Bio-Energy Enterprises Promotion Programme

Department of Planning,
Government of Uttar Pradesh
"BIO-ENERGY ENTERPRISES PROMOTION PROGRAMME"

1.0 Background:

1.1. Value-Chain-Mechanism: Effective implementation of State Bio-Energy Policy is being done by the State Bio-Energy Development Board with fulfilling the agenda of producing bio-energy, creating environment-friendly agricultural based sustainable economic development and huge quantum of sustainable self employment opportunities in the state. For this purpose, the cultivation of various types of biomass for the production of bio-energy through utilizing the marginal land/ unsuitable land for the regular agricultural activities in the state. It includes waste land like fallow and water logged etc.. During gestation period of the said biomass production/ cultivation, medicinal & aromatic plant cultivation and super foods cultivation/ production programme are also being run by the Board to ensure the regular income to the farmers even in the adverse environmental conditions. The programme execution process is based on "value-chain-mechanism" with entrepreneurship mode.

1.2. Strengthening Effective Implementation: Mission Bio-diesel, Mission Bio-ethanol, Mission Bio-gas and Mission Producer Gas in the State Bio Energy Policy are being executed through convergence of various developmental schemes/ programme run by the Govt. For this purpose, G.O.s and other Notifications have been issued from time to time. Board facilitates the execution process in Mission Mode by formulating a group of farmers at the decentralized level. Various employment programs are also being implemented. For example, Bio-energy plantation and Medicinal & Aromatic plants cultivation are being done under MNREGA convergence while industrial units are being run under Micro, Small and Medium Enterprises Departmental Schemes and schemes run by Khadi & Village Industries Department. For the establishment of bio-energy units up total cost of Rs. 25.00 Lakh, 25-35 percent credit-linked financial incentives are awarded while the project cost above Rs 25 lakh and Rs10 crore, interest incentive is awarded in the respective financial year. But its direct benefit has not been taken by any entrepreneur. So, effective and speedy execution of State Bio Energy Policy is not possible.

1.3. Instructions given for agricultural waste disposal by Hon'ble National Green Tribunal: Uttar Pradesh is the agriculture prone state. Wheat and paddy crops are predominantly in the state. There is no effective mechanism for the disposal of stubble / residues after harvesting both crops. Although so many incentives are being given to the farmers by the Agriculture Department, still the agricultural residues are burnt by the farmers and no regular arrangements have been made till today. It creates environmental pollution and also adversely affects the quality of soil. In addition, due to burning of solid bio-degradable waste in urban areas, the environment is also polluted and environmental problems such as SMOG arises.

1.3.1. Hon'ble National Green Tribunal, passed an order to collect the penalty from the farmers burning the crop residues as per area of burning vide case number O.A. 21/2014 Vardhman Kaushik v. Union of India and others and O.A. No. 118/2013 Vrkanth Kumar Tongad v. Union of India and others. Apart from this, the order has also been given to provide the tools / facilities at concessional rates to the farmers for preventing the burning of agricultural waste. It has also been instructed by the National Green Tribunal that facilities should also be developed for alternative use of agricultural waste. To prohibit the burning of agricultural residues after harvesting of crops, notification was issued by the State Govt. vide No. 2845/55-EN / 15-99 (EN)-13 dated 28-10-2017.

1.3.2. Reduction of air pollution is very important in terms of public health. Due to the pollution caused by the burning of agricultural waste, the catastrophic situation of air pollution in the National Capital Territory of
Delhi, especially in winter, is created. According to the Graded Response Action Plan created by the Central Pollution Control Board with reference to the directions given by Hon'ble Supreme Court of India. The proceedings of the implementation of the Grade Response Action Plan are being monitored by the Environment (Pollution and Control) Authority, New Delhi, as per the order of the Supreme Court. In view of the above, alternative use of agricultural residues, instead of being burnt, is to be developed. It is a very important step.

1.3.3. It was also decided to develop the Bulandshahr district as an "ideal district" with the aim of disseminating agricultural waste and popularize the efforts in the farmers so that they may adopt it. In this continuation, the NTPC has formulated the plan to purchase agricultural waste, which will add incremental revenue of Rs 5500 per tonne to the farmers.

