



Idam Infrastructure Advisory Pvt. Ltd.

Dissemination Workshop

Odisha Renewable Energy Policy, 2016

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Table of Contents

Section-B: Grid Connected	<ul style="list-style-type: none">❑ Section-A: General<ul style="list-style-type: none">▪ Introduction<ul style="list-style-type: none">▪ Preamble▪ RPO▪ Vision▪ Mission▪ Objective▪ Policy Period▪ Target envisaged▪ Power to review and amend▪ Definition❑ Section-B: Grid Connected❑ Section-C: Decentralized RE Applications❑ Section-D: Incentives and Institutional Mechanism<ul style="list-style-type: none">▪ Nodal Agencies▪ Roles and Responsibilities▪ OREDF▪ Incentives and Other Support	Section-C: Decentralized RE Applications
<ul style="list-style-type: none">▪ Solar<ul style="list-style-type: none">▪ Land based▪ Utilizing Water Bodies▪ On Consumer Side of Meter▪ Solar Parks▪ Small Hydro▪ Wind▪ Biomass▪ Waste to Energy		<ul style="list-style-type: none">▪ Types of applications<ul style="list-style-type: none">▪ Mini/Micro grid▪ Rooftop Solar▪ Solar Water Pumping▪ Wind-Solar Hybrid▪ Micro/Pico Hydro▪ Biomass Gasifier▪ Solar Thermal Projects▪ Biogas▪ Improved Cook Stoves▪ New and Innovative Energy▪ Implementation Mechanism

Section-A General

Preamble

Renewable Purchase Obligation (RPO)

- All Obligated Entities are required to purchase quantum of renewable energy as prescribed by OERC in its Regulations Under Section 86(1)(e) of the Electricity Act 2003
- OERC (Procurement of Energy from Renewable Sources and its Compliance) Regulations, 2015 gives the RPO trajectory

Financial Year	State Energy Consumption (MU)	RPO Percentage (%)		Requirement in MU		Requirement in MW	
		Solar	Non-Solar	Solar	Non-Solar	Solar	Non-Solar
2015-16	23748	0.5	2.5	118.74	593.7	91	136
2016-17	24550	1.5	3.0	368.25	736.5	283	168
2017-18	25500	3.0	4.5	765	1147.5	588	262
2018-19	26500	4.5	5.0	1192.5	1325	917	303
2019-20	27500	5.5	5.5	1512.5	1512.5	1163	345

*(*Figures given in MU and MW are indicative in nature)*

Mission and Vision

Vision

- Harness green and clean energy from natural resources in the State of Odisha for benefit of the environment and
- Ensure energy security for the people of Odisha.

Mission

- Provide a long term sustainable solution for meeting energy needs and
- Reduce dependence on conventional sources of power
- Achieve the Renewable Purchase Obligation targets and
- Fulfil the objectives of the State Action Plan for Climate Change.

Objectives and Policy Period

❑ Objectives

- Contribute to long-term energy security of the State as well as ecological security by reduction in carbon emissions.
- Provide a long term sustainable solution for meeting energy needs and reducing dependence on Conventional Sources of Power.
- Create an environment conducive to public /private /community participation and investment in Renewable Energy Projects.
- Create skilled and semi-skilled manpower resources through promotion of technical and other related training facilities.
- Enhance the contribution of Renewable Energy Projects in the total installed capacity of the State through private participation.
- Facilitate development of manufacturing units and Research & Development.

❑ Policy Period

- This policy shall be known as Odisha Renewable Energy Policy, 2016-22
- RE Policy shall remain applicable till 31st March, 2022

- ❑ Targets for addition of renewable energy capacity in the State by the year 2022

Technology	Solar	Wind	Small Hydro	Biomass	WTE	Total
Target(MW)	2,200	200	150	180	20	2750

- ❑ Power to Review and Interpret/Amend

- The State Government may undertake review as and when the need arises in view of
 - any technological breakthrough or
 - inconsistency with Electricity Act 2003, Rules & Regulations made thereunder or any GoI Policy/SERC Order or
 - to remove any barriers/difficulties in promotion of RE projects.
- Government of Odisha will have the exclusive powers to interpret/amend any of the provisions of this policy.

