Bihar policy for promotion *of* new & renewable energy sources 2017

CEED
Centre for Environment and Energy Development
INSPIRING. EMOTIVE. RESPONSIBLE

Bihar policy for promotion *of* new & renewable energy sources 2017

Policy Brief

Introduction

A centre of learning and culture, Bihar is one of the fastest growing states in India with rapid economic growth. Bihar is moving forward to build the required infrastructure and other services to meet the need for socially-inclusive and sustainable development of the state. The rapid growth and required infrastructure creation needs to commensurate growth in electricity generation. The state that traditionally lagged behind in ensuring quality access to modern energy to all its population, is now marching toward ensuring dream of **"power for all"** for the citizens of Bihar. Currently, Bihar has close to 3000 MW of installed capacity for electricity generation (Mar 2016), with coal contributing to more than 92% of the capacity. To ensure sustainable and socially inclusive development for all, Bihar needs to build clean, affordable and reliable sources of energy which can meet the aspiration of its people. Giving due cognizance to the issue at hand, the Bihar Government has pledged to provide 24X7 electricity supply to all households, including rural households by March 2019. Attaining such an ambitious target will require a complete transformation of the energy sector with plans to tap massive renewable energy potential, including solar energy.

> "Marching towards ensuring the dream of '*power for all*' in Bihar..."

The Bihar Government had announced a first of its kind Renewable Energy policy for the state for the next five years, which will help the state reach energy sufficiency by adding 3433 MW of power from renewable energy sources into its generation capacity by 2022. The policy entitled "Bihar Policy for Promotion of Bihar New and Renewable Energy Sources 2017" is truly inclusive and techno neutral with focus on each RE technology to harness 3433 MW of clean energy in the next five years. With well defined target, fixed time line, emphasis on solar-roof top, Decentralised Renewable Energy (DRE) systems, and potential to transform agriculture sector through clean energy are some of the key features of the policy. For the first time, Bihar Government has focussed on creating land banks at district level, and has covered all government buildings' rooftop as potential roof land for solar projects.

Status of renewable energy and related policies in Bihar

Renewable Energy has slowly marked its presence in Bihar under various technologies like solar rooftop, home-lighting system, mini-grids, solar-powered irrigation pump and grid connected solar. Bihar had formulated a Policy for Renewable Energy back in 2003.

The Government of Bihar formulated a "Policy Guideline for Private Sector Participation for Developing Non-Conventional Energy Sources" in 2003, which ended in 2008. Keeping in mind that Bihar has considerable potential for New and Renewable Energy sources, which is yet to be harnessed, the Government of Bihar issued a revised "Bihar Policy for promotion of New and Renewable Energy Sources 2011" for promotion of power generation from various sources of New and Renewable Energy in 2011 for the next five years.

However, since 2003, growth of renewable energy has had the same fate as the overall electricity sector in the state. Since 2003, the total grid connected renewable energy (RE) installed is little over 250 MW, which is 7.2% of the total installed capacity of the state. Around 239.04 MU of electricity was generated and supplied through renewable energy projects till February 2017. The Bihar Renewable Energy Development Agency (BREDA) has set up solar off-grid projects of 3.134 MW capacity in the state with various projects underway in educational institutions and hospitals.

Attuned to the changing scenario, which includes rising cost of conventional energy and lowering cost of solar energy, a new set of policies was required to accelerate renewable energy development; considering the revised national target of 175 MW by 2022. CEED supported BREDA to draft new **Bihar Policy for Promotion of New and Renewable Energy Sources-2017 with the vision to ensure "Energy Access to All".** It is one of the most comprehensive renewable energy policies prepared by any state in recent past which is technology-neutral, and covers both both grid-connected and decentralised system with specific deployment mechanisms and financial incentives. The Government of Bihar has set exemplar targets in the mini grid sector understanding its urgent need for energy access.

