

Policy for Power Generation from Pirul (Pine Leaves) and Other Biomass–2018

INTRODUCTION

Generation and access to power are directly linked to the progress of a country and are vital ingredients for its economic development. As such, greater emphasis is laid on the access to power in policy planning for all strata of the economy resulting in its all round development. With the demand for power increasing constantly world over, the stock of fossil fuels, presently used for generation of power, is continuously depleting. As such, in recent years greater thrust is being laid on generation of power through alternative fuels which besides being renewable & bio-degradable in nature have several other economical & environmental benefits vis-a-vis conventional fuel.

Uttarakhand is highly rich in availability of pine leaves as bio-mass. Out of the total forest area in the State, 16.36 percent (399329 Hectare) is covered by Chir Pine forests. As per the estimates over 15 Lakh MT Pine leaves is generated annually in Reserve and Van Panchayat forests (excluding wild life area). Therefore, even if about 40 percent of the estimated quantity is taken as collectible quantity after making sufficient provisions for traditional uses; about 6 Lakh MT is available for industrial use. Apart from Pine Leaves, about 8 Lakh MT of other Biomass (Agricultural Crop Residues, Lantana, etc.) is also available for industrial purposes.

Based on above, the State has the potential of producing over 150 MW of power annually from the biomass. This untapped potential of generating power from bio-mass based projects of capacities up to 250 kW and the briquetting/bio-oil units of capacities up to 2000 MT per annum can help to meet not only the local power needs but also could be an effective means for livelihood and revenue generation.

Therefore, to promote biomass based power projects in the State, it is essential to formulate a comprehensive policy which aims to accelerate growth of biomass based power projects in Uttarakhand by providing a suitable environment for all the stakeholders.

OBJECTIVES

In view of the availability of pine leaves and other biomass in abundance in the State of Uttarakhand and its suitability for power generation, the policy seeks to fulfil the following objectives:

- 2(1)** To harness the environment friendly renewal energy resources and enhance their contribution to the socio-economic development of the State.
- 2(2)** To mitigate forest fires caused by pine leaves which results in huge loss to environment, fauna and flora.
- 2(3)** To reduce ecological degradation being caused by pine leaves.
- 2(4)** To promote generation of renewable power using pine leaves and other biomass
- 2(5)** To create avenues of employment in the rural parts of the State thereby checking migration from the state.
- 2(6)** To create conducive conditions for enhancing private sector & community participation in power generation using pine leaves and other biomass as a renewable source of power in the State. In particular —
 - (i)** To meet and supplement rural power needs through sustainable RE projects.
 - (ii)** To provide decentralized power supply to agriculture, small industries commercial and household sector.

TARGETS

Pine leaves and other biomass based power generation is a new initiative; and to start with this policy envisages achieving following goals by the year 2030 :-

- Setting-up of power projects of 1 MW by 2019
- Setting-up power projects of 5 MW by 2021
- Setting-up power projects of 100 MW by 2030
- Setting up of 50 Biomass briquetting/bio-oil plants of maximum 2000 MT per annum capacity by 2030.

- 1.** **Short title, commencement and applicability**
 - (1)** The policy shall be known as “Policy for Power Generation from Pine Leaves and Other Biomass – 2018”
 - (2)** The policy shall come into operation with effect from its publication in the State Gazette, and will remain in force until superseded or modified by another policy.
 - (3)** The policy shall be applicable to all pine leaves and other biomass based power generation and briquetting/bio-oil projects set-up in Uttarakhand.
- 2.** **Definitions** Following expressions used in the Policy would have meanings assigned to them as defined hereunder :-
 - (a)** **‘Applicant/Bidder’** means JV/Consortium with CBOs or any

other eligible agencies other than CBOs intending to participate for the installation of pine leaves & other biomass based power project in the State of Uttarakhand under this policy;

- (b) **'Pine Leaves and other Biomass'** means the leaves fallen from pine tree and lantana;
- (c) **'Biomass based Power Project'** means power projects with capacities up to 250 kW in the State of Uttarakhand;
- (d) **'Briquetting/Bio-oil Project'** means biomass based briquetting/bio-oil plant of capacity up to 2000 MT per annum in the State of Uttarakhand;
- (e) **'CERC'** means the Central Electricity Regulatory Commission of India, constituted under sub-section (1) of Section 76 of the Electricity Act, 2003, or its successors;
- (f) **'Community Based Organisation (CBOs) means** Van Panchayat, Gram Panahayat, Self Help Groups (SHGs) and community based organization of their above level federations;
- (g) **DISCOM'** means the licensee authorized to Operate and Maintain a distribution system for supplying electricity to the consumers of Uttarakhand;
- (h) **'Developer'** means JV/Consortium with CBOs or any other eligible agencies other than JV/Consortium with CBOs who has been allotted the pine leaves & other biomass based power project in the state of Uttarakhand under this policy;
- (i) **'DPR'** means Detailed Project Report;
- (j) **"Forest Department"** means the Department of Forest of Government of Uttarakhand;
- (k) **'Government'** means Government Of Uttarakhand;
- (l) **'Gram Panchayat'** means the Elected local body under Panchyat Raj Act, as amended from time to time in the State of Uttarakhand;
- (m) **'Interconnection point'** means interface point of biomass based power project with the transmission system or distribution system which shall be line isolator on outgoing feeder on HV side of generator transformer as defined in UERC (Tariff and Other Terms for Supply of Electricity from Renewable Power Sources and non-fossil fuel based Co-generating Stations) Regulations, 2013 or as amended from

time to time;