SECTION B
Grid –Connected Renewable Energy Projects

Technology	Land	Nodal Agency	Sale of Power	Tariff	Remarks	
SOLAR	Land Based	IDCO identified under 'Land Bank' Scheme as per IPR 2015	GEDCOL	Self/Sale within or outside state		
	On water Bodies	GEDCOL to survey for database; GEDCOL shall coordinate with authorities for clearances; no lease charge	GEDCOL	GRIDCO first rights/tender for PPA	Competitive bidding	
	On consumer side of meter	Developer to arrange	OREDA (< 1 MW); GEDCOL (> 1 MW)	Self/Export excess to grid	OERC Generic tariff	Net-Metering Regulations of OERC applies
	Solar Parks	GEDCOL either purchase or lease from GoO, provide on lease to developer for 30 years Private developer shall identify and procure, in case of Govt. land – will approach through GEDCOL for allotment as per IPR 2015 (max 5 acre/MW)	GEDCOL/ Private	Self/ Sale within or outside state	Competitive bidding	

Technology	Land	Nodal Agency	Sale of Power	Tariff	Remarks
Small Hydro	Engineer-in-Chief (EIC) to identify potential sites	EIC (electrical)	GRIDCO to have first right of refusal	Competitive bidding	Sale subject to minimum free power allocation to state
Wind	Applicant to apply to nodal agency, facilitation as per IPR-2015 Land for WRA stations may be leased by Govt.	OREDA	GRIDCO shall purchase 50MW, Self/ Sale within or outside state	OERC sale: at Generic Tariff, Rest: OERC regulations apply	Competitive bidding on premium amount for Govt. lands
Biomass	IPR-2015, waste land allocation for cultivation of 20% of fuel required	OREDA	GRIDCO to have first right of refusal Self/ Sale within or outside state	Competitive bidding	
Waste-to-Energy	ULB to identify and provide; as per IPR-2015	OREDA	GRIDCO	Generic tariff as per OERC	Responsibility of ULB to collect the MSW, process and destroy the same at its cost

Land Based Solar Projects

Description	<ul style="list-style-type: none"> Focus on patches of large chunks of land to make solar plants cost effective
Land	<ul style="list-style-type: none"> IDCO has identified large chunks of land under its Land Bank Scheme GEDCOL to facilitate allotment of the land on lease as per IPR-2015 responsibility of the project developer to arrange land
Nodal Agency	<ul style="list-style-type: none"> GEDCOL
Sale of Power	<ul style="list-style-type: none"> self-consumption or sell to any Procurer within or outside the State
Tariff	<ul style="list-style-type: none"> PPA

Projects Utilizing Water Bodies

Description	<ul style="list-style-type: none">• Areas covered under water bodies• like as reservoirs, lakes, canals and storage ponds• Mounted on structures or floating solar technologies
Land	<ul style="list-style-type: none">• GEDCOL to survey for database• GEDCOL shall coordinate with authorities for clearances• no lease charge
Nodal Agency	<ul style="list-style-type: none">• GEDCOL
Sale of Power	<ul style="list-style-type: none">• GRIDCO shall have the first right of refusal to procure power
Tariff	<ul style="list-style-type: none">• to be discovered through competitive bidding and approved by OERC.

