

BEFORE THE HON'BLE
ODISHA ELECTRICITY REGULATORY COMMISSION
BIDYUT NIYAMAK BHAWAN
PLOT NO.4, CHUNOKOLI, SHAILASHREE VIHAR, CHANDRASEKHARPUR,
BHUBANESWAR-751023

In the matter of: An application for allowing Odisha DISCOMs to Install, Operate & Maintain Distributed Renewable Energy Plants on behalf of Rural Households through community solarization mechanism under Rooftop scheme funded by Govt Aids/Subsidy plus DISCOMs contribution under Demand Side management (DSM) in conformity with the provisions of OERC DSM Regulation, 2011.

AND

matter of

M/s. TP Western Odisha Distribution Ltd.

on behalf of all four Odisha DISCOMs

.....Applicants

AFFIDAVIT

I, Gajanan S. Kale , aged about 54 years S/o late Sampatrao Sitaram Kale, presently working as the Chief Executive Officer, TP Western Odisha Distribution Ltd, Corporate Office, Burla do hereby

solemnly affirm and state as follows:-

1. That, I am the authorized representative for all the four DISCOMs of Odisha.
2. That, I have gone through the contents of the present application and am well versed with the facts laid down there-under.
3. That, the facts stated in the present application are true to the best of my knowledge and belief and the same are based upon available records.


DEPONENT

VERIFICATION


Solemnly affirmed at Sambalpur on this 12th day of March, 2024 that the contents of the above affidavit are true to my knowledge (as derived from the records), no part of it is false and nothing material has been concealed there from.


DEPONENT

PLACE: Sambalpur

DATE: 12.03.2024

The deponent/declarant
solemnly affirmed before
me to day at 7:10 A.M./P.M.


K.P. Mishra 12/03/2024
Notary,
Reg. No. ON 23/94
Sambalpur

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ODISHA ELECTRICITY REGULATORY COMMISSION
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AND

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M/s.TP Western Odisha Distribution Ltd.
on behalf of all four Odisha DISCOMs

.....Applicants

AND

In the matter of:

MNRE, Govt. of India
Dept. of Energy Govt. of Odisha
GRIDCO Ltd.
OPTCL
OREDA

.....Respondents

The Humble applicants above named respectfully sheweth:

1. That TP WESTERN ODISHA DISTRIBUTION LIMITED (in short TPWODL), a company duly incorporated under the Companies Act, 2013, having its Registered office at Burla, Sambalpur, Odisha-768017, is the Distribution & Retail supply licensee to distribute electricity in Western part of Odisha consisting of 9 revenue districts namely Sambalpur, Jharsuguda, Deogarh, Sundargarh, Bargarh, Bolangir, Sonapur, Kalahandi & Nuapada

And

2. That TP CENTRAL ODISHA DISTRIBUTION LIMITED (in short TPCODL), a company duly incorporated under the Companies Act, 2013, having its Registered office at IDCO

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tower, Janapath, Bhubaneswar, Odisha-751022, is the Distribution & Retail supply licensee to distribute electricity in Central part of Odisha consisting of 9 revenue districts namely Puri, Khurda, Nayagarh, Cuttack, Dhenkanal, Jagatsinghpur, Angul, Kendrapara and some part of Jajpur.

And

3. That TP NORTHERN ODISHA DISTRIBUTION LIMITED (in short TPNODL), a company duly incorporated under the Companies Act, 2013, having its Registered office at Januganj, Balasore, Odisha-756019, is the Distribution & Retail supply licensee to distribute electricity in Northeastern part of Odisha consisting of 5 revenue districts namely Mayurbhanj, Keonjhar, Bhadrak, Balasore and major part of Jajpur.

And

4. That TP SOUTHERN ODISHA DISTRIBUTION LIMITED (in short TPSODL), a company duly incorporated under the Companies Act, 2013, having its Registered office at Courtpeta, Berhampur, Odisha-760004, is the Distribution & Retail supply licensee to distribute electricity in Southern part of Odisha consisting of 8 revenue districts namely Ganjam, Gajapati, Kandhamal, Boudh, Rayagada, Koraput, Nawarangpur and Malkanagiri.

A. Executive Summary:

5. That, Government of India (GoI) has undertaken various policy measures to increase the installed capacity of non-fossil fuel sources by 2030 for generation of green energy. The Ministry of New & Renewable Energy (MNRE), Govt. of India, is implementing various Rooftop Solar (RTS) Program from time to time to encourage RTS installation in the residential sector. The Ministry of New and Renewable Energy (MNRE) launched Rooftop Solar Programme Phase-II on 08.03.2019 with an objective to achieve 40 GW of rooftop solar (RTS). The Programme envisages installation of 4,000 MW of RTS capacity in the residential sector by providing Central Financial Assistance (CFA). However, only 2.84 GW of capacity has been added across the country till date under subsidy mechanism (RTS Scheme of MNRE) in the residential sector across the country. However, lack of interest from individual consumers is the barrier in progress of the scheme. Only a few financially sound consumers are opting for RTS System & are coming forward as the differential cost is still much higher. In response to the above challenges leading to minimal adoption of the Rooftop Solar Scheme by households, MNRE, GOI has introduced a restructured initiative known as the "PM Surya

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Ghar Muft Bijli Yojana 2024" to overcome these obstacles and promote widespread rooftop solar installation. The scheme has been announced by the Hon'ble Prime Minister on 13.02.2024 which aims to solarise one (01) crore households in India.

However, there is a lack of enthusiasm among "Rural households" in the country due to financial constraints and lower electricity tariff. Therefore, the Rural Segment across the country is unable to tap the benefit of Rooftop Solar Scheme. Their economic condition, uses of electricity and availability of individual roof top is a major concern. So, arranging own source of fund by Rural segment is a huge challenge. As a result, the Rural Consumers are unable to participate in the RTS scheme.

Considering the challenges of non-adoption of RTS system by the Rural Segment of the State, the applicant DISCOMs have prepared a Model Scheme exclusively for the Rural Consumer Segment. The proposed initiative aims to make rural households self-sustainable by consuming green power from solar plants managed by DISCOM and installed under Rooftop Solar (RTS) Program of MNRE. The proposed model scheme aims to address the slow progress of rooftop solar system (RTS) adoption in rural areas of Odisha, aligning with the national and state renewable energy goals. The scheme proposes DISCOM-maintained solar PV plants installation in rural areas, where participating households will be receiving benefits without any additional financial burdens. After joining the scheme, rural households may be exempt from electricity charges up to a certain limit, reducing DISCOM's costs in power procurement, billing, and collection. Moreover, there are around 25%-35% technical losses till the LT side of the end beneficiary, thereby saving in the actual cost of power for the utility. Aggregating the demand of a village, solar plant capacity shall be determined, ensuring reliable power supply to participating consumers. The electricity generated from the solar power plant shall be distributed to all the participating consumers in the same ratios as the share of cost (subsidy/aid/ part) of the plant among them. The DISCOM will adjust generated units in consumer's monthly electricity bill. This approach aims to address technical & commercial losses and contribute to the sustainability of rural communities. This will also contribute to fulfil the new RPO trajectory of Distributed Renewable Energy.

B. Background of this Application:

6. That, Government of India (GoI) has undertaken various policy measures to increase the installed capacity of non-fossil fuel sources by 2030 for generation of green energy. On 30th February 2019, GoI approved Phase II of 'Grid Connected Rooftop and Small Power Plants Program' for achieving cumulative capacity of 40 GW RTS Plant. It was also decided that DISCOMs and its local offices will act as nodal points for implementation of the RTS

program. Under the RTS Phase II programme, Central Financial Assistance (CFA) for the Households owner and Group Housing societies is being extended to set up RTS System (Grid Connected Rooftop and Small Power Plants in Component A), the CFA structure was as follows:

CFA to Residential Individual House Holds:		
Project Capacity	CFA	Remarks
1-3 kW	Rs. 18,000/kW	Limited to 40% or Rs. 18000/kW whichever is lower
Above 3-10 kW	Rs. 9,000/kW	Limited to 20% or Rs. 9000/kW whichever is lower

CFA to Resident Welfare Association /Group Housing Society (RWA/GHS)		
Project Capacity	Applicable CFA	Remarks
For Common facility up to 500kW @10kW per house	Rs. 9,000/kW	Limited to 20% or Rs. 9000/kW whichever is lower

7. That, now with recently announced "PM Surya Ghar Muft Bijli Yojana 2024" a sanctioned financial outlay of Rs. 75,000 Cr has been estimated. The scheme aims to solarise 1(one) crore households in India. under this initiative MNRE, GoI has taken substantial steps to bring down the payback period by increasing the Central Finance Assistance (CFA) from Rs. 18,000/- per kWp to 30,000/- per kWp up to 2KW & with capping of CFA at 3kWp for which CFA amount will be limited to Rs. 78000/-. A consumer can install more capacity however, the CFA shall be limited to Rs.78000/-. The detailed scheme guideline is yet to be published by the MNRE, GOI.
8. That, The Odisha government is actively acting towards the comprehensive development of the state on a national level, implementing various impactful policies and decisions to ensure rapid growth, particularly in sectors such as energy and industry. As a result, Odisha is emerging as a leading state in the country, contributing substantially to its overall progress and prosperity.

To accelerate RE generation in the state of Odisha, Odisha Renewable Energy Policy, 2022 was notified on 30th November 2022 vide Resolution No. 11757-ENG-HYD-HYDRO-0009/2022/En. by the Department of Energy, Govt. of Odisha with the following objectives:

- (1) To accelerate adoption of green energy alternatives and decarbonize the energy sector which includes both grid-based electricity consumption and captive consumption of industrial consumers in the State.

