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LAWS GOVERNING RENEWABLE ENERGY IN INDIA

AUTHORED BY - PRITEE DEOTALE

Abstract

The laws governing renewable energy sector in India are not aligned in nature. It involves many agencies in the regulatory and legal framework. The role of these agencies altogether has created an overlapping character which clearly depicts the inadequacy in the existing legal framework of renewable energy in India. The article lays down the existing gaps in the governance of renewable energy sector. At the end of the article the author proposes measures in order to fill the gaps and bring reform in this sector.

Keywords: Renewable Energy, Legal Framework, Reforms.

Introduction

With the industrial revolution and increasing population of India, the energy sector of India took a drastic leap in past few decades giving impetus on not only the energy consumption but also on the energy creation. Energy has thus become one of the most dynamic features for the development and elevation of the country's economy since the 19th Century. About 70% of India's electricity is generated from Fossil fuels thus India is largely dependent on fossil fuels to meet its energy demands.¹ These fossil fuels such as oil, gas and coal are limited in nature and will be exhausted in coming few decades.² This has coupled the urgent need of alternate sources of energy and environmental protection; hence the planners were forced to reform the policies governing renewable energy.

¹Michael Waldron, Commentary: Energy is at the heart of India's transformation, www.iea.org/newsroom/news/2017/april/commentary-energy-is-at-the-heart-of-indias-transformation.html (April 23, 2019).

² Talai Hussein, World Energy Outlook 2018: five take-homes for fossil fuels, www.power-technology.com/features/world-energy-outlook-2018-fossil-fuels/ (April 23, 2019).

The 2015 United Nations Climate Conference in Paris was the first ever universal, legally binding global climate deal. 195 countries across the globe adopted the climate deal. It has reaffirmed the need of renewable energy technologies to attain the goal of sustainable development. Many countries have adopted the renewable energy technologies to meet its electricity demands and reduce carbon emission.³

The emergence of Renewable Energy Regulations in India can be traced back to the late 1970's when the world was facing a serious problem of energy crises. The year 1976 turned out to be a game changer due to the Forty second amendment to the Constitution of India which added Article 48A⁴ which put forward a new regime regarding the protection and improvement of environment and safeguarding forest and wildlife. These energy crises then lead to the creation of Commission for Additional Sources of Energy (CASE) in the year 1981. Then in 1982 Department of Non-Conventional Energy Sources was created, both these commissions gave impetus on creating an exclusive Ministry for Renewable Energy in India in the year 1992 which was known as Ministry of Non-Conventional Energy Sources (MNES) till 2006. This is the Nodal Ministry of the Government of India under the Ministry of Power. It is the existing regulatory body for the renewable energy in India. It broadly aims at developing and deploying new and renewable energy for supplementing the energy requirements of the nation. Further the Ministry was renamed in the year 2006 as Ministry for New and Renewable Energy (MNRE).

Laws Governing Renewable Energy in India

The Electricity Act 2003 is the key legislation governing the renewable energy in India. It mandates the SERC's to take steps to promote renewable and non-renewable sources of energy within their area of jurisdiction.⁵ It calls to promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with grid and sale of electricity to

3 Center For Climate and Energy Solutions, OUTCOMES OF THE U.N. CLIMATE CHANGE CONFERENCE IN PARIS, 21st Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21), December 2015.

4 48(A) Protection and improvement of environment and safeguarding of forests and wildlife. "State shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country".

5 Electricity Act 2003, Section 3. (National Electricity Policy and Plan) --- (1) The Central Government shall, from time to time, prepare the National Electricity Policy and tariff policy, in consultation with the State Governments and the Authority for development of the power system based on optimal utilization of resources such as coal, natural gas, nuclear substances or materials, hydro and renewable sources of energy.

any person, also specify for purchase of electricity from such sources, a percentage of total consumption of electricity in the area of distribution license.⁶ Legislation prior to Electricity Act 2003 had no specific provisions that would promote renewable or non-conventional sources of energy. Despite this shortcoming, the Ministry of MNRE has worked towards supporting the sector by way of a policy guideline since 1994-1995, with mixed results. However the Electricity Act 2003 changed the legal and regulatory framework for the renewable energy sector in India. The Electricity Act 2003 mandates policy formulation to promote renewable sources of energy of the federal government, the state governments and the respective agencies with their jurisdictions.