Projects on consumer side of meter

Description	<ul style="list-style-type: none"> Decentralised mode of promoting small scale solar PV projects These projects would use the solar power within the institution/household during the day in tandem with grid power
Land	<ul style="list-style-type: none"> Developers to identify roof-top spaces
Nodal Agency	<ul style="list-style-type: none"> OREDA (for projects < 1 MW) GEDCOL (for projects > 1 MW)
Grid connection	<ul style="list-style-type: none"> At 33 kV/11 kV three phase lines or at 440/220 Volt three/single phase depending on the size of the system Net metering facility as per OERC net-metering Orders
Sale of Power	<ul style="list-style-type: none"> Self consumption Export excess power to grid
Tariff	<ul style="list-style-type: none"> OERC Generic tariff

Description	<ul style="list-style-type: none"> • Exclusive area of dedicated zones for development of solar power generation projects, solar manufacturing projects and R&D with basic infrastructure • Aimed at obligated entities like captive power plants • Help achieve economies of scale and reduce risk 	
Modes	GEDCOL Solar Parks	Private Developer's Solar Park
Land	<ul style="list-style-type: none"> • GEDCOL shall develop the Solar Parks with all infrastructure facilities • GEDCOL shall either purchase the land or take it on long term lease from the Government. • GEDCOL will provide land to project developers on 30 years lease (facilitation charge per MW to be paid) 	<ul style="list-style-type: none"> • Pvt. developer shall identify, procure land and develop infrastructural facilities • If Govt. land identified, GEDCOL acts as nodal agency and land allocated on lease by GoO, as per IPR-2015 (Max: 5 acre/MW) • GEDCOL will facilitate necessary permits for Govt. lands under Orissa Land Reforms Act, 1960 if necessary
Allocation of projects	<ul style="list-style-type: none"> • Allocation per developer: Min: 10 MW, Max: 30% of land • Competitive bidding on facilitation charge if proposals > invited capacity 	<ul style="list-style-type: none"> • Pvt developer may sub-let the land for projects

	GEDCOL Solar Parks	Private Developer's Solar Park
Nodal Agency	<ul style="list-style-type: none"> GEDCOL 	<ul style="list-style-type: none"> GEDCOL monitors the project Pvt developer may sub-let the land but would still be responsible for the timely execution of the project 80% project to be executed in 5 years; else, fine of 3 times the lease rent per year for every 1 MW shortfall till 80%

- ❑ GEDCOL shall offer plots to project developers in the following order of priority:-
 - Projects being developed to meet SPO of Distribution Licensees/ GRIDCO.
 - Projects being developed by CPPs in the State to meet their SPO.
 - Projects being developed under Average Pool Power Cost (APPC)/ Renewable Energy Certificate (REC) route.
 - Project developers who have won projects in competitive bidding undertaken under National Solar Mission/any other scheme of Govt. of India.
 - Project developers who have won projects in competitive bidding undertaken by State utilities in other States.
 - Project developers opting for open access/ third party sale model

Description	<ul style="list-style-type: none"> The Engineer-in-Chief (EIC) (Electricity) shall be the nodal agency for small hydro projects
Land	<ul style="list-style-type: none"> The responsibility of identifying small hydro projects in the State lies exclusively with the nodal agency EIC shall prepare DPRs and place recommendations of State Technical Committee (STC) for such projects to the Govt. of Odisha for approval
Nodal Agency	<ul style="list-style-type: none"> The Engineer-in-Chief (EIC) (Electricity)
Allocation of projects	<ul style="list-style-type: none"> Selection of project developer other than State PSUs will be done on competitive bidding basis Self-identified small hydro projects shall not be allowed OHPC will be the sole developer for dam-toe and canal based projects
Sale of Power	<ul style="list-style-type: none"> GRIDCO shall have the first right of refusal, which it shall exercise at the time of scrutiny of the project by the STC
Tariff	<ul style="list-style-type: none"> GRIDCO sale: competitive bidding Non-GRIDCO sale: competitive bidding on basis of maximum free power to be supplied by the developer to the State.