- (n) **'MoU'** means the Memorandum of Understanding entered into between the Developer, Forest department and UREDA detailing all terms and conditions, responsibilities, detailed implementation schedule, etc. related to biomass based power or briquetting/bio-oil project;
- (o) **'Letter of Award (LOA)'** means letter of award for the project to be given by UREDA to the successful developer;
- (p) **'PAC'** means Project Approval Committee constituted by the Government of Uttarakhand;
- (q) **'Policy'** means the Policy for Power Generation from Pine Leaves and Other Biomass–2018, unless stated otherwise;
- (r) **'PPA'** means Power Purchase Agreement signed between Discom of Uttarakhand (Uttarakhand Power Corporation Ltd.) and the project developer;
- (s) **'Project site/area'** means the area in which the proposed project is located;
- (t) **'PTCUL'** means the Power Transmission Corporation of Uttarakhand Ltd.;
- (u) **"Quoted Tariff"** means the Quoted Power Charges, as applicable, quoted by the bidder/applicant and shall be construed to be at the Interconnection Point;
- (v) **'State'** means the State of Uttarakhand;
- (w) **'TAC'** means Technical Appraisal Committee constituted by the Government of Uttarakhand and consisting of technical, financial and social experts;
- (x) **'UERC'** means Uttarakhand Electricity Regulatory Commission, constituted under sub-section 1 of section 82 of the Electricity Act 2003, or its successors;
- (y) **'UREDA'** means the Uttarakhand Renewable Power Development Agency, the designated State Nodal Agency of the Ministry of New & Renewable Power, Government of India that owns the mandate for implementation of all renewable power programmes in the state of Uttarakhand;
- (z) **'Van Panchayat'(VP)** means the Elected local body under Uttarakhand Panchayati Van Niyamali 2005, as amended from time to time in the State of Uttarakhand;

The terms not defined above shall have their usual meaning.

3. Nodal Agency Forest department and UREDA shall act as Nodal Agencies for the

implementation of this policy in the State:

A. The Department of Forest, shall be authorized for the followings :-

(i) The activities connected with or incidental to identification of areas for collection of pine leaves and other biomass.

(ii) Provide consent to the project developers for collection of pine leaves and other biomass from allocated area.

(iii) Identification of project areas.

(iv) Collection of levies, if any for biomass cleared from forests by project developers.

B. UREDA shall be authorized for the followings :-

(i) Selection of developers for power generation and briquetting/bio-oil.

(ii) Monitoring & supervision during execution.

(iii) Facilitating the project developers for getting required clearances.

(iv) Availing prevailing subsidies (if any) from central and state Government.

C. The Govt. of Uttarakhand shall act as facilitator for implementation of Pine Leaves and Other Biomass based Power Generation Program in the State.

4. Capacity Limit The minimum capacity allocation to each developer shall be 10 kW and the maximum capacity allocation shall be 250 kW. However there shall not be any maximum capacity limit for project allocation to Central and State Govt. Agencies/Corporations.

5. Procedure for identification of the Areas for Setting-Up Pine Leaves and other biomass based Power Generating Plants and briquetting/bio-oil units :-

(1) While preparing the map, the concerned officials would also enunciate the potential capacity of the power generation or briquetting/bio-oil projects that can be set up utilising the biomass collected from the specific collection areas.

(2) The district wise list of potential areas so identified shall be finalized in each district by a District level Planning & Monitoring Committee. This committee will also monitor and supervise the execution of the projects. **(Annexure-1)**.

(3) The list of potential areas finalised by the District level committee shall be made available for allotment.

6. Procedure for (1) Allotment of project for generation of electricity :-

**Allotment of Areas
for Development
of Pine Leaves and
Other Biomass
based Projects :-**

- (i) The available areas shall be advertised to seek applications from any of the following entities individually or through forming Joint Venture/Consortium firm with any CBO of the identified area :
 - (a) Societies of Uttarakhand (Registered under the Societies Registration Act 1860).
 - (b) Entity registered under UP Cooperative Act 1965.
 - (c) Entity registered under Uttarakhand Self reliant Cooperative Act-2003.
 - (d) Proprietary/Partnership / Pvt. Ltd. Firms registered in the State of Uttarakhand.
 - (e) Industry registered in District Industries Offices of Uttarakhand including Resin Units.
- (ii) However the CBO should have atleast 26% stake in Joint Venture/Consortium firm.
- (iii) The applications shall be invited from the eligible applicants as per prescribed application format **(Annexure-2(a & b))**. They shall submit their proposals in two separate envelopes containing all the required documents/information. The first envelope shall contain the filled application form (as prescribed in **Annexure-2(a)**), document/evidence regarding technical and financial capability, and processing fee etc. The second envelope (as prescribed in **Annexure-2(b)**) shall contain only price/financial bid mentioning the Levellised quoted fixed Tariff at the Interconnection Point.
- (iv) UERC from time to time declared the levelised Rate of Fixed Charges and variable charges for biomass gasifier projects. The rate of fixed charges is levellised for the life of the project and the rate of variable charges varies with some normative escalation in each year. The applicant should only quote levellised fixed tariff at the interconnection point in price/financial bid in second envelope. The rate of variable charges for each year would be the same as determined by UERC from time to time.
- (v) The Levellised Quoted Fixed Tariff shall not be more than the rates specified by the UERC in "UERC (Tariff and Other Terms for Supply of Electricity from Renewable Power Sources and non-fossil fuel based Co-generating Stations) Regulations, 2013". The Levellised Quoted Fixed Tariff shall be an all-

inclusive fixed tariff up to the Interconnection Point and no exclusions shall be allowed. The applicant shall take into account all costs including capital and operating costs, statutory taxes, levies, duties while quoting such Tariff. It shall also include any applicable transmission costs and transmission losses (if any) from the generation source up to the Interconnection Point.