As mandated by the Electricity Act 2003, the SERC's determines the tariff for all Renewable projects across the respective states, and the state owned power Distribution Companies (DISCOM's) ensures grid connectivity to the renewable energy project sites, which generally are suited in remote locations, away from major load centers. States have come out with technology specific Renewable Purchase Specifications (RPS's) which they continue to split between solar and non-solar activities.⁷ All these activities take place under the purview of Electricity Act 2003. But the renewable energy sector involves too many agencies in regulating the renewable energy sector. At the central level, the Ministry of New and Renewable Energy (MNRE) is the nodal ministry of the Government of India for all matters relating to new and renewable energy. MNRE also conducts resource assessments for renewable energy and supports R&D in renewable energy technologies. There are specialized technical institutions set up under MNRE such as the Solar Energy Centre, C-WET, and Sardar Swaran Singh National Institute of Renewable Energy (SSS-NIRE), which serve as technical focal institutes for solar, wind, and bio-energy, respectively.⁸

At the state level, there are nodal agencies and departments which operate under the purview of the respective state governments for the effective implementation of all renewable energy and cogeneration schemes. These agencies promote renewable energy deployment at the local level by

6 Electricity Act 2003, Section 61. (Tariff regulations): The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely (h) the promotion of co-generation and generation of electricity from renewable sources of energy.

7 Electricity Act 2003, Section 63. (Determination of tariff by bidding process): Notwithstanding anything contained in section 62, the Appropriate Commission shall adopt the tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government.

8P R Krithika and Siddha Mahajan, Background paper Governance of renewable energy in India: Issues and challenges, The Energy and Resource Institute, 2014.

channeling central-level subsidies, implementing demonstration projects, and providing assistance to interested parties. Many of the state agencies are also designated agencies for the implementation of the Energy Conservation Act, 2001. The MNRE provides grants to these agencies for their recurring and non-recurring expenditure. Financial assistance to renewable energy projects is provided through the Indian Renewable Energy Development Agency (IREDA) the financial arm of the MNRE which provides loans and also channels funds and other initiatives to promote renewable energy. IREDA is registered as a non-banking financial company and arranges its resources through market borrowing and lines of credit from bilateral and multilateral lending agencies.⁹ This is the legal framework for power generation through renewables in India.

Role of Central Government and State Government

The Central Government and State Government both play an important role in the policy development, regulation and promotion of renewable energy as their mandate encompasses the renewable energy sector.

- **Central Government**

The Ministry of Power (MoP) deals with the development of national electricity policy and national tariff policy, which also cover renewable energy.¹⁰ They play a key role in promoting procurement of renewable energy-based power. The Ministry of Finance (MoF) provides the fiscal incentives for promoting renewable energy. The Ministry of Environment and Forests (MoEF) is responsible for providing environmental clearances for renewable energy projects.¹¹ The Ministry for New and Renewable Energy (MNRE) develops national energy laws. It sets technical standards for renewable energy. It conducts resource assessments for renewable energy; supports R&D in renewable energy technologies. Promotes effective use of information technology for renewable energy, manages database. Reviews renewable energy programmes to understand their effectiveness and efficiency.¹² The Central Electricity Regulatory Commission (CERC) sets guidelines for feed in tariff design for different renewable energy technologies. It regulates the regional electricity

9 Government of India, Ministry for New and Renewable Energy, mnre.gov.in/ireda, (June 10, 2019).

10 Government of India, Ministry of Power, powermin.nic.in/en/content/national-electricity-policy, (June 10, 2019).

11 Government of India, Ministry of Environment, Forest and Climate Change, envfor.nic.in/division/funding/ (June 10, 2019).

12 Government of India, Ministry for New and Renewable Energy, mnre.gov.in (June 10, 2019).

corporation mechanism and regulates interstate open access, and third party sales.¹³

- **State Government**

The state government develops state-level renewable energy policy and provides fiscal incentives for promoting renewable energy sources. Every state has its own state nodal agency which is known as State Energy Development Agency which conducts resource assessments for various renewable energy sources. Its main function is to allocates renewable energy projects and monitor its progress; Provides facilitation services to project developers; Facilitates clearances and land acquisition; Creates awareness and educates the masses about adoption of renewable energy; Maintains database on renewable energy sources. Like the state nodal agencies every state has a State Electricity Regulatory Commission (SERC) and its function is to develop feed-in tariff methodologies for different renewable energy technologies. It also determines RPOs and enforcement mechanism. It sets regulations on intrastate wheeling, open access, and third party sale.¹⁴