1.3.4. There are 119 sugar mills in the state. During last year these units collectively crushed about 827 MMT sugarcane. It yields about 03% press mud whose safe and scientific disposal is compulsory as per C.P.C.B. norms/standards. One cubic meter biogas is produced out of 08 Kg press mud which ultimately yields about 425 grams of Bio-CNG. Under these circumstances, the Press and other bio-degradable waste in the sugar mills shall be easily available as good quality raw material to Bio-CNG industry. In addition to Bio-CNG production as above, 20% quantum of the total bio-mass waste, is obtained as organic manures. Bio-coal production may also be installed for utilizing other bio-degradable waste like sugarcane trashs, bagasse and sugarcane leaves etc. Such innovative entrepreneurship to this sector will improve the financial health of the sugar mill as well as farmers.

1.4. Emphasis on the establishment of Biofuels:

1.4.1. In order to ensure the compliance of the order passed by the Hon'ble National Green Tribunal for permanent solution of smog and other environmental pollutants due to the burning of agricultural and other biological waste in the districts of NCR region, State Level Monitoring Committee meeting was held in the chairmanship of the Chief Secretary of the State. In the meeting, the Chief Secretary directed to explore the option of bio-mass based power generation, compost or other products like Straw Board, Bio-coal, bio-char etc. In this meeting, Chief Secretary agreed with presentation of the Board and ordered for preparing the time bound work plan of bio-coal (pellets and briquettes) and Bio-CNG production in the project mode from agriculture and other bio-degradable waste. With the establishment of such units, all types of bio-fuels including solid fuel (bio-coal-pellets and briquettes), liquid fuels (bio-diesel, bio-ethanol and methanol), gaseous fuels (bio-gas / bio-cng) and "drop-in fuel" would be produced. Instructions were also issued by the Chief Secretary to implement the said projects effectively. Bio-ethanol blending in gasoline has been started by oil marketing companies. Bio-ethanol production program is taking the shape of a larger market, considering the technical consent of Blending higher percentage Bio-ethanol in petrol. Apart from this, there is an alternative fuel based on "drop-in-fuel" updated technology which can be blended in both petrol / diesel as per the requirement. It can also be used directly in place of Diesel / Petrol. This will not require any additional changes in the engine. Methanol can be used in rural areas as a low-cost clean kitchen fuel. Along with certain technical modification in the internal combustion engine, methanol can also be used as a low-cost clean transport fuel. More capital investment will be required for the implementation of all the above projects operated by the Board.

1.4.2. U.P. State Bio-Energy Development Board estimated the availability of various types of agricultural waste and animal husbandry waste in the state. It added that 692662.07 Metric Tonnes of dung and other animal husbandry waste are produced every day, which is an average of 34.60 lakh cubic meters of biogas per day or 22.15 lakh cubic meters of Bio-CNG can be produced. Similarly, agricultural waste of 156 million tonnes per year is produced. Bio-coal can be produced from these agricultural residues equal to 175.5 million tonnes
equivalent to the calorific value of conventional coal. After providing the industrial facilities to this process, a new era of producing biomass on fallow, barren and water-logged area, etc., in the state will be started. It will enhance the share of agriculture activities in GDP of the state, while the efforts of environmental protection from the biomass production program will also be strengthened. State will become self-reliant in energy sector with environment-friendly. In addition to this, the management program of thousands of tonnes of bio-degradable waste collected under the Swachh Bharat Mission in different urban areas of the state will also get a new direction of safe, scientific and productive disposal. It was presented before Hon‘ble Chief Minister by Member NITI AAYOG under title "MSW to Methanol - a win-win solution". But it is clear from the presentations given earlier, the implementation of the projects mentioned in the State Bio-Energy Policy, requires huge quantum of capital investments. Due to their utility in environmental conservation and their innovative nature in the implementation of the projects involved in environment protection, it is necessary to provide timely financial support to these projects. Action will be taken to ensure solid waste in the urban areas through the plant and generating energy will be taken by the Urban Development Department. In the urban areas, burning of solid waste has been prohibited. On the establishment of plants / industrial units to be established by different departments other than the urban development department, it should be agreed with the condition that the industrial unit will also arrange ETP/ STP etc. They shall avail necessary clearance/ permission from the Environment Department.