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- (2) To harness the green energy potential of the State and make best use of the available resources by facilitating development of green energy projects in the State.
- (3) To attract investment in the green energy sector, create job opportunities and develop the State economy.
9. That, Department of Energy, Govt. of Odisha has also taken substantial steps to promote RTS system installation in residential segment. During the meeting of Standing Finance Committee (SFC Meeting) held on 21.12.2023 (MoM copy enclosed as Annexure-I) it has been decided that, under state's initiative 5MW RTS installation will be done in Bhubaneswar area. This scheme will extend an additional subsidy of Rs. 10 Cr. (Rs. 20,000/- per kW) under Green City Mission to the residential households under Bhubaneswar Municipality. Moreover, the Department of Energy, Government of Odisha, has issued a resolution vide letter no 2695 on 12.03.2024 (copy enclosed as Annexure-II). This resolution allocates a budgetary provision of Rs. 40.00 Cr. for the implementation of 20MW (5 MW for each DISCOM) Distributed Renewable Energy (SPV) Plants in FY 24-25, catering to rural households through a community solarization mechanism. The resolution stipulates that the implementing agency for the scheme shall be the Odisha DISCOMs and the evaluation mechanism along with approval of beneficiary's application form shall be determined by the Hon'ble Commission. Accordingly, the applicant has prepared the detailed scheme mechanism and it's implementation modalities in the subsequent paragraphs along with a draft beneficiary application form (copy enclosed as Annexure-III) for necessary perusal and approval of the Hon'ble Commission.
10. That, the Hon'ble Commission has taken remarkable steps and policy measures to ensure the progress and leadership of the Odisha Power Sector, making it an advanced and leading power sector across the country. In line with MNRE, Govt. of India, the Hon'ble Commission vide Order No. OERC-Engg. 02/2022/468 Dated:05.05.2022 has introduced VNM & GNM mechanism across the state which is known as "Net Metering/Bi-Directional Metering/Gross Metering/Group Net Metering/Virtual Net Metering and their connectivity with respect to Solar PV Projects 2016 (as amended upto 05.05.2022)". Where in the Hon'ble commission pronounced the regulation & applicability of VNM & GNM mechanism across the state. Across the country Odisha is one of the states among 4 to 5 states who have adopted the VNM & GNM mechanism. It is worth to mentioned here that the Hon'ble Commission has passed Order in SUO MOTU Case no.35 of 2022 wherein Standard Operating Procedure (SoP) For Implementation of Net Metering (NM), Gross Metering (GM), Virtual Net Metering (VNM)

and Group Net Metering (GNM) Mechanism has been pronounced by the esteemed Commission. Apart from the above, prevailing DSM regulation in the state allows the DISCOMs to initiate various DSM programs with approval of the State Commission.

11. That, to promote Demand Side Management (DSM) through energy efficiency programme Hon'ble Commission accords in-principle approval for use of energy efficient BLDC Fans vide Case no 79 of 2023 as proposed by all four DISCOMs. Wherein all 4 DISCOMs to replace 20,00,000 induction Fans with BEE 5 Star rated BLDC Fans for domestic consumers (limiting supply of 2 nos. of Fans per household) with subsidy/ incentive by Govt. of Odisha. The Hon'ble Commission has also directed DISCOMs to identify other potential areas for implementation of DSM scheme in different sectors like domestic, commercial, and industry including the suitable business model, if any, and submit the same along with the action plan for consideration.
12. That, the primary objective of DSM regulation which is in force includes various plan to mitigate power shortage position of the state, seasonal peak reduction, cost effective energy savings, lowering the cost of electricity, reduction in emissions of greenhouse gases, reducing the need of investment in network assets to protect the precious and exhaustible fossil fuels etc. Therefore, this is the need of the hour to initiate such action and demonstrate before Hon'ble Commission of its results. Hence, promotion of green energy generation at distributed level through RTS mechanism will fulfil the above basic objective as framed by Hon'ble Commission.
13. That, as per the RTS Phase II guidelines, Odisha DISCOMs have received the allocation order of 20 MW (5 MW each) from Ministry of New and Renewable Energy (MNRE), Govt. of India vide No. 318/63/2019-GCRT dated 19.01.2022 for implementation of Grid Connected Solar Rooftop plants in residential sector with Central Financial Assistance (CFA). However, lack of interest from individual consumers is the barrier in progress of the scheme. Only few financially sound consumers are opting for RTS & are coming forward as the differential cost is still much higher. Therefore, the progress under subsidy scheme here in Odisha across all DISCOMs is not encouraging. The actual up-to-date progress of said scheme in the state is as follows:

Sr No	Discom	No of Installations	Capacity (MW)
1	TPCODL	70	0.276
2	TPNODL	35	0.104
3	TPSODL	38	0.136
4	TPWODL	18	0.086
5	Total	161	0.602

14. That, the above progress as achieved by DISCOMs, mostly in Urban areas is due to availability of adequate roof top & the thought of urban household that coverage of roof top through Solar Panel will protect from heat. But the scenario in rural areas is completely different. Their economic condition, uses of electricity and availability of individual roof top is a major concern. So, arranging own source of fund by Rural segment as compared to urban is a challenge. It is also a fact that, poor paying ability of rural domiciles affects the distribution utilities. Further, surveillance/ enforcement activity in rural area is an additional challenge apart from higher Metering Billing & Collection cost.
15. That, Hon'ble Commission vide order dt.17.11.2023 in Case no. Case no 79 of 2023 has also directed DISCOMs to identify other potential areas for implementation of DSM scheme in different sectors like domestic, commercial, and industry including the suitable business model, if any, and submit the same along with the action plan for consideration. Considering the above background, a new mechanism for Rural Consumers has been innovated with a noble thought.

C. Name of the Proposed New Scheme:

"A Model Scheme to Solarise & Ensuring Reliable Daytime Power Supply to Rural Households under Community Solarization Mechanism"
A Demand Side Management (DSM) Programme
by
Odisha DISCOMs

D. Features of the Proposed Scheme:

16. The following are the key features of the proposed scheme:
- a) No investment (zero investment) by the participating Rural Households.
 - b) Free electricity up to the share of Subsidy provided by MNRE & State Govt.
 - c) DISCOM is responsible for project Installation & O&M thereof. Hence, villagers/rural consumers can enjoy the free electricity and need not bother about installation, maintenance, and watch & ward of the community solar plant.
 - d) Promotion of RE generation in lieu of brown power & hence Saving in Power Purchase by DISCOMs.
 - e) No Loss/Minimum Loss due to Generation at Consumer's End.
 - f) Energy Accounting will be done through VNM Mechanism.

- g) Land for setting up of Solar plants under the proposed scheme shall be arranged by the DISCOMs with the help of Local Authority. The Lease rent (if any) shall be borne by the respective DISCOM under project cost.
- h) The proposed scheme will promote both the Energy Conservation & Demand Side management.
- i) DISCOM shall be the Implementing Agency & will be responsible for maintaining the consumer accounts and its energy settlements on monthly basis (under RESCO mode).
- j) Considering the connected load of the villagers, a suitable ground mounted solar plant shall be installed in the range from 100 kW to 500 kW certain MW scale to reduce project cost will be lower and easy for maintenance.
- k) Apart from the applicable CFA & SFA, the Balance cost of the project shall be funded by DISCOM through loan for which Hon'ble Commission may consider and approve under DSM mechanism.
- l) The DISCOM's funded cost along with interest, watch & ward, lease rent (if any) for the land & AMC shall be socialized through ARR in shape of savings in present level of AT&C loss.
- m) The proposed scheme will also contribute to fulfil the new RPO trajectory of Distributed RE.

E. Why DISCOM intends to implement the RTS Scheme:

17. DISCOMs are the designated implementing agency for the RTS Phase -II scheme in the state. Presently, Domestic Tariff is subsidized (up to certain units) through other category of consumers as a result high value consumers are burdened. Further, realisation of electricity bill in rural area is more challenge as compared to urban area apart from high T&D loss. Both the factors form the barrier for reduction in AT&C loss and ultimate benefit to consumers is getting delayed. The DISCOMs can reduce this loss by setting up solar plants in rural areas. At present the T&D loss is more than 25% till the LT side of the end users, thereby causing increase in actual power purchase cost for the DISCOM. Hence, setting up of solar plant at user end would help significantly in reduction of losses. As per approved loss level at LT end by Hon'ble Commission for FY 23-24 the cost incurred by the state DISCOMs to serve rural consumers is as follows:

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DISCOM Loss in Rural LT Segment

Particulars	TPWODL	TPCODL	TPNODL	TPSODL
Each 100 unit of Sale in Rural Segment	100	100	100	100
Distribution Loss (approved as per ARR FY-23-24)*	35%	24%	24%	26%
For each 100 unit of Sale requirement of Power	135	124	124	126
Power Purchase Cost per unit (Rs./kWh)	4.14	3.29	3.59	2.34
Ultimate Power Purchase Cost (Rs.) to serve	558	410	447	295
Avg. billing in Rs. with existing tariff	390	390	390	390
Loss due to gap between Power Purchase and Billing (A)	168	20	57	-95
Collection Efficiency of Rural Area (Assumed)	70%	75%	75%	80%
Annual Loss in Rs. due to CE (B)	117.00	97.50	97.50	78.00
Total loss (A+B)	284.69	117.02	154.34	-17.17
Loss percentage upon ultimate Power Purchase Cost	51.05%	28.58%	34.54%	-5.82%