Description	<ul style="list-style-type: none"> Wind Resource Assessment (WRA) is carried out by OREDA at various places including at hill tops
Land	<ul style="list-style-type: none"> Applicants may apply to the nodal agency to set up the wind power project on the Govt. land or private land OREDA to facilitate in making land available to the project developer in accordance with the IPR-2015
MNRE wind data	<ul style="list-style-type: none"> Data for the sites where wind monitoring stations have been installed shall be made available to the applicants in accordance with the extant MNRE policy
Nodal Agency	<ul style="list-style-type: none"> OREDA
Allocation of projects	<ul style="list-style-type: none"> For sites identified by OREDA or by the private developers, DPR to be submitted to OREDA for techno-commercial assessment If more than one application is received for the same site on Govt. land, allotment shall be done on competitive bidding on the basis of site premium amount allocation to applicants on private land in accordance with their proposal
Sale of Power	<ul style="list-style-type: none"> self-consumption/sell within the State or outside the State to any Procurer GRIDCO shall purchase initial wind power capacity up to 50 MW
Tariff	<ul style="list-style-type: none"> GRIDCO to purchase at generic tariff determined by OERC All transactions in accordance with the relevant regulations of the OERC

- ❑ Wind Resource Assessment (WRA) is carried out by OREDA at various places including at hill tops. NIWE gives the coordinates of locations for WRA studies. Acquisition of land for setting up met masts (measurement towers) at these locations will be done by OREDA.
- ❑ Private developer can also select the location for establishment of wind monitoring station and shall submit the application to the nodal agency as prescribed by it.
- ❑ The Govt. land for wind monitoring station shall be allotted on temporary basis to the Developer for a maximum period of 3 years at the rate to be decided by the District Level Committee.
 - allotment by concerned District Collector on the recommendation of Nodal Agency
 - After completion of wind assessment studies, monitoring station shall be dismantled at the cost of the Developer and land shall revert back to the State Government free from all encumbrances.
- ❑ Purchase and acquisition of private land, if any shall be the responsibility of the Developer.

Description	
Land	<ul style="list-style-type: none"> • The Govt. of Odisha would make land available to developer as per IPR-2015 • Waste and fallow lands may also be allocated for raising energy plantations to meet up to 20% of the annual biomass fuel requirement
Identification of sites	<ul style="list-style-type: none"> • State nodal agency shall undertake resource assessment studies and supply chain mechanisms and identify biomass catchments in different parts of the State
Nodal Agency	<ul style="list-style-type: none"> • OREDA
Allocation of projects	<ul style="list-style-type: none"> • If GRIDCO agrees to procure power, the selection of project developer will be based on a tariff based competitive bidding. • For third party sale based on open access regulations of OERC to any buyer other than GRIDCO, the nodal agency shall allocate the projects on first come first serve basis after examining the techno-commercial suitability of the proposal.
Sale of Power	<ul style="list-style-type: none"> • GRIDCO shall have the first right of refusal • self-consumption or • sell power within or outside the State as per relevant regulations of OERC.
Tariff	<ul style="list-style-type: none"> • Competitive bidding for GRIDCO sale • OERC shall determine the tariff for such projects from time to time

Description	<ul style="list-style-type: none"> Waste to Energy, mainly Municipal Solid Waste (MSW), Industrial and Agricultural Waste based power projects
Land	<ul style="list-style-type: none"> Urban Local Bodies (ULB) would make land available at suitable location to the project developer for projects based on WTE as per the norms set in the IPR-2015.
Identification of sites	<ul style="list-style-type: none"> The WTE power plants based on solid waste will be located close to the dumping grounds of the ULB.
Waste supply chain	<ul style="list-style-type: none"> ULBs' responsibility to collect, process and destroy solid waste Solid wastes shall be provided free of cost Collection and processing cost of solid wastes are borne by the ULB
Nodal Agency	<ul style="list-style-type: none"> OREDA ULBs responsible for infra development for collection, storage, segregation, transportation, processing and disposal of MSW
Allocation of projects	<ul style="list-style-type: none"> ULBs will select developer and allot WTE projects OREDA shall interact with ULBs to facilitate process for supply of solid waste
Sale of Power	<ul style="list-style-type: none"> GRIDCO shall purchase the power
Tariff	<ul style="list-style-type: none"> the generic tariff to be determined by OERC