- (vi) The applicant with the lowest Levelled Fixed Tariff for 20 years shall be declared as the Successful developer for the quantum of power (in kW) offered by such applicant in its Financial Bid.
- (vii) Applicants eligible for setting up of project for generation of electricity and In case, if the levelled fixed tariff quoted by two or more than two applicant are same then the preference for allotment of project shall be given to the JV/consortium firm formed with any CBO of the identified area.
- (2)** In case of briquetting/bio-oil unit, any eligible applicants as described above in clause 6(1) may apply on the prescribed format as per Annexure-3 along with the security amount of Rs. 100/- per MT capacity of the Briquetting/bio-oil Units.
- (3)** Each application submitted by any applicant for power generation or briquetting or bio oil production shall be accompanied with a non-refundable Demand Draft of Rs. 2,000/- as non-refundable processing fees.
- (4)** The proposal received within stipulated time frame from eligible applicants shall be scrutinized and shortlisted by the TAC (as defined in Annexure-4) based on the prescribed financial and technical criterion.
- (5)** The final allotment of the project to the eligible applicants shall be done by the PAC, as defined in Annexure-5.
- (6)** The successful applicants of power generation project will be deposit, the security amount of Rs. 1,000/- per kW.
- (7)** The security amount will in the form of Bank Draft, FDR, CDR or Bank Guarantee issued by any Nationalized Bank in the favour of the Director, UREDA payable at Dehradun.
- (8)** The Bank Guarantee shall be returned to the successful developer after successful commercial operation (COD)

date of the project.

- (10) There shall be no bar on the agencies of the State Government and other Government entities from directly taking up implementation of pine leaves and other biomass based power projects/briquetting/bio-oil units at any site/area without offering the areas/sites.

7. Evaluation/Pre-qualification Criteria

(i) Technical Qualification :-

Applicants shall be required to submit the proof of having technical tie-up with the suppliers of plant and machinery. The proof submitted by the applicants in this regard should have detailed information about the technology.

(ii) Financial Qualification (Net-worth) :-

Net-worth should be minimum Rs.10,000/- per kW of the proposed power project. The applicants shall be required to submit the proof of their financial capability duly certified by their bankers or certificate from Chartered Accountant for their network.

8. Selection and Finalization of Developers

- (1) The application received shall be evaluated by a TAC in line with the policy guidelines and the terms and condition contained in the document. The Committee may also co-opt Technical Expert(s) for the purpose of more effective screening of the bids received.
- (2) The list of applicants shortlisted by the above committee shall be submitted before the PAC for final selection and approval.
- (3) The letter of Allotment (LoA) to the developer shall be issued by the UREDA for submission of security amount and signing of MOU with UREDA and concerned DFO of forest department.
- (4) In case, the developer fails to deposit the security amount or signing of MoU within the stipulated time, the letter of allotment shall be deemed to have been cancelled.
- (5) The detail of implementation schedule, obtaining clearances, period of collection of biomass from forest, royalty & other levies of Forest Department, and other related information shall be defined in the MoU (as mentioned in **Annexure-6**)

9. Facilitation for

The developer shall install the allocated projects in pursuance to

**Obtaining
Required
Clearances**

the standing orders and guidelines of forest department from time to time. The developer shall be required to seek approvals/clearances from various departments, such as, Pollution Control Board, Forest Department, Revenue Department, Gram Panchayats, Industries Department, etc. before setting up the biomass based projects. The UREDA will facilitate and provide assistance for requisite clearances in a time bound manner through a single window mechanism.

**10. Various Activities
to be Performed
by Developers
within prescribed
time**

The developers shall have to perform following activities within a timelines as given under clause no. 21 of the policy :-

- (1) The developer shall obtain required statutory clearance and approvals (if any) for the proposed project.
- (2) The developer shall have to fulfil all financial requirements to achieve the financial closure of the project.
- (3) The developer shall have to complete and operate the project.
- (4) In case, the developer fails to obtain clearances/approvals or achieve the financial closure or commissioning of the project within stipulated time, UREDA may consider the cancelling the LoA and forfeiting the security deposit.

**11. Incentives/Benefits
Available under
the Policy**

- (1) The pine leaves and other biomass based power generation units setup under the Uttarakhand State Policy for Power Generation from Pine Leaves-2018 shall be treated as an industry and would be entitled to the benefits prescribed under the prevailing Industrial Promotion Policy of Government of India and Uttarakhand micro, small, medium enterprise policy-2015, as and where applicable.
- (2) The developer shall be eligible as per for Central Financial Assistance as per the standing Guidelines of Ministry of New and Renewable Power (MNRE) Government of India.
- (3) The developers shall be exempted from payment of electricity duty on the electricity generated by the power plant for 10 year only after commissioning.
- (4) If the power generation unit is set up in private land, the developer shall be exempted from payment of stamp duty for registration of documents. In case developer used this land for other purpose, the amount of stamp duty shall be recovered from the developer.
- (5) Van Panchayat shall have to collect pine leaves and other biomass through human resources only (not from any

automatic plant), for which light tools can be used. For the collection of forest produce, such equipment shall not be allowed to be taken in the forest area due to which forest area are prone to immediate for future forest.

- (6) UREDA/Forest Department shall support the training & capacity building activities for CBOs on various issues related to setting-up of biomass based projects.
- (7) The tentative cost economics of 25 kW Pine Needle based power plant has been prepared and mentioned in **Annexure-7**. This information is tentative and may be changed on the basis of technology or equipment to be installed at the site.