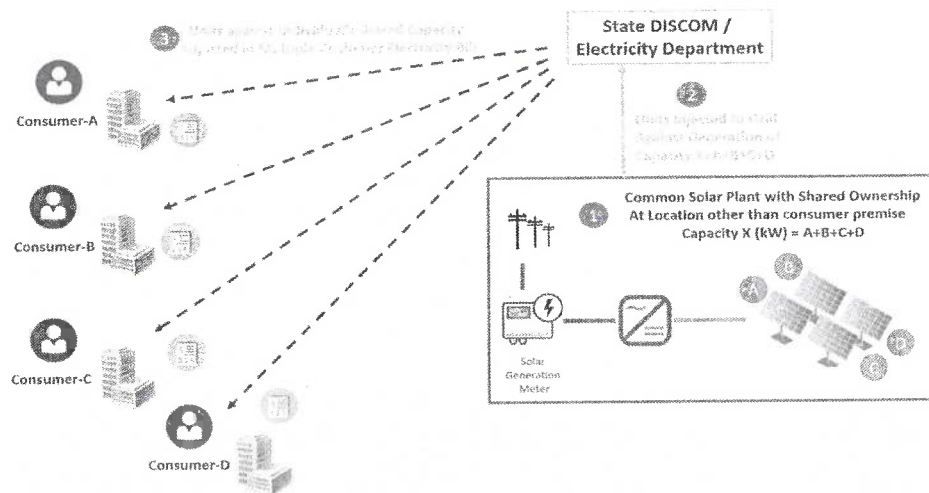
**However, the actual loss is much higher in many areas of Rural pockets across DISCOMs*

Energy Conservation: Conserving energy is crucial for reducing our reliance on limited resources and minimizing environmental impact. By adopting energy-efficient practices, we not only contribute to environmental sustainability but also directly improve financial strain on DISCOMs. The multiplier effect of electricity savings becomes evident as these efforts simultaneously reduce environmental harm and enhance the economic viability of our energy infrastructure. Collaborative action at individual, community, and governmental levels is essential to achieving a more efficient, economically sustainable, and environmentally conscious energy landscape.

F. Proposed Scheme Design, Scheme Funding & How it Works:

18. After aggregating the total demand/connected load of a particular village/area the respective DISCOM will setup a solar plant under the proposed scheme. The plant shall be maintained by DISCOMs, where participating households receive benefits without any financial investments. In this process, rural households will be self-sustained. The cost of the project to be funded (CFA) through MNRE (Rs.30000/kw and limited to Rs.78000 for 3kw and above) plus SFA by Govt. of Odisha (Rs.20000/kw) & balance amount by respective DISCOMs. Solar plant capacity is to be determined by the DISCOM by aggregating the demand of a village & ensure daytime reliable power supply to participating consumers. The electricity generated from the solar power plant shall be allocated to all the participating consumers without any discrimination as the share of per/kW cost will be funded through MNRE CFA, SFA (by State Govt) and DISCOM contribution. The DISCOM will adjust the share of energy on monthly basis considering the actual generation with predefined ratio of allocation. The share of energy allocation shall be decided considering the actual cost of the

solar plant, interest on loan till repayment completes, watch & ward till 5th year, Lease rent (if any) & other opex till payback period. The allocation ratio shall be declared to the beneficiary upfront to avoid confusion and litigation. This approach aims to address high technical & commercial losses at tail end and contribute to the sustainability of rural communities. Activities like awareness, demand aggregation, SPV plant setup & O&M thereof will be carried out by the respective DISCOM.



19. As per MNRE guidelines dt.03.10.2022 (copy enclosed in Annexure-IV) CFA will also be applicable to solar plants setup under VNM arrangement, subject to following conditions:

- CFA would be available only for residential consumers of rural areas,
- The connected load of a residential consumer in rural areas would generally be not more than 3kW, each participating consumer under VNM would be allowed to install capacity up to 3 kW and avail subsidy available under RTS Programme Ph-II.
- Solar plant installed under VNM shall supply power to the same distribution sub-station (HT or LT side) through which the participating consumers are connected. This will ensure reliable power supply to the participating consumers and other benefits of co-locating power generation and consumption.
- The installation of Solar Plant is permissible up to 75% of the Transformer capacity.

In line with the above the DISCOMs expects MNRE support to consider CFA for this community solarisation mechanism under VNM mechanism as per newly pronounced "PM Surya Ghar Muft Bijli Yojana" to setup the Solar Plant in Rural Areas.

20. **Source of Funding:** The funding mechanism for the solar plant will be from the following sources:

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- a) Central Financial Assistance (CFA) by MNRE
- b) State Financial Assistance (SFA) by Govt. of Odisha
- c) DISCOM Contribution (towards balance part of Project cost under DSM)
- d) Consumer's Contribution* if Any (Any additional amount)

* Consumer/ group of consumers if desires to finance the balance cost may do so, in such case DISCOM shall not contribute & the solar plant shall be of the beneficiary/beneficiaries. Power generated from the solar plant shall be netting off with higher share of energy among the beneficiaries as per Virtual Net Metering Mechanism (VNM) of Hon'ble OERC. However, DISCOM will keep certain energy share to meet out the cost of AMC, watch and ward etc.

21. Stakeholder wise Contribution for the Project Cost are as follows:

Per kWp Cost of SPV Plant: Rs. 60,000/-*			
Rural Consumer	MNRE	State Govt.	DISCOM (Proposed)**
0	Rs. 30,000/- per kW	Rs. 20,000/- per kW	Rs. 10,000/- per kW

* per kW cost may vary depending on Discovered rate

** Per kW DISCOM contribution cost may vary depending upon the Discovered rate at the time of implementation.

22. **Additional Cost in terms of OPEX:** Apart from the Project Cost as mentioned above there will be some additional cost components (OPEX) that needs to be incurred by the implementing agencies / DISCOMs to ensure the sustainability of the Project. The OPEX Cost consists of the following:

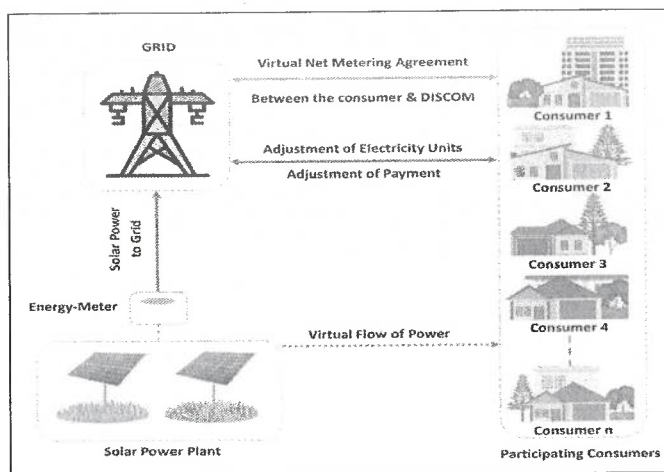
- a) Interest on Loan to be taken by DISCOMs for Capital investment.
- b) Lease Rent (if any)
- c) Insurance
- d) Watch & Ward (till 5th Year)
- e) AMC 6th Year onwards incl. Watch & Ward
- f) System Augmentation Cost
- g) Cost towards training & capacity building
- h) Cost of Awareness Campaign
- i) Cost towards Communication facilities, Online Portal, ERP, Mobile App Development etc.

23. **Allocation of Generated Energy:** Total Generated energy of the SPV plant will be adjusted through "Virtual Net Metering" VNM mechanism. A sample calculation is appended below:-

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Unit Project Cost & Quantum of Generation:		
Project Capacity	kW	1
Total Annual Generation (4 unit/day/kW, Considered for 300 days)	Unit	1200
Estimated Project Cost (Rs. 55000 /kWp)	Rs.	₹ 60,000.00
MNRE Subsidy	Rs.	₹ 30,000.00
State Subsidy	Rs.	₹ 20,000.00
DISCOM contribution (Total Proj Cost-CFA&SFA)/Shortfall	Rs.	₹ 5,000.00
Consumer Share out of Total Project Cost		83.33%
DISCOM Share out of Total Project Cost		16.67%
Energy Share*		
Consumer Share out of Total Generation	Unit	1000
DISCOM Share out of Total Generation	Unit	200

*The share of allocation shall undergo changes considering actual cost of DISCOM investment, interest on loan till repayment period, watch& ward till fifth year, lease rent (if any), other opex if any

24. It can be seen from the above table that as per the contribution made by the stakeholder i.e. CFA of MNRE & SFA of State Govt. on behalf participating consumer & balance contribution by DISCOM the Share of Project in percentage has been derived. As per investment pattern Consumer have 83.33% & DISCOM has 16.76% sharing in the plant. Accordingly, the total generation i.e. 1200-unit energy has been allocated in the same ratio of investment. Hence, consumer energy share will be 1000 unit whereas Discom energy share will be to the tune of 200 unit. DISCOM will be responsible to adjust the Consumer Share of energy with the total consumption that consumer. Based on the customer's contribution (CFA+SFA+ Consumers Contribution) the energy sharing pattern may change. Since the power flow is virtual, parties need not set up the system on consumer premises rather it can be anywhere within the Distribution Licensee area. This gives the opportunity for the system to serve more than one consumer & cost reduction as well.

