नई दिल्ली नगरपालिका परिषद्

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PUBLIC NOTICE

NDMC invites public comments/ suggestions on Draft Solar Policy 2022 which is available on website www.ndmc.gov.in under Public Notice. Suggestions/ comments may be sent by email at address eesolar.comm@ndmc.gov.in upto 07.01.2023.

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DRAFT

NDMC SOLAR POLICY 2022

PREAMBLE:

NDMC has embarked upon on ambitious journey of shifting to 100% renewable energy. In addition to the broader arrangement of tying up with the Renewable Energy sources it is also incumbent upon the Council to tap all possible potential of solar energy generation within its jurisdiction.

This Policy shall be known as the "NDMC Solar Policy- 2022" and shall come in force from the date of Notification. This Policy will be applicable for any solar energy generating system with a capacity of 1 KWp or more. This policy applies to all electricity consumers under all electricity tariff in NDMC and to all entities that setup and operate solar power plants in NDMC area.

NDMC shall encourage implementation of grid connected solar plants as outlined below. All grid connected solar plants shall comply with applicable CEA (Grid Standards) Regulations, 2013 and other applicable rules, regulations, and guidelines as amended from time to time. NDMC shall promote the deployment of solar plants with net metering on all existing, up-coming or proposed buildings of government organizations, government owned or hospitals, schools and other educational/ technical/research institutes, hostels and training institutes Fire Stations, Hospitals/Dispensaries, Embassy, Stadium, bridges, public toilets and bus stops, sheds, parking lots, and other Central and State Government buildings and open spaces (hereinafter to be referred to as the "Project Site").

1.0 OBJECTIVE:

1.1 Energy is the key driver of growth in any economy. The biggest challenge in the world today is to meet the rising demand of energy on a sustainable basis especially in view of limitations on natural resources (fossil fuels) to generate energy. The challenge is more pronounced in our country with limitation of resources and ever-increasing demand in view of faster economic development. The availability has always been behind demand and it is very likely that the present trend will continue for at least a few more years. In order to address the scarcity on a sustainable basis, it is necessary to move towards renewable sources of energy. This policy aims to lay a framework for harnessing the ubiquitous Solar energy by utilizing the empty rooftops of the building/ open area within the NDMC jurisdiction. This policy is also a mandate and in synergy with the provisions of The ElectricityAct.2003.

1.2 There is a large potential available for generating solar power using unutilized space. Small quantities of power generated by each individual household, commercial buildings or any other type of building can be used to partly fulfill the requirement of the building occupants and surplus, if any, can be fed into the Grid.

1.3 ADVANTAGES:

a. Solar power is pollution free. No green house gas is emitted after installation.
b. Reduced dependence on oil and fossil fuels.
c. Renewable clean power is available everyday of the year, even cloudy days produce some power.

d. Reasonable Return on investment.
e. Virtually no maintenance as solar panels last over 25-30 years.
f. Excess power can be sold back to the power company through intertied grid.
g. Ability to live without power from Grid if power generated provides enough for the home/ building.
h. Solar energy fed to the grid under Rooftop SPV scheme can be accounted for RPO(Renewable Purchase Obligation).
i. Saving in transmission & distribution losses for the utility.
j. No requirement of additional land.
k. Local Employment generation.

1.4 Given NDMC's land-locked position, the high cost and paucity of barren land within its borders, and low potential for wind or hydro power, NDMC must focus on rooftop solar as its primary source of renewable energy. NDMC area is blessed with almost 300 sunny days every year. The sunshine period per day on an average is about 8-10hours.

1.5 NDMC's daily day time peak demand curve broadly matches the generation curve of solar system which can therefore help to reduce peak demands. Moreover, energy produced by rooftop solar systems is mostly consumed at, or near, the point of generation, minimizing transmission and distribution losses. Self-consumption of rooftop solar energy also reduces the need for, and the challenge of, provisioning new distribution infrastructure. In short, rooftop solar systems offer sustainable energy, environmental benefits, low gestation period, low transmission and distribution losses, reduced need for distribution infrastructure, and peak load offset that reduces costs for the DISCOMs and ultimately for the consumers as well.

1.6 The cost of solar power is on the decline while the cost of fossil fuel based electricity is increasing day by day. It is important to popularize the use of solar energy so that people gain confidence and start using solar options more and more, wherever feasible.

