



GOVERNMENT OF ODISHA



WORLD BANK GROUP



PPIAF
Enabling Infrastructure Investment



Green Energy Development Corporation of Odisha Ltd.
A Wholly Owned Subsidiary Company Of OHPC Ltd.



Idam Infrastructure Advisory Pvt. Ltd.

DISSEMINATION WORKSHOP ODISHA RENEWABLE ENERGY POLICY, 2016 10th April 2017



EXECUTIVE SUMMARY

A Dissemination workshop on Odisha Renewable Energy Policy, 2016 was held at Indian Habitat Centre on 10th April 2017 in Delhi. The workshop aimed to receive insights of experts from the renewable energy sector on the Policy.

The workshop focused on various issues pertaining to implementation plan to achieve the target of renewable energy addition set out by the Policy, technologies to be deployed, financial incentives needed, including public-private-partnership (PPP) models for projects, development of large-scale solar parks and the creation of a State Renewable Energy Fund.

The program brought together key stakeholders such as Department of Energy, Odisha, Green Energy Development Corporation Limited (GEDCOL), Grid Corporation of Odisha (GRIDCO), International Finance Corporation, World Bank, TERI and other major developers etc.

The Workshop consisted of four presentations and five panel members. There was a discussion on the key features of Odisha RE Policy 2016 related to sale of power, nodal agencies for execution of projects, targets to be achieved by 2022, RPO targets etc. and insights about the achievements of GEDCOL in achieving RE capacity addition. Further, an action plan for supporting Government of Odisha in developing 1 GW Solar Park, was highlighted by IFC, followed by a discussion on PPP for RE development, by World Bank.

PROCEEDINGS OF THE WORKSHOP

SESSION I - INAUGURAL

The inaugural session was opened by Mr. Balawant Joshi, Managing Director, Idam Infrastructure Advisory Private Limited (Idam Infra). He welcomed all the participants to the workshop and gave a brief overview of the program. He also thanked all the representatives participating in the workshop and requested them to share their view on areas to be discussed under different sessions of the workshop.



The session began with the Inaugural address by Mr. Sangramjit Nayak, Additional Secretary, Department of Energy. He gave insights on various initiatives undertaken by Government of Odisha (GoO) for large-scale deployment of renewable energy (RE) in the State. He highlighted initiatives related to rural electrification and stated that all un-electrified villages shall be electrified by the end of the month and acknowledged Government of India, NTPC and PGCIL for working in tandem with GoO for this achievement. He also gave an overview of the Odisha Renewable Energy Policy, 2016, stating it as one of the simplest policy in the country with an objective to achieve a target of 2,750 MW of RE capacity by 2022.



Mr. Nayak mentioned that Green Energy Development Corporation of Odisha Limited (GEDCOL) is the nodal agency for projects of 1 MW and above, while Odisha Renewable Energy Development Agency (OREDA) is responsible for projects below 1 MW; the Engineer in Chief being

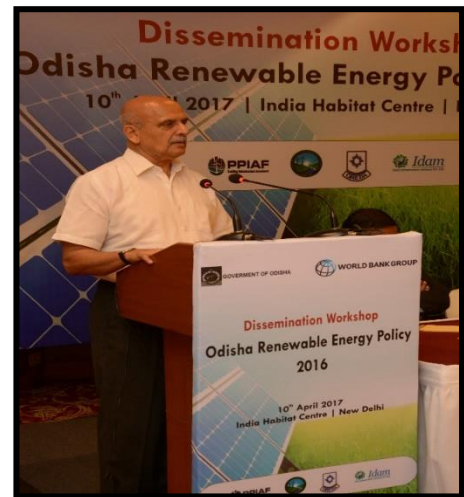
responsible for small hydro projects. He discussed about the upcoming initiatives like solar parks of approximately 1 GW in the State and assured the private sector for infrastructure support for large-scale projects. Moreover, he discussed about challenges in the development of solar parks like non-availability of land necessitating developing smaller sized solar parks.

