector Undertakings (CPSUs) and Government of India Organizations under various Central/State schemes/Self-use/ 3rd party sale/ Merchant sale with viability Gap Funding under Batch-V of phase-II of JNNSM	
Implementing agency	• CPSU's and Government of India organizations like NTPC, NHPC, CIL, IREDA, Indian Railways etc may participate in various central/state government tenders during the period 2014-15 to 2016-17 (Further extended to 2017-18) • SECI will handle the scheme on behalf of MNRE
Central financial Assistance	• VGF would be provided through SECI at a fixed rate of (i) Rs 1 Cr/MW where domestically produced Cells and Modules are used (ii) Rs 50 lakh/MW where domestically produced modules are used. • VGF will be released in two tranches – (i) 50% on LoI and start of installation work at plant (ii) 50% on successful commissioning of the full capacity of project
Power purchase/sale arrangement	• Sale of power to State Utilities/DISCOMs or any other organization. • CPSU may also enter into PPA with State Utilities/DISCOMs at tariff determined by CERC or SERC or may develop projects of their own use or for sale of power to a third party at mutually negotiate rates
Additional Information	The projects must mandatorily procure cells and modules from domestic manufacturers.
References	http://mnre.gov.in/file-manager/UserFiles/Scheme-1000MW-grid-connected-SPV-batch_V-phase_II-JNNSM.pdf http://mnre.gov.in/file-manager/UserFiles/AMENDMENT-Scheme-1000MW-grid-connected-SPV-batch_V-phase_II-JNNSM.pdf http://mnre.gov.in/file-manager/UserFiles/Corrigendum-Scheme-1000MW-grid-connected-SPV-batch_V-phase_II-JNNSM.pdf

Scheme for setting up over 300 MW of Grid-Connected & Off-grid Solar PV Power Projects by Defence Establishments under Ministry of Defence and Para Military Forces (under MHA) with Viability Gap Funding (VGF) under Phase-II/III of JNNSM during 2014-15 and onwards	
Implementing agency	• 300 MW of Grid-Connected and off-grid Solar PV projects to be set up in various establishment of Ministry of Defence ie. Establishment of Army, Navy, Air Force, Ordnance Factory Board Defence Laboratories and Defence PSU's, Para Military forces (under MHA) • These establishments would identify locations for developing solar projects anywhere in country during 2014-15 to 2018-19 • Project Capacity shall be at least 1 MW and the maximum capacity of project shall be up to 20 MW • Tendering for inviting project developers would be done by the Defence establishment • SECI will handle the release of VGF on behalf of MNRE
Central financial Assistance	Developer Mode – VGF would be provided to the developer with a view to make available solar power from these solar power projects at a fixed rate of 4.50 / unit at project boundary or interconnection point. Bidder with minimum VGF will be selected. Upper limit of VGF – Rs 1.1 Cr/MW EPC mode – VGF will be paid at a fixed rate of 30% of the cost of the project excluding price of land and excluding O&M charges Or Rs 1.1 Cr/MW, whichever is lower irrespective of size of project.
Power purchase agreement	• Under developer mode PPA is signed between developer and Defence establishment at fixed levelised tariff of Rs 5.50/kWh for 25 years • No PPA required under EPC mode
Additional Information	The projects must mandatorily procure cells and modules from domestic manufacturers.
References	http://mnre.gov.in/file-manager/UserFiles/administrative-approval-on-Defence-300MW.pdf http://mnre.gov.in/file-manager/UserFiles/AMENDMENT-administrative-approval-on-Defence-300MW.pdf

Approval for implementation of scheme for setting up of 750 MW Grid-connected Solar PV Power projects under Batch-I of Phase II of Jawaharlal Nehru National Solar Mission (JNNSM) with Viability Gap Funding (VGF) support from National Clean Energy Fund	
Implementing agency	Scheme will be implemented by SECI in close association with NVVNL
Central financial Assistance	VGF will be provided for setting of plant to the developer. The power generated from the projects shall be purchased by SECI at a fixed levelised tariff of Rs 5.45/kwh for 25 years. Projects would be selected through open competitive reverse bidding on VGF requires by the bidders

