

Draft
National Offshore Wind Energy Policy
2013



Government of India
Ministry of New and Renewable Energy

Renewable Energy is Green, Clean and Sustainable



Government of India
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1 Introduction

Worldwide, wind energy is accepted as one of the most developed, cost-effective and proven renewable energy technologies to meet increasing electricity demands in a sustainable manner. While onshore wind energy technologies have reached to a stage of mass deployment and have become competitive with fossil fuel based electricity generation with supportive policy regimes across the world, exploitation of offshore wind energy is yet to reach a comparable scale.

1.1 Global Status

About 5 GW offshore wind capacity has already been installed around the world and approximately an equal capacity is under construction. There are a large number of offshore wind farms in Belgium, Denmark, Finland, Germany, Ireland, the Netherlands, Norway, Sweden, and the United Kingdom. The European Union have established aggressive targets to install 40 GW of offshore wind by 2020 and 150 GW by 2030.

1.2 Developments in India

In India preliminary assessments indicate prospects along the coastline of Kerala, Karnataka and Goa. The wind resource data collected for the coastline of Rameshwaram and Kanyakumari in Tamil Nadu and Gujarat Coast shows reasonable potential. A preliminary assessment suggests potential to establish around 1 GW capacity wind farm each along the coastline of Rameshwaram and Kanyakumari in Tamil Nadu.



1.3 Maritime Zones

There are two main maritime areas in which structures such as offshore wind farms can be built:

- Indian territorial waters, which generally extend up to 12 nautical miles (nm) from the coast; and
- Beyond the 12 nm limit and up to 200 nm (EEZ), where, under international law, India has right construct structures such as wind farm installations.

1.4 Challenges

The significant challenges that exist in offshore wind power deployment relates to resource characterization, grid interconnection and operation, and development of transmission infrastructure. Adding large capacities of offshore wind generation to the power system would also require reliable integration to the national grid.

2 Vision of the Government

Electricity generation from renewable sources of energy is an important element in the Government's National Action Plan on Climate Change (NAPCC) announced in the year 2008. With introduction of this plan, the Government of India is committed to provide a conducive environment for harnessing offshore wind energy in India. In consonance with the mandate and responsibility, the Government envisages to carry forward, in a systematic manner, the development of offshore wind energy in the country, to overcome the existing barriers and to create technological and implementation capabilities within the country.



3 Title and Enforcement

This policy will be known as the “National Offshore Wind Energy Policy – 2013”. The policy will remain in force in its entirety unless withdrawn or suspended in whole or part by the Government of India. The Government of India will undertake a review of this Policy as and when required in view of any technological breakthrough or any changes taking place in any related policy or goals.

4 Objectives

The Government of India in its interest to develop Offshore Wind Farm has decided to have a Policy that will enable optimum exploitation of Offshore Wind energy in the best interest of the nation and to achieve the following objectives.

- To Promote Deployment of Offshore Wind Farms in the first instance up to 12 Nautical Miles from Coast.
- To Promote Investment in the Energy Infrastructure.
- To Promote Spatial Planning and Management of Maritime Renewable Energy Resources in the Exclusive Economic Zone of the Country.
- To Achieve Energy Security.
- To Reduce Carbon Emissions.
- To Encourage Indigenization of the Offshore Wind Energy Technology.
- To Promote Research and Development in the Offshore Wind Energy Sector.
- To Create Skilled Manpower and Employment in a new industry.



5 Geographical Coverage

This policy document is the primary policy decision-making document for offshore wind energy projects in waters, in or adjacent to the country up to the seaward distance of 12 nautical miles from the baseline. However, the Research & Development activities may be carried out up to 200 nautical miles from the baseline (EEZ of the country).

6 Essential Elements of Development of Offshore Wind Energy

The essential components of a policy for development of offshore wind farm will contain:

- Preliminary Resource Assessment and demarcation of blocks.
- Environment Impact Assessment (EIA) study of proposed Offshore Wind Farms regarding aquatic life, fishing etc., studies relating to navigation, undersea mining and related exploration/exploitation activities and other users of the sea .
- Oceanographic studies - These studies will determine the construction costs for special foundations, special ships for both operation and maintenance requirements.
- Sea Bed Lease Arrangement.
- Single Window Procedure for Statutory Approvals.
- Grid Connectivity and Evacuation of Power
- Technology
- Incentives
- Security & Confidentiality of the data collected during studies and surveys.