1.7 The Ministry of New and Renewable Energy(MNRE)Govt. of India is providing Central Financial Assistance(CFA) for all types of residential buildings.

- The MNRE revise Central Financial Assistance(CFA) for rooftop solar power plants from time to time are available in; www.mnre.gov.in.
- CFA shall be applicable as per norms of the Ministry.

2. THE SCHEME:

2.1 **General:** NDMC shall promote the development of grid-connected solar plants for meeting own electricity needs and injecting surplus electricity into the distribution grid. Grid-connectivity must comply with "Delhi Electricity Regulatory Commission (Net Metering for Renewable Energy) Regulations, 2014" & amendments there to and DERC's "Terms and Conditions for Determination of Tariff for Procurement of Power for Grid-connected Solar Photovoltaic Power Projects", 2013.

In Grid interactive systems ,it has, however to be ensured that in case the Grid fails, the solar power has to be fully utilized and feeding to the grid (if any in excess) be stopped immediately so as to safe-guard any grid person /technician from getting shock (electrocuted)while working on the grid for maintenance etc.

2.2 **Tariff system**: The feed in tariff for the power generated from solar power plant will be as decided by DERC. Such tariff will be applicable for the electricity exported into the grid under net metering framework (i.e. surplus export after self-consumption at the end of annual settlement period, i.e. financial year end).The availability of electricity grid near solar installation is an essential component which needs to be provided by the NDMC as the case maybe.

2.3 **Metering System**: Net metering facility will be implemented for the consumers of NDMC who intend to encourage solar green energy and set up solar PV plants at available places. Individual households, offices, commercial establishment, institutions, residential complexes etc. will be eligible for project capacity of minimum 1 KW or more.

All the equipment to be installed like solar PV panels, inverters, synchronizer, batteries, transformers, cables, junction boxes etc. shall be as per specified Indian/ IEC standards. NDMC shall install/seal tested bi-directional (export & import) meter for all Solar PV projects. However, the same could also be purchased by the Plant owner (could only be installed after testing from NDMC). The meters should be as per CEA and BIS specifications only. The metering arrangement should comply with DERC Net Metering Regulations and Guidelines, Central Electricity Authority (Installation and Operation of Meters) Regulations and its amendments, as applicable.

2.4 **Capacity:** The maximum capacity of such Solar PV system shall not be more than sanctioned connected load in case the consumer applies under net metering framework. However, if consumer wants to install such Solar PV system more than the sanctioned load, the consumer shall get the enhance load sanctioned & bear all expanses related with laying of suitable size cable and associated infrastructure necessary for such enhanced load.

2.5 **Eligibility and Targets under the scheme :** The policy aims to utilize the existing roof space of buildings/ open area for the Solar systems to harness the available potential for generating solar power using unutilized space, along with promotion of green and clean power to reduce the dependence on conventional source of energy.
All the individuals, residential / commercial /Govt. /Semi Govt. building owners are eligible to setup Solar Power Plant within the prescribed capacity limit.

To encourage solar plants on rooftops of buildings/ open area that cannot consume all of the energy generated locally, NDMC shall facilitate *Group Net Metering*, whereby surplus energy exported to the grid from a solar plant at the location of the solar plant can be adjusted in any other (one or more) electricity service connection(s) of the consumer provided these connections are within the NDMC jurisdiction. The purpose of this provision is to help maximize the utilization of roof top space/ open space for solar energy generation for consumers with multiple buildings and service connections. Group Net Metering must comply with "Delhi Electricity Regulatory Commission(Group Net Metering and Virtual Net Metering for Renewable Energy) Guidelines2019" & amendments there to.

2.6 **OPTIONS FOR INSTALLATION OF SOLAR POWER PROJECTS:** For the success and smooth operation of solar power plants, various situation sand conditions needs to be provided for to make it a workable business model. There can be many possible business models ,some of which can be considered are as follows:

(a) Solar installations owned by consumer:

i) Solar Rooftop facility owned, operated and maintained by the consumer(s).

ii) Solar Rooftop facility owned by consumer but operated and maintained by the 3rd party.

(b) Solar installations owned, operated and maintained by 3rd party:

The 3rd party implements the solar rooftop facility and provides services to the consumers. The surplus electricity may be injected to the electricity grid. The 3rdparty implementing the solar facility shall enter a lease agreement with the consumer for medium to long term basis on rent. The facility is entirely owned by the 3rdparty and consumer is not required to make any investment in facility. The power generated is fed into the Grid and the roof top owner gets rent.