12. Benefits Under Clean Development Mechanism (CDM)

Keeping in view the environment friendly nature of these projects, the developers shall be eligible to claim the benefits available under the Clean Development Mechanism (CDM). The project developer shall pass on the benefits of Clean Development Mechanism as per the directions provided by CERC/UERC from time to time.

13. Integration of Renewable Power Programme with Other Schemes Operating in the State of Uttarakhand

Forest fires have been seen to be almost regular features which are caused mainly due to presence of pine leaves in the forests, implying that there is utmost need to remove pine leaves from forest floor on a regular basis. For this purpose, concerted efforts shall be made by concerned Government departments to integrate the schemes being operated by them with the pine leaves collection activity by the local community.

Moreover, in case of SHGs and their above level federations, schemes like MGNREGS, NRLM and other Community development based Centrally/State /EAP funded schemes may also be integrated with this scheme for creation of infrastructure and other financial support. Interest subvention schemes of Central Government/State Government for financial inclusion support to CBOs shall also be integrated with this scheme.

14. Tariff

- (1) The tariff of electricity shall not be more than the tariff notified by the UERC as amended from time to time. The electricity generated by the biomass based power plants, will be purchased by UPCL. In pursuance of this a PPA will be signed by the power plant developers with UPCL as per terms and conditions contained therein.
- (2) In case of third party sale within the State/captive use, the power purchase agreement will be executed between the power producer and the procurer on mutually agreed rates. Further the applicable green power cess shall to be paid by

the developer, if the power will be sold outside the state.

(3) A separate agreement will be executed for banking of power with UPCL for such banking. The wheeling agreement with Power Transmission Corporation of Uttarakhand Ltd. (PITCUL)/UPCL/or with other grid or network as appropriate will be executed separately. The wheeling shall be applicable as decided by the UERC from time to time.

- 15. Wheeling Charges/Sub-charges** The wheeling shall be applicable as decided by UERC from time to time.
- 16. Open Access** If open access is granted to any of the developers, they shall have to pay the applicable open access charges and losses as approved by UERC from time to time. However, the cross subsidy surcharge shall not be applicable for open access obtained for third party sale within the State.
- 17. Third Party Sale** Third party sale will be eligible as per Electricity Act 2003 and orders by the UERC, from time to time, for which purchase rate can be mutually decided between the developer and the procurer.
- 18. Metering of Electricity** Metering arrangement shall be made as per Central Electricity Authority (installation and operation of meters) Regulation 2006, the grid code, the metering code and other relevant regulations issued by UERC/CERC in this regard.
- 19. Power Evacuation and Grid Interfacing Facility** Power evacuation and grid interfacing arrangements shall be as per the regulation/procedures defined by UERC and as amended from time to time.
- 20. Land for Installation of Plant**
- (1)** The arrangement of land required for installation, storage and other provisions, such as, evacuation of power, staff quarters, etc. shall be made by the developers themselves.
- (2)** The maximum land allowed for power projects up to 100 kW shall be around 1000 sq. mt. and for projects more than 100 kW and up to 250 kW the maximum land allowed will be 2000 sqm.
- 21. Timelines for Achieving Commercial Operation of the Project** The timeline for various activities starting from inviting applications till commencement of commercial operations of the projects shall be as under :-
- (1)** Notification for invitation of proposals — proposal invitation issue date (Zero Date)
- (2)** Submission of applications—[Zero Date + 45 days]
- (3)** Evaluation of applications and approval of State level

- committee—[Zero Date + 75 days]
- (4) Issue of LoA —[Zero Date + 90 days]
 - (5) Submission of security deposit and Signing of MoU—[Zero+ 135 days]
 - (6) Obtaining required clearances/approvals (if any)—[LoA issue Date+ 180 days]
 - (7) Financial Closure —[LoA issue Date+ 300 days]
 - (8) Commercial operation date—[LoA issue Date + 540 days]
- 22. Monitoring and Evaluation Mechanism** Overseeing, evaluation and monitoring the implementation of sanctioned projects shall be done by District level Planning and Monitoring Committees constituted for the purpose (**Annexure-1**).
- 23. Establishment of Pine Leaves and Other Biomass Banks** Pine Needles (pine leaves) fall from pine trees during the limited four month period. Thus, as per the requirement of electrification plant it shall be required to be stored for an entire period of eight months for its availability throughout the year. Due to its huge volume, it will be necessary in view of the possibility of catching fire, ensure that the stored raw material is transported from the storage area to the location of the project unit as soon as possible (within one week).
- 24. Insurance** The execution and operation of the project allotted under this policy shall be insured by the successful developer at their own cost.
- 25. Miscellaneous**
- (1) The applications of the industrial units located in Uttarakhand and willing to setup pine needle based power plant, briquette/bio oil plant for their captive use, may be accepted directly without going into selection criteria subject to compliance of the other terms and conditions contained in this policy.
 - (2) The Government of Uttarakhand reserves the right to allot any project to a State owned enterprise.
 - (3) The permission for changing of directors in the firm/company shall not be permitted till the completion 1 years from the COD. In case death of any director in the firm, new director may be appointed after approval of Nodal agency.
 - (4) In case of JV/Consortium, there shall be only one Lead Member, who commits at least 26% equity stake in the Consortium/JV and so designated by other Member(s) of the Consortium/JV and cannot be changed till 1 (one) year of the Commercial Operation Date (COD) of the Project.
 - (5) The permission for transferring the projects to any other developer shall not be permitted till one year operation

after the commissioning date of the project. In case any developer, for any reason, sells/transfers his project before the said period to some other developer, the allotment of the project shall be cancelled and the security deposit shall be forfeited. Further, also that the fresh applications shall be invited as per the existing policy for the concerned area/site.