7 Policy

7.1 Nodal Ministry

Ministry of New & Renewable Energy (MNRE) will be the Nodal Ministry for development of Offshore Wind Energy in India and act as one of the government entities, among others, for Development and Use of Maritime Space within the Exclusive Economic Zone (EEZ) of the country. As the nodal ministry, role of MNRE will include but not limited to the following.

- Overall monitoring of the offshore wind development in the country.
- Co-ordination with other Ministries/Departments.
- Issuing guidelines/directives for development of offshore wind energy.
- Oversee working and to provide necessary support to National Offshore Wind Energy Authority (NOWA) for smooth functioning.
- Promoting indigenous research for technology development.

7.2. Implementing and Monitoring Agencies

7.2.1 National Offshore Wind Energy Authority (NOWA)

The Government of India shall establish a National Offshore Wind Energy Authority (NOWA), under the aegis of MNRE, for Offshore Wind Projects as the Nodal agency, which will be responsible for the following:

- Carry out resource assessment and surveys in the EEZ of the country.
- Enter into contract with the project developers for development of offshore wind energy project in the territorial water (12 nm).



Single Window Agency

NOWA will be the single window agency and will coordinate with concerned Ministries/Departments for necessary clearances. However, NOWA will only act as a facilitator for getting clearance and application for clearance will be dealt in entirety by the concerned Ministry/Department.

7.2.2 Offshore Wind Energy Steering Committee (OWESC)

Offshore Wind Energy Steering Committee (OWESC) under the chairmanship of Secretary, MNRE will steer the offshore wind energy development in the country by providing policy guidance and will oversee the execution and effective implementation of specific offshore wind energy activities.

7.2.3 Ministry of Shipping /State Maritime Board /State Government

The Ministry of Shipping in case of major ports and State Government or State Maritime Board where constituted in case of minor ports may provide access to port or port like facilities with sufficient infrastructural facilities to enable heavy construction / fabrication work at seashore from where it will be moved offshore to the wind farm site. A specific charge may be made payable to the respective Central Government or State Government Agencies for enlisting their services.

7.2.4 State Electricity Board or Designated Authority

The role of State Electricity Board or a similar agency designated by the State Government is to undertake onshore evacuation and grid connectivity. The designated authority should facilitate allocation of land on shore near to wind



farm site to enable establishment of substations to evacuate power generated from Offshore Wind Farms.

7.3 Developmental Model

7.3.1 Studies & Surveys

The preliminary Resource Assessment, Environment Impact Assessment (EIA) and Oceanography Survey will be carried out by the NOWA through specialist agencies, for demarcation of offshore wind energy blocks. Interested private players having expertise in studies and surveys may also be granted permissions on case to case basis, to collect data and have shared ownership on it, without any charges payable for the work. This data could be shared with other Ministries.

The process of studies and surveys are critical from naval operations point of view. Therefore, similar to the data collection policy being followed for oil & gas exploration and production, private players would need to submit the detailed information as per the formats & guidelines for clearance from the Ministry of Defense. The survey vessels and equipment used for such studies will be examined by the Ministry of Defense.

7.3.2 Request for Clearances

The clearances required before commencing installation in the sea (survey or Wind Turbine Generator) are related to Ministry of Defense, Ministry of Shipping/State Maritime Board/State Government, Ministry of Petroleum &



Natural Gas, Ministry of Environment & Forests and some other agencies. A list of concerned Ministries and Departments is given at Annexure-I.

7.3.3 Leasing of the Seabed and Allocation of Blocks

The offer of blocks will be made through an open International Competitive Bidding (ICB) process. The bidder can be a company, consortium or a Joint Venture. NOWA will be the contracting authority to lease the Sea Bed. The successful bidders would require to enter into a contract with the NOWA for a stipulated time period.

The lease will be limited to exploration and exploitation of wind energy in the allocated block(s). Existing lease holders of seabed for other purposes such as oil & gas exploration and exploitation, seabed mining etc., interested in installation of offshore wind farm on their existing lease must route the proposal through NOWA.

The lease and area will stand automatically relinquished, if the contractor is unable to start commercial production of wind electricity within a specific time period from the date of signing the contract.

