

Detailed Work Plan of Programmes of JREDA during the financial year 2014-15

1. National Biogas Programme:

Under National Biogas Programme, installation of a total of 340 M³ capacity biogas plants of (plant size 2-6 M³) are to be carried out both at domestic and institution level which will cover the tribal beneficiaries as well as general beneficiaries during the financial 2014-15.

The objectives of the scheme are as follows:

- i. To provide clean gaseous fuel mainly for cooking purposes and organic manure to rural and semi urban households through family type biogas plants,
- ii. To mitigate drudgery of rural women, reduce pressure on forests and accentuate social benefits;
- iii. To improve sanitation in villages by linking sanitary toilets with biogas plants;
- iv. To provide bio digested slurry (liquid / semi-solid and dried) as an upgraded source of enrichment for manure to reduce and / or supplement use of chemical fertilizers; by linking biogas digested slurry with enrichment units such as wormy-composting plants and other organic enrichment facilities of slurry.
- v. To meet 'lifeline energy' needs for cooking as envisaged in "Integrated Energy Policy" report of the Planning Commission.
- vi. To help in combating and reduction in causes of climate change by preventing emissions of carbon dioxide and methane into the atmosphere.

Beneficiary:

Beneficiary will be any individual of general/Scheduled Castes/Scheduled Tribes of Jharkhand state having adequate cowdung (25 Kg per day per 1M³) and ready to pay the fixed beneficiary amount. JREDA will promote this programme through wide publicity and also invite online application.

Approved Model:

Approved model of MNRE for family type biogas will be only applicable.

Agency: Programme will be implemented through registered NGO's /Agency has sufficient experience in biogas plant construction.

Cost of the programme:

Cost of the programme for each type /capacity is as mentioned above. The estimated cost is based on the current schedule rate of Building Construction Department.

As per MNRE sanction order no. 5-5/2014-BE (NBMMP) dated 30.06.2014, the Central Financial Assistance (CFA) has been fixed as following:

- i. For scheduled castes/scheduled tribes @ Rs. 11000/- each for 2-6 cubic meter.
- ii. For general category other than the above @ Rs. 9000/- each for 2-6 cubic meter.

The detail of programme is as following:

Sl. No.	Type/ Capacity	Estimated Cost (in Rs.)	Central Share (in Rs.)	State Share (in Rs.)	Beneficiary Share (in Rs.)	Proposed qty.	Proposed Amount (in Rs.)	
1	2M ³	18000/-	9000/-	-----	9000/-	40	-----/-	
2	4M ³	28000/-	9000/-	7000/-	12000/-	50	350000/-	
3	6M ³	36000/-	9000/-	15000/-	12000/-	10	150000/-	
Total								500000/-

For this programme, a financial outlay of Rs. 5.00 lacs is earmarked.

2. **Solar Photovoltaic Programme:**

Under Solar Photovoltaic Programme, distribution of Solar Lantern, Solar Home Lighting System & Solar Street Lighting System at a subsidized rate is proposed for lighting and installation & commissioning of Solar Submersible Pumps is proposed for irrigation & drinking water purpose to people of the state. Priority will be given to the Villagers/Farmers.

Objectives of this programme are as follows:

- i. To promote the use of SPV system for lighting and various other applications.
- ii. To save fossil fuel such as diesel, kerosene, coal etc. for power generation.

The details are as given below:

(i) Solar Lantern (LED Based): Technical specification: (2.2 W LED, 5 Wp Module, 6V & 4.5 AH Battery and other electronics).

Unit Cost & subsidy: As per MNRE benchmark cost @ Rs. 400/- per Wp. Estimated cost will be Rs. 2000/- per unit of LED Based Solar Lantern. A subsidy of Rs. 1000/- per lantern will given by state and the balance cost Rs. 1000/- per unit is to be paid by the beneficiary. However, the actual cost will be determined on the basis of lowest rate through open tender system. Any change in subsidy of the state share will be finally approved by JREDA Managing Committee.

Beneficiary & distribution mechanism: A total of 31500 nos. of LED based Solar Lantern is proposed to be distributed among the people of the state belonging to all categories through District Administration/Akshay Urja Shops. Priority will be given to the Villagers. Beneficiary for obtaining the solar lantern will have to apply in prescribed format issued by JREDA with Identity Proof such as Voter ID, Adhar Card, Driving license etc.

with beneficiary contribution in shape of Demand Draft. The application should be forwarded by Mukhiya, Panchayat Sewak, Ward Commissioner, other people representatives and govt. officers. The Mukhiya's will forward the application with document and demand draft to BDO's and BDO's will forward through District Administration to JREDA. JREDA will also facilitate online application for obtaining the LED Solar Lantern.