Additional Information	Bids will be invited in two categories • 375 MW with Domestic content requirement (DCR) in respect of solar PV cells and modules • 375 MW without DCR restriction A separate document on guidelines for selection and implementation is published by MNRE
References	http://mnre.gov.in/file-manager/UserFiles/VGF_750MW_scheme_for-grid-solar-pv-power-projects.pdf

Guidelines for Implementation of scheme for setting up of 2000 MW Grid-Connected Solar PV Power Projects with Viability Gap Funding (VGF) under Batch-III of Phase-II of the JNNSM	
Implementing agency	Scheme will be implemented by SECI
Central financial Assistance	VGF will be provided for setting of plant to the developer. The power generated from the projects shall be purchased by SECI at a fixed levelised tariff of Rs 5.43/kwh for 25 years. Projects would be selected through open competitive reverse bidding on VGF requires by the bidders
Additional Information	Bids will be invited in two categories • 250 MW with Domestic content requirement (DCR) in respect of solar PV cells and modules • 1750 MW without DCR restriction A separate document on guidelines for implementation is published by MNRE
References	http://mnre.gov.in/file-manager/grid-solar/Scheme-2000MW-Grid-Connected-SPV-with-VGF-under-JNNSM.pdf

Implementation of scheme for setting up of over 5000 MW Grid-Connected Solar PV Power Projects with Viability Gap Funding under Batch-IV of Phase-II of the JNNSM	
Implementing agency	Scheme will be implemented by SECI. Approximately 1250 MW capacity is envisaged for bidding in each of FY 2015-16, 2016-17, 2017-18, 2018-19.
Central financial Assistance	VGF will be provided for setting of plant to the developer on BOO basis. Projects would be selected through open competitive e-bidding based on minimum VGF sought. The upper limit of VGF for DCR category will be @RS 1.25 Cr/MW.
Power purchase arrangement	The power generated from the projects shall be sold to the buying DISCOMs/State Utilities/ bulk consumers at a tariff as below • Rs 4.00/kWh – for states where Tariff has fallen below Rs 4.50/kWh in one or major tenders • Rs 4.50/kWh –where Tariff has remained over Rs 4.50/kWh in all major tenders
Additional Information	MNRE may fix some quantity of power to be procured with domestic content requirement (DCR) of cells and modules made in India

References	http://mnre.gov.in/file-manager/UserFiles/Scheme-for-over-5000MW-Grid-Connected-SPV-Power-Projects-with-VGF-under-JNNSM.pdf http://mnre.gov.in/file-manager/UserFiles/Corrigendum-Scheme-for-over-5000MW-Grid-Connected-SPV-Power-Projects-with-VGF-under-NSM.pdf

Pilot-cum-Demonstration Projects for Development of Grid Connected Solar PV Power Plants on Canal Banks and canal Tops Scheme	
Implementing agency	• The solar PV power plants will be developed by the State Power Generation Companies/ State Government Utilities/ any other State Government Organization/ PSUs/ GoI PSUs or GoI organizations, provided that they are operating in power sector or own canal systems. • The Scheme manager on behalf of MNRE would be Solar Energy Corporation of India (SECI) under the MNRE.
Central financial Assistance	SECI shall release the capital subsidy of • Rs. 3cr./MW for Canal Top SPV projects or 30% of project cost whichever is less • Rs. 1.5cr/MW for Canal Bank SPV Projects or 30% of project cost whichever is less.
Power sale arrangement	The Implementing Agency will enter into firm, long-term (25 years) tie-up with concerned State Irrigation Department/ relevant organisations or utilization of the Canal Tops/Banks for setting up the power plants and PPA with State Utility/ Discom for evacuation and purchase of the power generated from their plant at tariffs as mutually agreed or as fixed by the State Electricity Regulatory Commission.
References	http://www.mnre.gov.in/file-manager/grid-solar/Administrative-Approval-reg-Pilot-cum-Demonstration-Project-for-Canal-Bank-Canal-Top-Solar-PV-Projects%20.pdf

Links	http://mnre.gov.in/schemes/grid-connected/solar/schemes-2/