Section C

Off-grid Renewable Energy Applications

Off-Grid Renewable Energy Applications

☐ Types of Applications

- All RE based small / mini/micro grids up to 1 MW
- Rooftop Solar Projects
- Solar water pumping for irrigation, drinking water supply etc.
- Wind-solar hybrid projects
- Micro/Pico hydro projects
- Biomass gasifier for power generation and thermal applications
- Solar thermal projects
- Biogas based projects for domestic application & power generation
- Improved cook stoves
- All new and innovative energy options

RE Based Mini/Micro Grid

- ❑ 'Mini Grid'
 - system having a RE based electricity generator (with capacity of 10 KW and above) and
 - supplying electricity to a target set of consumers through a Public Distribution Network (PDN)
- ❑ 'Micro Grid'
 - similar to a mini grid but having a RE based generation capacity of below 10 kW
- ❑ Micro and mini grids
 - generally operate in isolation to the electricity networks of the DISCOM grid (stand alone),
 - can also interconnect with the grid to exchange power (grid connected mini/ micro grid)
- ❑ A mini / micro grid can provide the electricity service to the consumers for various purposes including economic and livelihood generation activities.

Rooftop Solar Projects

- ❑ Defined as solar PV based electric generators either in stand alone or grid connected mode
- ❑ The stand alone plants
 - can work on complete DC mode
 - or convert the DC power generated from SPV panel to AC power using power conditioning unit and feed the power to various captive loads
- ❑ Grid connected mode
 - feeds power to grid either at 33 kV/11 kV three phase or at 440/220 Volt three/single phase depending on the capacity of the system installed and the regulatory framework specified.
 - generates power during the day time which is utilized fully by powering the captive loads and feed excess power to the grid as long as grid is available
 - where solar power is not sufficient due to cloud cover etc., the captive loads are served by drawing power from the grid
 - grid-interactive rooftop system can work on net metering basis within the purview of the OERC Order

Solar Water Pumping for Irrigation, Drinking Water Supply etc.

- An SPV water pumping system consists of an SPV array of 200-5000 Wp capacity
- The array is connected to a DC or AC pump of matching capacity that can be surface mounted, submersible or floating type
- AC or DC pumps
 - The SPV array converts the sun light into electricity and delivers it to run the motor with mono block DC pump
 - In case of AC pump, an inverter is used to convert DC output of the array into AC
- No storage battery required
- normal pumping head: 10 m -100 m
- most suitable for inaccessible areas where decentralised application is necessary and where grid is unstable

Wind-Solar Hybrid Projects

- ❑ Small wind power generators are aero-generators with maximum capacity of 10 KW
 - normally work in standalone mode to feed either to a mini/micro-grid or the captive loads
- ❑ Wind -solar hybrid projects optimally use both wind and solar resources to meet the power requirement of a local grid or the captive loads
- ❑ The maximum capacity cap of such systems is restricted to 50 KW
 - which the wind capacity shall be at least 60% of the renewable energy.

Micro/Pico Hydro Projects

- Very small power projects with individual generation install capacity up to 100 KW
- Such projects with capacities from a few kilowatt to 100 KW
- Will be implemented by OREDA in either stand alone or grid connected mode.

Biomass Gasifiers for Power Generation and Thermal Applications

- ❑ Biomass power generation through gasifier route is mainly targeted at meeting rural power requirement.
- ❑ MNRE is promoting multi-faceted biomass gasifier based power plants for producing electricity using locally available biomass resources, both woody and agro residues.
- ❑ The focus of this programme would also be to meet the captive electrical and thermal needs of rice mills and other industries, which in turn would help in replacing/saving the conventional fuels such as coal, diesel, furnace oil etc.
- ❑ The main components of the biomass gasifier programme would be:
 - Biomass gasifier based Distributed / Off-grid power for rural areas.
 - Captive power generation applications in Rice Mills and other industries.
 - Tail end grid connected power projects up to 2 MW capacity.