Implementing Agency: Selection of agency will be done through open tender two bid system (Technical & Price Bid). Eligible bidders will be MNRE approved Channel Partner/ MNRE approved Manufacturer/ MNRE approved PV System Integrator/A registered manufacturing company/Firm/ Corporation in India (Including MSME of Jharkhand) of at least one of the major sub systems namely SPV Cells/ Modules or Battery or PV System Electronics (Conforming to relevant National/ International Standards. The bidder shall furnish either relevant MNRE certificate or concerned Industry Department certificate clearly indicating that they are manufacturers of SPV Systems including SPV Cells/ Modules or Battery or PV System Electronics as applicable. Industrial policy and new procurement policy will be applicable.

During the financial year 2014-15, a total of 31500 nos. of LED Based Solar Lantern are to be distributed to the people for which a financial outlay of Rs. 315.00 lacs is earmarked.

The detail of programme is as following:

Estimated Cost (in Rs.)	Central Share (in Rs.)	State Share (in Rs.)	Beneficiary Share (in Rs.)	Proposed qty.	Proposed Amount (in Rs.)
2000/-	-----	1000/-	1000/-	31500	31500000/-
Total					31500000/-

(ii) Solar Home Lighting System (SHLS-CFL Based): Technical specification: (2 x 9 W CFL, 37 Wp Module, 12V & 40 AH Lead Acid Battery and other electronics).

Unit Cost & subsidy: As per MNRE benchmark cost @ Rs. 250/- per Wp. Estimated cost will be Rs. 9250/- per unit of CFL Based Solar Home Lighting System. A subsidy of Rs. 7000/- per Home Light will given by state and the balance cost Rs. 2250/- per unit is to be paid by the beneficiary. However, the actual cost will be determined on the basis of lowest rate through open tender system. Any change in subsidy of the state share will be finally approved by JREDA Managing Committee.

Beneficiary & distribution mechanism: A total of 3000 nos. of CFL based Solar Home Lighting System is proposed to be installed in the Govt. Institutions such as Schools, Hospitals, Hostels, Offices, Community Halls and Public Institutions functioning for the common people such as hospitals, schools etc. through District Administration/Akshay Urja Shops/ Govt. Offices.

Implementing Agency: Selection of agency will be done through open tender two bid system (Technical & Price Bid). Eligible bidders will be MNRE approved Channel Partner/ MNRE approved Manufacturer/ MNRE approved PV System Integrator/A registered manufacturing company/Firm/Corporation in India (Including MSME of Jharkhand) of at least one of the major sub systems

namely SPV Cells/ Modules or Battery or PV System Electronics (Conforming to relevant National/ International Standards. The bidder shall furnish either relevant MNRE certificate or concerned Industry Department certificate clearly indicating that they are manufacturers of SPV Systems including SPV Cells/ Modules or Battery or PV System Electronics as applicable. Industrial policy and new procurement policy will be applicable.

A total of 3000 Nos. of Solar Home Lighting Systems is to be supplied & installed in the state during the financial year 2014-15. A subsidy of Rs. 7000/- per SHLS is given by the state and the balance cost would constitute institutional share. However, in case of other beneficiary share would be 25%. For this, a financial outlay of Rs. 210.00 lacs is earmarked.

The detail of programme is as following:

Estimated Cost (in Rs.)	Central Share (in Rs.)	State Share (in Rs.) @ 75%	Institutional /Beneficiary Share (in Rs.)	Proposed qty.	Proposed Amount (in Rs.)
9250/-	-----	7000/-	2250/-	3000	21000000/-
Total					21000000/-

(iii) Solar Street Lighting System (SSLS-CFL Based): Technical specification: (1 x 11 W CFL, 74 Wp Module, 12V & 75 AH Lead Acid Battery and other electronics).

Unit Cost & subsidy: As per MNRE benchmark cost @ Rs. 250/- per Wp. Estimated cost will be Rs. 18500/- per unit of CFL Based Solar Street Lighting System. A subsidy of Rs. 14000/- per Street Light will given by state and the balance cost Rs. 4500/- per unit is to be paid by the beneficiary. However, the actual cost will be determined on the basis of lowest rate through open tender system. Any change in subsidy of the state share will be finally approved by JREDA Managing Committee.

Beneficiary & distribution mechanism: A total of 3000 nos. of CFL based Solar Street Lighting System is proposed to be installed in the Govt. Institutions such as Schools, Hospitals, Hostels, Offices, Community Halls and Public Institutions functioning for the common people such as hospitals, schools etc. through District Administration/Forest Department/Welfare Department / Jail/ Other Govt. Offices.