- (6) Projects allotted before the date of publication of this Policy in the Official Gazette shall continue to be governed by the Policy under which they were allotted and shall not be eligible for incentives under this Policy.
- (7) In the event a developer fails to achieve the various stages of completion of the allotted project as per the prescribed time schedule without valid reasons, the security deposited shall be forfeited and the allotment would be cancelled.
- (8) Projects would be offered to developers for a period of 20 years from the date of allocation at the end of which they shall revert to the Government of Uttarakhand alongwith all equipments, machineries, evacuation arrangements and all other facilities.
- (9) As far as possible, the Van Panchayats, local communities, local SHGs, CBOs, Cooperative societies shall be given preference in the collection of Pine Leaves from forest floor.

26 **Amendments/
Relaxation/
Interpretation of
Provisions of the
Policy**

Government of Uttarakhand shall have powers to amend/ relax/ interpret provisions under the policy.

Annexure-1

District level Planning & Monitoring Committee

<u>i)</u>	District Magistrate	—	Chairman
<u>ii)</u>	Respective DFOs	—	Member
<u>iii)</u>	General Manager, District Industry Centre	—	Member
<u>iv)</u>	Executive Engineer, UPCL	—	Member
<u>v)</u>	Lead Bank Officer	—	Member
<u>vi)</u>	District In-charge, UREDA	—	Convener



UTTARAKHAND RENEWABLE POWER DEVELOPMENT AGENCY

(Department of Renewable Source of Power, Govt. of Uttarakhand)

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APPLICATION FORM FOR SUBMISSION OF PROPOSALS BY THE APPLICANT

for

Setting up of Pine Leaves & Other Biomass Based Power Project

I. Details of JV/Consortium or Other entities

- 1. Name of the firm/entity :**
- 2. Full Address :**

- 3. Office Details :**
 - (a) Telephone No. :**
 - (b) Fax No./Email :**
- 4. Name of CBO (in case of JV/Consortium) :**

II. Details of Joint Venture/Consortium Partners (if required)

- 1. Name of JV/Consortium Partners**
- 2. State whether the JV/Consortium Partner is a :-**
 - a. Societies of Uttarakhand (Registered under the Society Registration Act 1860)**
 - b. Entity registered under UP Cooperative Act 1965**
 - c. Entity registered under Uttarakhand Self reliant Cooperative**

- d.** Proprietary/Partnership / Pvt. Ltd.
Firms registered in the State of Uttarakhand
- e.** Industry registered in District Industries Offices of Uttarakhand including Resin Units

III. Equity share in JV/Consortium (if required)

(Please submit the Joint venture/Consortium agreement)

SN	Members of JV/Consortium	Equity share in %

IV. Details of the non refundable application/processing fee remitted

- a)** Amount Rs.
- b)** Demand Draft No.
- c)** Date
- d)** Banker's Name and Address

V. PROPOSED LOCATION/SITE

- a)** Name of forest range/compartment :
- b)** Name of nearest village :
- c)** Latitude and Longitude of proposed site :
- d)** Available area in Sqm with khasre no. :
(please also enclosed layout map of site) :
- e)** Block and Tehsil
- f)** District

VI. PROPOSED CAPACITY

- 1 a)** Proposed Capacity (in kW) :
- b)** Expected annual generation in KWH :
- 2** Power Plant proposed to be set up for/under
- a)** Sale of Power to Discom (UPCL) :

- b) Captive use :
- c) Sale of Power to third party :
- d) Sale of Power to other states through Open Access :
- e) Renewal energy certificate system (if yes, to whom and on what rates the proposed power is to be sold)

VII. ELECTRICAL DETAILS

- 1. Evacuation plan/inter-connection facility for the proposed plant :
- 2. Nearest Sub-station of DISCOM and distance from the proposed power plant :

VIII. TECHNICAL DETAIL

The proof of technical is to be submitted by applicant tie-up with the suppliers of plant and machinery. The proof submitted by the applicants in this regard should have detailed information about the technology.

IX. FINANCIAL DETAILS

- 1. Estimated cost of the project proposed (Rs. In Lakh) :
- 2. Proposed debt and equity (in Rs lakh) :
- 3. Net worth duly certified by CA on its letter head or proof of the financial capability duly certified by the banker (in Rs Lakh) :

X. DOCUMENTS ENCLOSED (as applicable)

- i. A certified copy of the Memorandum & Article of Association of the Company.
- ii. A certified copy of by-laws in case of the societies registered under the Society Registration Act 1860/ UP Cooperative Act 1965, Uttarakhand Self reliant Cooperative act.
- iii. Certified copy of the incorporation or registration certificate.

- iv.** Joint Bidding Agreement in case JV/Consortium
- v.** Certified copy of the Authority conferring powers on the person(s) who are competent to execute the MOU/Agreement with Government of UK/UREDA/Forest Department/DISCOM of Uttarakhand.
- vi.** Processing fee Rs. 2000/- in the form of D.D. No. Dated in favour of Director, UREDA payable at Dehradun.
- vii.** Project report having detail of site, evacuation arrangement, proposed cost, cost sharing pattern, cost economics detail and pine needle collection arrangement details etc. Should be submitted with the application.
- viii.** Copy of technical tie-up letter with the suppliers of plant and machinery.
- ix.** Net worth duly certified by CA on its letter head or proof of the financial capability duly certified by the banker (in Rs Lakh).