2.0 With reference to the above mentioned facts, "Bio-energy Enterprises Incentive Program" is being executed for effective implementation of various projects run by the U.P. State Bio-Energy Development Board from time to time. Facilitating financial incentives to such projects, the detail guidelines are as under:

2.1. Mission:
- Bio-energy based environment-friendly sustainable development.
- Contribution in creating sustainable employment/ self-employment opportunities
- Ensure the effective execution of the Policy
- Establishing 03 Mega units

2.2. Strategy:
2.2.1. The strategy for effective implementation of the project will be based on "Entrepreneurship Mode" under "Value-chain-Mechanism". The following steps will be taken in its implementation process:

(A) For this purpose, U.P. State Bio-Energy Development Board will invite investment proposals for establishing bio-energy projects (bio-diesel, bio ethanol, methanol, biogas/ bio-cng, producer gas- Pellets and briquettes) through prestigious news papers and also publish other promotional activities.

(B) Related facilities shall be made available after appraising the proposals on the basis of first come first serve, the technology adopted by the entrepreneur, the continuity of the adopted technology and per unit production cost first technical inputs and the cost of production, cost per nit cost and the financial resources available in the respective financial year. The appraisal will be done in accordance with the descriptions given at point no.2.3 (financial incentive). The appraisal of the proposals received will be done by U.P. State Bio-Energy Development Board in accordance with State Bio Energy Policy. If required necessary, Board may ask the investor for producing additional records / information in favour of investment proposal. After the assessment, the Board will submit its recommendation to the Approval Committee / Empowered Committee for the decision as per the total cost of industrial units.

2.2.2. Classification of Industrial Units
2.2.2.1. General Industrial Units (Level-1): Units with investment proposal less than Rs 10.00 crores will be treated as general industrial units (Level-1). An approval committee will be constituted under the chairmanship of the respective Commissioner. Other members of the committee will be as under:
• Deputy Inspector General of Police of the respective division.
• District Magistrate of respective district.
• Senior Superintendent of Police of the respective district.
• Divisional Officer of the GST Department.
• Divisional Officer of Labour Department.
• Deputy Director Agriculture of district concerned
• Senior Divisional Engineer of the Department of Electricity.
• Regional Officer of U.P. State Industrial Development Corporation
• The concerned District Manager Lead Bank
• Regional Officer of Pollution Control Board
• Regional officer of Factory Directorate
• Regional officer / Joint Director Industry
• The project officer of the concerned district, U.P. NEDA
• Deputy Chief Probation Officer, Women Welfare Department
• Regional officers of the respective departments / authorities / institutions with financial incentives are requested.
• State Coordinator / Member Coordinator, UP State Bio-Energy Development Board.

On the basis of the proceedings of the meeting, the details of the letter of acceptance / letter of comfort will be issued to concerned departments on which the concerned departments will sign their consent. After this, the formal approval letter / Letter of Comfort will be issued to the eligible unit by U.P. State Bio-Energy Development Board.

2.2.2.2. General Industrial Units (Level-2): Units with investment proposal more than Rs 10.00 crores but less than Rs 100.00 crores will be treated as general industrial units (Level-2). An approval committee will be set up under the chairmanship of the Infrastructure and industrial development commissioner. Other members of the committee are as under:

- Principal Secretary, Department of Infrastructure and Industrial Development, Govt. of U.P.
- Principal Secretary, Planning Department, Govt. of U.P.
- Principal Secretary, Department of Finance, Govt. of U.P.
- Principal Secretary, Department of Law, Govt. of U.P.
- Principal Secretary, Department of Micro, Small and Medium Enterprises, Govt. of U.P.
- Principal Secretary, Department of Agriculture, Govt. of U.P.
- Principal Secretary, Renewable Energy Resources Department, Govt. of U.P.
- Principal Secretary, Women Welfare Department, Govt. of U.P.
- Principal Secretary of the concerned department / authority / institution, from which financial incentives are requested
- State Coordinator / Member Coordinator, UP State Bio-Energy Development Board

On the basis of the proceedings of the meeting, the details of the letter of acceptance / letter of comfort will be issued to concerned departments on which the concerned departments will sign their consent. After this, the formal approval letter / Letter of Comfort will be issued to the eligible unit by U.P. State Bio-Energy Development Board.