Implementing Agency: Selection of agency will be done through open tender two bid system (Technical & Price Bid). Eligible bidders will be MNRE approved Channel Partner/ MNRE approved Manufacturer/ MNRE approved PV System Integrator/A registered manufacturing company/Firm/ Corporation in India (Including MSME of Jharkhand) of at least one of the major sub systems namely SPV Cells/ Modules or Battery or PV System Electronics (Conforming to relevant National/ International Standards. The bidder shall furnish either relevant MNRE certificate or concerned Industry Department certificate clearly indicating that they are manufacturers of SPV Systems including SPV Cells/ Modules or Battery or PV System Electronics as applicable. Industrial policy and new procurement policy will be applicable.

A subsidy of Rs. 14000/- per SSLS is given by the state and the balance cost would constitute institutional share. However, in case of other beneficiary share would be 25%. A total of 3000 Nos. of Solar Street Lighting Systems are to be supplied/installed in government/ semi government institutions/organizations of public utilities of the state during the financial year 2014-15. For this, an outlay of Rs. 420.00 lacs is earmarked

The detail of programme is as following:

Estimated Cost (in Rs.)	Central Share (in Rs.)	State Share (in Rs.)	Institutional/ Beneficiary Share (in Rs.)	Proposed qty.	Proposed Amount (in Rs.)
18500/-	-----	14000/-	4500/-	3000	42000000/-
Total					42000000/-

(iv) Solar Pump Set: The Ministry of New and Renewable Energy (MNRE), Govt. of India has launched a scheme to promote solar pumping programme in large scale from financial year 2014-15. A Solar Photovoltaic (SPV) Water Pumping System consist of a PV array, A DC/AC surface mounted/ submersible/floating motor pump sets, electronics, cables, ON/OFF switch etc. PV array is mounted on a suitable structure, electronics would include MPPT, Inverter and controls/protection. MNRE will provide 30% of the project cost as central subsidy, State Govt. would provide 30% of the cost and remaining cost will be met by the beneficiary.

Estimated Cost: Estimated cost as per the MNRE benchmark cost.

Implementing Agency: Selection of agency will be done through open tender two bid system (Technical & Price Bid). Eligible bidders will be MNRE approved Channel Partner/ MNRE approved Manufacturer/ MNRE approved PV System Integrator/A registered manufacturing company/Firm/ Corporation in India (Including MSME of Jharkhand) of at least one of the major sub systems namely SPV Cells/ Modules or Battery or PV System Electronics (Conforming to relevant National/ International Standards. The bidder shall furnish either relevant MNRE certificate or concerned Industry

Department certificate clearly indicating that they are manufacturers of SPV Systems including SPV Cells/ Modules or Battery or PV System Electronics as applicable. Industrial policy and new procurement policy will be applicable.

Monitoring: JREDA will be the Designated Agency for the implementation of Solar Pump Programme for irrigation purpose in the state. The agency will co-ordinate with all involved departments such as Agriculture/Horticulture Department, Irrigation Department, Forest Department etc. The State will constitute a Steering Committee under the Chairmanship of Additional Chief Secretary Rank for effective co-ordination among the various stakeholders and speedy implementation.

Beneficiary: Beneficiary for this scheme will be the Farmers in the defined Water Shed Areas of the State duly covered under the available scheme of irrigation. Outside the Water Shed also the Farmers interested for solar pumps for soil management, water resources, credit management agriculture would also be the beneficiary. Any govt. institutions requiring for the irrigation purpose would also be considered for the scheme. JREDA will promote this programme through wide publicity and also invite online application.

Duration of the scheme is two years from the date of sanction of MNRE. MNRE has sanctioned 1400 nos. of SPV power pumps under the Solar Pumping Programme for irrigation vide no. 32/13/2014-15/PVSE (Part-2), dt. 09.12.2014.

A total of 1275 H.P. of 1 hp, 2 hp & 5 hp capacities of Solar Pump Sets are to be supplied/installed in the state during the financial year 2014-15.