Declaration:

- i.** I/We certify that all information furnished is true to the best of my/our knowledge.
- ii.** I/We agree that Government of UK/UREDA is the final authority to allot us the project.
- iii.** I/We shall not have any dispute with Government of UK/UREDA for non-allotment of the project.
- iv.** I/We agree to sign necessary agreement with Government of UK/UREDA/DISCOM.
- v.** I/We agree to comply with the terms and conditions of Policy for Power Generation from Pine Leaves and Other Biomass–2018

Name & signature of Authorized Signatory with Seal

Place:

Date:

FINANCIAL OFFER

**OFFER FOR THE LEVELLISED TARIFF FOR POWER GENERATION FROM PINE LEAVES AND
OTHER BIOMASS**

Name of Applicant/Bidder	:	
I. OFFER FOR THE LEVELLISED TARIFF		
A. Project Capacity in kW (in words and Figures)	:	
B. Levellised Fixed Tariff Offered per kWh (Unit) for 20 years	Amount in Rs/kWh	
	In Figure	In Words
Signature of the authorized Signatory of the Organization with Seal		
Place:		
Date:		

Note :-

- 1.** The applicant should only quote levellised fixed tariff at the interconnection point in above format. The rate of variable charges for each year would be the same as determined by Hon'ble UERC from time to time.
- 2.** The Quoted Tariff in Rs./kWh shall be provided up to three (3) decimal points.
- 3.** The Levellised Quoted Fixed Tariff shall not be more than the rates specified by the UERC in "UERC (Tariff and Other Terms for Supply of Electricity from Renewable Power Sources and non-fossil fuel based Co-generating Stations) Regulations, 2013".
- 4.** All pages of this Format shall be signed by the authorized signatory.
- 5.** The contents of this format shall be clearly typed.
- 6.** In case of any discrepancy in the rate(s) quoted in figure and words, the rates given in words shall be considered valid.



UTTARAKHAND RENEWABLE POWER DEVELOPMENT AGENCY

(Department of Renewable Source of Power, Govt. of Uttarakhand)

Urja Park Campus, Industrial Area, Patel Nagar, Dehradun 248001

Ph. 0135-2521553, 2521387, Fax: 0135-2521386,

E-mail: st.uredahq@gmail.com, Website: www.ureda.uk.gov.in

APPLICATION FORM FOR SUBMISSION OF PROPOSALS BY THE APPLICANT

for

Setting up of Pine Leaves & Other Biomass Based Briquetting/Bio Oil Project

1. Name of the firm/entity	:	
2. Full Address:	:	
3. Office Details	:	
(c) Telephone No.	:	
(d) Fax No./Email	:	
4. Name of CBO (in case of JV/Consortium)	:	
5. Name of JV/Consortium Partners (if required)	:	
6. State whether the JV/Consortium Partner is a	:	
(a) Societies of Uttarakhand (Registered under the Society Registration Act 1860)	:	
(b) Entity registered under UP Cooperative Act 1965	:	

<p>(c) Entity registered under Uttarakhand Self reliant Cooperative</p> <p>(d) Proprietary/Partnership / Pvt. Ltd. Firms registered in the State of Uttarakhand</p> <p>(e) Industry registered in District Industries Offices of Uttarakhand including Resin Units</p>			
<p>VII. Equity share in JV/Consortium (if required)</p> <p><i>(Please submit the Joint venture/Consortium agreement)</i></p>	SN	Members of JV/Consortium	Equity share in %
<p>VIII. Details of the non refundable application/processing fee remitted</p> <p>(a) Amount Rs.</p> <p>(b) Demand Draft No.</p> <p>(c) Date</p> <p>(d) Banker's Name and Address</p>			
<p>IX. PROPOSED LOCATION/SITE</p>			
	<p>a) Name of forest range/compartment</p> <p>b) Name of nearest village</p> <p>c) Latitude and Longitude of proposed site</p> <p>d) Available area in Sqm with khasre no. (please also enclosed layout map of site)</p> <p>e) Block and Tehsil</p> <p>f) District</p>	:	
<p>X. PROPOSED CAPACITY</p>			
<u>1</u>	<p>a) Proposed Capacity (in MT)</p> <p>b) Expected annual generation in MT</p>	:	
<u>2</u>	Briquette /bio oil plant will for captive consumption or sale to other	:	

XI. DOCUMENTS ENCLOSED (as applicable)

- i.** Project report having detail of site, proposed cost, cost sharing pattern, cost economics detail, pine leaves collection arrangement and use of briquette/bio oil details etc. should be submitted with the application.
- ii.** Joint Bidding Agreement in case JV/Consortium
- iii.** Certified copy of the Authority conferring powers on the person(s) who are competent to execute the MOU/Agreement with Government of UK/UREDA/Forest Department/DISCOM of Uttarakhand.
- iv.** Processing fee Rs. 2000/- in the form of D.D. No. Dated in favour of Director, UREDA payable at Dehradun.
- v.** Copy of technical tie-up letter with the suppliers of plant and machinery.
- vi.** Net worth duly certified by CA on its letter head or proof of the financial capability duly certified by the banker (in Rs Lakh).

Declaration:

- i.** I/We certify that all information furnished is true to the best of my/our knowledge.
- ii.** I/We agree that GoUK/UREDA is the final authority to allot us the project.
- iii.** I/We shall not have any dispute with GoUK/UREDA for non-allotment of the project.
- iv.** I/We agree to sign necessary agreement with GoUK/ UREDA/DISCOM.
- v.** I/We agree to comply with the terms and conditions of Policy for Power Generation from Pine Leaves and Other Biomass–2018

Name & signature of Authorized Signatory with Seal

Place:

Date:

Technical Appraisal Committee (TAC)

- 1)** Additional Principal Chief Conservator of Forest – Chairman
- 2)** Addl. Director (Industries) — Member
- 3)** Chief Engineer, UPCL — Member
- 4)** Additional Commissioner, Rural Development — Member
- 5)** Chief Engineer, PTCUL— Member
- 6)** Chief Project Officer, UREDA – Convenor