2.2.2.3. Mega Industrial Units: Units investing more than Rs 100.00 crores will be treated as mega industrial units. For such projects, approval by the Hon’ble Cabinet will be granted on the basis of recommendations of the empowered committee formed under the chairmanship of Chief Secretary, Govt. of U.P. The Empowered Committee will have the following members:

- Infrastructure and Industrial Development Commissioner, Govt. of U.P.
- Principal Secretary, Department of Infrastructure and Industrial Development, Govt. of U.P.
- Principal Secretary, Planning Department, Govt. of U.P.
• Principal Secretary, Department of Finance, Govt. of U.P.
• Principal Secretary, Department of Law, Govt. of U.P.
• Principal Secretary, GST Department, Govt. of U.P.
• Principal Secretary, Department of Micro, Small and Medium Enterprises, Govt. of U.P.
• Principal Secretary, Department of Agriculture, Govt. of U.P.
• Principal Secretary, Renewable Energy Source Department, Govt. of U.P.
• Principal Secretary, Women Welfare Department, Govt. of U.P.
• Principal Secretary of the concerned department / authority / institution, from which financial incentives are requested.
• As per requirements, specialist/experts institutions such as NABARD Consultancy Services or Ministry of New and Renewable Energy / Ministry of Oil and Natural Gas / Ministry of Forest and Environment, Government of India affiliated with the Government of India or any of the respected specialist institutions at the international level, Representative.
• State Coordinator / Member Coordinator, UP State Bio-Energy Development Board
  After approval of the Hon'ble Cabinet and after the issuance of mandate, the formal approval letter / Letter of Comfort will be issued to the eligible unit by U.P. State Bio Energy Development Board.

2.3. Financial Incentives:

2.3.1. The following exemption facility would be provided for all programs included in State Bio Energy Policy:

2.3.1.1. Capital Subsidy:

2.3.1.1.1. The general industrial unit (level-1) will be permissible for capital subsidy @ 25% of the project cost.

2.3.1.1.2. The general industrial unit (level-2) will be permissible for capital subsidy @ 20% of the project cost.

2.3.1.2. Stamp duty exemptions: 100% exemption of stamp duty will be available for purchase of land for the installation of the unit.

2.3.1.3. S-GST Reimbursement: 100% reimbursement of S-GST for a period of 10 years, with maximum ceiling of fixed capital investment.

2.3.2. Case-to-case based incentives

2.3.2.1. Mega projects costing more than Rs 100.00 crores will be allowed capital subsidy @ 15% of the project cost or maximum Rs 150.00 crores per unit. Other incentives like S-GST reimbursements and stamp duty exemptions would also be provided to them.

Note:-

1. The definition of project cost and other definitions and process of application and distribution for financial incentives will be in accordance with the rules referring the implementation guidelines of U.P. Industrial Investment and Employment Promotion Policy-2017, for which the mandate will be issued separately.

2. The cost of land and administrative buildings will not be included in project cost while calculating the capital subsidy under the scheme.

3. The above financial incentives will not be permissible on projects in which the shareholding of the government will be 50 percent or more.

4. Those projects, which are eligible for financial incentive by the Ministry of New and Renewable Energy, Government of India, will not be included for above incentive. Likewise, on the basis of power purchase agreements, where the licensee is to sale power to the grid, the financial assistance in this policy will not be permissible.

5. Priority will be given to those projects with proven technology or whose technology is recognized internationally. Also, it has assurance to Indianize the technology in future. There is also the ability to provide maximum employment opportunities.

6. Financial concessions to any entity from all sources will not exceed 100% of the fixed investment made by
the unit.

7. The policy will be reviewed by the government after giving the Letter of Comfort to the first 3 Mega Industrial Units or after the distribution of incentives to the approved limits of approved budget or 03 financial years, whichever is earlier.

2.3.3. Aforesaid financial facilities would be permissible after the date of issue of mandate. The same will be applicable to those industries whose establishment will be after the implementation of this policy and whose acceptance is subject to the provisions of this policy.

2.4. Implementation: - The implementation of the Bio-Energy Enterprises promotion program will be done by the Renewable energy sources department.

2.5. Carbon Credit Facility:
Keeping in view the reduction in the emissions of greenhouse through the development and use of bio-energy, the cessary coordination would be done by U.P.State Bio-Energy Development Board for obtaining the carbon credit facility under the standards of UNFCC.