The detail of programme is as following:

Sl. No	Capacity of Pumps	Qty.		Estimated Cost (Rs. in Lacs)	Central share CFA		Beneficiary share		State share	
		No.	hp		Per unit	Total CFA (in Lacs)	Per unit	Total amount (in Lacs)	(30%) Per unit	Total proposed amount (in Lacs)
1	1	300	300	1.90 x 300 =570.00	43200/-	129.6	89800/-	269.40	57000/-	171.00
2	2	800	1600	2.30 x 800 =1840.00	86400/-	691.2	74600/-	596.80	69000/-	552.00
3	5	300	1500	5.30 x 300= 1590.00	162000/-	627.00	209000/-	468.0	159000/-	477.00
Total		1400	3400	4000.00		1447.8		1334.2		1200.00

Since the programme will be spread in two years from the date of sanction i.e. 9th December, 2014. Rs. 450.00 lacs out of the total state share of Rs. 1200.00 lacs is earmarked for FY 2014-15. For this programme, an outlay of Rs. 450.00 lacs is earmarked.

3. Solar Thermal :

Solar Hot Water System: By using solar hot water system, water can be heated from 60-80°C, which are useful for domestic uses, hospitals, hostels, schools, etc. The approx. installation cost of a Flat Plate Collector type solar hot water system of 100 liters capacity is Rs. 18000/-. A subsidy (state share) of Rs. 20/- per liters for FPC type solar hot water system is given by the state and the balance cost is to be borne by the beneficiary. The total cost of the system can be recovered in three years by saving from electricity.

Implementing Agency: Selection of agency will be done through open tender two bid system (Technical & Price Bid). Eligible bidders will be MNRE approved Channel Partner/ MNRE approved Manufacturer/ MNRE approved PV System Integrator/A registered manufacturing company/Firm/Corporation in India (Including MSME of Jharkhand) of at least one of the major sub systems

namely SPV Cells/ Modules or Battery or PV System Electronics (Conforming to relevant National/ International Standards. The bidder shall furnish either relevant MNRE certificate or concerned Industry Department certificate clearly indicating that they are manufacturers of SPV Systems including SPV Cells/ Modules or Battery or PV System Electronics as applicable. Industrial policy and new procurement policy will be applicable.

Beneficiary: Beneficiary for this scheme will be the individual of a household, govt. institutions, public institutions, commercial buildings of the state.

Unit Cost & subsidy: Cost per LPD is 180 as per MNRE benchmark cost. Estimated cost for 100 LPD will be Rs. 18000/-. A subsidy of Rs. 20/- per LPD will be given by state and the balance cost will be paid by the beneficiary. However, the actual cost will be determined on the basis of lowest rate through open tender system. Any change in subsidy of the state share will be finally approved by JREDA Managing Committee. JREDA will promote this programme through wide publicity and also invite online application. If any central financial assistance is made available to JREDA, then beneficiary share would be reduced accordingly.

In the financial year 2014-15, it is proposed to install 100000 litres capacity in the state, for which outlay of Rs. 20.00 lacs is earmarked.

The detail of programme is as following:

Estimate d Cost (in Rs.)	Central Share (in Rs.)	State Share (in Rs.)	Beneficiary Share (in Rs.)	Proposed qty.	Proposed Amount (in Rs.)
180/-	-----	20/-	160/-	100000	2000000/-
Total					2000000/-

4. Hydel Project:

A total of 68 potential sites have been identified for development of small hydroelectric projects in the state through PPP Mode. Consultancy services is being taken from M/s Feedback Infrastructure Pvt. Ltd. for the above work. For this, a financial outlay of Rs. 300.00 lacs is earmarked for consultancy and other activities related to hydel for the financial year 2014-15.

5. Rural Village Electrification Programme:

Under the programme, electrification of a total of 50 un-electrified remote villages of through Solar Systems (Solar Home Lighting Systems & Solar Street Lighting Systems) which will cover two villages in each districts of the Jharkhand and balance two villages will be taken up on the recommendation of Hon'ble CM.

In this scheme, un-electrified villages will be identified through District Administration/ MLAs/MPs having approximately 40-45 nos. of households. One Solar Home Lighting Systems will be given to each household and five Solar Street Lighting System will be installed in public places/ near community building of the villages. To take care of the installed systems, Village Energy Committee would be formed. Estimated cost is based on bench mark cost of MNRE of Solar Street Lighting Systems & Solar Home Lighting Systems.

For electrification of remote un-electrified villages, a subsidy of 90% & 10% of the project cost is borne by the Central Govt. & State Govt. respectively.

For the programme, a financial outlay of Rs. 25.00 lacs is earmarked for the financial year 2014-15.

6. **Survey & Publicity:**

Under this head, various programmes are held for promotion of renewable energy sources in the state, organizing research & development programmes, expenses over third party verification of various programmes undertaken by JREDA, survey, preparation of tender documents, evaluation of tender documents, preparation of DPRs, pre-dispatch inspection of solar equipments, annual report, booklet, leaflet, printing of letter head, survey form pumplet, folder, organizing of awareness camp & training programmes, advertisement of tender & general notice in newspapers, School level competition related to renewable energy, Exhibition Van, Wall writing, Hording, Bus Stop Shelter, Akashwani & Doordarshan & arranging of stalls in Trade Fair etc.