Solar Thermal Projects



- ❑ The State will promote all types of solar thermal systems for which necessary norms will be prescribed by the Housing and Urban Development Department in consultation with the Science & Technology Department.
- ❑ These norms will encompass mandatory use of solar water heating system (SWHS) and other such applications in different categories of buildings covering residential, commercial and industrial requirements.

Biogas Based Projects for Domestic Application & Power Generation

- The gas produced from dung or any other biodegradable waste is a source of fuel for rural and semi-urban areas.
- It is an appropriate and renewable energy source from waste, which is abundant in rural and semi-urban areas and provides a decentralized, cheap and environment-friendly energy.
- The methane gas which is one of the constituents of GHG emissions is most suitably utilized as fuel supplement.
- The process can be applied to small domestic units as well as larger farms and institutions. The size of domestic / household type biogas plant will depend upon the cattle available.

Improved Cook Stoves

- ❑ Improved biomass cook stove
 - combustion device which burns biomass fuel more efficiently
 - with reduced emissions
 - offers cleaner cooking energy solutions.
- ❑ Biomass cook stoves are of two types
 - fixed type
 - portable type (further two types)
 - natural draft
 - forced draft.
- ❑ Advanced cook stoves utilizing fans are more efficient compared to natural draft ones.
- ❑ Each type of cook stove can be used for domestic as well as community cooking applications.
- ❑ The improved cook stoves can be made from any suitable material.

All New and Innovative Energy Options



- ❑ OREDA will explore and take up all new and innovative energy options in the area of tidal, geo- thermal, bio-fuel, triple effect and combination / hybrid of such options. It will also encourage R&D in these applications.

Implementation Mechanism



- ❑ OREDA will prepare plans/proposals, DPRs or schemes for all such renewable energy interventions. OREDA shall also frame up Integrated Renewable Energy Plan in PVTG areas / inaccessible pockets of the State through DDG and mini-grid options towards energy access.
- ❑ The selection of RESCO will be done by OREDA by inviting expression of interest. The formats for submitting project proposals under various off-grid applications shall be made available on the website by OREDA. The systems will have to qualify technical standards prescribed by MNRE.

SECTION D

Incentives and Institutional Mechanisms

Institutional Mechanisms

Nodal Agencies for different RE projects

- Green Energy Development Corporation Limited (GEDCOL)
 - all on-grid solar and hybrid power projects of 1 MW and above capacity
- Engineer-In-Chief (EIC) (Electricity)
 - Small Hydro Electric Power Projects.
- OREDA
 - all other Renewable Energy projects.

Odisha Renewable Energy Empowered Committee (OREEC)

- ❑ A high powered Committee set up by the Government of Odisha
- ❑ Chief Secretary as Chairman
- ❑ Responsibilities
 - take decisions relating to the implementation of this Policy
 - monitoring of the renewable energy projects
 - other important matters associated with the development of renewable energy in the State.

- ❑ Three separate State Technical Committees (STC) shall be constituted to look into the following activities concerning the renewable energy projects:-
 - Evolving criteria for selection of the project developer
 - Selection of the project developer
 - Approval of Detailed Project Reports (DPRs)
 - Extension of the Projects
 - Making recommendations for consideration of OREEC

- ❑ The Committees shall comprise of the members as follows with the Principal Secretary of the respective Department as the Chairperson and head of the nodal agency as the Member-Convener.

☐ **For GEDCOL**

- | | |
|--|-------------------|
| – Principal Secretary, Energy Department | - Chairperson |
| – Principal Secretary, Science & Technology Department | - Member |
| – Principal Secretary, Industries Department | - Member |
| – Managing Director, GRIDCO | - Member |
| – Chief Executive, OREDA | - Member |
| – Engineer in Chief – Electricity | - Member |
| – Managing Director, OPTCL | - Member |
| – Managing Director, DISCOM | - Member |
| – Managing Director, GEDCOL | - Member-Convener |

