

## **National Renewable Energy Act 2015**

### **Cover note**

#### **Purpose**

The purpose of this Act is to promote the production of energy through the use of renewable energy sources in accordance with climate, environment and macroeconomic considerations in order to reduce dependence on fossil fuels, ensure security of supply and reduce emissions of CO<sub>2</sub> and other greenhouse gases. This Act shall in particular contribute to ensuring fulfillment of national and international objectives on increasing the proportion of energy produced through the use of renewable energy sources.

#### **Rationale / Motivation/Benefits**

- All societies require energy services to meet basic human needs (e.g., lighting, cooking, space comfort, mobility, communication) and to serve productive processes. For development to be sustainable, delivery of energy services need to be secure and have low environmental impacts. Renewable Energy offers opportunity to contribute to social and economic development, energy access, secure energy supply, climate change mitigation, and the reduction of negative environmental and health impacts.
- The present installed power generation capacity of India is 268 GW, mostly powered by fossil fuels (70%). The future energy and peak demand is projected to be increased at a Compound Annual Growth Rate (CAGR) of seven percent over the 12th and 13th Plan period. Continuing on the business-as-usual development of fossil fuel based generation on long term had limitations due to various factors such as limited fossil fuel resource availability, risks in securitizing external fuel supplies, macro-economic constraints like balance of payments problems and high current account deficit, externalities of fossil-based generation, international pressures relating to climate mitigation, constraints of water availability for thermal cooling etc. Dependence on import of fossil fuel would exposes India to risks of volatile prices , foreign exchange rate risks, competition with other importers, and domestic needs of the source countries.
- In a business-as-usual scenario ‘cost-effective energy system’ would mean cost becoming the singular overriding consideration. The attractiveness of a specific energy supply option depends also on broader economic as well as environmental and social aspects. The environmental and social externalities of conventional power generation if computed and internalized in the pricing of fossil fuel based power, then the RE based power becomes competitive or even cheaper than fossil fuel based power generation. Moreover, Renewables are the only free hedging mechanism against the price volatility of fossil fuels. Risk adjusted cost of generation portfolio including renewable energy is lower than that of a fossil fuels only portfolio.
- Another clear advantage of RE technologies is their amenability to work both in centralized as well as decentralized mode of operation, essentially providing energy independence for regional and local mini-grids.
- In the context of above points, there is need for a systems level perspective that integrates energy with resource planning in the form of an Integrated Energy Resource Planning for securing reliable and cost effective energy sources. Such a planning exercise should examine all available energy resource options, including supply side resource options, the transmission and distribution networks and their operation, and demand side resources like energy efficiency, demand response etc. This planning exercise should explicitly account for various risk factors such as fuel availability, fuel costs and

other possible benefits, co-benefits, direct and indirect costs, cost of externalities, and risks associated with each energy option. The current way of thinking is not tuned to this integrated way of looking at energy and resources and needs to change.

### **Need for a RE Law**

The current energy sector planning based on techno-economics discounts climate, environment, social and economic impacts and other qualitative considerations related to long-term national risks that may be critical from the perspective of long-term energy policy. Notwithstanding the clear acknowledgement of the benefits of renewable energy in these value based parameters, the current project evaluation framework and energy sector planning do not consider these advantages explicitly. These distortions suggest that RE is not on a level playing field when compared with conventional power systems and needs legislative support to claim its due.

In the given context, increasing the share of RE in the energy mix will require enabling policies to stimulate changes not only in policies related to RE deployment but also in policies related to the planning of the complete energy system. The mandatory provisions after the enactment of Renewable energy Law will provide the requisite backbone framework to facilitate increase in the use of renewable energy for all relevant applications including electricity, heat and transport in an effective and coordinated manner, which is well integrated with the energy and electricity system, and to do so by developing a supportive ecosystem, laying down a institutional structure ,and by creating framework for transparent and effective incentive structure.

### **Outline**

This Act is broadly classified into the following sections:

1. Institutional Structure: The constitution of decision-making and advisory bodies in the government, which ensure the development and implementation of a stable and conducive policy regime to facilitate investments for development of renewable energy sources.
2. Supportive Eco – System: The development of conducive ecosystem, which promotes the utilization of RE sources and permits investments. This includes, RE Policy and Plan, Resource assessment, policies on testing, monitoring and verification, and indigenous manufacturing of components.
3. Economic and Financial Framework: Constitution and operation of National and State level funds to support achieving of the objectives of this Act.
4. RE Applications: This section covers the application of the above described framework to two main categories of renewable sources:
  - a. Distributed Renewable Energy Applications and Energy Access
  - b. Grid connected Renewable Electricity

## **NATIONAL RENEWABLE ENERGY ACT, 20XX**

*An Act to promote the production of energy from renewable energy sources, in order to reduce dependence on fossil fuels, ensure energy security and reduce local and global pollutants, keeping in view economic, financial, social and environmental considerations, and for matters connected therewith or incidental thereto.*

WHEREAS it is expedient to increase the proportion of renewable sources of energy in India's energy mix, and to reduce the reliance on fossil fuels, in order to achieve economic and environmental objectives;

AND WHEREAS it is necessary to facilitate a transition from fossil fuels to renewable sources of energy with an appropriate legal, regulatory and institutional framework;

AND WHEREAS increased use of renewable energy sources raises important issues relating to electricity systems infrastructure, land allocation, cost of access and finance; and these issues require inter-ministerial coordination and expert assistance to seek resolution;

AND WHEREAS there is need to move towards Integrated Energy Resource Planning;

AND WHEREAS in view of the above, it is considered expedient to clearly identify the role of the Central Government and the State Governments, and to establish a National Renewable Energy Committee and National Renewable Energy Advisory Group to ensure inter-ministerial coordination and expert assistance;

Be it enacted by Parliament in the --- year of the Republic of India as follows:

### **PART I: Preliminary**

#### 1. Short title, extent and commencement

This Act may be called the Renewable Energy Act, 20XX.

