



Jammu & Kashmir Energy Development Agency(JAKEDA)

Department Of Science & Technology

Govt.Of J&K



सत्यमेव जयते

Government of Jammu and Kashmir

Draft Bio-energy Policy 2022



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**Jammu and Kashmir Energy Development Agency, Science and Technology
Department**

UT OF Jammu and Kashmir

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INTRODUCTION

- Biomass energy is replenishable over a cycle that may vary from months to years. The biomass produced in agriculture operations is an excellent source of energy and need to be harnessed to save precious conventional fuels.
- Jammu and Kashmir is primarily an agrarian State. J&K has surplus biomass availability which has tremendous potential for utilization of the residues of these crops to generate electricity/biogas/ bio-CNG/bio-manure/bio-fuels etc.
- The need to promote these projects has been further necessitated due to the aggravated environmental issues because of burning of crop residues in fields
- Promoting use of biomass for production of energy including cogeneration, bio-CNG, bio-char and biofuels/bio-ethanol will not only help reduce dependence on conventional sources energy thereby reducing import bills but will also help to improve environment & soil health and will also create alternate stream of income to farmers and employment in rural areas.
- The open crop residue/Biomass burning causes the emission of air pollutants such as atmospheric pollutants and gases and ultimately influence the atmospheric quality and climate.
- Biomass based projects, unlike solar and hydro, face the challenge of fuel linkage, so, while promoting these projects due diligence is required for the same.

OBJECTIVES, TARGET & ELIGIBLE TECHNOLOGIES

Objectives

- To create conducive environment to attract private investment in biomass projects.
- To harness biomass based power/ biogas/ bio-CNG/ bio-manure/ bio-fuels etc. as it has huge potential of energy with sustainable environmental benefits through techno-economically viable technologies.
- To support research and development, demonstration and commercialization of new technologies.

Target & Eligible Technologies

- It is proposed to achieve a target of minimum 5 MW biomass based power generation (or equivalent) by 2024.
- **Eligible Technologies:** This Policy will strive to promote Biomass to bio energy projects based on the technologies approved by MNRE and categorized as biomass based projects for power generation using Rankine cycle, Bio-CNG/bio-gas cum organic manure projects using advanced anaerobic digestion and bio-fuels/ bio ethanol and other innovative technologies etc.

Various National Bio Energy Schemes/Programmes of Government of India

- New National Biogas and Manure Management Programme (NNBOMP)
- Waste to Energy
- Biogas based Power Generation and Thermal Application Programme (BPGTP)

1. New National Biogas and Manure Management Programme (NNBOMP)

Introduction:-Biogas is a clean and efficient fuel. Biogas is produced from Cattle Dung, Human Excreta and other organic matter in Biogas Plant through a process called 'Digestion'. Biogas contains 55% to 60% methane which is inflammable. It also contains 30% to 35% carbon dioxide and traces of Nitrogen, Hydrogen and Water. Bio slurry which is by product has manurial value more than farm yard manure.



Objectives

The objectives of the scheme are as follows:-

- To provide clean cooking fuel for kitchen, lighting and meeting other thermal and small power needs of farmers/dairy farmers/users including individual households and to improve organic manure system based on bio slurry from biogas plants in rural and semi urban areas by setting up of biogas plants.
- To mitigate drudgery of women and time saving for them for other livelihood activities and reduce pressure on forests and accentuate social benefits;
- To improve sanitation in rural and semi-urban areas including linking sanitary toilets with cattle dung biogas plants.
- To provide biogas plant produced slurry (liquid/semi-solid or dried) as and organic enriched bio-manure to help reduce use of chemical fertilizers such as urea. Linking biogas slurry with enrichment units such as vermicomposting, phosphate Rich organic Manure (PROM) plants and other organic enrichment facilities as a source of value addition to biogas plant slurry.
- To meet 'lifeline energy' needs for cooking as envisaged in "integrated Energy Policy" of NITI Aayog (erstwhile Planning Commission)
- To help in combating and reduction in causes of climate change by preventing emissions of Green Houses Gases (GHGs) such as carbon dioxide and methane into the atmosphere.

Project Models

1. Individual Household

This model can be adopted by households which have three(3) or more cattles. The biogas and slurry generated from the plants are used for cooking and as manure by the households.

2. Community

The Biogas plants can be constructed for a minimum number of households (5 to 10). The plants can be operated and managed by GP/SHGs. The gas generated will be supplied to households/restaurants / institutions and slurry can be used by the community as organic manure in agriculture or sold to farmers.