(c) Solar Installation at roofs of NDMC and its allied buildings/structures.
In order to ensure quality of the equipment's installed and its smooth performance, Electricity Department of NDMC will be the implementing agency for solar systems in NDMC building and its allied institutions.

Note: Even if the facility is owned, operated and maintained by a 3rd party, the consumer shall continue to be solely responsible for all compliances.

2.7 SITE REQUIREMENT:

i) The project site/ rooftops/ open spaces at office buildings, commercial buildings, residential complexes etc. can be selected on the basis of total energy requirement of the premises and the area available for installation of Solar PV system.

ii) Solar PV system on the project site/roof top of selected building can be installed for meeting the requirement of the building as much as possible.

iii) Directives issued by DERC shall govern the voltage of evacuation of the electricity from solar plants. Evacuation infrastructure shall be developed and augmented, wherever necessary, by the NDMC, as the case may be. Any infrastructure associated cost for the purpose of installation of the Solar PV plant, including but not limited to network augmentation shall be borne by the owner of the solar project.

iv) The connectivity of solar plants with the electrical grid at voltage level 33kV and above shall be governed by DERC Net Metering Regulations and Guidelines, Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007and amendment there of whereas the connectivity of the solar plants with the grid at voltage level below 33kV shall be governed by the Central Electricity Authority (Technical Standards for Connectivity of Distributed Generation Resources) Regulations, 2013, as amended from time to time.

2.8 **Restriction on level of overall or local grid penetration**:

i) Net-metering based solar systems can be expected to proliferate fast when the policy and procedures are conducive. The impact and level of proliferation of net-metering based solar system would have an impact on the local grid which has to address technical, safety and grid security issues arising out of possible reverse flow of electricity in the local grids. The distribution licensee shall provide net metering arrangement to all eligible consumers as long as the cumulative capacity to be allowed for a particular distribution transformer shall not exceed 75% of the rated capacity of the distribution transformer. Provided further that the Distribution Licensee may allow solar power capacity connected to a particular Distribution Transformer and feeder connected to the same exceeding 75 percent of capacity upon consideration of a detailed load study carried out by it.

ii) The distribution utility to which the consumer is connected can be given the benefit of deemed RPO for self-consumption of electricity by consumers who are not defined as obligated entities under the RPO framework as long as such consumers does not opt for REC framework for self-consumption as eligible entity. This will encourage utilities to facilitate implementation of small capacity net-metering based solar projects.

iii) The quantum of electricity consumed by an eligible consumer, who is not defined as an obligated entity from the solar system under net-metering arrangement shall qualify as deemed Renewable Purchase Obligation (RPO) for the distribution licensee.

2.9 OPERATION AND MAINTENANCE:

i) The solar plant shall comply with the relevant standards specified by MNRE/BIS and CEA. The responsibility of operation and maintenance of the SPV generator including all accessories and apparatus lies with the consumer. The design and installation of the SPV should be equipped with appropriately rated protective devices to sense any abnormality in the system and carry out automatic isolation of the SPV from the grid. The inverters used should meet the necessary quality requirements and should be certified for their quality by appropriate authority; the protection logics should be tested before commissioning of the plant.

ii) The automatic isolation or islanding protection of SPV should be ensured for, no grid supply and low or over voltage condition sand within the required response time. Adequate rated fuses and fast acting circuit breakers on input and output side of the inverter sand disconnect /isolating switches to isolate DC and AC system for maintenance shall be provided. The consumer should provide for all internal safety and protective mechanism for earthling, surge, DC ground fault, transient etc.

iii) To prevent back feeding and possible accidents when maintenance works are carried out by NDMC personnel, Double pole/Triple pole with neutral isolating disconnect switches with specifications as per CEA guidelines, which can be locked by NDMC personnel should be provided. This is in addition to automatic sensing and isolating on grid supply failure etc. and in addition to internal disconnect switches. In the event of NDMC HT/LT supply failure, the consumer has to ensure

that there will be no solar power being fed to the LT/HT grid of NDMC. The consumer is solely responsible for any accident to human beings/animals what so ever (fatal/non-fatal /departmental /non departmental) that may occur due to back feeding from the SPV plant when the grid supply is off. NDMC reserves the right to disconnect the installation at any time in the event of damage to its grid, meter etc. or to prevent accident or damage.