Be it enacted by Parliament in the XX Year of the Republic of India as follows:

**Index (to be inserted once draft is finalized):**

#### 2. Standard clauses about applicability of Act and notification

##### **Version -1 of Clause 1 and 2:**

- (1) The electricity sector including electricity generation from renewable resources is covered under the Electricity Act, 2003. It is presently being amended to give an impetus to the development of electricity generation and consumption from renewable energy sources apart from a push for open access and choice of supplier.
- (2) Hence the proposed Renewable Energy Bill does not cover any issues already covered under the E-Act, 2003 and its proposed amendments.

##### **Version-2 of Clause 1 and 2**

- (1) The electricity sector including electricity generation from renewable resources is covered under the Electricity Act, 2003. It is presently being amended to give an impetus to the development of electricity generation and consumption from renewable energy

sources apart from a push for open access and choice of supplier. However, some critical issues which will have serious implications for aggressive RE deployment are still not covered adequately in E Act such as principles of grid planning, grid operations and grid management, including cost sharing of each of these aspects. Other key aspect is concept of national target and its compliance by utilities.

- (2) The proposed Renewable Energy Bill therefore covers such issues which ideally should be covered under the E-Act, 2003, however are not yet covered in the draft publicly available. Such issues therefore need to be read along with the proposed modifications to E Act and this Bill, and are captured in last Part (Part VI).

#### Common Clauses

- (3) A particular focus of this Act is Decentralised Renewable Energy and some facilitating and coordination related aspects with regard to grid connected renewables to bring in synergy and harmony in RE development.
  - (4) The proposed RE Bill is written with consideration of provisions in other existing legislations such as Electricity Act, 2003, polices thereunder, and other relevant acts such as Environment Protection Act 1986, Land Acquisition, Rehabilitation and Resettlement Act, 2013.
  - (5) It also has linkages with NAPCC and its missions such as NMEEE, National Solar Mission and other missions such as National Electric Mobility Mission, National Wind Energy Mission and Waste to Energy Mission. Other key linkages are with National Manufacturing Policy and National Skill Development Programme.
3. Definitions: In this Act, unless the context otherwise requires,
- 1) “Appropriate Government” means
  - 2) “Association of State Nodal Agencies” is the association of state level Nodal Agencies created by the Ministry of New and Renewable Energy, Government of India
  - 3) “Behind-the-meter” generation refers to a generation unit that delivers energy to load without using the transmission system or any distribution facilities unless the entity that owns or leases the distribution facilities has consented to such use of the distribution facilities and such consent has been demonstrated to the satisfaction of the authority responsible for granting interconnection
  - 4) “Central Electricity Authority” (or “Authority”) as constituted through the Electricity Act 2003
  - 5) “Critical Component” refers to a material or equipment that serves an essential function in the manufacture of a product – the absence of which would cause economic or social consequences – and whose supply is vulnerable to disruption
  - 6) “Corporation” means
  - 7) “Distributed and Decentralised Renewable Energy” means
  - 8) “Hybrid Systems” refer to any power or energy generation / conversion facility which makes use of two or more types of technologies utilizing both conventional and/or renewable energy resources, such as, but not limited to, integrated solar-wind systems, biomass/fossil-fuel systems, hydro/fossil-fuel systems, integrated solar/biomass systems,

integrated wind/solar/biomass systems, with a minimum of percentage of total electricity/energy output provided by the Renewable Energy component of the system, as may be notified by the Ministry from time to time.

- 9) Integrated Energy Resource planning (IERP) is a strategic plan for securing reliable and cost-effective energy resources. The plan is an exhaustive, research-based examination of potential risks and opportunities in procuring future energy supplies. Such a planning exercise:
  - Examines all available energy-resource options, including supply side as well as demand side options
  - Makes a thorough, objective assessment of the benefits, co-benefits, direct and indirect costs, cost of externalities, and risks associated with each energy option
  - Evaluates all resources to maximize energy, environmental, and economic security
- 10) “Market Based Instruments” mean various financial or policy instruments introduced to promote development of renewable energy through the mechanism of the open market, and not involving direct government subsidies
- 11) “Ministry” means the Ministry of New and Renewable Energy or its successor
- 12) “National Renewable Energy Plan” means the National Renewable Energy Plan as notified under sub-section XX of section XX of this Act
- 13) “National Renewable Energy Policy” means a National Renewable Energy Policy as notified under sub-section XX of section XX of this Act
- 14) “Net-Metering” refers to a system, appropriate for distributed generation, in which a distribution grid user has a two-way connection to the grid and is only charged for his net electricity consumption and is credited for any overall contribution to the electricity grid.
- 15) “Net system cost of grid integration”
- 16) “Nodal Entity” refers to any agency designated, nominated, authorized or appointed by the Ministry, or governments of the States or Union Territories, through an order in writing, to carry out any particular functions as defined in the said order under this Act or under the rules, regulation or notifications issued under this Act.
- 17) “National Renewable Energy Committee” means a committee established under Clause 7 of this Act
- 18) “Obligated Entities” refers to the regulated distribution companies and open access consumers as per the provisions of the Electricity Act 2003
- 19) “Off-grid system” means a system set up to generate electricity from renewable energy resources and distribute electricity in a specified area, ordinarily without connection to the distribution grid
- 20) “Resource Assessment” means
- 21) “Regional Power Committee”, as defined by the Electricity Act 2003
- 22) “Renewable Energy” (RE) Sources” means energy derived from non-depleting resources and includes the following sources-

- i. Wind
- ii. Solar radiation;
- iii. Mini hydro;
- iv. Biomass;
- v. Biofuels;
- vi. Landfill & Sewage gas;
- vii. Municipal solid waste;
- viii. Industrial waste;
- ix. Geothermal energy;
- x. Ocean energy;
- xi. Any other energy source, as may be notified by the Ministry; and
- xii. Hybrids of above sources

[In this definition: solar radiation include photovoltaics and solar thermal generation; biomass comprises solid, liquid, and gaseous fuels from crop residues, including timber and harvest residues as well as wastewood and organic waste from food production and animal husbandry. It also includes feedstock from dedicated biomass plantations grown on degraded/waste lands deemed suitable for this purpose by relevant authorities; ocean energy includes wave, tidal and marine sources based on coastal land and/or shallow coastal waters; and industrial waste includes all solid, liquid and gaseous by products/effluents which can be used for energy generation, including agro-industrial wastes and by products.]