☐ **For OREDA**

- | | |
|--|-------------------|
| – Principal Secretary, Science & Technology Department | - Chairperson |
| – Principal Secretary, Energy Department | - Member |
| – Principal Secretary, Industries Department | - Member |
| – Managing Director, GRIDCO | - Member |
| – Engineer in Chief – Electricity | - Member |
| – Managing Director, GEDCOL | - Member |
| – Managing Director, OPTCL | - Member |
| – Managing Director, DISCOM | - Member |
| – Chief Executive, OREDA | - Member-Convener |

❑ **For EIC (Electricity)**

- | | |
|--|-------------------|
| – Principal Secretary, Energy Department | - Chairperson |
| – Principal Secretary, Science & Technology Department | - Member |
| – Principal Secretary, Industries Department | - Member |
| – Principal Secretary, Water Resource Department | - Member |
| – Managing Director, GRIDCO | - Member |
| – Chief Executive, OREDA | - Member |
| – Managing Director, GEDCOL | - Member |
| – Managing Director, OPTCL | - Member |
| – Managing Director, DISCOM | - Member |
| – Engineer in Chief – Electricity | - Member-Convener |

- Government of Odisha will create Renewable Energy Development Fund (OREDF) within six (6) months of issuance of this policy for accelerated development of RE in the State
- This fund will be utilized as a revolving fund for creation of infrastructure such as transmission network, roads and training centres for accelerated development of renewable energy as per the guidelines to be issued by the State Government in this regard.
- Sources of the fund
 - Independent / private developer contribute 5 paise per unit of RE sold outside the State
 - The State Government corpus of Rs. 250 crore spread over 5 years in suitable tranches
 - The resources mobilized through Nodal Agencies by way of collection of development charges
 - The State Government will also evolve other suitable mechanism

- ❑ This fund will be utilised by the nodal agencies, as decided by the OREEC, for various activities including, inter alia, the following:
 - Acquisition and development of land for various technologies;
 - Preparation of Detailed Project Reports for Small Hydro Electric Projects.
 - Development of infrastructure for power evacuation by OPTCL and DISCOMs;
 - Studies for assessment of potential for various technologies;
 - Capacity building and training of manpower;
 - Provide funds for innovation and demonstrative projects;
 - Provide loans to small enterprises for new business models.

Incentives and Other Support Measures

Land

- ❑ Government land
 - Allocation of land earmarked for industry under "Land Bank" scheme of IDCO and other Government land
 - at rates as specified in IPR-2015 and subsequent revisions
- ❑ Exemption from the ceiling on land holdings as per the Land Reforms Act (1960) of Odisha
 - OREDA/GEDCOL shall facilitate clearance to this effect from the competent authority
- ❑ Land acquired for RE projects deemed to be converted to Non-Agricultural status
 - Applicable for
 - Grid-connected RE projects for captive consumption/sale to GRIDCO/third party sale of power
 - Solar Parks
 - Conversion charges applicable as per Land Reforms Act (1960) of Odisha
 - Nodal agencies shall facilitate
- ❑ Developers may rope in private land owners willing to lease out their land for renewable energy projects on long term lease basis for a minimum period of 30 years at the lease rates as will be mutually decided by the project developer and the private land owner.

Inter-Connection Arrangement

- Developer responsible at own cost for
 - Infrastructure required to connect the project till inter-connection point
 - main and check meters at inter-connection point of OPTCL/DISCOMs substation
- STU responsible for all infrastructure required beyond inter-connection point for projects at 132kV and above
 - cost incurred shall be claimed by STU under its ARR
- DISCOM responsible for all infrastructure required beyond inter-connection point for projects at 11kV and 33kV.
 - cost incurred on such development shall be claimed by DISCOM under its ARR
- GRIDCO and OPTCL to coordinate with Nodal Agencies to ensure that requirements of the RE generation are factored into while finalizing transmission and distribution network plans
- Rooftop Solar PV sources shall be allowed connectivity at LV or MV or at 11 KV of the Distribution system of the licensee as considered technically and financially suitable by the licensee and the Developer.
- Latest technologies like SCADA, GIS, Bay controller and Online monitoring equipment etc. to be used
- Transmission network development as per CEA/CERC/OERC regulations/standards
- Grid connectivity as per applicable Grid code.