Policies Governing Renewable Energy

The policies regarding renewable energy have been enacted by Government of India which is implemented with a motive of the expansion of the renewable energy. The National Electricity Policy of 2005 permits the SERC's to establish a tariff which will make the electricity generated from renewable energy cost effective and creates competition in the market.¹⁵ The Tariff Policy of 2006 was enacted with an aim to fix minimum percentage of RPO's by the SERC's from renewable sources keeping in mind the availability of those resources in the respective region and its impact on the electricity tariff.¹⁶ It also aims at sustainable use of renewable power by procuring it for future needs through the process of competitive bidding. The guidelines for competitive procurement have been framed under Section 63 of the Electricity Act, 2003.¹⁷

13 Central Electricity Regulatory Commission, www.cercind.gov.in/serc.html, (June 10, 2019).

14 *Ibid.*

15 Government of India, Ministry of Power, powermin.nic.in/en/content/national-electricity-policy, (June 10, 2019).

16 Renewable Energy Regulatory Framework, mnre.gov.in, (June 10, 2019).

17 Section 63. (Determination of tariff by bidding process): Notwithstanding anything contained in section 62, the Appropriate Commission shall adopt the tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government.

The first attempt made by India of pulling together all the energies under one umbrella when the planning commission released the 'Integrated Energy Policy': Report of the Expert Committee (IEP) in October 2006, which provide a broad overarching framework for all policies governing the generation, distribution and consumption etc. of different energy sources. Although the report of the expert committee has been available since 2006, political commitment to it has been limited. While the IEP report emphasized on the need to move away from capital subsidies towards performance incentives, to promote renewable energy sources. It assigned a limited role to power generation from Renewable energy sources even as late as 2032, with only 5.2% of renewable based electricity in the grid.¹⁸

The Indian Energy Policy, adopted by the Indian government in 2006, is India's comprehensive energy road map. Prepared by the Planning Commission of India, the IEP identifies multiple energy challenges, including meeting energy demands, securing supply, mitigating climate change, and promoting renewable and alternative energy. The IEP sets forth several policy choices to address these challenges. These choices comprise four strategies: energy diversification and efficiency; catalyzing investment in energy diversification by competitiveness, regulatory intervention, energy pricing changes, and effective subsidies; strengthening diplomacy; and accountability for environmental externalities.¹⁹

India has been running a renewable energy program, excluding large hydro (as hydro energy falls under the Ministry of Power), for more than two decades, and has policies that support renewable energy at the central and state level. These domestic policies have been combined with participation in the Clean Development Mechanism (CDM) by renewable project developers with reasonable success. However, given the overall size of the energy system, the contribution of renewables is still small.²⁰

The benefits of electricity efficiency have been recognized in the 10th and 11th Five-Year Plans that

18 Planning Commission of India, Government of India, "Integrated Energy Policy Report of the Expert Commitment", http://planningcommission.gov.in/reports/genrep/rep_intengy.pdf, (April 24, 2019).

19 Anjali Viswamohan and Kanika Chawla, "NITI Aayog's Draft Energy Policy Fuels Doubts about India's Commitment to Renewables", thewire.in/environment/niti-aayog-draft-energy-policy-thermal-power (April 24, 2019).

20 United Nations Conference on Trade and Development, "The State of Play of the Clean Development Mechanism Review of Barriers and Potential Ways Forward", unctad.org, (April 24, 2019).

outline measures for its implementation. Schemes for promoting energy efficiency during the 11th Plan include the Bachat Lamp Yojana (promoting the uptake of CFLs), the Standards and Labeling Scheme (covering all basic household appliances, as well as motors, variable speed drives and agricultural pump sets), Energy Conservation Building Codes (for new commercial construction), Agricultural and Municipal Demand-Side Management (DSM) Schemes. The 11th Plan recognizes that restructuring incentives and support by shifting from supply driven programs to demand driven programs and technologies would be beneficial. The India Planning Commission has recognized the strengthening of the Bureau of Energy Efficiency (BEE) as a priority, and regulatory commissions in many states are considering demand-side options. Hence, aggressive steps for the promotion of EE measures are expected in the 12th Plan as well.²¹

India is a sun rich country and the leading policy initiative for solar energy is the Jawaharlal Nehru National Solar Mission (JNSSM) launched in 2010, it aims on generation capacity additions from solar technology which includes both solar thermal and solar photovoltaic in terms of both grid-connected and offgrid applications. The Mission has adopted a three-phase approach, spanning the period of the Eleventh Plan and the first year of the Twelfth Plan (up to 2012–13) as Phase I. The remaining four years of the Twelfth Plan (2013–17) has been marked as Phase II and the Thirteenth Plan (2017–22) will be Phase III of the project.²²

The National Tariff Policy was amended in January 2011 prescribing solar-specific RPOs to be increased from a minimum of 0.25% in 2012 to 3% by 2022. The Central Electricity Regulatory Commission (CERC) and State Electricity Regulatory Commissions (SERCs) have issued various regulations including solar RPOs, Renewable Energy Certificates (REC) framework, tariff, grid connectivity, forecasting, etc., for promoting solar energy.²³

Under the National Offshore Wind Energy Policy 2015, the Ministry of New & Renewable Energy (MNRE) has been authorized as the Nodal Ministry for use of offshore area within the Exclusive Economic Zone (EEZ) of the country and the National Institute of Wind Energy (NIWE) has been

21 Bureau of Energy Efficiency (Ministry of Power, Government of India), “Annual Report 2013-2014”, beeindia.gov.in, (April 24, 2019).