3. Cluster

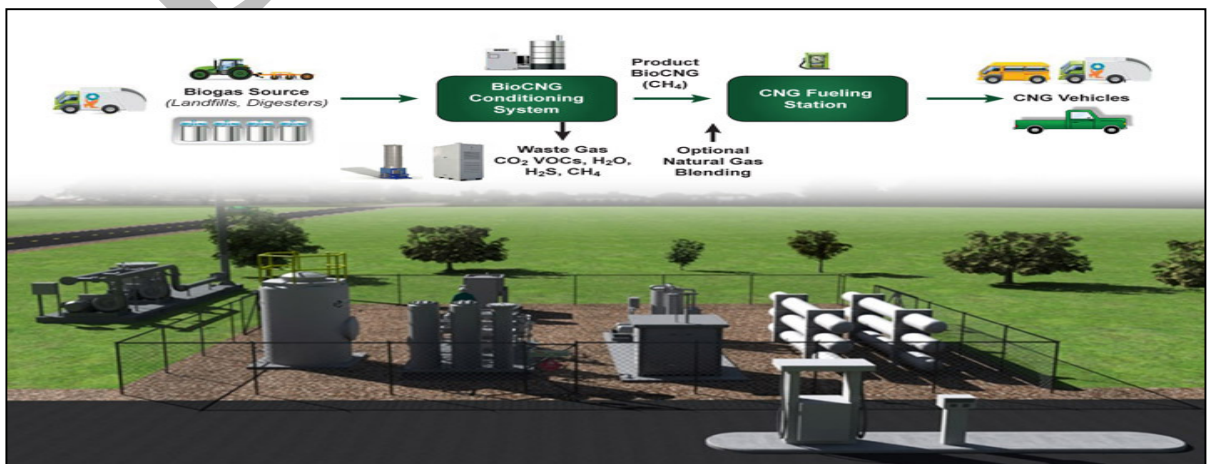
In this model, individual Biogas plants are installed in number of households in a village/ group of villages. The biogas generated is used by the households and the slurry is collected at a common place, separated to solid and liquid parts and then fortified and sold as biofertilizers.

4. Commercial CBG (SATAT Initiative)

CBG plants can be set up by Entrepreneurs / Cooperative Societies/ Gaushalas etc. The raw biogas produced is compressed and can be used as vehicular fuel and / or sold to industries. The slurry generated is converted into organic manure / bio-fertilizer and can be sold to farmers.

SATAT Initiative

India's dependence on fossil fuels for its energy needs has two major concerns i.e. a growing import bill and the carbon emission. The country now imports close to 85 per cent of crude which roughly translates to 45% of primary energy demand and this is only going to go up in the near future. 'SATAT' (Sustainable Alternative towards Affordable Transportation) scheme on Compressed Bio Gas (CBG) was launched by Hon'ble Minister, Petroleum & Natural Gas on 1.10.2018. The scheme envisages targeting production of 15 MMT (million tons) of CBG by 2023, from 5000 Plants. Under SATAT scheme, entrepreneurs shall set up CBG plants, produce & supply CBG to OMCs for sale as automotive & industrial fuels. The initiative aims to produce compressed biogas (CBG) from Waste and Bio-mass sources like agricultural residue, cattle dung, sugarcane press mud, Municipal Solid Waste (MSW) and sewage treatment plant waste. PSU Oil Marketing Companies (OMCs) is inviting Expression of Interest (EoI) from potential entrepreneurs to set up CBG plants under SATAT scheme, and supply CBG to OMCs for sale as automotive & industrial fuel.



2. Programme on Energy from Urban, Industrial, Agricultural Wastes/ Residues and Municipal Solid Waste

Waste to Energy-The Programme on Energy from Urban, Industrial and Agricultural Waste/Residues aimed at generation of biogas, BioCNG and Power from different wastes, such as vegetable and other market wastes, slaughterhouse waste, agricultural residues and industrial wastes & effluents. The scheme is open for Urban Local Bodies / Municipal Corporations, registered private or public sector enterprises or organizations, as well as Energy Service Companies (ESCOs). There will be no maximum limit on capacity of Waste to Energy projects supported under this Programme. Whereas Biogas plants based on Agro-based Industrial Residues of upto 250 kW capacity for power generation and upto 2500 m³ capacity shall not be eligible under this Programme. Biomass Gasifier projects of any capacity shall be eligible for CFA under this Programme.