- 23) “Renewable Energy Fuel” means any fuel which is used to replace or reduce quantity of fossil fuel present in a fuel mix and is produced from grain, starch, oilseeds, vegetable, animal, or fish materials including fats, greases and oils, sugarcane, sugar beets, sugar components, tobacco, potatoes, or other biomass; or natural gas produced from industrial and agro-industrial waste including a biogas source, a landfill, sewage waste treatment plant, feedlot, or other place where decaying organic material is found
- 24) “Renewable Purchase Obligation (RPO)” means the requirement as specified under clause (e) of sub-section (1) of section 86 of the Electricity Act 2003 for the obligated entity to purchase electricity from renewable energy sources
- 25) “State Nodal Agency” means the state level agency designated by the State Governments for renewable energy development in the respective state;
- 26) “Utility grid” means
- 27) “Utility-scale Renewable Energy” means a renewable energy project and/or facility which generates electricity and feeds it into the grid, supplying a utility with energy under a valid Power Purchase Agreement (PPA), guaranteeing a market for its electricity for a fixed term of time.

## **PART II: INSTITUTIONAL STRUCTURE**

### **Chapter I: General Powers of the Central Government**

4. Power of the Central Government to take measures to encourage the development and deployment of renewable energy:
  - (1) Subject to the provisions of this Act, the Central Government shall have the power to take all such measures as it deems necessary or expedient for the purpose of development and deployment of renewable energy in the country.
  - (2) Notwithstanding the generality of sub-section (1), the Central Government shall perform the following functions in particular:
    - i. Formulate, monitor and review implementation of National Renewable Energy Policy and National Renewable Energy Plan;
    - ii. Plan and execute nation-wide programmes for the deployment of renewable energy;
    - iii. Carry out research and development and provide technical assistance relating to renewable energy technologies, including through the establishment of laboratories, testing centres and research institutes;
    - iv. Administer and monitor the utilization of funds allocated for development of renewable energy, including the National RE Fund;
    - v. Develop {and coordinate the development of} standards and norms for resource assessment (of various renewable energy resources), technologies and products;
    - vi. Facilitate the proper functioning of the National Renewable Energy Committee, the National Renewable Energy Advisory Group, and any other body or agency set up under the provisions of the Act{through the provision of adequate funds for coordination, meetings and research, access to the MNRE's data and resources and salaries for permanent staff. }
    - vii. Issue Guidelines for the formulation of State level Renewable Energy Policies and State level Renewable Energy Plans and provide necessary support to the State Governments to formulate the same.
  - (3) The Central Government may, if it considers necessary or expedient, set up authority/ies or institutions for the purpose of exercising its functions laid down in this Act, including setting up educational institutions, and provide necessary assistance to existing institutions and agencies that work in the area of renewable energy.

### **Chapter II: Powers of State Government**

#### **5. State level Renewable Energy Policy and State level Renewable Energy Plan:**

- (1) The State Government shall, from time to time, formulate, monitor and implement State level Renewable Energy Policy and State level Renewable Energy Plan.

- (2) The State Government shall take into consideration the National Renewable Energy Policy and the National Renewable Energy Plan in force at the time, as well as appropriate Guidelines issued by the Central Government under Clause 4(2)(vii) while formulating the State level Renewable Energy Policy and State level Renewable Energy Plan.
- (3) The State Governments may also establish a State Green Fund for the promotion of renewables as further outlined in Clause 24.
- (4) During the formulation of the State level Renewable Energy Policy and State level Renewable Energy Plan, the State Government shall consult the designated State Nodal Agency.
- (5) The State Government may develop policies or plans with a particular focus on issues including, but not limited to:
  - i. Setting renewable energy targets,
  - ii. Sharing of incremental costs,
  - iii. Facilitating framework for deployment,
  - iv. Establishment of renewable energy parks,
  - v. Development of transmission infrastructure,
  - vi. Establishment and utilization of State Green Funds,
  - vii. Energy data management,
  - viii. Resource assessment and
  - ix. Inclusive land use policy for renewable energy projects.

#### **6. State level implementing agencies and State Nodal Agencies**

- (1) The State Government may/shall establish a State-level implementing agency that will be responsible for implementing renewable energy projects in the State.
- (2) The State Government may/shall designate State Nodal Agencies within {three} months from the date of coming into force of this Act.
- (3) Provided that a State Nodal Agency designated before the coming into force of this Act shall continue as such, unless the State Government designates a different agency as the State Nodal Agency.
- (4) The State Government may/shall take necessary measures to continually enhance the technical, financial and administrative capacity of State Nodal Agencies.

### **Chapter III: Authorities to be appointed/constituted under the Act**

#### ***National Renewable Energy Committee (NREC)***

7. The Central Government shall constitute a body to be known as the National Renewable Energy Committee within {three} months from the date of commencement of this Act.
8. Composition of the *NREC*
  - (1) Chairperson – Secretary, Ministry of New and Renewable Energy
  - (2) Members –

- i. A Joint Secretary of Ministry of New & Renewable Energy will be the Member Secretary.
- ii. Representatives of level not below Joint Secretary of Ministry of Power, Ministry of Rural Development, Ministry of Agriculture, Ministry of Heavy Industries, Ministry of Petroleum & Natural Gas, MoEFCC
- iii. Two representatives of level not below Joint Secretary or equivalent from States.
- iv. A representative of level not below Joint Secretary equivalent or the head of the National Load Dispatch Centre /Power System Operations Company (POSOCO) Limited
- v. One representative of each of the Regional Power Committees formed under Electricity Act 2003
- vi. A representative not below the rank of Joint Secretary of Central Electricity Authority established under E. At 2003
- vii. A representative of level not below Joint Secretary equivalent or the head of the Central Transmission Utility (CTU)/ Power Grid Corporation of India Limited
- viii. A representative of level not below Joint Secretary equivalent or the head of the newly formed Renewable Energy Corporation of India – see SECTION \_\_\_\_\_
- ix. A representative of level not below Joint Secretary equivalent or the administrative head of Indian Renewable Energy Development Agency

(3) Special invitees/ experts invited by the Chairperson on behalf of the Committee/ on advise of the Committee

9. Appointment process:

**Option 1:** There could be a provision along the following lines: *the term of office of the Chairperson and the members of the Committee, other than those who are members ex officio, and the procedure to be followed in the discharge of their functions by the members of the Committee shall be such, as may be prescribed.*

**Option 2:** Put details in this Act itself: Appointment could be through notification in the Official Gazette; term of the Chairperson and members has to be specified.