This was followed by an address by Mr. Keisuke Iyadomi, Climate Change Specialist, World Bank, where he started by congratulating GoO, World Bank, IFC, Idam for the incredible work for Odisha Renewable Energy Policy, 2016. He discussed about the World Bank's support to GoO in developing its Renewable Energy Policy. Also, he discussed about technical



assistance to GoO by World Bank which started in 2014 for supporting GoO to implement the state action plan on climate change. Mr. Keisuke mentioned that the World Bank along with Department of Energy and GEDCOL started working on long term renewable energy plans for the state of Odisha through which the renewable energy potential of state was explored and the same must be supported by policy and regulations. Mr. Keisuke stated that currently the Bank (through International Finance Corporation), is closely working with GEDCOL in identifying land banks and development of solar parks in the State.

Thereafter, Dr. Pramod Deo (IAS), Former Chairman, Central Electricity Regulatory Commission (CERC) delivered the special address. He stated that Odisha was the first state in the country for adopting the electricity reforms. He mentioned that Renewable energy is very important for Odisha particularly for industries who have mandated RPO targets. He also mentioned about the upcoming National Green Energy Corridor Program and the potential that this program offers to the State in selling and buying RE outside the State boundary. Finally, Dr. Deo stressed the need for developing ancillary services market to address the intermittency of RE generation.



Mr. Prodyut Mukherjee, AGM, Idam Infra, ended the inaugural session with a vote of thanks to all the dignitaries. The inaugural session was followed with a group photograph.

SESSION II – RENEWABLE ENERGY POLICY, 2016

The session began with presentation on “Overview of Renewable Energy Policy of Odisha and its Institutional structure” by Mr. Balawant Joshi.

Mr. Joshi highlighted the key features of the Odisha Renewable Energy Policy, 2016, according to which, maximum demand of the State will be met by RE by 2022. He discussed about the RE capacity requirement to meet Renewable Purchase Obligation (RPO) targets and ambitious RE targets to be achieved by 2022. Also, energy security, climate change which can be addressed through large scale promotion of RE. Mr. Joshi discussed the policy in detail describing its features related to sale of power, nodal agencies for execution of projects, RPO targets, RE targets etc. as follows:



- Target for solar, wind, small hydro, biomass, waste to energy are 2200, 200, 150, 180, 20 respectively, taking the total to 2750 MW by 2022.
- Demand on DISCOM side is expected to be approximately 6500 MW by 2022, if this is the case then 2750 MW peak requirement could come from renewable energy sources, a kind of expectation from the policy.
- GEDCOL would be the nodal agency for land based projects focusing on large patches of land.
- All modes for sale of power are allowed i.e. self-consumption, sell to any procurer within or outside the state.
- OREDA shall be the nodal agency for the projects of below 1 MW capacity on the consumer side of the meter, the projects of 1 MW and above capacity will be implemented by GEDCOL.
- 80% of the project capacity must be developed within a period of 5 years, if not. Penalty shall be imposed by GEDCOL.
- Engineer-in-chief (EIC) shall be the nodal agency for small hydro projects.
- OREDA shall be the nodal agency for wind power, Biomass based power projects and waste to energy development in the state.

This was followed by a presentation by Mr. R Vij, Investment Officer, International Finance Corporation (IFC) on ‘Developments of Solar Parks in Odisha’. He discussed about transaction advisory role of IFC in developing solar parks in Odisha. He also discussed about IFC’s role in Rewa Ultra Mega Solar



(RUMS) solar park project and discussed its main features, which led to its success:

- 750 MW single location - three units of 250 MW each with individual substations - project in Rewa district of Madhya Pradesh (MP) developed without any Government subsidy and viability gap funding (VGF)
- Land has been provided by Government of MP, while implementing agency is SECI and MPUVNL
- Off-takers of power are Madhya Pradesh Power Management Company Limited (MPPMCL), the State utility (75%) and Delhi Metro Rail Corporation (DMRC), through open access (25%)
- Levelised tariff of Rs 3.3 per unit

Furthermore, Mr. Vij also discussed about the action plan of IFC for supporting Government of Odisha in developing 1000 MW solar park.

- Site visits and technical assessment of sites in six districts of Odisha
- Preparing an infrastructure development plan
- Review of off-takers - State utility and open access consumers

One of the participant asked the question to Mr. Vij that, if we load the land and infrastructure cost, how will the levelised tariff be affected?