Project Approval Committee (PAC)

- 1)** Chief Secretary, Uttarakhand – Chairman
- 2)** Principal Secretary/Secretary (Power) – Member
- 3)** Principal Secretary/Secretary (Forest) – Member
- 4)** Principal Secretary/Secretary (Revenue) -- Member
- 5)** Principal Secretary/Secretary (Industries) -- Member
- 6)** Principal Secretary/Secretary (Rural Development) -- Member
- 7)** Principal Secretary/Secretary (Finance) -- Member
- 8)** Principal Chief Conservator of Forests -- Member
- 9)** Managing Director, UPCL-- Member
- 10)** Director, UREDA – Convenor

MEMORANDUM OF UNDERSTANDING

(To be executed on Rs.200/- non-judicial stamp paper)

This MoU is made on this day of 201... as per the provision of Uttarakhand Policy for Power Generation from Pine Leaves and Other Biomass–2018 (hereinafter referred as "**Policy**") between

..... (name of the eligible applicants) through its
..... (name of the authorised signatory), registered under
.....(provide the category under which eligible applicants falls as per the eligible entities details given in clause 10.1of the policy) having its registered office at (hereinafter referred as "**Developer**")

OR

..... (name of the joint venture/consortium firm) formed between (name of the eligible applicants), registered under(provide the category under which eligible applicants falls as per the eligible entities details given in clause 10.1of the policy) through its (name of authorized signatory) having its registered office at And (name and address of the CBO of the identified area) through its authorized signatory (hereinafter referred as "**Developer**")

AND

Uttarakhand Renewable power Development Agency (UREDA) through its(name of the officer of concerned district of UREDA) having its project office at (address of the concerned district office) and having its headquarter at Power Park Campus, Industrial Area, Patel Nagar, Dehradun- 248001, Uttarakhand (hereinafter referred to as "**UREDA**")

AND

Department of Forest, Government of Uttarakhand through its (name of the concerned DFO of the area or any other competent officer of forest department) having its office at (hereinafter referred to as "**Forest Department**")

This Memorandum of Understanding (MoU) specifies a broad framework of responsibility, support and co-operation between Forest Department, UREDA and Developer for installation of KW Pine Leaves and Other Biomass based power generation project or MT Pine Leaves and Other Biomass based briquetting/bio-oil project (whichever is applicable).

1. Background :-

The developer has been allotted a KW Pine Leaves and Other Biomass based power generation project or MT Pine Leaves and Other Biomass based briquetting/bio-oil project (whichever is applicable) by UREDA vide LoA (reference no. and dated) under Policy for Power Generation from Pine Leaves and Other Biomass–2018.

2. Implementation Schedule :-

- i.** The developer shall obtain required statutory clearances and approvals (if any) for the proposed project within six months of issue of LoA.
- ii.** The developer shall achieve the financial closure with 10 (ten) months from the issue of LoA. Financial closure would imply firm commitments for financing the entire project with all pre-disbursement conditions having been fulfilled.
- iii.** The project shall be completed and made operational with a period of 18 months from the date of issue of LoA of the project.
- iv.** In case, the developer fails to obtain clearances/approvals or achieve the financial closure or commissioning of the project within stipulated time, UREDA may consider the cancelling the LoA and forfeiting the security deposit.

3. Role and responsibility of Developer :-

- i.** The developer shall be required to seek approvals/clearances from various departments, such as, Pollution Control Board, Forest Department, Revenue Department, Van Panchayats, Industries Department, etc. before setting up the biomass based projects.
- ii.** The developer shall install the allocated projects in pursuance to the standing orders and guidelines of forest department from time to time.
- iii.** The developer shall be responsible for collection and storage of pine leaves/other biomass and continuous operation of the project.

- iv.** The arrangement of land required for installation, storage and other provisions, such as, evacuation of power, staff quarters, etc. will be made by the developers themselves.
- v.** The developer shall insure the execution and operation of the project allotted under the policy.
- vi.** The developer shall be responsible at his own expense for ensuring that the generation of power from the Power plant or briquette/bio oil production in accordance with all legal requirements including the terms of all consents/clearances/permits and Prudent Utility Practices within the acceptable technical limits so as not to have an adverse effect on the UPCL Grid System, Forest department and environment.
- vii.** UREDA/Forest Department/Government of Uttarakhand shall not be responsible for any claims arises from any loss or damage to property, project works, personal injury or death of person during the survey, execution, operation and maintenance of the project, collection of pine needles/biomass etc.
- viii.** The admissible incentives as per the clause 15 of the policy will pass to the developer as soon as it is sanctioned /received from the concerned Department/Ministry/Organisation. UREDA/Forest department shall not be responsible for any delay or non-admissible of any of the incentives proposed in the policy.
- ix.** It shall be the responsibility of the developer to implement the project as per the implementation schedule and in accordance with the Policy.

4. Role and responsibility of UREDA :-

UREDA will also act as nodal agency and will be responsible for:

- i.** Monitoring & supervision during execution of the project.
- ii.** Facilitating the project developers for getting required clearances.
- iii.** Providing support for prevailing subsidies/incentives (if any) from central or state Government Department(s).

- iv.** Provide necessary support in the training & capacity building for the developer on various issues related to setting-up of biomass based power generation/briquetting/bio-oil projects.
- v.** Facilitating the project developers for obtaining all available incentives/benefits under the Policy for Power Generation from Pine Leaves and Other Biomass–2018.