Key takeaways of the policy

1. Aims to make Bihar self sufficient by adding 3343 MW of renewable energy in the grid by 2022.

2. Technology-specific target under policy are 2969 MW for solar, 244 MW for biomass and bagasse cogeneration and 220 MW for small hydro power by 2022

3. Dedicated rooftop solar target of 1000 MW with both net metering and gross metering mechanisms

4. Key thrust to the mini-grid sector, with a target of 100 MW with specific subsidies and proposed rollout framework

5. Innovative solar projects on canal systems and floating PV plants

6. The policy ensures 100% banking of energy permitted during all 12 months for renewable energy projects

7. Exemption of VAT, duty, cross subsidy surcharge for different consumers

8. Creation of Land Bank in each district for renewable energy projects

9. Conversion of roof spaces of all the state government buildings in the state as "roof bank" for solar rooftop projects.

10. The policy will be reviewed twice: one during mid-term, and second at the end of the operative period

Technology Focus

01. Grid connected solar rooftop

The Government of Bihar promotes deployment of rooftop solar PV projects, keeping into consideration the potential benefits of deployment of rooftop solar PV projects; optimal utilisation of spaces on rooftops; savings on investment in transmission and distribution infrastructure; savings on reducing the network losses; and reduced cost

for managing the scheduling of electricity, etc. The policy sets an ambitious target of 2969 MW of grid connected solar in the state, with a special provision of 1000 MW for rooftop solar PV. The Bihar Government hereby approves and mandates utilisation of all government/municipal office buildings' roofs for implementation of rooftop PV projects.

Three models are suggested under the policy for implementation of solar rooftop projects in the state, which includes both Gross-metering and Net-metering based solar rooftop projects, and Third-party sale for captive power consumers.

02. Mini grids

To meet the ambitious goal of providing reliable 24X7 power to all by FY 2018-19, the policy envisages a key role of decentralised solutions like mini-grids for ensuring energy access and improved rural electrification. The Bihar Government through this policy targets to achieve 100 MW capacity of mini-grids in unserved areas (villages and hamlets which do not have electricity), and underserved areas (villages with low grid electricity supply) to ensure access of electricity for applications beyond lighting, such as fan, mobile charging, and productive and commercial requirement. Mini-grid projects with capacity size of upto 500 KW and powered through solar, biomass, wind and hybrid can be installed.

> "All the projects implemented under the subsidy and non-subsidy model shall be constructed on a build, own, operate and maintain (BOOM) basis, and they will be encouraged to access other Central Government subsidies or incentives"

03. Small Hydro

The policy envisages a cumulative target of 220 MW of micro/mini /small hydro projects in the state. The list of hydro power projects for development by independent power producers will be notified by BHPC from time to time in its website. However, the developers are also free to identify/select site on their own. The developer company will have to make their own sub-transmission line or can use existing network of distribution company for delivering power to its nearest power sub-station. The project developers may sell power to third parties/captive power users after paying applicable charges to distribution companies/power holding company of the state.

04. Biomass & bagasse power

The policy envisages that biomass and bagasse based cogeneration projects will contribute a cumulative target of 244 MW by 2022. To ensure long term fuel availability and sustainable price, the Government of Bihar shall promote captive plantation backed biomass power plants. For any project having a capacity of 5 MW or more, BREDA/SIPB shall not approve any other biomass based project within a radial distance of 25 km from approved project. Development of energy plantation on government waste land and degraded forest land may be allowed for creating supply of supplementary fuel for biomass power plants.

05. Solar parks

The state government shall make due efforts to facilitate the development of solar parks in the state. The parks shall be sized in a manner that yields economic parity to the project developers and competitive tariff to the procurer. Incentives available under MNRE's solar park scheme shall be applicable under this category to the solar parks. Solar parks are envisaged to be developed in three modes which are **a)** developed by BREDA, where private players shall be provided with 'plug and play' participation mode; **b)** joint venture with which BREDA or state agencies have minor share of 26% while private entities will be amor partner and **c)** fully developed and owned by the State Government.

06. Canal top PV

Bihar has many large canals that offer a potential avenue for development of solar PV projects, and save water loss due to evaporation in addition to generate solar energy and creating employment opportunities for local population. BREDA will play a key role in implementation of such projects through consulting state irrigation departments, entering into requisite agreements, and releasing capital subsidy or financial assistance available from MNRE to developers

07. Floating PV

Floating solar projects have emerged as a viable alternative at places where land is in scarcity. The Government of Bihar shall support floating grid connected solar projects to be deployed by 2022. By installing solar panels over a pond, lake or reservoir, the panels are naturally cooled, resulting in improved power production performance, compared to similar ground mounted projects.