2.6. Quality standards:
2.6.1. The Bureau of Indian Standards (BIS) has developed a standard (E. S. 15607) for Bio-diesel, which has been taken from the American standard ASTM-D-6751 and the European standard E. N. 14-14214. Apart from this, the Bureau of Indian Standards has developed standard I.S.-2796: 2001, including 5% and 10% Bio-ethanol Blend.

2.6.2. Compliance will be ensured in each condition of standards set by the Bureau of Indian Standards in the production of bio-ethanol, biodiesel, drop-in-fuel, methanol and other bio-fuels.

2.7 Import and Export of Bio Fuels:
2.7.1. Agricultural residues after harvesting in the fields are often burnt by the farmers before preparations for the next crop. The said agricultural waste can be used to produce bio-fuels in the form of biomass. The import of the basic raw material required for bio-energy enterprise/unit will not be allowed.

2.7.2. To ensure the regular supply of Bio-mass to the Bio-energy enterprises other than crop harvesting season, Biomass cultivation programme would be executed by farmers with cluster/ FPO approach in the "Value-Chain-Mechanism" of the Board on Fallow, barren and water logged area. Each member included in the farmer cluster will be named as Bio-energy Volunteers. The cost of raw material will be determined based on the market rate available in the respective financial year and the market value of the bio-energy product in the same financial year.

2.7.3. In the condition of permission to import bio-fuels, duty and other taxes will be imposed on imported bio-fuels so that indigenous bio-fuels are not expensive by imported fuel. Permission for import of free fatty acids (FFA) as required for the production of bio-fuel will be allowed.

2.7.4. Export of bio-fuel will be done only in that case, when our internal requirements have been met to the relative fuel.

2.8 Awareness and Capacity Building:
2.8.1. Programs for creation of various levels of awareness / capacity building for self-reliance in the field of domestic energy will be run. With this, the rural economy will be strengthened as well as the role and importance of the bio-fuels sector will be established for self-employment opportunities.

2.8.2. There will be more emphasis on human resource development, training and capacity building. For this, universities, engineering institutes, polytechnic institutions and industrial training institutions will be
encouraged for various level training, to ensure the availability of trained manpower at all levels in the bioenergy sector. Course materials would be made available the Board to Technical Education Department. Based on course materials, the curriculum would be made and finally will be implemented by the Department of Technical Education with the approval of AICTEET. The students will be taught as an optional subject.

2.9 Well organized management of previously planted biological resources (biomass) and its bio-energy use for Bio-energy enterprises operations:

2.9.1. Collection and commercial use of Neem, Mahua, Karanji and other oil seeds produced by the forest department in the state will be permitted. These seeds shall be used as raw materials for biodiesel production units.

2.9.2. Agroforestry projects shall be executed in degraded forest lands for biomass production to facilitate the regular supply of raw materials to Bio energy production units. During the plantation, various medicinal and aromatic plants and Super Food Production Programs shall also be conducted as its intercropping/its gestation period.

2.9.3. Subool's biomass will be used as raw material for bio-coal production, which has become completely curse for villagers/farmers and their pets at the regional level along with the environment. The revenues received from sale of its biomass will be kept in a special account of the state government. Use of this money will be for plantation of Neem, Mahua, Karanji, Simarouba and other trees which will be used for assured supply raw material for Bio energy enterprises, as well as supports the State efforts for environment conservation.

2.9.4 Mahila Samakhya Samuh run under Women Welfare Department would be facilitated for the implementation/dissemination of various schemes related to women and child welfare. In addition, the women welfare department is functioning as the nodal department in the operation of various important programs of women empowerment. Therefore, departmental consent can be given to women groups for contribution to the proposed efforts of bio-energy enterprises development. In addition to the above, in the formation of the proposed committees under the bio-energy venture promotion program, it is advisable to include the respective Divisional Probation Officer at the Divisional level committee and the Principal Secretary/Secretary, Women Welfare Department at the Government level committee as the representative of the women welfare department.

2.9.5 Lentana and other such weeds, which inhibit the expansion program/growth of forest areas, shall be used for the purpose of production of Bio-energy. It will save additional government expenditure on cleaning the forest to grow fast. It will add revenue to the forest department on sale of such weeds to Bio-energy production units and create additional employment opportunities also.