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25. DISCOM, basing upon Network/field condition/loss level, will finalize a list of Villages/Rural Pockets where the scheme can be implemented. Respective DISCOM shall be the scheme Implementing Agency. DISCOM/IA shall carry out extensive campaigning & spread necessary awareness to the targeted consumers (rural consumers). Land identification will be carried out by the DISCOM(IA) parallelly with the help of local authority. In this regard, DISCOM will explore all possibilities through mutual discussion with different sources like local panchayat/block office/individual farmers/any person/persons interested to lease out their unused land block for this purpose. It is indeed that identification of suitable land for project is a challenge for the implementing agency. For this purpose, offering appropriate lease rent will enhance the availability of suitable Land. DISCOM/IA will pay the rent amount as per terms of agreement.
26. As per guidelines of Odisha RE Policy 2022 vide para 11, DISCOMs/ IAs shall explore all the possibilities of applicable Exemptions and Incentives. In line with the same the Applicant proposes the following options for selection of suitable/ideal land for the community solar project.
- Approach Panchayati Raj & Rural Development Department, Govt. of Odisha.
 - Or District Administration through local BDO Office to facilitate a suitable land/roof
 - Or Suitable land/roof if available with panchayat to lease out.
 - Or Govt Land if any as per RE policy of the state.
 - Or Individual farmers may lease out unused land.
 - Or Any person/persons interested to lease out their unused land for this purpose.
27. The associated annual lease rent as per the rate indicated by Govt of Odisha shall form part of the project cost. To protect the interest of the landowner, provision of lease rent escalation at least 5% in each five-year period shall be instituted in the agreement. The period of lease rent shall be for minimum 25 years and extendable as per new terms and conditions thereafter.
28. **Lease Agreement:** To be in line with MNRE guidelines and prescribed format. (Copy enclosed, Annexure-IV). However, the attached format is an indicative one & will be suitably amended by the DISCOM/IA considering the Local circumstances.
29. **Application Process:** Rural Consumer will apply as per Application format and submit to the DISCOM's Section Office or Office of the Designated Local authority. Respective Section office will conduct awareness campaigning in the target area of scheme implementation and collect the Application form from consumer. A person who is already a consumer or in process of becoming consumer can apply before the DISCOM authority. The consumer list

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shall be prepared by DISCOM and shall be endorsed with District administration before setting up of the project. A separate implementation guideline (SoP) shall be prepared by the DISCOM considering its geographical area and network condition.

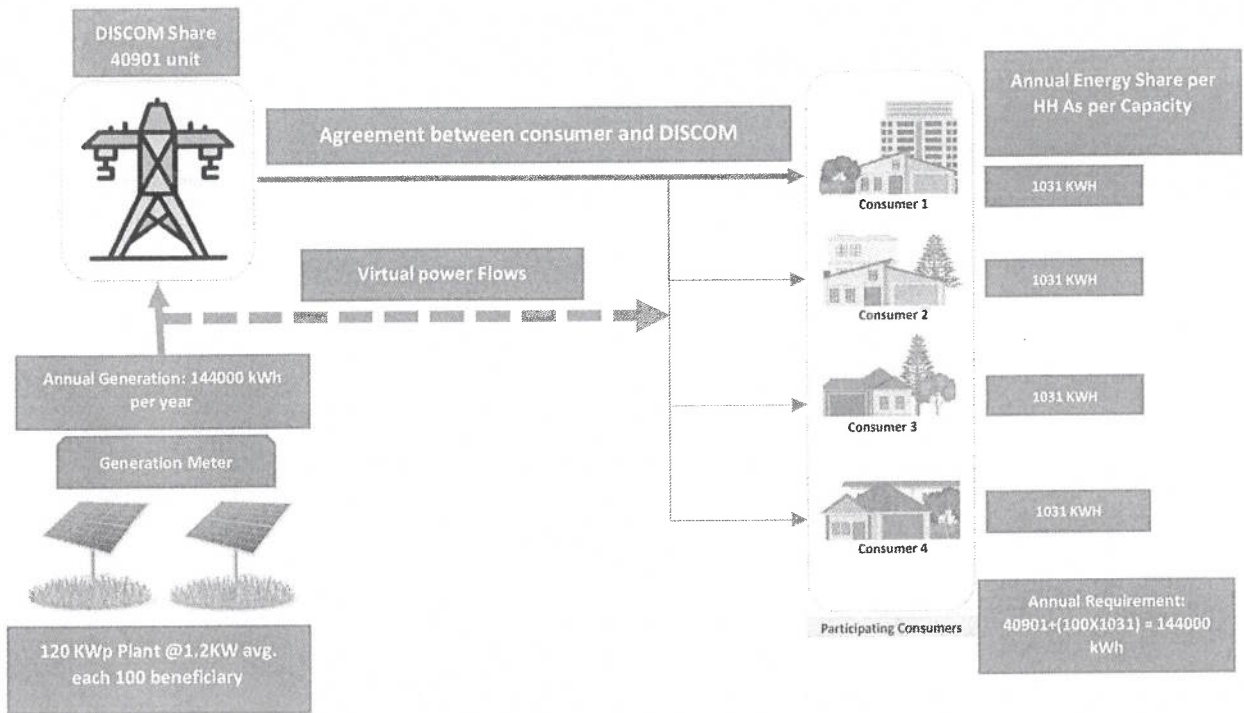
30. That, The MNRE has adopted a technology-driven approach for the nationwide efficient implementation of the Rooftop Solar Program from time to time, which is a very significant approach. This approach by the MNRE also ensures a seamless subsidy disbursement mechanism. The Rooftop Solar Program is being implemented nationwide by MNRE. All DISCOMs across the country, including Odisha DISCOMs, have been seamlessly integrated with the National Portal through appropriate APIs (Application Programming Interfaces). This integration enhances the registration experience and ensures a schemeless process for the beneficiary. Therefore, the online portal provides a streamlined and schemeless registration process for the beneficiaries. After successful registration the application gets redirected to the DISCOM dashboard for step-by-step process completion & project execution by Vendor & Consumer.

Here, in the proposed scheme, the DISCOMs will be utilized the MNRE portal and registered the community solar plant aggregating the connected load of beneficiaries/group of beneficiaries, and since it involves a community project with a group of beneficiaries, DISCOMs will collect all the applications and upload them to the National Portal as a single project. This approach simplifies subsidy calculation and disbursement. Through this application MNRE is requested to create a provision for community projects under the National Portal, allowing the tagging of these submissions as a Single Community Project.

G. Detailed Illustration & Funding Mechanism:

31. DISCOM/IA shall select developer/supplier through transparent bidding process. The EPC developer/vendor will install the plant and maintain as per agreed terms under supervision of IA/DISCOM till five years from the date of Commercial Operation (COD). From sixth year onwards, the DISCOM shall take up the AMC including watch & ward through appropriate vendor/third party. The related AMC cost including watch & ward would form part of ARR as pass through which will be met out of share of DISCOM energy and saving in power purchase cost. The electricity generated from the solar power plant will be distributed to all the participating rural consumers in the same ratios as the share of plant cost in terms of Subsidy/aid (excluding land cost) among them. The capping of 75% of Transformer capacity shall be applicable to all types of metering mechanism to maintain reliable operation. If augmentation is required DISCOM will do it from its CAPEX. The DISCOM will adjust generated units in consumer's electricity bill in a manner as Illustrated hereunder:

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32. For an example, in a village of 100 consumers with average CD of 1.5 kW each, within the same distribution license area, decide to participate in this proposed scheme. Concerned DISCOM as an implementing agency (IA) of proposed Scheme shall install a single large grid connected solar plant on a single roof and alternately on ground or ground(s). Solar plant installed under the scheme shall supply power to the same distribution sub-station /PSS (HT or LT side) through which the participating consumers are connected. This will ensure reliable power supply to the participating consumers and other co-located power generation and consumption centre. From the solar power generation DISCOM shall adjust/credit the share of units to all the participating consumers. Participating Consumers & Funding pattern is tabulated below:

Participating Rural HH	100Nos
Avg. Load per HH	1.5 KW
Proposed Plant Capacity	150 KW
Cost per kWp	Rs. 60,000*
CFA	Rs. 30,000
SFA	Rs. 20,000
DISCOM share towards Project Cost	Rs. 10,000
*Considering larger capacity Avg cost of Rs.60000/kw has been considered for calculation purpose	

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33. **Project Cost & OPEX Cost:** Apart from the project cost, the associated OPEX shall also be considered for setting up of the solar plant. As the power purchase cost of each DISCOM's is different, their saving on account of avoidable power purchase shall vary. Hence, to recovery of the principal and related associated OPEX out of avoidable cost requires different pay back periods. Therefore, some additional interest is inevitable for the DISCOMs whose payback period will be longer. As a result, the associated OPEX of each DISCOM will be different.
34. **Allocation of Generated Energy:** Since the power flow is virtual, parties need not set up the system on consumer premises rather it can be anywhere within the Distribution Licensee area. This gives the opportunity for the system to serve more than one consumer. The mechanism of allocation of generated energy is based on the investment share. A detail allocation mechanism for a plant size of 150 kw has been illustrated for easy understanding:

Project Capacity	kW	150
Total Annual Generation	Unit	180000
Estimated Project Cost @60,000/-per kW	Rs. lakhs	₹ 90.00
MNRE Subsidy @30,000/-per kW*	Rs. lakhs	₹ 44.76
State Subsidy @20,000/-per kW	Rs. lakhs	₹ 30.00
DISCOM Share: 1- towards Project Cost @10,000/-per kW	Rs. lakhs	₹ 15.24
DISCOM Share: 2 - towards OPEX (AMC, RENT, W&W & interest) (DISCOM wise calculation is in next table)	TPWODL	₹ 11.31 lakhs
	TPCODL	₹ 12.07 lakhs
	TPNODL	₹ 12.07 lakhs
	TPSODL	₹ 14.36 lakhs

*As MNRE share is limited to Rs.78000/- for 3 kw in such case the differential cost of Rs.12000/ per kw shall also form part of DISCOM share.