Waste to Energy & Biomass Gasifier project models

- **Biogas**-Generation of Biogas from biomethanation of Urban waste including segregated MSW/ Agricultural Waste/ Industrial wastes/ Effluents or mix of these wastes. (Distillery effluent is excluded)
- **BioCNG /EnrichedBiogas/Compressed Bio Gas**- It will have two components
 - i). Generation of Biogas from Biomethanation of Urban waste including

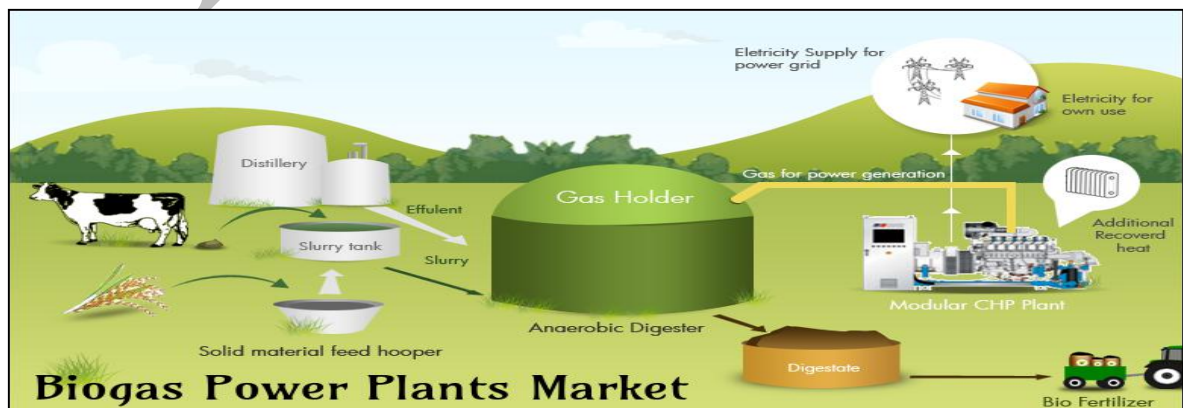
segregated MSW / Agricultural Waste/ Industrial wastes/Effluents or mix of these wastes

ii). BioCNG/Enriched Biogas production from Biogas generated

- **Power (based on Biogas)-** It will have two components
 - i). Generation of Biogas from Biomethanation of Urban waste including segregated MSW / Agricultural Waste/ Industrial wastes/Effluents or mix of these wastes.
 - ii). Power generation (through engine/ turbine route) from Biogas generated.
- **Power (based on MSW/RDF)-** Power generation from Municipal Solid Waste/Refused derived fuel through Incineration or other approved thermal technologies.
- **Biomass Gasifier-**Biomass Gasifier for captive power applications in industries & other institutions

3. Biogas based Power Generation (Offgrid) and Thermal Application Programme (BPGTP)

The aim of the scheme is to promote biogas-based Decentralized Renewable Energy Sources of power generation (Off-Grid), in the capacity range of 3 kW to 250 kW or thermal energy for heating/ cooling applications from the biogas generated produced from Biogas plants of 30 M3 to 2500 M3 size. To process scientifically the organic wastes/ Biomass waste as feed stocks for the purpose of setting up. Rural and semi-urban areas Small dairy, Poultry farms are targeted audience. The State Renewable Energy Agencies (SNAs), Biogas Development and Training Centres (BDTCs), Khadi and Village Industries Commission (KVIC) and National Dairy Development Board (NDDB) , State Agriculture and State Rural Development Departments are eligible to execute the scheme/programme



INCENTIVES

- The J&K Government is committed to promote and develop biomass based projects to harness clean power and safeguard environment. It will provide following incentives for such projects set up in the UT to eligible project developers:

A. Land and Clearances for the projects

(I) Agricultural land shall also be allowed to be used for setting up of bio mass based Projects in the State.

(II) State Land on Lease /Rent basis

The Government of J&K will facilitate the lease of Govt land at reasonable rates for setting up of biomass projects for minimum period of 35 years.

(III) Exemption from Land use approval, External Development Charges, scrutiny fee and infrastructure development charges.

a. These projects shall not require any change of Land Use approval from Town Planning Department/Urban Local Bodies (ULB) Department. The project shall also be exempted from External Development Charges (EDC), scrutiny fee and infrastructure development charges but if special service is required for the biomass project then EDC charges shall be charged on pro-rata basis. The details of such projects will be intimated to the Town Planning Department.

b. However, after the expiry of power purchase agreement period or when plant ceases to operate on the land, land use will revert to the original master plan of the area/city/town (i.e.it will convert to the original status of land).