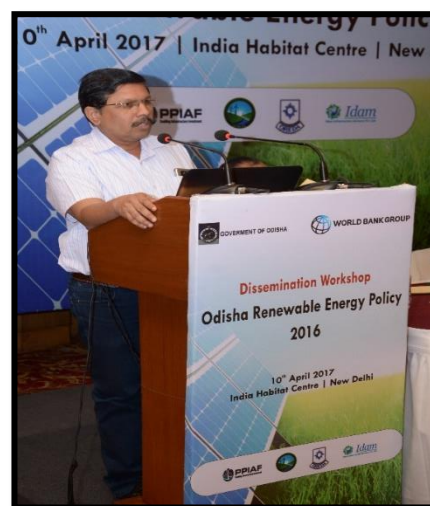
Mr. Vij, answered that developers would be paying some cost which they know upfront, no hidden costs are involved and all the charges related to land, infrastructure, scheduling and internal evacuation are included in the levelised tariff.

After this, Mr. Sanjib Kumar Tripathy, GM (Elec), GEDCOL delivered a presentation on large-scale RE projects and their potential, plans and incentives in the State. He highlighted about Odisha, which is always a frontrunner in adopting a new policy. Also, he discussed about GEDCOL, which came into existence in year 2013 with the main objective to promote and invest in Renewable Energy Projects specifically on-grid solar energy generation and various other green energy sources, and also to develop renewable energy on commercial basis.

Mr. Tripathy, also discussed about the achievements of GEDCOL on the renewable energy front which are as follows:

- Developed 20 MW solar project in Manamunda, Odisha
- Development of 4 MW solar rooftop project

Mr. Tripathy, mentioned that GEDCOL being a nodal agency for solar energy in the state is working on planning, organizing, implementation, operating and maintaining of RE projects to generate and sell power outside state boundaries. He also discussed about the projects being planned/implemented by GEDCOL as a developer for small hydro projects.



Further, Mr. Tripathy also mentioned about solar and non-solar energy required to fulfil its RPO targets. Mr. Tripathy, further mentioned that state has opted for 500 MW solar under SECI scheme for which 270 MW has already been allotted to different developers at a price of Rs 4.50 per unit and for remaining 230 MW state will come up with the tenders in future. He also mentioned that 350 MW solar project is taken up by Defence department for Ordinance Factory. Finally, Mr. Tripathy concluded by mentioning that GEDCOL will fully cooperate with the developers for solar projects.



Finally, Mr. Nuwan Suriyagoda, Senior Consultant, PPIAF, delivered a presentation on 'Role of PPP for Renewable Energy Development'. He started with introduction to PPIAF, which is technical assistance grant facility providing grants and is housed within the World Bank. Also, he discussed about Climate Change trust fund for Infrastructure, under which

grant of \$ 300,000 for Odisha was granted for Developing Renewable Energy Policy, 2016 which includes land bank assessment a key component. Further, he discussed about PPP, where, private sector is the provider and public sector is the regulator for PPP contractual arrangement. Mr. Nuwan discussed about the key component in PPP contractual arrangement which is risk allocation matrix.

Mr. Nuwan highlighted the key success factors of PPP which are follows:

- Economic fundamentals
- Legal and Regulatory framework
- Risk allocation
- Transparency in competitive bidding
- Delivery throughout the period

Finally, Mr. Nuwan discussed a case study on Chile where a conducive policy environment has brought about a transformation in the country's RE sector.

Following this, the second session of presentations was finished and the floor of the house was opened for Questions?

Question 1: Ms. Abhinata from Azure Power asked Mr. Tripathy about Odisha's solar energy target of 2200 MW by 2022 comprising 1,000 MW by GEDCOL, 650 MW from NTPC, 250 MW from NLC and 350 MW from Defence.

Response: Mr. Tripathy responded that 1,000 MW by GEDCOL, 350 MW by Defence and 250 MW by NLC is almost finalized but others, like NTPC and NEEPCO have shown interest but nothing as such is finalized. In case discussions with NTPC and NEEPCO do not proceed, GEDCOL will float tenders to meet the targets set by 2022.

Question 2: Another participant asked Mr. Tripathy GEDCOL about the progress of wind energy in the state?

Response: Mr. Tripathy mentioned that wind is looked after by OREDA, and it is in the process of undertaking an assessment of wind potential across the state.

Question 3: Ms. Abhinata from Azure Power inquired whether RESCO model is allowed in the state or not?