The requirement of a 150kW solar plant has been arrived analysing each participating consumer's load/CD at the time of installation of the project. Here for calculation purpose a village/rural area has been chosen with consumer strength of 100 nos. The individual load of each participating consumer may vary from 1 kW to 3 kW. So, the for the 100 number of participating consumers the average load of 1.5 kW has been assumed per beneficiary.

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Project Funded through MNRE, State & DISCOM jointly and Energy Sharing thereof

Project Capacity & Project Financing							DISCOM addl. Investment towards OPEX				Total Generation (kWh) 4unit/day/kWp for 300 days	Consumer Energy Share			
							TPWODL	TPCODL	TPNODL	TPSODL		TPWODL	TPCODL	TPNODL	TPSODL
Consumer	CD/Plant Capacity in kW	Proposed SFA (Rs.)	MNRE CFA (Rs.)	Total Aid (Rs.)	Project Cost (Rs.) @Rs. 55 per Wp	DISCOM Share towards Project Cost in Rs.	DISCOM Share towards OPEX (AMC, RENT, W&W & interest) (Rs.)	DISCOM Share towards OPEX (AMC, RENT, W&W & interest) (Rs.)	DISCOM Share towards OPEX (AMC, RENT, W&W & interest) (Rs.)	DISCOM Share towards OPEX (AMC, RENT, W&W & interest) (Rs.)	Individual Annual Share (kWh)	Individual Annual Share (kWh)	Individual Annual Share (kWh)	Individual Annual Share (kWh)	
1	1	20000	30000	50000	60000	10000					886	879	879	860	
2	2	40000	60000	100000	120000	20000	Interest Accrued up to repayment @10%	Interest Accrued up to repayment @10%	Interest Accrued up to repayment @10%	Interest Accrued up to repayment @10%	1771	1758	1758	1719	
3	3	60000	78000	138000	180000	42000					2657	2637	2637	2579	
4	1	20000	30000	50000	60000	10000					886	879	879	860	
5	2	40000	60000	100000	120000	20000					1771	1758	1758	1719	
6	2	40000	60000	100000	120000	20000	Cost of Lease Rent & watch & ward @1.5Lakh/Year up to 5Yr./ Loan repayment period	Cost of Lease Rent & watch & ward @1.5Lakh/Year up to 5Yr./ Loan repayment period	Cost of Lease Rent & watch & ward @1.5Lakh/Year up to 5Yr./ Loan repayment period	Cost of Lease Rent & watch & ward @1.5Lakh/Year up to 5Yr./ Loan repayment period	1771	1758	1758	1719	
7	1	20000	30000	50000	60000	10000					886	879	879	860	
8	2	40000	60000	100000	120000	20000					1771	1758	1758	1719	
9	3	60000	78000	138000	180000	42000					2657	2637	2637	2579	
10	1	20000	30000	50000	60000	10000					886	879	879	860	
11-100*	132	2640000	3960000	6600000	7920000	1320000	(3.81+7.5)= 11.31 Lakh	(4.57+7.5)= 12.07 Lakh	repayment period	(6.86+7.5)= 14.36 Lakh	116889	116016	116016	113475	
	150	3000000	4476000	7476000	9000000	1524000	1131000	1207200	1207200	1435800	180000	132828	131836	131836	128948
*Assumed load of Balance 90 Consumer							Total Project Cost	10131000	10207200	10207200	10435800				
							Consumer Share (%)	73.79%	73.24%	73.24%	71.64%				
							DISCOM Share (%)	26.21%	26.76%	26.76%	28.36%				
							DISCOM Share (kWh)	47172	48164	48164	51052				

35. As per afore stated table, there are 100 nos. of participating consumer with average CD of 1.5 kW hence the SPV capacity will be 150 kW to be installed by the Implementing Agency. The total Project cost of 150kWp SPV plant @ 60000/kW will be approx. Rs.90.00 Lakhs excluding the OPEX cost. The amount of CFA will be as per CD each participating residential household. If a consumer's CD is 1 kW he/she is eligible for Rs.30000 as CFA and Rs.45000 when the CD is 1.5 kW and so on. However, there is a capping of CFA which is limited to Rs. 78000 for and up to 3KW plant as per MNRE new Scheme. Accordingly, the capping of SFA shall be up to 3kW @20000/kW. If a consumer's CD is 1 kW the/she is eligible for Rs.20000 as SFA and Rs.60000 when the CD is 3 kW. The vital aspect is selection beneficiary and their connected load. The beneficiary list shall be finalized through District Administration & as regards to the connected load, it will be as per record of DISCOM. A consumer with lower CD may enhance his/ her load or CD will be revised to the extent of connected load through field verification and CFA, SFA etc. will be calculated accordingly. However, when a consumer opts for higher load once project selection completes, in such case the benefit of energy sharing shall be with the original CD as available during project set up period. Accordingly, as indicated in the above table Rs. 44.76 Lakhs (@Rs. 30000/- per kWp for 150kW) is available in terms of CFA. The SFA amounting to Rs. 30 Lakhs (@Rs. 20000/- per kWp for 150kW) to be extended. The Govt. of Odisha has already made a budgetary provision (SFA) of Rs. 40 Cr. for FY 24-25 for capacity addition of 20 MW. The balance amount i.e Rs. 15.24 Lakhs (@Rs. 10000/- per kWp for 150kW) shall be the DISCOM contribution (DISCOM Share Part-I). Thus, there will be no investment by the participating Rural Households. The Applicant is submitting to the Hon'ble Commission to allow the DISCOMs expenditure towards Project Cost under Demand Side Management head for conducting

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DSM program in the state. Apart from this some additional expenditures towards maintenance and watch & ward are required to ensure project sustainability.

36. So, the generated energy shall be allocated to all the participating consumer as well as of the DISCOM share considering share of investment. Accordingly, the consumer Share will be in the range of 70.30% to 72.38% depending upon the total investment in the project (Project Cost + OPEX Cost). The DISCOM's Share will be within 27.62% to 29.70% of the total generated energy from the plant.
37. **Agreement with DISCOMs:** The eligible participating consumers shall enter into an agreement with Distribution Company (DISCOM) which specifies the technical information, commercial arrangement, share of each stakeholder and the clear roles and responsibilities of all the concerned stakeholders as specified in Annexure- V (as per state regulations) which will be modified suitably by the DISCOM. If Agreement is not entered by the Eligible Consumer, application is deemed to be cancelled.
38. **Exception:** If any beneficiary desires not to participate in the community solarisation scheme irrespective of Rural/Urban, he/she may do so, in that case the individual beneficiary shall claim the CFA and SFA on its own. In that case, the generated energy from the solar plant installed at its's premises shall be netting of as per OERC Net metering Regulation as amended from time to time. For this purpose, the beneficiary shall register in the national portal to avail MNRE share and refer state guideline for SFA. However, support if any from DISCOM side shall also be extended to the consumer.
39. **OPEX including interest on Loan: (DISCOM Share Part-II):**
- The DISCOM shall arrange the Capital Cost from financial institutions for which related interest till repayment completes will be treated as project cost. Considering the present scenario, the repayment period will be in the range of 4 to 12 years depending upon the payback period of each DISCOM.
 - The annual Lease rent (if any) towards land till loan repayment period will form part of project cost also need to be paid by the DISCOM as per terms of lease rental Agreement.
 - The plant location may be in the remote location hence chance of theft cannot be ruled out. Periodical cleaning of the system for ensuring proper generation is also important. Hence, cost towards watch & Ward and related maintenance for reliable power generation is also required. This aspect till 5th year shall be ensured through AMC. But, related watch & ward would be an additional cost which also form part of the project cost till loan repayment completes.

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- d) Upon completion of loan repayment period (varies DISCOMs to DISCOM), the AMC, W&W shall also be borne by the DISCOM till 25th year.
- e) The sharing of energy ratio shall hold good till end of 25th year (project life) as decided and agreed during project installation time.
- f) A detailed illustration has been mentioned below showing the DISCOM wise Energy Share and saving in power purchase cost thereof.