For this, an outlay of Rs. 150.00 lacs is earmarked for the financial year 2014-15.

7. **Establishment**

(i) **Salaries of Employees & others expenses:**

Under this head, salary payment, honorarium payment, arrear, D.A., T.A. , other expenses etc. An outlay of Rs. 100.00 lacs is earmarked for the financial year 2014-15.

(ii) **Office expenses:**

Under this head, office expenses, maintenance of office internet, telephones, purchasing chairs & others etc. An outlay of Rs. 75.00 lacs is earmarked for the financial year 2014-15.

8. **Supply & installation of Solar Power Packs in Block/Panchayat Offices for E-governance:**

Supply & installation of Solar Power Packs of 1 kWp and 2 kWp respectively in Panchayat Buildings and Block Offices is being done for

the e-governance to provide electricity to common service centers (Pragya Kendra). For maintenance (CMC works) of supplied & installed Solar Power Packs to promote the use of IT in Panchayat and block headquarters and to monitor the above system enabled with GPRS Systems and data card SIM , payment for the data charge to the Service Provider, operation & maintenance of software based monitoring system , an outlay of Rs. 250.00 lacs is earmarked for the financial year 2014-15.

9. **Grid Connected Rooftop Plants for Govt. Residential /Non-residential Buildings etc. :**

MNRE is promoting the Grid Connected Rooftop Plants under JNNSM. A new programme on “Grid Connected Rooftop and Small Solar Power Plants” was launched in June, 2014. The individual project from 1kWp to 500 kWp capacity is considered under this programme. Also, under IPDS, provision for installing solar panels on Govt. buildings has been made.

There is a large potential available for generating solar power using unutilized space on rooftops and wastelands around buildings. Small quantities of power generated by each Govt. building can be used to partly fulfill the requirement of the building and surplus, if any, can be fed into the grid.

In grid interactive rooftop or small SPV system, the DC power generated from SPV panel is converted to AC power. They generate power during the day time which is utilized fully by powering captive loads and feeding excess power to the grid as long as grid is available.

Implementing Agency: Selection of agency will be done through open tender two bid system (Technical & Price Bid). Eligible

bidders will be MNRE approved Channel Partner/ MNRE approved Manufacturer/ MNRE approved PV System Integrator/A registered manufacturing company/Firm/Corporation in India (Including MSME of Jharkhand) of at least one of the major sub systems namely SPV Cells/ Modules or Battery or PV System Electronics (Conforming to relevant National/ International Standards. The bidder shall furnish either relevant MNRE certificate or concerned Industry Department certificate clearly indicating that they are manufacturers of SPV Systems including SPV Cells/ Modules or Battery or PV System Electronics as applicable. Industrial policy and new procurement policy will be applicable.

Unit Cost & subsidy: As per MNRE benchmark cost, the estimated cost is Rs. 170/- per watt with battery bank for 6 hours. A subsidy of 30 % will be given by MNRE and the balance cost will be paid by the State Govt. However, the actual cost will be determined on the basis of lowest rate through open tender system. Any change in subsidy of the state share will be finally approved by JREDA Managing Committee.

The following buildings are proposed to be taken up during 2014 – 15 for the project:

Sl. No.	Site/District	Capacity (in kWp)
1.	P MCH,Dhanbad	110
2.	Sadar Hospital Dumka	110
3.	Sadar Hospital Pakur	120
4.	Sub Divisional Hospital, Bermo	110
5.	Sadar Hospital Sahebganj	110
6.	Community Health Centre, Bermo	25
7.	Referral Hospital, Jainamore	80

8.	Dhori Mata Mandir Bokaro	15
9	Maa Chhinnamastika Temple, Rajarappa	30
10	DC Office Dhanbad	110
11	D.C Office , Simdega	120
12	Civil Court, Khunti	180
13	Other Important Govt. Residential/ Non-Residential Buildings (Project Building, Nepal House, Governor House, CM House, Commissionery offices, Collectorate , Sadar Hospital, Civil Court, Residential buildings etc.)	1000
Total		2120

Under this programme, the proposed outlay would be Rs. 2630.00 lacs.

10. Maintenance (CMC works) of supplied & installed of Solar Systems :

For repairing & maintenance including CMC of the existing solar appliances such as Solar Street Lights, Solar Home Lights, Off-grid Power Plants etc., an outlay of Rs. 50.00 lacs is earmarked for the financial year 2014-15.