Response: Mr. Sangramjit Nayak, Additional Secretary, Department of Energy answered that third party /RESCO models are allowed in the state.

The workshop was closed with Mr. Manas Kumar Das, Director Commercial, GRIDCO, delivering a vote of thanks to all the dignitaries. This was followed by a group photograph.



APPENDIX 1 - FINAL AGENDA

AGENDA

Dissemination Workshop: Odisha Renewable Energy Policy, 2016

Date : April 10, 2017

Venue : Magnolia Hall, India Habitat Centre

Time : 09.30 am – 3.00 pm

Time	Topic	Speaker
9:30 am – 10:30 am	Registration and Tea	
10:30 am – 11:25 am	Inaugural Session	
10:30 am – 10:35 am	Welcome Note	Mr Balawant Joshi, Managing Director, Idam Infra
10:35 am – 10:50 am	Inaugural address	Mr. Sangramjit Nayak, Additional Secretary, Department of Energy
10:50 am – 11:05 am	World Bank's support to Government of Odisha on Renewable Energy Policy 2016	Mr. Keisuke Iyadomi, World Bank
11:05 am – 11:20 am	Special Address	Dr. Pramod Deo (IAS), Former Chairman, CERC
11:20 am	Vote of Thanks	Mr. Prodyut Mukherjee, AGM, Idam Infra
11:20 am – 11:35 am	Tea	
11:35 am – 01.00 pm	Session 1: Renewable Energy Policy, 2016 <i>Chair: Dr. Pramod Deo (IAS), Former Chairman, CERC</i>	
11:35 am – 11:55 am	Overview of Renewable Energy Policy, 2016 and Institutional Structure	Mr. Balawant Joshi, Managing Director, Idam Infra
11:55 am – 12:15 noon	IFC's support to Government of Odisha on Renewable Energy Policy 2016	Mr. R Vij / Mr. S Pattanaik, IFC

12:15 noon – 12:35 pm	Large scale RE projects – potential, plans, incentives	Mr. Sanjib Kumar Tripathy, GM (Elect), GEDCOL
12.35 pm – 12.55 pm	Role of PPP for renewable energy development	Mr. Nuwan Suriyagoda, Senior Consultant, PPIAF
12:55 pm – 01:10 pm	Q&A and Discussions	
01:10 pm – 02:00 pm	Lunch and networking	

APPENDIX 2 – LIST OF PARTICIPANTS

Sr. No.	Name	Company
1.	Mr. Sangramjit Nayak	Government of Odisha
2.	Mr. Sangram	Government of Odisha
3.	Dr. PramodDeo	CERC-Former Chairman
4.	Mr. Sanjib Kumar Tripathi	GEDCOL
5.	Mr. Ajay Nanda	GEDCOL
6.	Mr. Nuwan Suriyagoda	PPIAF
7.	Mr. Balawant Joshi	Idam Infra
8.	Mr. Prodyut Mulherjee	Idam Infra
9.	Mr. Keisuke Iyadomi	World Bank
10.	Mr. Latha Sridhar	World Bank
11.	Ms. Surbhi Goyal	World Bank
12.	Mr. Kapardhi Bharadwaj	EEW
13.	Mr. Tushar Goyal	Mytrah Energy
14.	Mr. Prasad Gaitonde	Mytrah Energy
15.	Mr. Manas Kumar Das	GRIDCO
16.	Mr. Sunil Dhingra	TERI
17.	Mr. Shirish Garud	TERI
18.	Mr. Vineet Kumar	IREF
19.	Mr. Manish K. Singh	IREF
20.	Mr. Manish Tiwari	Global India - aps
21.	Mr Sumeet	IFC
22.	Mr. Ritesh Vij	IFC

Sr. No.	Name	Company
23.	Ms. Susmita Sahoo	IFC
24.	Mr. Tanmay Saha	Sembcorp
25.	Mr. Balakishore Kollabathula	Sembcorp
26.	Mr. Jyotirmoy Banerjee	ADB
27.	Mr. Apoorv Kumar Singh	Vivaan Solar
28.	Ms. Abinita Srivastava	Azure Power
29.	Mr. Shivesh Bose	EY
30.	Mrs. Ruchi Gupta	Idam Infra
31.	Mrs. Devina Anand	Idam Infra