40. **Financial Model & DISCOM's Payback Period:** Considering the above procedure and mechanism the DISCOM wise savings & project payback period is appended below:

DISCOM	UoM	TPWODL	TPCODL	TPNODL	TPSODL
Total Annual Generation from Proposed SPV Plant 150kWp	unit	180000	180000	180000	180000
Annual Energy Share of DISCOM (residual energy)	unit	47172	48164	48164	51052
Saving in Power Purchase Cost from residual energy (in Lakhs) (A)	Lakhs	1.95	1.59	1.73	1.20
Saving due to sale of DISCOM share of energy @ LT average Rs.2.90/unit (in Lakhs) (B)	Lakhs	1.37	1.40	1.40	1.48
Avoidable Energy Purchase (Present Power purchase) (unit)	Unit	166035	164026	164022	162361
Cost of that Energy in Lakhs (C)	Lakhs	6.88	5.40	5.89	3.80
Total Annual Impact D=(A+B+C)	Lakhs	10.20	8.38	9.02	6.48
Less:-Existing level of Billing & Collection which will be stopped to the extent of free energy to Consumers (E)	Lakhs	3.63	3.86	3.86	4.02
Net Annual Savings F=D-E	Lakhs	6.57	4.52	5.16	2.45
Share of DISCOM's Investment	Lakhs	₹ 15.24	₹ 15.24	₹ 15.24	₹ 15.24
Opex Cost to be considered in Payback Calculation					
Interest Accrued up to repayment @10% on reducing balance	Lakhs	₹ 3.81	₹ 4.57	₹ 4.57	₹ 6.86
Cost of Lease Rent & watch & ward up to 5th Year @1.5 Lakh/Year after 5th year will be cover through AMC	Lakhs	₹ 7.50	₹ 7.50	₹ 7.50	₹ 7.50
Total cost G	Lakhs	₹ 26.55	₹ 27.31	₹ 27.31	₹ 29.60
Payback period	Years	4.04	6.04	5.29	12.06
After repayment of Principal Watch & Ward, LeaseRent & AMC shall be taken care out of Annual Saving as indicated as Annual impact					

The above table indicates savings out of DISCOM's share of energy (at respective power purchase cost including transmission charges), savings out of sale of DISCOM's share of energy (considered avg. tariff @ Rs.2.9/per unit) and the savings out of avoidable power purchase. Presently DISCOMs are purchasing from Bulk Supplier (GRIDCO) at respective BSP. Considering both the project cost & other associated OPEX till loan repayment period including lease rent (if any), the payback period for DISCOMs like TPWODL (4 years), TPNODL & TPCODL will be within 5 years and in case of TPSODL it will end up in 12th year.

41. Since the payment of Lease rent & the AMC, insurance, Watch & Ward are in the scope of DISCOM/IA. Even though after the completion of Pay Back period DISCOM needs to incur such costs till the life of the project. In that scenario after payback period DISCOM will only adjust the aforesaid cost out of revenue from the DISCOM share of energy. After the adjustment, if there is any surplus, the benefit will be passed on to the participating rural community in the form of an additional free share of energy. DISCOM will produce such adjustment during annual ARR filing. However, at any point of time if the DISCOM share is

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not enough to meet the recurring cost, DISCOM will take up this through ARR application for approval of the Hon'ble Commission.

42. **Asset Ownership:** As the community solar plant is being funded through CFA, SFA and balance share (marginal cost) by DISCOMs under DSM, shall be exclusively belonging to the community. However, to ensure the project's sustainability, the respective DISCOM will handle the construction/installation, Operate, Maintain, watch & ward functions throughout its 25-year lifetime. Costs related to lease rent, AMC after the 5th year, watch & ward, and insurance are within the DISCOM's scope. The share of energy generated will be utilized to cover these costs. The DISCOM's contribution shall be included in the ARR under DSM head.
43. **Insurance:** MNRE has already specified various insurance products for Solar Power Plants through notification no. 283/72/2019/-GRID SOLAR dated 26.02.2024. Projects under the mentioned scheme will be covered through suitable insurance products in accordance with MNRE guidelines. Related costs shall be treated as OPEX (post 5th year).
44. **Project Implementation & Budgetary Provision:** In the 1st phase DISCOM has planned to take up capacity of 20MW across the state in Rural Segment in FY 24-25.

So, the budgetary requirement considering different source has been estimated as per detailed below:

Estimated Cost Per unit (per kW): Rs. 60,000/-

DISCOM	Solar Plant Capacity	Central Financial Assistance (CFA)	Budgetary Provision		Total Rs. (SFA + DISCOM contribution)	Grand Total Project Cost Rs.*
	FY- 24-25 (in MW)	BY MNRE (Rs.30000/kw)	By State Govt (Rs.20000/kw)	By DISCOMs (Rs.10000/kw)		
TPWODL	5	15 Cr.	10 Cr.	05 Cr.	15 Cr.	30 Cr.
TPCODL	5	15 Cr.	10 Cr.	05 Cr.	15 Cr.	30 Cr.
TPNODL	5	15 Cr.	10 Cr.	05 Cr.	15 Cr.	30 Cr.
TPSODL	5	15 Cr.	10 Cr.	05 Cr.	15 Cr.	30 Cr.
Total	20	60 Cr.	40 Cr.	20 Cr.	60 Cr.	120 Cr.*

*The Estimated Project Cost is excluding of OPEX cost.

If the Project Capacity will be increased beyond 20MW in successive FYs then the higher budgetary provision may be required.

For 100 MW - 200 Cr (Per DISCOM 50 Cr)

For 200 MW - 400 Cr (Per DISCOM 100 Cr)

Considering the actual progress, if a DISCOM intends to add more installation share of other DISCOM shall be allocated to the intending DISCOM/IA with the approval of the competent authority.

45. Implementing Agencies (IAs) will open a project specific designated account with any of the nationalised/private bank for receiving the CFA amount from MNRE & SFA from State

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Govt. The DISCOM contribution shall also be routed through that account for payment to solar developers/ vendors etc.

MNRE is requested to institute necessary provisions in this regard for community solarisation projects.

46. **Release of Fund:** As per RTS Phase -II guidelines of MNRE, a comprehensive Fund (CFA) release mechanism was outlined. Now with the newly pronounced scheme "PM Surya Ghar Muft Bijli Yojana 2024," even though the scheme guidelines are yet to be released, the applicant expects a suitable mechanism for smooth flow of CFA share to the DISCOM. Similarly, DISCOMs requests before State Govt. for early release of SFA as per the guidelines of the state for successful implementation of the project.
47. **Tendering process & vendor selection:** Discoms shall invite bids for empanelment of Vendors through transparent bidding process. Vendor Selection shall be done DISCOM wise considering their geographical area and capacity of local vendor. While doing so, preference shall be given to the local vendors. This will also ensure quality and post installation service. Real time monitoring is a significant aspect of the project, therefore a separate team having expertise in metering, communication and designing the required software for monitoring including data acquisition through different communication service providers, processing of data using analytical tools, generating reports for monitoring and MIS, etc., shall be set up.
48. **System Specifications:** The MNRE approved specification shall be adopted for this community solarisation scheme for Rural households. For grid-tied inverters, applicable BIS/MNRE specifications shall be followed. Protection equipment including surge protection devise, lightning arrestors, earthing, MCB/MCCB/RCCB, etc. shall be in place as per standard industry practices.
49. **Metering arrangement:** A suitable metering unit shall be installed to capture the generation unit. For this the metering procedure/mechanism for solar PV projects shall be governed as per the extant provision of Hon'ble Commission.
50. **Commencement of Power Allocation to the participating consumers:** Benefit will be extended after Commercial Operation Date (CoD) of the project. The COD shall be the date of synchronisation of the solar project with the Local Distribution System.
51. **Energy Accounting & Billing:** Generated Energy shall be allocated to the beneficiaries as per pre-determined and agreed share. When the monthly consumption of the beneficiary exceeds/more than the allocated share, differential unit shall be billed by the DISCOM. In case of less consumption or no consumption by the beneficiary from the allocated energy in a particular month/billing cycle, the DISCOM billing shall be limited to fixed cost only. In

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such case unused allocated energy units will not be carried forward for adjustment in subsequent month. Similarly, in case of no generation due to any reason the beneficiary shall be billed as per actual meter reading.

52. **Force Majeure:** Means the events or circumstances or combination of events or circumstances including those stated below which partly or fully prevents the DISCOM/IAs to complete the project within the time specified in the SoP and only if such events or circumstances are not within the control of the DISCOM/IAs and could not have been avoided, had the DISCOM/IAs taken reasonable care or complied with prudent utility practices:

(a) Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, or exceptionally adverse weather conditions which are in excess of the statistical measures for the last hundred years; or

(b) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or

(c) Industry wide strikes and labour disturbances having a nationwide impact in India; or

(d) Delay in obtaining statutory approval for the project except where the delay is attributable to project developer.

Similarly, during any circumstances if the plant stopped generation due to any reason like technical failure, environmental, external as mentioned above or any other events, the DISCOM/IA will put all effort to restore the system at the earliest. In such an event, neither the DISCOM shall be held responsible nor the beneficiary shall claim benefit due to non-generation out of the community plant.

53. Benefits to the different stake holders:

A. Benefits to Rural Consumer: -

- i. No need to invest a single rupee/ Nil investment.
- ii. Free electricity up to 200 units depending upon the connected load, solar plant size and no of beneficiary till 25 years.
- iii. Benefit to Landowner/ owners out of lease rent from the unused land.
- iv. Reliable day time power supply.

B. DISCOMs obligation/responsibility and benefits:

- i. DISCOM shall facilitate for project implementation.

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- ii. Maintenance responsibility with DISCOM for the entire life period of the project.
- iii. Availability of generated energy at user end, thereby saving in power purchase cost.
- iv. After recovery of DISCOM investments, share of energy generation shall continue as such to meet the Maintenance cost.
- v. Cost of funding shall be claimed in ARR under DSM Head.
- vi. Amount of DISCOM's investment shall be recovered out of savings in power purchase cost and share of energy available to the extent of own investment. So, this needs to be approved in ARR.
- vii. Improvement in billing and collection efficiency.
- viii. AT&C loss reduction.

C. Benefit to GRIDCO

- i. Burden on power sourcing will be reduced.
- ii. Contribute towards RPO

D. Other High-end Consumer

- i. Cross Subsidy quantum will be reduced & hence cost reflective tariff.