22 Ministry of New and Renewable Energy, Jawaharlal Nehru National Solar Mission Phase II – Policy Document, 2012, mnre.gov.in/file-manager/UserFiles/draft-jnnsmpd-2.pdf (June 7, 2019).

23 Ministry of New and Renewable Energy, Solar RPO and REC Framework, mnre.gov.in/solar-rpo, (June 7, 2019).

authorized as the Nodal agency for development of offshore wind energy in the country and to carry out allocation of offshore wind energy blocks, coordination and allied functions with related ministries and agencies.²⁴ It would pave the way for offshore wind energy development including, setting up of offshore wind power projects and research and development activities, in waters, in or adjacent to the country, up to the seaward distance of 200 Nautical Miles (EEZ of the country) from the base line. Preliminary assessments along the 7600 km long Indian coastline have indicated prospects of development of offshore wind power. With the introduction of the National Offshore Wind Energy Policy, the Government is attempting to replicate the success of the onshore wind power development in the offshore wind power development. The scheme would be applicable throughout the country depending upon offshore wind potential availability.²⁵

The Central Government has notified the revised Tariff Policy 2016 in exercises of powers conferred under section 3(3) of Electricity Act, 2003. The tariff policy has been evolved in consultation with the State Governments, the Central Electricity Authority (CEA), the Central Electricity Regulatory Commission and various stakeholders.²⁶ The objectives of this tariff policy are to; Ensure availability of electricity to consumers at reasonable and competitive rates; Ensure financial viability of the sector and attract investments; Promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimize perceptions of regulatory risks; Promote competition, efficiency in operations and improvement in quality of supply; Promote generation of electricity from Renewable sources; Promote Hydroelectric Power generation including Pumped Storage Projects (PSP) to provide adequate peaking reserves, reliable grid operation and integration of variable renewable energy sources; Evolve a dynamic and robust electricity infrastructure for better consumer services; Facilitate supply of adequate and uninterrupted power to all categories of consumers; Ensure creation of adequate capacity including reserves in generation, transmission and distribution in advance.

24 DSK Legal, India: National Offshore Wind Energy Policy, 2015, <http://www.mondaq.com/india/x/441280/Renewables/National+Offshore+Wind+Energy+Policy+2015>, (June 7, 2019).

25 Government of India, "National Offshore Wind Energy Policy", mnre.gov.in/file-manager/UserFiles/National-Offshore-Wind-Energy-Policy.pdf (April 23, 2019).

26 Ministry of Power, "Draft Amendments to Tariff Policy", powermin.nic.in/sites/default/files/webform/notices/Proposed_amendments_in_Tariff_Policy_0.pdf, (April 23, 2019).

Regulatory framework

The regulatory framework of renewable energy in India is governed by the CERC and the SERC's. These commissions are the regulating authorities for the energy based systems in India at the central and state level respectively. The renewable energy based systems can be classified in two categories i.e. grid connected systems and the off grid systems but the regulatory authority covers only the grid-connected systems and at present the off-grid systems do not fall under the purview of regulatory authority.²⁷ For the grid-interactive systems, the CERC sets guidelines for feed-in tariffs for different renewable energy technologies and issues regulations for interstate open access.²⁸

Every state has its own regulatory body known as SERC. The SERC is bestowed with certain roles and they are to determine the feed-in tariffs for different renewable energy technologies; to set RPO's for states; to issue regulations on open-access; the third party sales etc. The SERC's have direct impact on them except the third party sales. The SERC's are loosely bound by the directives and guidelines given by the CERC. Most of the states have announced regulations for the intra-state open access. The final decision regarding the renewable energy projects development stays with the SERC's and the progress of those projects depends mainly on the state policies and the facilitation from the state nodal agencies.²⁹