5. Role and responsibility of Forest Department :-

The Department of Forest, GoUK will act the nodal agency and will be responsible for:

- i.** Identification of area for collection of pine needle & provide permission to developer for collection of pine needle.
- ii.** Provide permission to concerned Van Panchayats for collection of pine leaves and other biomass from identified area as per the Section 26(2)a of Indian Forest Act 1927.
- iii.** Act as monitoring agency for coordination between for Van Panchayats and concerned developer.
- iv.** Collection of royalty fee of Rs. 20/- per MT as per the Government order – 6574/X-3-07-21(29)/2007 from the developer for evacuation of the pine needle.
- v.** To collect and deposit the royalty (Rs. 20/- per ton) according to the Govt. Order for evacuation of yield from reserved and protected area apart from the area belongs to the Van Panchayat. According to the Govt. Order no. 1872/X-2-2016-21(9)/2015, no transit fee will be lavy on the evacuation of the forest yield.
- vi.** To ensure the deposition of fee collected as royalty (Rs. 20/- per ton) from Van Panchayat area into account of concerned Van Panchayat. This amount will be utilised as per the section 30 of Van Panchayat Niyamavali- 2005.
- vii.** To facilitate villagers and developer for finalization of cost of collection of pine needle and other biomass.
- viii.** To ensure that developer will not store the pine needle in the forest land. He will lift that material within in a week from the forest land so that no forest fire takes place. The already exist road will be used for transportation of the pine needle and other biomass.

- ix.** The responsibility for safety of pine needle and other biomass upto the collection point will be of concerned Van Panchayat.
- x.** In case any dispute arise for forest yield, the concerned conservator of forest will be act as arbitrator. The decision of arbitrator will be agreed by all concerned parties.

6. Security Deposit :-

The developer shall deposit the following security amount before signing of this agreement:

- i.** The security amount of Rs. 1,000/- per KW for power generation project or the security amount of Rs. 100/- per MT capacity of the Briquetting/bio-oil Unit.
- ii.** The security amount will in the form of Bank Draft, FDR, CDR or Bank Guarantee issued by any Nationalized Bank in the favour of the Director, UREDA payable at Dehradun.
- iii.** The Bank Guarantee shall be returned to the successful developer after successful commercial operation (COD) date of the project.

7. Power to Remove Difficulties :-

All the parties shall comply with the provisions of this MoU and discharge the respective obligations. If any difficulty or disputes arises in giving effect to this MoU, the Chief Secretary, GoUK is authorized to issue clarification as well as interpretation to such provisions, as may appear to be necessary for removing the difficulty or for changes to any provision; delegates are authorized for solicitation within a month after hearing the parties.

8. Address for Communication :-

<u>Forest Department</u>	<u>Uttarakhand Renewable power Development Agency (UREDA)</u>	<u>Developer</u>
Concerned DFO office address with ph. and email.id	Concerned District level Office of UREDA:

.....
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IN WITNESS WHEREOF, the parties have caused this Memorandum to be executed by their duly authorised officers on the date first written.

For and on behalf of
Forest Department

For and on behalf of
UREDA

For and on behalf of
Developer

.....
.....
.....
.....

Witnesses:

Witnesses:

Witnesses:

1.

1.

1.

2.

2.

2.

Details of Expected Expenditure & feasibility analysis for Installation of Pine Needle based Power generation Plant			
A	General details	Units	Figures
A1	Capacity	kW	25
A2	Cost of project (estimated)	In Rs.	2500000
A3	Tariff as fixed by Hon'ble UERC (will change in each FY)	Rs/kWH	5.36
A4	Auxiliary Consumption (assumption)	%	5
A5	CUF by considering 16 hrs per day as operating hours (assumption)	%	64
A6	O&M expenses @ 5% of cost (assumption)	Rs	125000
A7	Life of Plant	Years	20
B	Details of cost		
B1	Total project cost	In Rs	2500000
B2	CFA from MNRE Gol@18000 per kW (if available)	In Rs	450000
B3	Incentive/subsidy from MSME GoUK@40% (if available)	In Rs	1000000
B4	Required fund by beneficiary	In Rs	1050000
C	Generation Details		
C1	Approx Annual generation in kWH (@64% CUF)	In kWH	140160
C2	Power sent out after auxiliary consumption	In kWH	133152
D	Revenues generated		
D1	Revenue generated from sale of electricity	In Rs	713695
D2	Charcoal produced @10 % of pineneedles consumption (assumption)	In Kg	21024
D3	Revenue from charcoal sale @Rs 10 per kg (assumption)	In Rs	210240
D4	Total revenue generated	in Rs	923935
E	Details of running cost		
E1	Annual O&M Expences@5% of annual cost	In Rs	125000
E2	Additional Annual Manpower cost (4 technician/labour)	In Rs	288000

	@ Rs 6000 per technician per month (assumption)		
E3	Total O&M expences	In Rs	413000
F	Fuel (Pine needles cost)		
F1	Pine needles consumption	Kg/kWH	1.5
F2	Pine needles consumption per annum	Kg	210240
F3	Pine needles loss	%	10
F4	Pine needles collection	Kg/year	231264
F5	Landed cost of pine needles including pulverisation	Rs./Kg	1.5
F6	Pine needles cost (yearly)	Rs	346896
G	Profit		
G1	Annual profit for developer	Rs	164039
G2	Simple Pay Back Period	Years	6.40
Note:	<p>e) The calculation is based by considering 16 hrs operation of project. The net profit may change by varying operation hours of project.</p> <p>ii) Applicable subsidy from Gol and GoUK has been considered in above calculations, however subsidy will be provided only if it is available from Gol and GoUK.</p> <p>iii) Cost of sale of charcoal may very from Rs. 10 to 20 as per charcoal demand in the project locality.</p> <p>iv) Expenditure on manpower wages may very from site to site.</p>		