E. Regulator:

- i. In absence of direct subsidy by Govt., the scheme benefit will help in tariff determination to balance cross subsidy effect among different category of consumers.
- ii. Promoting Energy Conservation & Smart Grid.
- iii. DISCOM share of investment shall be accommodated in the ARR in the form of saving in power purchase as well as share of power out of the project.
- iv. As the project is in the name of the beneficiaries, DISCOM shall not claim Depreciation and it has no impact on RST.

F. Benefit to Govt.:

- i. No direct subsidy is required.
- ii. Beneficiaries will get free electricity up to 200 units if Govt desires to extend SFA in line with CFA (MNRE)
- iii. Contribution towards carbon neutrality

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Prayer

In view of the above, the DISCOMs humbly pray before the Hon'ble Commission to :

- i. Approve the above proposed community solarisation project in rural area as per the aforesaid detailed mechanism under Demand Side Management (DSM) and recognise the cost of DISCOM share in the ARR along with Opex cost.
- ii. Allow DISCOM to treat the DISCOM share of Energy as input.
- iii. Allow DISCOMs to incur the cost of System Augmentation (if any) which shall be covered under CAPEX of the DISCOM.
- iv. To accord any other direction the Hon'ble Commission may deems fit.

The applicant stakeholders crave leave to amend/ modify/further submission on the above application as and when required.

On behalf of all the DISCOMs:


CEO, TPWODL

PLACE: Sambalpur

DATE: 12.03.2024

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ANNEXURE - I

Minutes of the meeting of the Standing Finance Committee (SFC) held on 21.12.2023 at 03.30 PM in the 2nd Floor Conference Hall of Kharavel Bhawan, Energy Department for appraisal of the new scheme "Green City Mission".

The list of participants is enclosed at Annexure-I.

At the outset Principal Secretary, Finance & Energy Department welcomed all the officials to the meeting. The new proposal "Green City Mission" of Energy Department was placed before the SFC for appraisal as per para 6 of FDOM No. 23373/F dated 19.08.2023.

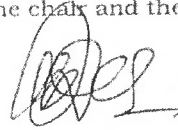
OREDA presented the status of Bhubaneswar Green City Mission which is to be carried out jointly by OREDA and TPCODL with the following key highlights. It was brought to the notice of the Committee that Rs.50 Crore will be expended over a period of 3 years (FY 2022-23, FY 2023-24, FY2024-25) for the aforesaid works under the Green City Mission. It was also intimated that the Green City dashboard has been handed over to OREDA by GIZ under Technical Assistance program of MNRE, Govt. of India and is already live and is hosted on the OREDA website

The following projects will be carried out by OREDA and TPCODL under the Bhubaneswar Green City Mission

1. **OREDA:** OREDA will undertake the following:
 - a. 10 MW Rooftop Solar on Govt. Buildings through RESCO mode
 - b. 120 Solar Water Kiosks, 100 Solar Trees with 400 Solar street lights
 - c. Green City Dashboard
2. **TPCODL:** TPCODL will undertake the following:
 - a. 5 MW Residential Rooftop Solar, which will include an additional subsidy of approx. Rs.10 Crore (@Rs.20000/- per kW), to bring down the cost recovery for the residential consumers from 7 years to 3 years.
 - b. 1.3 MW for Solarisation of BMC Civic facilities, Commercial & Industrial establishments
 - c. Solar EV Charging Stations
 - d. Other Innovative Projects

Taking note of the above, the SFC recommended the proposed "Green City Mission" with a total cost of Rs.50.00cr. with 100% budgetary support from the State Govt. to be implemented from FY 2022-23 to FY 2024-25

The meeting ended with a vote of thanks to the chair and the participants.



Principal Secretary to Government,
Energy Department



GOVERNMENT OF ODISHA
ENERGY DEPARTMENT

RESOLUTION

No. 2695 /En., Dated 12/03/2024
ENG-RE&ET-OREDA-0002-2024

Sub: Implementation of Rooftop solarisation of Rural Households through Community Solarisation Mechanism.

1. Background

Govt. of India through the Ministry of New & Renewable Energy (MNRE), aims to achieve 40 GW of rooftop solar by 2030. However, the residential sector has only installed 2.84 GW due to a lack of interest and financial constraints. In response, MNRE has launched the PM Surya Ghar Muft Bijli Yojana 2024" to solarise one crore households. Yet, rural households face challenges like financial constraints and low electricity tariffs, hindering their participation. Keeping this in view TPDISCOMs in the State have proposed a model scheme to install DISCOM- maintained solar Photo Voltaic Plants in rural areas, exempting participating households from electricity charges. This will also address the issues of technical and commercial losses contributing to rural sustainability and aligning with renewable energy goals.
2. Scheme / Programme objective
 1. Implementation of 20 MW (5MW by each DISCOM) Distributed Renewable Energy Plants on behalf of Rural Households through community solarization mechanism funded by State & Central Govt. aids / subsidy plus DISCOMs contribution.
 2. Distribution of generated energy to the Rural Households free of cost through Virtual Net Metering mechanism.
 3. DISCOMs to install Operate & Maintain the Distributed Solar plants till the lifetime of the project on behalf of participating Rural Households.
3. Coverage under scheme / programme and duration

Rural Households of the State.
(01.04.2024 to 31.03.2025)
4. Implementation of the scheme / programme (with definite role of the stakeholders at State/ District/ Implementation level

After aggregating the total demand of a particular village / area the respective DISCOM will set up a solar plant under the scheme. The project shall be funded through subsidy from MNRE, Govt. of India (as CFA), assistance from Govt. of Odisha (as SFA) and the balance shall be contributed by the respective TPDISCOMs under Demand Side Management (DSM) to be socialized through their ARRr.
Per KW contribution by the Stakeholders are as follows:

Per kWp cost of SPV Plant Rs.60,000/-

Rural Consumer	MNRE (CFA)	State Govt. (SFA)	DISCOM contribution*
0	Rs.30,000/- per kW	Rs.20,000/- per kW	Rs.10,000/- per kW

* Per kW DISCOM contribution cost may vary depending upon the Discovered rate at the time of implementation.

In line with implementation plan, and apart from the CFA component, Budgetary provision amounting to Rs.40.00 crore for 20 MW in the F.Y 24-25 is to be met as SFA.

Implementing Agency – 04 TPDISCOMs of the State

- | | |
|---|--|
| 5. Source of funding for the scheme / project and fund flow mechanism | The SFA will be met from the State Budget. |
| 6. Intended scheme / programme outcome | Ensure reliable daytime power Supply to Rural Households through Community Solarization Mechanism. |
| 7. Monitoring & Evaluation mechanism | Will be determined by OERC |
| 8. Forms for application by the beneficiaries (if any) to be annexed. | Will be determined by OERC. |

By order of Governor

Principal Secretary to Govt.

Memo No. 2696 /En., dated the 12/03/2024

Copy forwarded to the Director, Printing, Stationary and Publication, Odisha, Cuttack with a request to publish the Resolution in the next issue of Odisha Gazette and send 50 copies to this Department.

Memo No. 2697 /En., Dated the 12/03/2024

Copy forwarded to the P.S. to Hon'ble Chief Minister, Odisha / P.S. to Hon'ble Minister, Energy/ P.S. to Chief Secretary, Odisha / P.S. to Principal Secretary to Govt., Energy Dept. for kind information of Hon'ble Chief Minister / Hon'ble Minister/ Chief Secretary/ Principal Secretary respectively.

FA-cum-Additional Secretary to Govt.

Memo No. 2698 /En., Dated the 12/03/2024

Copy forwarded to all Departments of Government of Odisha for information and necessary action.

FA-cum-Additional Secretary to Govt.

FA-cum-Additional Secretary to Govt.

Memo No. 2699 /En., Dated the 12/03/2024
Copy forwarded to all Officers / all Sections of Energy Department for information.

Memo No. 2700 /En., Dated the 12/03/2024
Copy forwarded to the Chief Executive, OREDA/ CMD, OPTCL / MD, GRIDCO/ MD, OHPC/ EIC(EI.)-cum-PCEI, Odisha/ Secretary, OERC/ CEO, GEDCOL/ MD, OPGC/ CEO, OCPL/ CEO, TPCODL/ TPNODL/ TPWODL/ TPSODL/ for information and necessary action.

Memo No. 2701 /En., Dated the 12/03/2024
Copy forwarded to the Head, Portal Group, IT Centra, Lok Seva Bhawan, Bhubaneswar for information and necessary action. It is requested to host this Resolution in the website of Energy Department.

FA-cum-Additional Secretary to Govt.

Application form – Community Solarization Scheme

To,

The Designated Officer

(DISCOM/Implementing Agency)

(Name o Office)

Subject: Application for beneficiary under Community Solarization Scheme FY 24-25

I/We intend to connect my/our Domestic connection(s) with the Renewable Energy system installed by TPWODL through Virtual Net Metering (VNM) Arrangement and agree to abide by the terms & condition of the scheme. The details are given below:

1	Name of the Consumer (Beneficiary)	
2	Address of the Consumer	
3	Village Name	
4	*12-digit Consumer Number as per Electricity Bill	
5	Contact Number	
6	What's app number	
7	Email Id	
8	Meter Installed (Yes/No)	
9	Meter Number	
10	*Aadhaar Number	

*Mandatory field

I/We hereby request you to provide me/us the benefit of solar energy generated out of the community solar plant.

I/We also undertake through this application that my/our share of energy from the proposed community solar plant be limited to the existing Contract Demand (CD). If the CD will be enhanced, the existing share of energy shall continue.