10. Functions of the **NREC**:

- (1) The **NREC** shall enable inter-ministerial coordination relating to the implementation of this Act, and advise the Central Government accordingly.
- (2) In pursuance of sub-section (1), the Committee shall perform, *inter alia*, the following functions:
  - i. Review the implementation of the National Renewable Energy Policy {and National Renewable Energy Plan}, and advise the Central Government in discharging its functions under this Act and in accordance with the Energy Policy;
  - ii. Facilitate the development and deployment of renewable energy sources in the country by developing of fiscal, financial, regulatory, policy, and institutional mechanisms;

- iii. Identify measures for development of indigenous technology, manufacturing base, capacity development, skill development, export of technologies, and establish / coordinate related technology missions created under this Act;
  - iv. Coordinate on matters relating to grid integration of renewable energy;
  - v. Identify and set research and development priorities for the sector;
  - vi. Monitor the development and progress of RE Investment Zones;
  - vii. Such other matters as the Central Government deems necessary or expedient for the purpose of securing the effective implementation of the provisions of the Act.
- (3) The Committee shall consult the Advisory Group set up under Clause 8 and may undertake consultation processes with other stakeholders, as deemed necessary and expedient by it, while performing its functions.
- (4) The Committee shall perform its functions in a transparent manner, and make information relating to its functioning, including advice rendered to the Central Government and agenda and minutes of meetings, publicly available.
- (5) The Committee shall meet at least four times in a financial year and there shall not be a gap of more than four months between any two meetings.

#### ***National Renewable Energy Advisory Group***

11. The Central Government shall appoint a National Renewable Energy Advisory Group within {three} months from the date of commencement of this Act.

12. Composition of the National Renewable Energy Advisory Group

- (1) Chairperson[s] – An/Two eminent person[s] in the field of renewable energy such as, but not limited to technology, finance, law, policy
- (2) Members –
  - i. A Joint Secretary of Ministry of New & Renewable Energy will be the Member Secretary.
  - ii. Three members amongst representatives of Association of State Nodal Agencies, Central Electricity Authority, PowerGrid Corporation of India Limited, Power System Corporation of India Limited, (or the head of) Renewable Energy Corporation of India, (or the administrative head of) Indian Renewable Energy Development Agency
  - iii. Six non-government members representing various stakeholders such as producers and users of renewable energy sources, distribution utilities, academia, research institutions and think tanks.
- (3) Special invitees/ experts invited by the Chairperson on behalf of the Committee/ on advise of the Committee

13. Appointment process:

***Option 1:*** There could be a provision along the following lines: the term of office of the Chairperson and the members of the Committee, other than those who are members *ex officio*, the manner of filling of vacancies of positions referred to in {sub-sections for

non-ex office}, and the procedure to be followed in the discharge of their functions by the members of the Committee shall be such, as may be prescribed.

**Option 2:** Put details in this Act itself: Appointment could be through notification in the Official Gazette; term of the Chairperson and members

#### 14. Functions of the Advisory Group:

- (1) The Advisory Group may, based on its expertise, knowledge and research, advise the Central Government on the effective implementation of this Act.
- (2) Notwithstanding the generality of sub-section (1), the Advisory Group shall perform the following functions in particular:
  - i. Act as a Technology Watch Group to keep track of latest global developments and their relevance to Indian conditions and also help set research priorities for the sector;
  - ii. Identify measures required to create awareness and educate the citizens for adoption of renewable energy technologies and promote private sector and community participation;
  - iii. Advise on utilisation of the National RE Fund, based on development needs of the RE sector;
  - iv. Constitute sub-committees as may be required for specific issues, including but not limited to off-grid access, grid integration, and biofuels;
  - v. Develop a long-term vision for integrated energy resource planning;
  - vi. Such other functions as the Central Government deems necessary or expedient for the purpose of securing the effective implementation of the provisions of the Act.
- (3) The Advisory Group shall:
  - i. Publish an annual report highlighting the state of affairs of the RE sector in the country
  - ii. Publish issue-based reports from time to time on key challenges facing the RE sector and appropriate solutions thereto
- (4) The Advisory Group may undertake consultation processes with various stakeholders, as deemed necessary and expedient by it, while performing its functions.
- (5) The Advisory Group perform its functions in a transparent manner, and make information relating to its functioning, including advice rendered to the Central Government and agenda and minutes of meetings, publicly available.
- (6) The Advisory Group shall meet at least four times in a financial year and there shall not be a gap of more than four months between any two meetings.

#### **Additional section for discussion:**

1. Constitution and Roles of RE Corporation of India (RECI):

- a. Central Government shall, within {one year} of the notification of the Act, create or designate {/ cause} one of its existing corporate entities as the “Renewable Energy Corporation of India”.
- b. The Renewable Energy Corporation of India shall be incorporated under the Companies Act 2013.
- c. The Renewable Energy Corporation of India shall perform the following functions:
  - i. Act as a national level RE procurement entity
  - ii. Support development of Renewable Energy Investment Zones across the country (Project development)

### **PART III: DEVELOPMENT OF SUPPORTIVE ECOSYSTEM FOR RE DEPLOYMENT**

#### **15. National Renewable Energy Policy**

- (1) Within six months of this Act, the Ministry shall, in consultation with the State governments, prepare and publish, the National Renewable Energy Policy
- (2) Provided however that such RE Policy shall be formulated keeping in consideration the appropriate provisions of the Electricity Act 2003, as amended from time to time, and the provisions of this law, aimed at the optimum and integrated development of the renewable energy sector, and its applications, including electricity, heating, lighting, cooking, cooling, transport, irrigation, and combinations of the same. Specifically, the policy shall
  - i. Build upon and be complementary to the National RE Policy notified from time to time under the Electricity Act 2003
  - ii. Be based on the priorities set by the National Energy Policy (NEP) and on the principles of integrated energy resource planning (IERP)
  - iii. Establish broad principles for medium and long term RE targets building upon the targets specified by the RE policy notified under the Electricity Act. This shall include electricity as well as non-electricity, pricing, target compliance and facilitate a move towards a market based mechanism for RE in the long run.
  - iv. Focus on development of supportive ecosystem for RE development and deployment such as but not limited to resource assessment plan, indigenous manufacturing of critical resources, availability of financial resources, commercial viability of the technologies, eliminating barriers to deployment of renewable technologies and adequacy of energy infrastructure.
  - v. Include national targets for next five years, and indicative targets for additional ten years period, for the development of all renewable energy resources and applications.
  - vi. Specify regulatory, policy, institutional and incentive frameworks required for achieving the objectives of this Act and national targets