Incentives for renewable energy projects

Transmission and distribution charges shall be exempted for wheeling of power generated from renewable power projects, but only for captive use/third party sale within the state. Further, the State Government will cover the capital cost of the transmission system for evacuation of power from RE projects to its nearest sub-station which also include all metering and protective instrument. Bank of 100% energy from RE project will be allowed for all captive and open access / schedule consumers during each financial year with charges at 2% of the energy delivered at the point of drawing.

The incentives available to industrial units under industrial department schemes shall be available to the RE power producers because generation, transmission and distribution of electricity from renewable energy projects shall be treated as an eligible industry. All eligible beneficiaries can avail central financial assistance from MNRE, or any other central government body as per the amicable scheme.

Land

It is the responsibility of the project developers to acquire land for setting up the project. However, BREDA shall also create a “Land Information Bank” for each district which shall be made accessible online on BREDA’s website. Land owner including farmers are advised to come forward and provide details of such lands that they wish to give to the RE projects. All the state government ministries and their respective department shall be requested to carry out rooftop survey, and provide a list of number of rooftops and their shade-free areas. This rooftop database shall also be maintained on the land information bank and shall be available for prospective project developers.

Skill Development and Capacity Building

The Government of Bihar through BREDA shall design training programs in association with National Institute of Solar Energy (NISE) to train electricians, mechanics and civil experts on solar. Various skill development programs will be designed by BREDA and NISE; and subsequently training will be imparted across the state, and across the segments like installation, operation and maintenance of solar projects, testing of solar products, solar resource assessment, refurbishment, DPR preparations etc.

BREDA shall also explore programs like Bihar Rural Livelihoods Project—JEEVIKA, to reach out to local youth, especially women, and support entrepreneurship at the grass-root level to improve socio-economic conditions of financially underprivileged.