(IV) 100% exemption from payment of fee and stamp duty charges will be allowed for registration of rent/lease/sale deed for the land required for setting up of these projects .

(V) No fee will be charged by the Pollution Control Board for issuing Consent to Establish (CTE) and Consent to Operate(CTO) for such project anywhere in the UT. However, these projects will be set up as per the prevalent pollution control norms of the Government.

B. Grid Interfacing and Power Evacuation

(i) The Power producers shall meet with all the requirements, as per the State Grid Code for setting up their projects. For connectivity with grid, the project developers shall connect the Power Plant with the nearest Sub-Station of Transmission/Distribution Licensee and inject the electricity at appropriate voltage of the Sub-Station.

(ii) For biomass power projects installed for captive use or sale of power to power utilities/third party sale through open access, all arrangements for power evacuation i.e. voltage step up, synchronizing equipments, metering within the project premises shall be done by the Project Developer as per the technical specifications, guidelines and regulation issued by JERC.

(iii) The State transmission utility or the Transmission/Distribution Licensee shall bear the cost of Extra High Voltage (EHV)/ High Voltage (HV) transmission line up to a distance of 10 km. from the interconnection point. In case the distance between the inter connection point and point of grid connectivity is more than 10 kms then the cost of transmission line for the distance beyond the 10 kms shall be borne equally between the Independent Power Producer and the licensee.

(iv) All expenses for power evacuation, Transmission, distribution line and synchronizing equipment required for installation will be as per the orders of the JERC Renewable Energy Tariff & other issues, as modified from time to time.

(v) The cost of any augmentation required after the interconnection point in the grid system of the Transmission/Distribution Licensee shall also be borne by the concerned Transmission/Distribution Licensee.

(vi) For implementation of such projects, electricity connection shall be provided by the power utilities within seven day from the date of application and it will be ensured that the electricity connection is provided on priority basis so that the project implementation schedule is not delayed.

(vii) Power utilities will keep on upgrading the capacity of transformer/evacuation facility including the substation from time to time as per the generation requirement.

C. Third party Sale, Wheeling, Banking and Open Access

(i) In case, the power is to be sold to a third party, the name of such party shall be indicated by the power producer at the time of making an application in the prescribed form of Licensee/Utilities. However, in respect of third party sale, licensee/utilities would have preference over the power generated by the power producers and thereafter; third party sale would be allowed when the surplus power is not being evacuated by the licensee/utilities.

(ii) Discoms/ Licensees shall permit electricity generated by eligible producers to be wheeled and banked without any charges.

(iii) The banking facility shall be allowed on annual basis by the Licensee/Utilities to eligible electricity producers as per JERC Regulations and IPP will pay the difference of Unscheduled Interchange charges (UI charges) at the time of injection and at the time of withdrawal. However, withdrawal of banked power will be allowed only during non-peak hours. If the banked energy is not utilized within a period of twelve months from the date of power banked with the concerned power utilities/ licensee, it will automatically lapse and no charges shall be paid in lieu of such power.

(iv) The biomass project developer as per the entitlement under the policy will also be allowed inter/intra State open access for Captive (within and outside the premises), sale of power to Discoms and Third party Sale simultaneously.

(v) Third party sale shall be allowed only after refusal by Discoms/ licensee to purchase the power on the tariff discovered as per orders of JERC for long term PPA.

D. Tariff/ Purchase Price

(i) Licensee/ Utilities will purchase electricity offered by the power producers in case of new projects set up after the notification of the present policy at the rate to be decided by the JERC. JAKEDA shall invite proposals from IPPs through competitive bidding route and the IPPs will be asked to offer their most competitive rate through reverse bidding on the tariff decided by the JERC being the ceiling tariff, on which they want to sell power to the State Power Utilities. The PPA shall be for a period coinciding with the plant life or minimum 35 years, whichever is earlier. Thereafter, the tariff may be further, re-negotiated.

(ii) For old captive/co-generation projects which are having surplus power to offer for sale to the power utilities, the tariff shall be decided by the JERC.

(iii) The technologies/resources for which tariff has not been notified by the JERC, the developers shall be required to submit petition to the Commission, for determination of tariff.