- vii. Lay out the vision for Research, Development and Demonstration (RD&D) in the country.
  - viii. Be followed by a National RE Plan, to be prepared and implemented by the Ministry after due consultation with the National RE Advisory Group
- (3) Provided that a mid-term assessment of the National Renewable Energy Policy and the National RE Plan shall be undertaken by the Ministry in accordance with Part \*\*\*\*\*
- i. Provided that the review shall not allow a downward revision of firm targets specified for next five years unless a carefully examined set of reasons is established after due consultation with the National RE Advisory Group
- (4) The Ministry shall publish a comprehensive National RE Plan over a timeframe consistent with the horizon of the National RE Policy.
- i. Provided that such National RE Plan may be further split into plans over shorter time periods for effective and time-bound implementation
- (5) The Central Government shall work together with its Nodal Entities, other agencies and with State Governments to implement the National Renewable Energy Policy and National Renewable Energy Plan.

#### 16. Renewable Energy Resource Assessment

- (1) The Ministry shall, within one year from the notification of this Act, complete a detailed resource assessment study for all renewable energy resources including all electric and non-electric applications such as utility scale electricity generation, distributed and decentralized electricity and energy generation (such as rooftop PV, solar pumping), heating, cooling, transportation, fuels etc.
- (2) The Ministry shall designate Nodal Entity(s), the task of assessing the potential, for every renewable energy resource, both mature and emerging, and techno-economic feasibility of decentralized and distributed RE technologies and applications provided that
- i. At least one entity per RE resource shall be designated
  - ii. If required, more than one Nodal Entities may be notified per RE resource
  - iii. Same organization may be notified as Nodal Entity for more than one RE resource
  - iv. The entity may use the services of other agencies, public or private, to collect and maintain the data
  - v. Nodal Entities will need to ensure that such assessments are carried out with modern techniques for all renewable energy applications and are updated and published at least once in every two years.
  - vi. These assessments will be available in the public domain in an open-data format in compliance with the National Data Sharing and Accessibility Policy (NDSAP) or the appropriate policy in effect at the time, and should be accompanied by high-resolution GIS layers of transmission lines, substations, roads, forest areas etc. to assist in planning and easier project development.

#### 17. Technical and safety standards

- (1) The Ministry in consultation with its agencies shall ensure publishing updated set of technical, safety and quality standards by which all manufactured RE equipment, RE products and RE fuels shall comply.

#### 18. Testing / Monitoring and Verification

- (1) The Ministry shall have the right to designate an entity in each state, which will be responsible to ensure adherence to notified standards at all times according to provisions of the National RE Policy
  - i. Provided that such designated entity may appoint independent and suitably qualified third parties to undertake such regular and time bound testing
- (2) The Ministry shall have the right to set up an accreditation program for all renewable energy manufacturers, system integrators, developers, operation and maintenance service providers, consultants etc to enable the adherence to required regulations. Provided that the Ministry shall be guided by the
  - i. Inputs received from the National RE Advisory Group for all RE technologies/equipment
  - ii. Field capacity of the enterprises for decentralised renewable energy sector
- (3) The Ministry may also consider setting up/ notifying labs for testing of renewable energy equipment.
- (4) The Ministry may set up protocols for certification including random checks for monitoring and verification.

#### 19. Manufacturing and Skill Development

- (1) The Ministry shall, in consultation with the National RE Advisory Group,
  - i. Create a facilitating framework with appropriate incentives for supporting the indigenous renewable energy manufacturing sector for cost reduction/ strategic purposes/ customization for Indian conditions.
  - ii. Strengthen the supply chain through expanding domestic manufacturing of critical components as notified in the National Renewable Energy Plan, to achieve energy security, and macro-economic benefits for the country
  - iii. Focus on improvement of efficiency and actual performance of equipment/system/machinery
  - iv. Promote export of renewable energy products and devices from the country
- (2) For this purpose, the appropriate government may set up dedicated renewable energy manufacturing zones which will be provided with adequate infrastructure facilities.
- (3) The Central Government shall identify key focus technologies, components and materials from time to time including as a part of National RE Policy and Plan.
  - i. Provided further that Ministry shall formulate specific schemes to promote manufacturing / formation of such identified technologies, components and materials.

- (4) The Central Government and the State Governments shall promote skill development and entrepreneurship in the field of renewable energy through measures including,
- i. inclusion of renewable energy technologies in education curriculum and occupational education curriculum,
  - ii. provision of technical and entrepreneurial assistance to current and potential project developers
  - iii. establishing or supporting institutes dedicated to renewable energy innovation and studies in order to promote fundamental research and talent development in the renewable energy sector
  - iv. focusing on entrepreneurship development, incubation of start-ups and for providing knowledge and capital support to existing or new ventures based on renewable energy technologies, in the National RE Plan.
20. Renewable Electricity Investment Zones: The Ministry shall through RECI or any other identified agency, work with State Governments to identify and develop RE investment zones to meet the goals under the National RE Development Plan. The Ministry shall oversee and monitor the development and progress of these zones.
21. Data Management: The Ministry shall designate a nodal agency (ies) for timely and disaggregated Renewable Energy technical, performance and financial data collection and analysis, including database of existing and upcoming RE projects,
- (1) Provided that such data shall be made available in the public domain in an open-data format in compliance with the National Data Sharing and Accessibility Policy (NDSAP) or the appropriate policy in effect at the time.
22. Model Guidelines by the Ministry
- (1) Authority to issue guidelines: The Ministry shall issue standard/ model guidelines to states and other stakeholders on various issues to streamline and bring in synergy and harmony in existing legal statues and the specific requirements of Renewable Energy development across the country
  - (2) Such model / standard guidelines could include but would not be limited to
    - i. Promotion of Distributed Renewables (electricity and energy) through effective and monitorable incentive structures
    - ii. Land use for renewable energy projects, applications and fuels, including procurement and/or use of revenue land, private land, and forest lands, its fair compensation and land databases.
    - iii. A process for informed local consent for projects in letter and spirit and a formal institutional structure for revenue/benefit sharing with the community
    - iv. Renewable Energy Infrastructure parks for faster and planned project development
    - v. Best practices on streamlining of project permits, clearances and institutional structure etc.