The regulatory framework for the renewable energy in India is evolving with time as these sources are progressively sharing a higher amount of power. The Government of India has brought the Renewable Regulatory Fund (RRF) regulations in 2010 as per the provisions of the Indian Electricity Grid Code Regulations, 2010. It aims to achieve better generation prediction using weather forecasting tools and immunize wind generators from paying deviation in Unscheduled Interchange (UI) charges up to a certain level of variation, beyond which the deviation charges will be socialized across states. Then in the year 2015 the third amendment was made to the CERC regulations which were; Sharing Inter-State Transmission Charges and Losses. The transmission charges (POC) charges and losses are applied on wind generation. However solar projects

27 Government of India, Ministry for New and Renewable Energy, mnre.gov.in (June 10, 2019).

28 Central Electricity Regulatory Commission, www.cercind.gov.in, (June 11, 2019).

29 Energy Sector Management Assistance Program, Unleashing the Potential of Renewable Energy in India, <http://www.indiaenvironmentportal.org.in>, (June 11, 2019).

commissioned before 30th June 2017 will be exempted from payment of transmission charges and application of transmission loss.³⁰ These objectives of tariff policy are not only applicable to energy created from fossil fuels but also applicable to renewable sources of energy.

Gaps in the Governance of Indian Renewable Energy Sector

- The involvement of too many agencies has given rise to the gaps in the governance of renewables in India by giving rise to the overlapping jurisdiction.
- The renewable energy sector of India lacks technical competence and skill sets. These skill sets are far different from the conventional sources of energy and the states who share higher amount of renewable power are facing challenges. Thus, a planned approach is required to ensure that power system safety, security, and stability remains intact at all operating conditions.
- The state nodal agencies facilitates the clearance of renewable energy projects, these state nodal agencies helps in clearance from pollution control boards, mining, fisheries, forests, etc. in some states the clearance responsibilities lies on the developers thus on an average it takes an year for the land acquisition. As per Karnataka state policy, the private developers cannot acquire agricultural land for renewable energy projects. The land has to be converted to non-agriculture land to be acquired. The whole process of identifying suitable land, conversion, and finally acquisition is an extremely time-consuming process.
- The Jawaharlal Nehru National Solar Mission aims to make India a hub for the manufacturing solar equipments. However this mission did not lived up to the expectations as the Indian manufacturers were unable to compete with the international market. Thus India needs a strong mechanism for the manufacturing and enhances the research and developments capabilities of the solar industry.
- Many states have specified RPO targets form renewables but the regulatory compliance lacks the enforcement of RPO regulations. Even in many state nodal agencies the records for RPO compliance are not available. The non-compliance with RPO targets also has had implications on the REC market.

30 Power System Operation Corporation Ltd, Corporate Plan 2017-18, posoco.in/wp-content/uploads/2017/05/Corporate-Plan-2017-18.pdf, (June 11, 2019).

- The renewable energy sector has shown a massive growth and to keep this going it requires huge investments from the government as well as from the private entities. However it is seen that it lacks budgetary investment as per the financial need of the sector.
- The renewable energy sector has praised for the transparency and accountability still there are certain issues to be addressed regarding the National Clean Energy Fund which is being administered by the Ministry of Finance. There were inconsistencies between the stated objectives and the final approval of project. Hence there is a need of more transparency on the process of disbursement of funds.
- Generally the renewable energy projects do not create any adverse effect on the environment and these projects are outside the purview of Environmental assessment. But there are certain projects which created problems but they are very few in number. The main problem related to these projects is the availability of land as they are set up in forests, government or private land. The other major problem here is acquiring private lands as it involves high cost.
- The renewable energy certificate (REC) market is facing a huge demand and supply mismatch which has impacted the REC's trading.

Hence all these gaps must be addressed and reforms must be brought for the better functioning of this sector. Though renewable energy is one part of energy sector but it has immense potential to overpower all the other energies if regulated appropriately and make India energy efficient.

Conclusion

Due to the involvement of multiple agencies the promotion of renewable energy is taking place at a very slow pace. Though the growth in renewables in the past five years is remarkable; hence to continue this growth the sector needs a reform. The sector needs to set ambitious targets at both central and state level with effective implementation of the regulations. The RPO enforcement has to be made stringent with regulators imposing penalties on discoms in case of non-compliance in a fair and transparent manner. The solar industry needs to be elevated by making strategic changes in the policies implemented and financing the solar manufacturing industries to make India a hub for solar industry. The technical capabilities should be sound enough at the institutional level as the

technical skills required for renewables are far different from the conventional sources of energy. The investments made by the Ministry should be increased as the renewables are highly efficient in meeting the energy demands of the country. Lastly the land acquisition issues faced by the project developers could be removed if the land and revenue department enable the availability of land by creating the land banks.