Data monitoring & scheduling

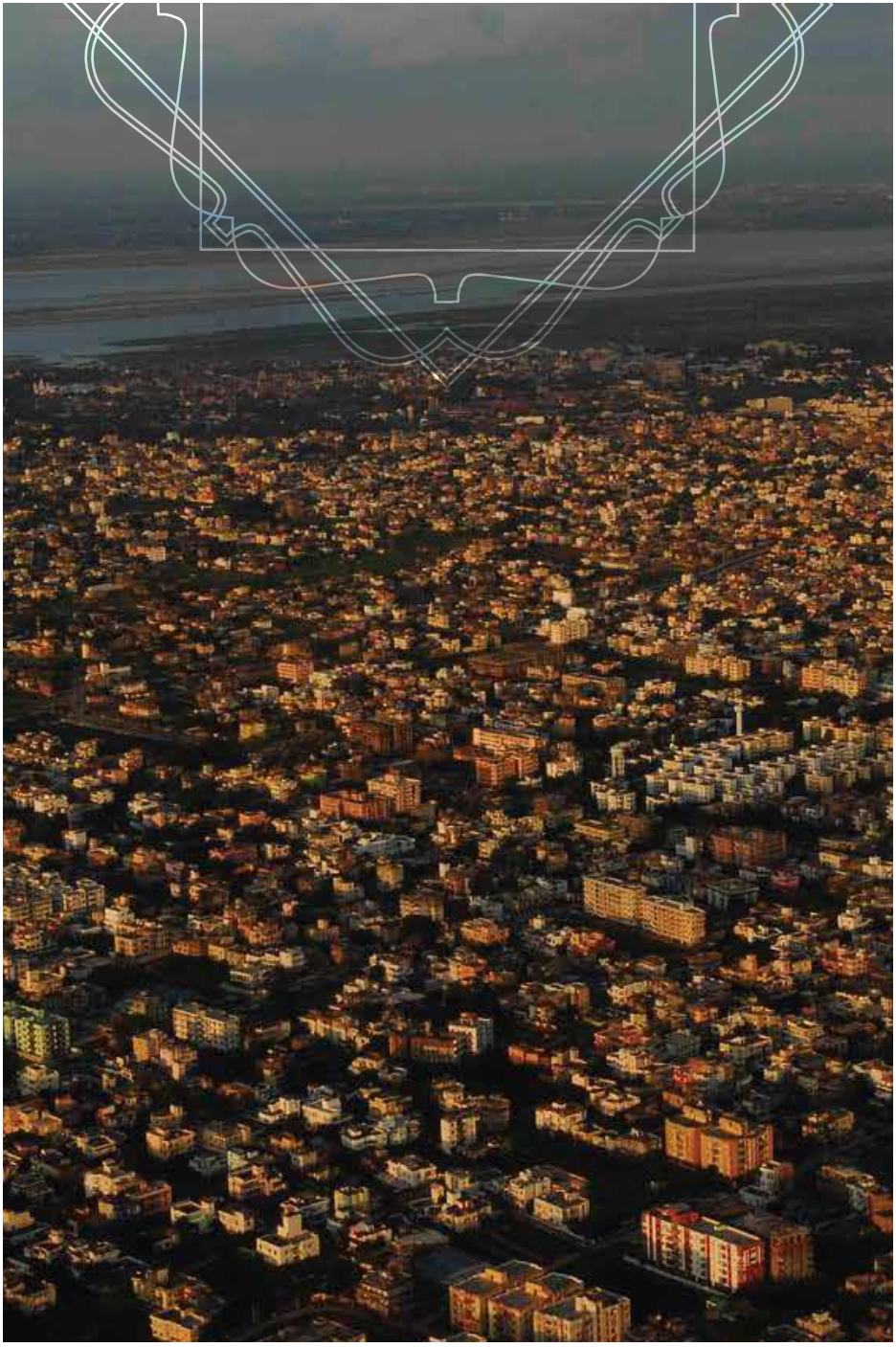
The Government of Bihar shall set up new precedents in data transparency and have the performance data of projects on public portal. The monitoring mechanisms will be extended to decentralized and mini grid projects as well. There will also be 10 new weather stations for better accurate data generation. The electricity generated from RE sources will be exempted under the scheduling procedure for the state's availability based tariff (ABT).

Bihar renewable energy development fund

The creation of RE fund is quite critical to skill, research and institution development, as well as to provide incentives. The fund will be created by one time fee form various types of renewable energy projects depending on their size. It will be as low as INR 1000 for a 1 kWp system and upto INR 10,000 for a 1 MW project. There will also be a 10 paise/unit cess for the development fund on each unit of power sold by the DISCOM to all the consumers, except BPL and agriculture consumers. A service charge of 7% will be charged by BREDA for the execution of the RE projects, which will also go directly into the development corpus.

Implementation guidelines/framework

BREDA has already taken priority steps to ensure the implementation guidelines or framework for all technologies/applications covered in this policy within a stipulated period of issuance of this policy, as mentioned below. The framework will clearly identify the mechanisms, agencies and their roles, timelines etc. The guidelines for mini-grids, rooftop solar , biogas power, net-metering, gross-metering and renewable energy fund management will be released in consultation with BREDA, BERC and DISCOMS.



About CEED

Centre for Environment and Energy Development (CEED), an environment and energy expert group involved in creating sustainable solution to maintain a healthy, rich and diverse environment. CEED primarily works towards clean energy, clean air, clean water and zero waste solutions by creating an enabling environment and policy framework to scale up investments in low carbon development, climate mitigation and adaptation. CEED engages with government, industries, leaders, think-tanks, stakeholders and public to create environmentally responsible and socially just solutions.


CE
ED
CENTRE FOR
ENVIRONMENT
AND ENERGY
DEVELOPMENT

CONTACT DETAILS

A1-248, 2nd Floor, Safderjung Enclave, New Delhi 110 029
+9111 4103 2200

B/194, 2nd Floor, Shri Krishna Puri
Patna, India 800001

ceedindia.org /CEEDIndia.org /CEED_India

Disclaimer: This brief is a summery of the full version of "Bihar Policy for Promotion of Bihar New and Renewable Energy Sources-2017" approved by the state Government of Bihar.