- vi. Best practices for state grid codes, RE integration practices for SLDCs, data management. Etc
- vii. Standard Bidding guidelines and SBDs under section 63 of the Electricity Act, 2003.

#### **PART IV – ECONOMIC AND FINANCIAL FRAMEWORK (INCENTIVES AND FINANCING)**

23. National RE Fund: The Ministry shall establish a National Renewable Energy Fund

- (1) Provided that the Fund shall be operated by the Central Government
- (2) Provided further that the initial corpus and regular revenue to the Fund shall come from the National Clean Energy Fund, at least XX% of annual proceeds of which shall be routed to the Fund.
- (3) Provided further that the Fund may be additionally supported on an ongoing basis through appropriate cess/levy and through international finance, including funds received under any climate agreement.
- (4) The Fund may be used for supporting all the objectives of this Act, such as but not limited to R&D, resource assessment, demonstrations and pilot projects, low cost financing, investments for skills development, supporting RE technology manufacturing, infrastructure development, promoting all forms of decentralised renewable energy etc. provided such activities are selected in a transparent manner, and in line with the provisions of the National RE Policy/Plan.

24. State Green Fund: The State Governments may also establish a State Green Fund for the promotion of renewables. The Ministry may offer a starting corpus to such State Green Fund(s) from the National Renewable Energy Fund. Other sources of funds to the State Green Funds may include but not limited to State-level public benefits charges, state-level green cess, electricity duties, government and private sector grants, and funds through corporate social responsibility (CSR)

25. Such CSR contributions shall account for compliance with the organisation's CSR obligation

26. The National RE Fund and the State Green Funds shall be applied for meeting the expenses incurred for implementation of the objectives and provisions of this Act, as specified by the National RE Policy and National RE Plan, and may be used inter alia, for:

- i. Lowering risk and cost of capital for investments in RE projects
- ii. Financially supporting users, primarily distribution companies in case of electricity, and direct users of other RE technologies and applications, such that they become indifferent in the choice between conventional and renewable electricity and between conventional energy and RE resources, until parity is achieved
- iii. Infrastructure development for renewable energy;

- iv. Research and development;
  - v. Equity participation in renewable energy projects;
  - vi. Promotion and launch of such programmes for adoption of international best practices.
- (2) Provide further that the State Green Funds created under this Act shall be administered by the State Nodal Agencies in the respective states, in such manner as may be specified in the rules made by the State Government or the Governing bodies of the State Nodal Agencies in this regard.
27. The Ministry and/or its agencies shall endeavour to raise low-interest finance for providing soft loans to renewable energy projects, renewable equipment manufacturers, renewable component manufacturers etc.
28. The Ministry shall encourage development of innovative financing instruments or synthesized financial products to facilitate provision of low-cost debt to renewable projects
29. Capacity Building of Banks & Financial Institutions – The Ministry in consultation with the Department of Financial Services of the Ministry, shall within one year from the commencement of this Act, launch a programme for training and capacity building of banks and financial institutions in the techno-economics of renewable energy. Such programme may be implemented through selected reputed specialist non-government organizations in the renewable sector in the country.

## **PART V – DISTRIBUTED RENEWABLE ENERGY APPLICATIONS AND ENERGY ACCESS**

30. The Central and State Governments shall promote the use of decentralised and stand-alone renewable energy applications in rural and urban areas, including
- (1) Electricity generation and use, including cost-effective grid interactive renewable electricity generation options primarily for self-consumption by individuals and communities.
  - (2) Off-grid systems for electricity generation and use, including mini- or community grids and distributed, individual energy services for residential, commercial, industrial and agricultural applications.
  - (3) Heating and cooling applications such as water heating, drying, space cooling/heating, other residential, commercial, industrial and agricultural applications
  - (4) Renewable energy fuels for transportation sector with due considerations for sustainability of such fuels and implications for food security of the country
31. The Ministry shall designate Nodal Entity (ies), the task of assessing regions and applications where decentralised resources are more technically and economically attractive than grid-connected options.
32. Within six months of this Act coming into force, state governments shall specify / publish a list of villages and hamlets, where grid-extension is technically and economically unfeasible in the next

5 years. A resource assessment should be undertaken in these villages to study the best-suited technologies to provide electricity to these villages through decentralised renewable electricity sources.

33. Appropriate government (National or State or both) may provide an incentive and facilitation framework for promoting use of decentralised RE

(1) Provided that while providing incentives and facilitating framework the appropriate government shall consider following factors:

- i. Need to ensure that tariff / cost of such DRE payable by consumers is reasonable
- ii. Reliable and safe supply/use of DRE to consumers
- iii. Viability of business models and investments in the DRE sector
- iv. Grievance redressal mechanisms for consumers as well as project developers
- v. Such Decentralised RE projects should be able to connect and interact with utility grid

34. The Ministry shall make competitive, merit-based grants to deserving research agencies for the development of decentralised and stand-alone energy technologies.

35. The Ministry shall work with its agencies and other ministries concerned and regulators to encourage renewable energy applications in domestic or commercial sectors by introducing net metering and gross metering arrangement while also scaling up use of smart meters.

36. Decentralised Energy Technology Development & Demonstration Programmes

(1) The Ministry shall carry out programmes of research, development, demonstration, and commercial application on decentralized energy resources and systems reliability and efficiency, to improve the reliability and efficiency of decentralized energy resources and systems.

(2) The Ministry may provide financial assistance to deserving institutions for demonstrations designed to accelerate the use of decentralized energy technologies.