7.3.4 Power Evacuation

A designated nodal agency/distribution utility of state will enter into Power Purchase Agreement (PPA) with offshore wind power generation project developers and will directly purchase the offshore wind power as per the norms and guidelines fixed by the Central Electricity Regulatory Commission (CERC) and respective State Electricity Regulatory Commission (SERC).



The State Electricity Board or a state designated authority will provide necessary onshore infrastructure for evacuating the power generated by Offshore Wind farms, whereas offshore power evacuation infrastructure up to the first onshore substation will be developed by the Wind farm developer. The Central Government may provide support to respective State Governments in creation of evacuation infrastructure for offshore wind energy projects.

7.3.5 Final Approval for Commissioning of Offshore Wind farm

The certificate for commencement of operation of the Wind farm will need to be approved by NOWA. This will enable verification of all statutory and regulatory guidelines by the NOWA before commissioning.

7.3.6 Security of Offshore Wind farm

The security of the Offshore Wind Energy Installations will be the responsibility of the developer/operator. However, methodology and options may be discussed by the operator with the Indian Navy.

7.3.7 Decommissioning

Where the NOWA decides to grant lease for a proposed offshore wind farm, it will also include a condition requiring the developer/owner to submit a decommissioning programme to NOWA before any offshore construction works begin. The programme shall be a part of EIA, and necessary clearances will be required from the concerned Ministries/Departments.



7.3.8 Monitoring

Overall development of the offshore wind energy in the country will be monitored by the Offshore Wind Energy Steering Committee (OWESC) headed by Secretary, MNRE. The development at the projects level will be monitored by NOWA. Besides, during the construction phase and the operation phase, State designated agency(ies) will monitor the project. The respective State Governments may form a committee for monitoring of offshore wind energy projects and development in their State.

7.4 Incentives

Fiscal incentives such as tax holiday for first ten years of offshore wind power generation, concession in customs duty and exemption in excise duty for procurement of technology and equipments, may be available to the manufacturers of the offshore wind turbines. Besides, nil service tax for services like conducting of Resource Assessment / EIA / Oceanographic Study by third party, utilization of survey vessels and installation vessels may also be available.

7.5 Demonstration Projects

The Government of India may call for proposals for development of offshore wind energy project(s) in specific block(s). Such projects may be exempted from paying any lease fee for a specified period, after which the ownership of project will be transferred to the Government of India.



8 Technology

Centre for Wind Energy Technology (C-WET) has been established as an autonomous R&D institution by MNRE in testing of complete Wind Turbine Generator systems (WTGs) according to international standards (IEC, GL etc.) and verification of test reports for Onshore Wind Turbine Models. Similar services will be rendered by C-WET for Offshore Wind Turbine Models.

The onus is on the developer to ensure that the foundation design is technically suitable for the seabed conditions and that the application caters for any uncertainty regarding the geological conditions.



ANNEXURE-I

List of Agencies for Clearances for Offshore Wind Farm Projects

The Ministries/Department which will be involved in the processes of granting clearances for Offshore Wind Farm Projects with the nature of clearance required are as follows. Besides, there may be additional agencies or additional clearances from any of these agencies which may be notified later.

Central Government Agencies

- ✓ MoEF – EIA, CRZ clearance
- ✓ Ministry of Defence – Security clearance
- ✓ Ministry of Shipping – Clearances for projects near Major Ports
- ✓ MoPNG – Clearance to operate outside oil and gas exploration zones
- ✓ Ministry of Civil Aviation – Aviation Safety
- ✓ DoT – Clearance for operating outside subsea Cable zones
- ✓ Geology and Mining Department – Seabed and related environment issues
- ✓ Dept of Animal Husbandry, Dairying and Fisheries – No impact on fishing grounds
- ✓ MHA – Declaring offshore wind energy exploitation zone.
- ✓ Department of Space – Clearances relating to satellite launching stations

State Government Agencies

- ✓ State Government – Clearance for working under Coastal Zone Management Plans
- ✓ State Maritime Boards - Clearances for projects near Minor Ports



- ✓ State Electricity Board or a similar Designated Agency.
- ✓ District Commissioner – Land use permission, public hearing for environmental clearance.
- ✓ Any other stakeholder from the State Government.