Transmission and Sale of Power

- All RE sources shall have open access to any licensee's transmission system and/or distribution system.
- Licensee shall provide inter-connection facilities before commercial operation date of the RE project
 - as per CEA standards and State Grid Code
 - Licensee shall provide meters and associated facilities at the inter-connection point
- For projects on consumer side of meter, inter-connection arrangements as per the Net-metering Regulations/Orders
- Communication system, if required by SLDC, between Grid Sub-station and the Generating Station shall be at developer(s) own cost.
- Charges regarding wheeling, banking, CSS and additional surcharge for Open Access consumers as notified by OERC from time to time will be applicable.
 - Presently, procurement of power through third party sale from RE sources is exempted from CSS and
 - only 20% wheeling charge for consumers drawing power from RE source through Open Access excluding Co-generation & Bio mass power plants.
- Developer may utilize the RE generated for captive use at the place of generation or may seek open access to transmission/distribution system of OPTCL/DISCOMs to carry the power to the destination of its use subject to technical feasibility on payment of transmission/distribution and wheeling charges as approved by OERC.
- All RE sources shall be treated as 'Must Run' plants and not be subjected to Merit Order Rating (MOR) / Merit Order Dispatch (MOD) principles
- Developers of RE sources shall abide by all applicable codes, rules, regulations etc. in regard to operational & commercial practices issued by the OERC from time to time.

Concessions in Taxes & Duties and Other Benefits

- Incentives and concessions as per IPR-2015
 - RE projects would be treated as new industrial units
 - investment limits as applicable for MSMEs or Large sector
- No stamp duty
 - on land allotted by the Government/IDCO to Solar Park Developers.
- Exemption from Electricity duty for 5 years on following conditions
 - Self-consumption
 - Begin commercial production within the stipulated period
 - Date of commercial operation to be approved by the Nodal Agency

Exemptions from Certificates, Fees & Charges

- Nodal Agencies shall facilitate/co-ordinate for required clearances from various Departments or concerned Authorities within a time frame.
- Waiver of testing charges of EIC
- Waiver of supervision charges by DISCOM/OPTCL
- No clearance required from State Pollution Control Board
 - except Biomass and Municipal Solid Waste projects.

Special Incentives for Renewable Energy Manufacturing Units

- ❑ Any kind of RE manufacturing facility / hub shall be treated as Priority Sector as per IPR-2015. The relevant provisions under the Industrial Policy Resolution-2015 under priority sector shall be applicable to the entrepreneurs setting up manufacturing units of Solar PV Panels, other RE equipment and associated devices/equipment in Odisha with minimum investment and employment limits as Rs. 10 crore and 20 persons respectively for both category 'A' and category 'B' districts. The benefits of category 'A1' & category 'B1', as applicable, would be made available as per IPR-2015.
- ❑ IPICOL shall act as facilitator in regard to allotment of land in Industrial Estates/Solar Parks to set up such units by private entrepreneurs and also for other clearances/concessions.

Miscellaneous

- The capital subsidy and other concessions
 - as available under various Missions/Schemes/Projects/Programmes/Policies of the Government of India and State Government
 - administered/facilitated through the Nodal Agencies.
- Viability Gap Funding (VGF) from OREDF.
 - For on-grid RE projects involving innovative/new technologies
 - provided on case to case basis as approved by OREEC.
- specific incentive schemes or structure for funding support for a particular off-grid RE program
 - Modalities shall be published at the time of formulation of the specific off-grid RE program
 - other terms and conditions shall also be notified by OREDA.
- State Government may notify from time to time the mandatory provisions in Building bye-laws, other Regulations, environmental and conservation norms to promote decentralized RE solutions.

Thank You



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