(3) The Ministry shall establish a research, development and demonstration programme to develop working models of decentralised technologies for various applications.

(4) The Ministry shall undertake programmes in association with local governments (Zilla Panchayats, Gram Panchayats), to spread awareness on decentralised and off-grid electrification technologies.

37. Monitoring and Evaluation: The Ministry shall create a framework for monitoring and evaluation of systems which have been installed through the use of central financial assistance and other government subsidy schemes.

38. The Ministry shall provide financial incentives for proper maintenance of decentralised systems.

## **PART VI – GRID CONNECTED RENEWABLE ELECTRICITY**

39. Renewable Electricity Targets and compliance

- (1) A person who intends to generate and supply electricity from renewable energy sources shall not require any license, but shall comply with the measures which may be specified by the Central Electricity Authority under sections 53 and 73 of the EA 2003.
- (2) To ensure higher off-take of renewable electricity and to ensure an equal contribution by all obligated entities in doing so, the Ministry shall, within one year of the notification of the Act, under the National RE Policy create a national, uniform and mandatory renewable electricity purchase obligation trajectory for all obligated entities. Such obligation shall be met through purchase of renewable electricity from RE generators located anywhere in the country and/or renewable electricity certificates
- (3) RE resources eligible to meet renewable purchase obligation (RPO) include
  - i. Utility-scale RE generation
  - ii. Behind-the-meter RE
  - iii. Off-grid systems based on RE providing electricity or equivalent services e.g. solar pumps / lighting etc
- (4) The Ministry shall work with its Nodal Agencies, other agencies, and State Governments to enforce the mandated RPO through appropriate mix of incentives, penalties, and legal action as defined in National RE Policy and Plan
  - i. Provided that the Ministry may/shall provide appropriate financial support to distribution companies such that they become indifferent in the choice between conventional and renewable electricity resources until grid parity is achieved
- (5) The Central and State Electricity Regulatory Agencies constituted under the Electricity Act shall have the responsibility and authority to ensure compliance to such electricity purchase obligations by the obligated entities.
- (6) Provide further that to ensure compliance monitoring, the State Nodal Agencies; Central, Regional and State level Load Dispatch centers; State Energy Departments, open access customers, captive power generators and any other obligated entities shall provide all requested data and information on generation, transmission, purchase or consumption of electricity to the relevant regulatory and/or designated agency, on regular basis as per process laid out by the relevant regulatory commission.
- (7) Renewable Generation Obligation: Any generating company may establish, operate and maintain a generating station without obtaining a licence under the EA 2003, if it complies with the technical standards relating to connectivity with the grid referred to in clause (b) of section 73 of EA 2003:
  - i. Provided that any generating company establishing may be required by the system operator to build and maintain a spinning reserve of such capacity as may be notified by the Central Government from time to time:
  - ii. Provided further that any generating company before establishing or expanding the capacity of a generating station shall submit a detailed project report and duly inform about the same to the Authority.
  - iii. Explanation.—For the purposes of sub-section (i), the expression “spinning reserve” means the backup capacity of a generating station which shall be made

available on the directions of the system operator, within a time limit as may be notified by the Central Government, to maintain grid safety and security.

- iv. Notwithstanding anything contained in sub-section (i), any generating company establishing a coal and lignite based thermal generating station after a date and in a manner to be notified shall be required to establish a Renewable Energy Generation capacity as prescribed by the Central Government from time to time which shall not be less than five per cent of the thermal power installed capacity.
  - v. In case any existing coal and lignite based thermal power generating station, with the concurrence of power procurers under the existing Power Purchase Agreements, chooses for setting up additional renewable energy generating capacity, the energy produced from there shall be allowed to be bundled and pass through shall be allowed in such cases by the Appropriate Commission and the Obligated Entities who finally buy such power shall account the same towards their renewable purchase obligations.
- (8) Non-compliance of RPO: In case any complaint is filed before the Appropriate Commission by any person or if that Commission is satisfied that any generating company or licensee has contravened any of the provisions of this Act or the rules or regulations made thereunder, or any direction issued by the Commission or has not complied with the renewable purchase obligation or renewable generation obligation as specified, the Appropriate Commission may after giving such generating company or licensee an opportunity of being heard in the matter, by order in writing, direct that, without prejudice to any other penalty to which the generating company or licensee may be liable under this Act, such generating company or licensee shall pay, by way of penalty, which shall not exceed one crore rupees for each contravention and in case of continuing failure with an additional penalty which may extend to one lakh rupees for every day during which the failure continues after contravention of the first such direction:
- i. Provided that in case of non-compliance of by a generating company generating
  - ii. Renewable Energy, such generating company shall be liable to a penalty not exceeding
  - iii. rupees ten lakhs contravention and in case of continuing failure with an additional
  - iv. penalty which may extend to ten thousand rupees for every day during which the
  - v. failure continues after contravention of the first such direction.
- (9) Whoever, fails to comply with any order or direction given under the EA 2003, within such time as may be specified in the said order or direction or contravenes or attempts or abets the contravention of any of the provisions of this Act or any rules or regulations made thereunder, shall be punishable with imprisonment for a term which may extend to three months or with fine which may extend to one crore rupees, or with both in respect of each offence and in the case of a continuing failure, with an additional fine which may extend to one lakh rupees for every day during which the failure continues after conviction of the first such offence:
- i. Provided that nothing contained in this section shall apply to the orders, instructions or directions issued under section 121 of the EA 2003:

- ii. Provided further that in case of non-compliance of by a generating company generating Renewable Energy, any person in charge of such generating company shall be liable for imprisonment for a term which may extend to three months or such generating company shall be liable to pay fine which may extend to ten lakh rupees, or with both in respect of each offence and in the case of a continuing failure, with an additional fine which may extend to ten thousand rupees for every day during which the failure continues after conviction of the first such offence.