I/We hereby undertake to pay the monthly energy bill regularly. In the event of non-payment, I/we acknowledge that the power supply may be disconnected, resulting in the loss of access to the

benefit. Reconnection of electricity services shall not occur until all outstanding payments are settled. During disconnection period I/We have no right on the share of energy allocation as determined.

I/We further undertake to ensure the safety and security of the solar plant by taking adequate measures. Additionally, we agree not to indulge in any unauthorized activities that may result in damage or loss to the community solar plant.

In addition to the aforementioned undertakings, I/We hereby commit to adhering to all rules, regulations, and laws pertaining to power supply agreement, including any future amendments or changes in law.

Details of the Participating Consumers

Sl. No.	Consumer No	Village Name	CD in kW	SPV in kWp	Sharing Ratio (in %)	Signature of Consumer

Date:

Place:

For Office Use only:

Ref. No:
Collected By:
Certified that all connections are found as Rural Domestic and fulfil scheme eligibility:
Certified By:
Approved By:
Project Capacity:

Model Lease Agreement

**Between [Lessor's Name], hereinafter referred to as "Lessor",
And [DISCOM Name], hereinafter referred to as "DISCOM".**

This AGREEMENT of Lease entered into on this _____ day of _____ at _____

Between

(hereafter refer to as the LESSOR/OWNER, which expression shall, wherever context so requires or admits, SHALL mean and include his/her legal heirs, executors, administrators and agencies);

AND:

_____ Name of DISCOM/ IA

Represented By _____

(hereafter refer to as the LESSEE, which expression shall, wherever context so requires or admits, SHALL mean and include his/her legal heirs, executors, administrators and agencies);

Whereas the Lessor is the owner in possession of the land/roof measuring _____ Acre situated at khata no. _____ of the village /GP _____ Tehsil _____ District which is morefully described in the schedule hereunder and hereinafter referred to as the schedule property.

Whereas the _____ (Name of DISCOM) being the Implementing Agency of Community Solarization Scheme with an object to Develop & Operate Solar Power Plant under Community Solarization Scheme under VNM arrangement.

1. WHEREAS pursuant to the request of the Lessee, the lessor has agreed to grant the lease, the Lessee has agreed to take on lease form the lessor the land which is more fully described in the schedule hereunder and hereinafter referred to as "THE SCHEDULE PROPERTY" for setting up of the Solar Power Plant.

NOW THIS AGREEMENT OF LEASE WITNESS THAT in consideration of the above and of the mutual covenants of the parties hereto, the lessor hereby grants and the Lessee hereby accept the lease of the schedule property on the following terms and condition:

2. Purpose of Lease:

The purpose of this Lease is for the development and operation of a Solar Power Plant under the Community Solarization Scheme.

3. Rent:

- a) The Annual lease rent for the schedule land as defined above shall be [Amount], payable on monthly basis.
- b) The Rent shall be paid directly by the DISCOM to the Lessor.
- c) The Lease Rent amount shall be reviewed in every 5 years with escalation of @5% based on prevailing market rates and conditions.
- d) During the tenure of this contract (i.e. 25 years) the landowner hereby undertakes that the above scheduled land shall not be permitted to be sold/transferred under any circumstances.

4. Payment of Registration Charges & Stamp Duty:

The Stamp duty and other Registration Charges as applicable for this agreement of Lease shall be paid by the Lessee.

5. Force Majeure:

In the event of Force Majeure, as defined herein, affecting either party's ability to fulfill its obligations under this Agreement, the affected party shall be excused from such obligations for the duration of the Force Majeure event. However, the party affected by Force Majeure shall promptly notify the other party of such event and make all reasonable efforts to mitigate its effects.

6. Address of Correspondence:

Any notices, communications, or correspondence required or permitted to be given under this Agreement shall be deemed duly given if delivered personally or sent by certified mail, postage prepaid, or by email to the following addresses:

For [Lessor's Name]:

[Address Line 1]

[Address Line 2]

[City, State, Zip Code]

[Email Address]

For [DISCOM Name]:

[Address Line 1]

[Address Line 2]

[City, State, Zip Code]

[Email Address]

7. Variation of Agreement:

Any variation, modification, or addition to this Agreement between the parties shall be valid only if made in writing and duly executed by the authorized representatives of both the Lessor and Lessee.

Any purported variation, modification, or addition not meeting the above requirement shall be null and void and shall have no effect on this Agreement.

8. Lessor's Duties, Covenants, and Obligations:

- a) The Lessor shall offer necessary support and cooperation to the Lessee in its process to obtain permissions, approvals, clearances, etc., from statutory authorities or other local bodies for the installation of the Solar Plant.
- b) However, it is understood that obtaining such approvals/permissions is the sole responsibility of the Lessee.
- c) The Lessor shall provide access to the premises and any relevant documentation reasonably required by the Lessee to facilitate the process of obtaining approvals and permissions.
- d) The Lessor shall not unreasonably withhold or delay any consent or approval required for the installation and operation of the Solar Plant, provided that such consent or approval does not impose any material obligations or liabilities on the Lessor.
- e) The Lessor shall promptly inform the Lessee of any notices, inquiries, or communications received from statutory authorities or other local bodies related to the installation and operation of the Solar Plant.
- f) The Lessor shall indemnify and hold harmless the Lessee from any claims, losses, damages, liabilities, or expenses arising out of any breach of the Lessor's obligations under this Agreement.

9. Governing Law:

This Agreement shall be governed by and construed in accordance with the laws of [Jurisdiction].

This Agreement constitutes the entire understanding between the parties concerning the subject matter hereof and supersedes all prior agreements, negotiations, representations, and understandings.

In Witness Whereof, the parties hereto have executed this Lease Agreement as of the date first above written.

[Signature of Lessor's Representative]

Name: [Name]

Title: [Title]

Date: [Date]

[Signature of DISCOM Representative]

Name: [Name]

Title: [Title]

Date: [Date]

This draft serves as a simplified model lease agreement between the Lessor and DISCOM for the installation of a Solar Power Plant. This is subject to review and customize it further to meet the specific requirements and legal considerations.

Connection Agreement – Between Consumers and Distribution Licensee for VNM of Solar PV system installed by (DISCOM name) under Community Solarization Scheme

Date: XX/XX/XXX

DECLARATION-CUM-UNDERTAKING

Application Reference No.

Consumer No.

Applicant Name

Premise Address

Division

Sanctioned Load

Contract Demand

Individual Solar Plant Capacity

Rate Category: LT-DOM – DOMESTIC (Rural)

That, the Applicant/ Consumer is not a minor and is above the age of 18 years and is legally competent to sign and execute the Declaration cum Undertaking.

That the Applicant is a lawful occupant of the premises at where electricity connection is located at (hereinafter the "Premises").

That, the Applicant has requested the TP Western Odisha Distribution Limited (TPWODL) to provide benefits under Community Solarization Scheme through tagging his Rural Domestic connection(s) with the Renewable Energy system installed by TPWODL through Virtual Net Metering (VNM) Arrangement.

That, the Applicant agrees to abide by the terms & condition of the above scheme.

THAT I, THE APPLICANT HEREBY AGREES AND UNDERTAKES

1. That, after understanding the benefits of Community Solarization scheme through Virtual Net-metering, I/We have agreed and jointly requested TP Western Odisha Distribution Limited (TPWODL) to provide benefits of the Solar energy generated from the community solar plant which has already been installed by the TP Western Odisha Distribution Limited (TPWODL), and agreed for quantum of respective share from the Solar installation, the details of which have also been specified below:

Consumer No	Village Name	CD in kW	SPV in kWp	Sharing Ratio (in %)

2. That, DISCOM shall always have access to consumer metering. I/We hereby undertake to pay the monthly energy bill regularly within due date. In the event of non-payment, we acknowledge that the power supply may be disconnected, resulting in the loss of access to the benefit. Reconnection of electricity services shall not occur until all outstanding payments are settled. During disconnection period I/We have no right on the share of energy allocation as determined and no compensation will be paid to the consumer for such disconnection.
3. That, TPWODL reserves the right to disconnect the connection tagged under this declaration cum undertaking, as per terms of extant regulation & prevailing laws and proceed to adjust electricity supply dues payable by the applicant in accordance with Law.
4. That, Distribution licensee is to maintain a safe and reliable distribution system, the Eligible Consumers agree to ensure the safety and security of the solar plant by taking adequate measures. Additionally, agree not to indulge in any unauthorized activities that may result in damage or loss to the solar plant.
5. That, DISCOM shall bear no liability for any fiscal or other incentives provided by the central and state governments.
6. That, all the commercial settlement under this agreement shall follow the relevant orders/Regulations issued by OERC in this regard.
7. That, the term of this Agreement shall be for the useful life of the community solar photovoltaic power plant, which is 25 years or till the validity of the agreement.
8. That, the Eligible Consumer or DISCOM reserves the right to terminate this Agreement at any time by providing a minimum of 90 days prior notice to the other party to the agreement. It is further understood that in the event of termination, DISCOM shall not be held liable for any form of compensation to any party involved.
9. That, the Eligible Consumers shall have no right to change the Sharing Ratio provided in the application under Details of the Participating Consumers after execution of this agreement.
10. That, in addition to the aforementioned undertakings, I/We hereby commit to adhering to all rules, regulations, and laws pertaining to this agreement, including any future amendments or changes in law.

I/We agree to the terms & conditions as mentioned above.

Name of the Applicant

Mobile No

Email ID

Authorized Person

Date of Agreement