iv) The consumer shall abide by all the codes and regulations issued by the Commission to the extent applicable and in force from time to time. The consumer shall comply with DERC / CEA requirements with respect to safe, secure and reliable function of the SPV plant and the grid. The power injected into the grid shall be of the required quality in respect of wave shape, frequency, absence of DC components etc.

v) The consumer shall restrict the harmonic generation within the limit specified in the agreement or specified by the Central Electricity Authority(CEA) as and when such regulation is issued.

vi) Developers of all solar plants shall need to install necessary equipment to monitor solar irradiance, wind speed, ambient air temperature, and electricity generated and injected into the electricity system or self-consumed from the solar plant. Such details shall be collected by the NDMC through smart metering for monitoring & analysis.

2.10 APPLICABILITY OF RENEWABLE ENERGY CERTIFICATE AND RPO:

Net-metering injection is not eligible for REC. The quantum of electricity consumed by an eligible consumer, who is not defined as an obligated entry from the solar system under net-metering arrangement shall qualify as deemed Renewable Purchase Obligation(RPO)for the distribution licensee.

2.11 PENALTY & COMPENSATION:

In case of failure of net metering system, the provisions of penalty or compensation shall be as per the provisions of the standard of performance regulations for distribution licensee as issued by DERC

2.12 APPLICABLE SUBSIDY:

Rate and amount of applicable subsidy would be according to approved rate, sanctioned amount and also on the basis of allocated target by the MNRE, GoI.

2.13 HOW TO APPLY & REGISTER:

i. Application form along with all information related with solar system will be made online available on NDMC website i.e www.ndmc.gov.in.

ii. The site will be inspected by the NDMC officials for assessing technical feasibility and if found technically feasible, approval will be accorded to the applicant through approval letter.

iii. Plants constructed without getting the approval letter from NDMC or without following the instructions/specifications contained in the approval letter from NDMC will not be considered for any benefits including recommendation for

subsidy from the Government.

3. Other exemptions, benefits, and incentives

The following exemptions, benefits, and incentives shall be available to solar plants implemented by the eligible entities, as applicable, during the Operative Period of the Policy

3.1 Exemption from the payment of Electricity Tax and Cess

In order to promote clean and green energy and reduce the pollution burden on the capital, NDMC shall notify the exemption of Electricity Tax for solar energy units generated, whether for self-consumption or supplied to the grid. In other words, Electricity Tax will be applicable only on Net Consumption Charges billed by the NDMC at the applicable rate.

3.2 Exemption on conversion charges

Residential consumers opting to implement solar plants to sell power to the grid shall continue to be treated as residential consumers.

3.3 Building by-laws amendment for rooftop solar installations

a) Solar panels may be installed at any height or level (including ground level)/ terrace/ rooftop subject to the max. height permitted by Airport Authority of India/ clearance from Delhi Fire Service and shall not be included in covered area for FAR and Ground Coverage calculations and other mandatory clearances.

b) Solar panels at any height or level are exempted from the permissible building height, provided they are within the permissible height of Airport Authority of India.

All other benefits/exemption notified by DERC time to time regarding solar policy shall also be applicable.

4. POWER TO INTERPRET, RELAX AND AMEND:

NDMC shall be final authority to interpret any of the provisions and may by general or specific order, relax any of the provisions of this Policy. NDMC from time to time add, vary, alter, suspend, modify, amend or repeal any provisions of this Policy. To oversee, monitor and resolve various issues arising out of this Policy, an Empowered Committee will be constituted under the chairmanship of Secretary, NDMC with the following members:-

1) Chief Engineer(Elect.-I)
2) Chief Engineer(Elect-II)
3) Chief Architect
4) Director(Commercial)
5) Director(Tax)

Glossary

Abbreviations

a. "CEA" means Central Electricity Authority.
b. "kV" means kilovolt.
c. "kW" means kilowatt.
d. "kWh" means kilowatt hour.
e. "kWp" means kilowatt peak
f. "MNRE" means Ministry of New and Renewable Energy, Government of India.
g. "MW" means Megawatt.
h. DERC means Delhi Electricity Regulation
i. NDMC means New Delhi Municipal Council
j. RPO means Renewable Power Obligation
k. REC means Renewable Energy Certificate
l. BIS means Bureau of Indian Standards
m. SPV means Solar Photovoltaic