2.10. Possible achievements after the implementation of the program:

Following direct and indirect achievements shall be availed on the implementation of the proposed program:-

2.10.1. Continuous production of renewable energy: In the case of scientific, methodically planned and productive management of all types of biological waste (Woody and fleshy species) leading to bio-energy production programme. Such high value products includes solid, liquid and gaseous fuels. Such efforts shall reduce our dependence on petroleum-based fuel.

2.10.2. Growth in agricultural production and enhancement in farmer's income: For the production of all types of biomass, completely inappropriate land, which is not suitable for any agricultural/horticultural activities shall be used. This will increase the use of farmer's barren, rugged, fallow, water-logged area etc. Ultimately, it will increase the agricultural production of the state, whose direct impact will be on the GDP of the state. At the same time, instead of diesel for primary agricultural investment in irrigation and fertilizers uses, bio-diesel/biogas and use of bio-manure/bio-slurry etc. in place of chemical fertilizers, will be progressively increased. It will reduce the cost of farming per unit. After the harvesting of crops, agricultural residues would be used as biomass to Bio-energy enterprises. Such efforts shall effectively control air
pollution generated by burning of agricultural wastes, which will in turn get rid of the environmental problems like smog in winters every. This effort will lead to progressive increase in the income of the farmers.

2.10.3. **Facilitating environment-friendly fuels and off-grid electricity on cost-effective rates**: MSME sector units established in the remote area in the State shall be facilitated the off-grid electricity based on producer gas technology. It will ensure the regular supply of electricity to the units. Apart from this, the pre-installed MSME sector units shall be also be facilitated for such efforts under the scheme. With this effort, the additional burden on the electricity grid will be reduced. Such MSME units shall be operational on regular basis, which is not possible due to irregular/ roster based supply of grid-connected power. In addition, bio-coal will be used in place of conventional coal in furnaces and boilers etc. installed in industrial units. With this effort, environment conservation measures shall also strengthen. Under any circumstances, the Ministry of New and Renewable Energy, Government of India’s biomass-based grid-interactive projects will not be permissible under the Bio-energy enterprise promotion program. The committees constituted for the acceptance of bio-energy enterprise proposals on various points as like point no 2.2.2 will be specifically referred during the acceptance/ sanction process.

2.10.4. **Control of climate change effects with environment-friendly means**: Regular follow-ups of biomass cultivation/plantation program and well planned mechanism of all types of biological waste shall reduce the side effects of climate change.

2.10.5 **Cooperation in making Gaushalas self-sufficient**: With the effective implementation of Bio-Gas/Bio-CNG projects in upcoming Gaushalas/ existing Gaushals will make them self-sufficient. It will also support the State Government efforts to establish Gaushalas for GAU-VASH conservation. At the same time, It will facilitate complete cleanliness in Gaushalas also.

2.10.6 **Creation of self employment opportunities and facilitation in effective implementation of "LOK KALYAN SANKAL PATRA-2017"**: Self-employment opportunities to youths on regular basis at the regional level would be created along-with above various direct and indirect benefits. It will also meet the various points mentioned in the LOK KALYAN SANKAL PATRA-2017, such as doubling the income of farmers, organic farming, environmental protection, alternative energy development, and providing opportunities to the youth for sustainable self employment/employment.

3.0 **Apart from the above, it has also been proposed that:**
   
   In the process/guidelines of the Bio-Energy Enterprises promotion program, the Chief Minister is authorized to make any change/ addition in the future as per the requirements from time to time.

4.0 **Departments associated for execution of the Program:**

Planning, Finance, Infrastructure and Industrial development, and registration, Commercial Tax( GST), Energy, Forest, Environment, MSME, Agriculture, Horticulture, Labour and Employment, Renewable energy resources, Technical education, Women welfare, Urban Development and Sugar industry & sugarcane development department, Govt. of U.P. are directly involved in the execution process of the scheme.

5.0 **Above mentioned departmental proposal at Parra no- 2 and 3, in accordance with to the opinion received from various advisory departments mentioned at point no-4, and the departmental opinion on it, the process for the implementation process/ guidelines of the 'Bio-energy enterprises promotion programme' contained in the revised proposal of Parra-2 and 3, the appropriate order of the Council of Ministers is being issued.

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