(iv) Regarding standards, purchase price and incentives, in case of bio-fuels/bio-CNG and bio-fertilizers, the policies of the Govt. of India, as applicable from time to time shall be followed.

E. Must Run Status

The biomass projects up to 10 MW capacity set up under this policy shall be treated as “Must Run” power plants and shall not be subjected to Merit Order Dispatch (MoD) principles and will not be asked to back down as this will badly affect their viability and planning for fuel linkage. In case of biomass power projects of 10 MW and above generation capacity, scheduling and dispatch code shall be as per the JERC Regulations.

F. Exemption of Transmission & distribution, cross subsidy charges, surcharges and Reactive Power Charges

All cross subsidy charges, Transmission & distribution charges, surcharges and reactive power charges will be totally waived off for any biomass projects set up in the UT.

G. VAT/GST/ Tax Holidays

VAT/GST on the plant and machinery used in setting up of Renewable Energy Power Projects in the State and any other incentives/exemptions shall be as per Government of J&K notifications from time to time.

H. Octroi on biomass fuels for all projects including bio-CNG, bio –ethanol and bio-fertilizer shall be fully exempted.

I. 100% exemption from entry tax will be allowed in respect of all supplies (including capital goods, structure and raw materials) made for setting up and trial operations of the projects.

J. For efficient collection of biomass for the approved projects, reaper, raiker, baler and trawlers will be provided either on rent or on upfront subsidy as per the schemes of the Agriculture & Farmer Welfare Department, J&K, in force from time to time.

K. The Agriculture & Farmer Welfare Department, J&K and Agriculture Universities of UT will also promote organic fertilizers produced from such projects provided they meet the specifications & standards prescribed for the purpose from time to time. The Agriculture Universities shall conduct trials to document the results without charging any cost.

L. The State Transport Department shall also promote use of bio-diesel/ bio-fuels in public transport vehicles and shall preferentially purchase the bio-fuels produced from the projects located in the State as per National/ State Policy on Bio-fuels.

M. All projects developed under this policy will be treated as “Industry” in terms of industrial policy of the state and all the incentives available to new industrial projects will be applicable as per Industrial policy of the State, subject to

qualifications and approval of the concerned departments, if any, subject to its eligibility.

N. The projects set up under this policy shall be eligible for Central and State Financial Assistance and other exemptions like excise duty and custom duty etc. as applicable from Central and State Governments, subject to eligibility.

NODAL AGENCY AND FACILITATION FOR APPROVAL OF PROJECTS

- Nodal Agency: The Jammu and Kashmir Energy Development Agency (JAKEDA) will be the Nodal Agency to facilitate these projects and implement this Policy. JAKEDA shall act as the single window to provide all clearances or arrange clearances for various departments, wherever required. All biomass project developers in the UT (including Captive, Cogeneration, IPP and merchant power developers) will be required to submit their project proposals with JAKEDA for approval and validation for sale of power in or outside the state.
- Invitation of Proposals & Approval Procedure
 - A. In cases where JAKEDA has carried out prefeasibility study and the feedstock for the project is under the control of the Government or in cases where competitive bidding is required for purchase of power from such projects, JAKEDA shall invite proposals based on competitive bidding.
 - B. Before inviting proposals for biomass based renewable energy projects, comments of the Agriculture Department about the availability of the surplus biomass in the area shall be obtained to ensure steady and continuous supply of biomass to the proposed/established projects for which appropriate area demarcation and its allocation/attachment to the specific project will be carried out by the Department of Agriculture and Farmer Welfare keeping in view the fact that such proposed projects are not in conflict with other projects/schemes of the Agriculture Department.
 - C. In cases of industrial cogeneration, where the project developer has itself carried out the prefeasibility study for generation of power primarily for captive use and has guaranteed supply of the feed stock, as established by such

fuel supply agreements, JAKEDA will consider project proposals from such captive project developers, provided that the sale of power from such projects shall be limited to 49% of the total power generated. The tariff for such projects will be decided by the JERC.

In both of the above said cases, following eligibility criterion and procedure will be adopted for approval of the projects:

Eligibility Criteria and Financial Eligibility

- a. There will be no restriction on generation capacity or supply of electricity to the grid up to Renewable Purchase Obligation (RPO) and tendered capacity.
- b. The project developer may be individual/company/firm/group of companies or a Joint venture/ Consortium of maximum 4 partners having minimum 26% shareholding of leading partner.
- c. The capacity of the proposed projects should not be more than 80% of the potential available in the proposed district as per biomass assessment report or biomass assessment report of JAKEDA after taking into account already set up biomass projects and should be supported with a map showing catchment area for the project.
- d. Only projects with new plant and machinery shall be allowed under this policy.