#### 40. Procurement of Renewable Electricity and payment guarantee

- (1) Regulated Obligated Entities shall within one year of the establishment of the RPO trajectory, develop five-year Renewable Electricity Procurement Plans towards meeting RE targets
- (2) Over a period of time, such RPO shall be net at least cost to the consumers and submit them for approval to the respective State Electricity Regulatory Commissions
- (3) The Central Electricity Authority shall review all Regulated Obligated Entities' Renewable Electricity Procurement Plans in order to identify and report to respective SERCs opportunities for cost reductions through coordination and cooperation among all Regulated Obligated Entities across the country.
- (4) The Ministry shall, within one year of notification of the Act, establish clear guidelines for procurement mechanisms including but not limited to competitive bidding processes
- (5) Provided that the risks of the procurement mechanisms are identified and mitigation strategies are developed
- (6) Until such guidelines are adopted, the price of Renewable Electricity shall be established as per the approval of the Appropriate Commission
- (7) The open access consumers procuring electricity from renewable energy sources not to pay the surcharge for open access. <EA amendment: Section 42>

#### 41. Timely Payments for RE Procurement:

- (1) Regulated Obligated Entities shall within one year of the notification of the Act, create adequate and sufficient payment security mechanisms that ensure timely payments for RE power procured
- (2) SERCs shall ensure that the tariff for renewable energy shall be paid by obligated entities / procurers, in a timely manner. The payment for procured RE shall get same priority as payment for other procured power, from any source whatsoever. The SERCs shall be responsible to ensure equitable treatment to renewable energy payments.

#### 42. Access to Grid and Forecasting

- (1) Grid connectivity:
  - i. Notwithstanding anything contained in this Act or any other enactment, the operators of the transmission and / or the distribution system, as the case may be, shall be obliged to connect the renewable energy generator to the system.
  - ii. Provided that the operator of the transmission and /or distribution system shall do so within 30 days from the date of application or commencement of generation, whichever is later

- iii. Provided further that the operator of the transmission and / or distribution system, as the case may be, shall upgrade the network in advance and on time to ensure reliability of the interconnection as per specified standards.
- (2) Cost of Grid connectivity:
- i. Provided also that the renewable energy generator shall bear the expenses associated with the interconnection of their facility to the network provided that in relation to wind power projects and solar photovoltaic projects interconnection point shall be line isolator on ongoing feeder on HV side of the pooling substation and in relation to Solar thermal, SHP, biomass power and non fossil fuel based cogeneration power projects the interconnection point shall be line isolator on outgoing feeder on HV side of generator transformer.
  - ii. The costs associated with strengthening the grid beyond the interconnection point shall be borne by the operator of the network system whose grid needs strengthening
  - iii. Deemed Generation: Provided further that if the grid is not available for power evacuation after the project has commenced generation or is already operational, the power will considered to be deemed generated and sold, with charges being payable to the RE generator. Detailed guidelines in this respect shall be issued as part of RE Policy
- (3) Forecasting of RE generation as input to system operation
- i. The Ministry shall, within one year of the notification of the Act, designate an entity (the Power System Corporation of India) as the Nodal Entity for the task of developing forecasts for all RE generation connected to the grid
  - ii. All new renewable electricity generators will provide all production data to the Nodal Entity. The data collected by the Nodal Entity will be collected using techniques which have been internationally tested and recorded in Internationally accepted formats, made available to the public on a single platform and updated regularly
- (4) The Nodal Entity shall share the production data and other technical data from renewable electricity generators with the Nodal Entity responsible for conducting Renewable Energy Resource Assessments
- (5) The Nodal Entity may use the services of other agencies, public or private, to develop the forecasts. The selection of such an agency will be carried out through a transparent and competitive route
- (6) The Ministry shall allocate funds for activities relating to RE generation forecasting

## PART VII – MISCELLANEOUS

43. Enforcement of the Act – The Ministry should within six months from the commencement of this Act, identify the amendments that are required to various other Central or State legislation to facilitate implementation of the provisions of this Act.

44. Power of the Ministry to Issue Direction – The Ministry may give directions to the State Government or any such other state instrumentality to carry out execution of this Act in the state.
45. Protection of Action taken in Good Faith – No suit, prosecution or other legal proceeding shall lie against the Ministry or Secretary or State Government or any officer of those Governments or State Commission or its members or any member or officer or other employee for anything which is in good faith done or intended to be done under this Act or the rules or regulations made hereunder.
46. Delegation – The Ministry may, by general or special order as to be prescribed in writing, delegate to any member, members of the National RE Committee or any other person or agency, subject to such conditions, if any, as may be specified in order, such of its powers and functions under this Act as it may deem necessary.
47. Power of the Ministry to Make Rules – The Ministry may, by notification, make rules for carrying out the provisions of this Act.
48. Power of the State Government to Make Rules – The State Government may, by notification, make rules for carrying out the provisions of this Act not inconsistent with the rules, if any, made by the Ministry.
49. Rules and Regulations to be laid before Parliament and State Legislature
- (1) Every rule made by the Ministry and every regulation made under this Act shall be laid, as soon as may be after it is made, before each House of Parliament while it is in session, for a total period of thirty days which may be comprised in one session or in two or more successive sessions, and if, before the expiry of the session immediately following the session or the successive sessions aforesaid, both Houses agree in making any modification in the rule or regulation shall thereafter have effect only in such modified form or be of no effect, as the case may be; so, however, that any such modification or annulment shall be without prejudice to the validity of anything previously done under the rule or regulation.
  - (2) Every rule made by the State Government shall be laid, as soon as may be after it is made, before each House of the State Legislature where it consists of two Houses, or where such Legislature consists of one House, before that House.
50. Application of Other Laws not Barred – The provisions of this Act shall be in addition to and not in derogation of, any other law for the time being in force.
51. Provisions of the Act not to Apply in Certain Cases – The provisions of this Act shall not apply to the Ministry or Department of the Ministry dealing with Defence, Atomic Energy or such other similar Ministries or Departments or undertakings or Boards or institutions under the control of such Ministries or Departments as may be notified by the Ministry.
52. Power to Remove Difficulty
- (1) Upon any difficulty arising in giving effect to the provisions of this Act, the Ministry may, by order, published in the Official Gazette, make such provisions not inconsistent with provisions of this Act as may appear to be necessary for removing the difficulty.
  - (2) Provided that no such order shall be made under this section after the expiry of five years from the date of commencement of this Act.

- (3) Every order made under this section shall be laid, as soon as, may be after it is made, before each House of Parliament.

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