Documents and Fees

Application in the prescribed format, complete in all respect along with documents to be required as per detail mentioned in the application format along with application fee, non-refundable scrutiny fee and performance security fee etc. as specified in the bidding document.

Approval Procedure

- (a) Technical Appraisal Committee (TAC), with at least one external expert, shall be constituted by the State Govt. to appraise the proposals/bids in terms of technical and financial capabilities, scrutinizing the techno-economic

feasibility. The TAC is authorized to seek any additional information from the bidders to supplement the proposals and will submit its report within one month.

(b) Projects upto 5 MW capacities in case of power generation or upto Rs.50 Cr. investment in other cases will be considered and approved by the Board of Governors of JAKEDA on the recommendations of TAC within two months' time with concurrence of Administrative Department.

(c) For the biomass power projects above 5 MW capacity or above Rs.50 Cr. investment in other cases, a High Powered Committee constituted by the State Govt. under the chairmanship of Administrative Secretary, Science and Technology Department (Appendix-I) shall consider the report of Technical Appraisal Committee, shortlist, prioritize and approve / reject the investment proposals for allocation of sites for preparation of Detailed Project Reports (DPR) by the private investors within two months' time. The High Powered Committee can co-opt any other members /experts as its member for a particular meeting with the approval of the Administrative Secretary.

(d) Once the proposal has been approved by the Board of Governors of JAKEDA/ High Powered Committee, a Letter of Intent (LoI) will be issued by JAKEDA and it will enter into an MOU with the private investors for preparation of DPR and implementation of the project within one month's time after the applicant deposits performance security deposit as specified in the bidding document for timely completion of the project.

(e) After approval of DPR by the JAKEDA, the project developer is required to enter into PPA with the concerned power utilities/ licensee for the sale of power to it after getting necessary approval from the JERC. In case of captive use or third party sale JERC approval not required. However open access permission, if required, needs to be obtained from concerned utility, as per JERC open access Regulations.

(f) The Power Producer and the concerned Power Utility/ licensee shall make efforts to enter into Power Purchase Agreement within two months' time from the date of providing the clearance. In case there is delay beyond

this period then either party can approach the JERC for decision in this matter within another two months.

(g) If the applicant does not take effective steps to implement the project as per time schedule for submission of DPR, signing of Power Purchase Agreement, Financial Closure of project & execution of project mentioned in the Memorandum of Understanding signed with JAKEDA, the allocation could be terminated and the security deposited with the JAKEDA shall be forfeited.

(h) The project completion time will be 36 months from the date of signing of MoU and the performance security deposit will be refunded in case the project is commissioned within the allowed time. Extension will be allowed by the CEO, JAKEDA only for the projects where at least 50% of the project cost has been incurred to implement the projects on ground. In cases where less than 50% of the project cost has been incurred at the end of 36 month, the entire security deposit will be forfeited with no obligation on the State to buy the power from such projects.

OTHER TERMS & CONDITIONS

- The other terms and conditions / guidelines mentioned in the State Policy for promoting Generation of Electricity through Renewable Energy Sources as amended from time to time and JERC (terms and conditions for determination of tariff from Renewable Energy Sources) and guidelines issued by the CERC / MNRE/GOI from time to time shall also be applicable.
- The Commission shall take into consideration any incentive or subsidy offered by the Central or State Government, including accelerated depreciation benefit if availed by the generating company for the renewable energy power plants while determining the tariff.
- All project developers shall be required to submit monthly statement for verification of usage of fuel as detailed out in RE regulations and orders for determination of generic tariff issued by JERC. In addition, monthly information with regard to other parameter like energy

generated, revenue earned, power factor and plant load factor achieved, reasons for non-achievement of full generation etc as directed by JAKEDA .Shall also be submitted so as to maintain and update data bank on New and Renewable Sources of Energy (NRSE) generation in the UT and also for the purpose of monitoring generation under RPO regulations.

- For giving effect to this policy, necessary amendments in various policies, rules & regulations, wherever necessary, shall be expeditiously undertaken by the concerned departments within three months time from the date of its notification.
- The Administrative Secretary, Science and Technology Department shall have the powers to issue clarification/ amendment / relaxation, if need be, on any matter related to interpretation of any provision in these guidelines after consultation with the concerned Departments/Agencies.