



PREFACE

Director General

I am happy to bring out the Annual Report of Maharashtra Energy Development Agency (MEDA) for the financial year 2020-21. The role of renewable energy sources in the grid connected power generation activity in the state has gained importance. I am also happy to state that MEDA has taken various measures for vigorous promotion of Renewable Energy. MEDA is working as a State Nodal Agency (SNA) under the aegis of Ministry of New and Renewable Energy, Govt. of India and as a State Designated Agency (SDA) notified by Government of Maharashtra under section 15(d) of Energy Conservation Act 2001 in consultation with Bureau of Energy Efficiency (BEE), Ministry of Power Govt. of India.

Maharashtra has installed capacity of 9911.343 MW renewable energy projects as on 31st March, 2021 which includes Wind - 4998.21 MW, Small Hydro - 370.02 MW, Bagasse based co-gen.-2301.30 MW, Biomass Power - 215 MW, MSW & liquid Waste - 3 MW, Industrial Waste - 41.78 MW, Solar Power - 1982.02 MW.

MEDA has been promoting the Off-grid RE sector as well, along with the grid connected RE power generation. In Amrut Yojana, implementation of solar power projects of total 18.35 MW is in progress at 12 Municipal Corporations / Municipal councils / Nagar Panchayats out of which 2.5 MW grid connected solar power plants have been installed in the State of Maharashtra.

MEDA is also working as the State Designated Agency for energy conservation/ energy efficiency activities in the State. The energy conservation activities are being promoted through various schemes from the State budget includes Save Energy Programme and Up to March, 2021 total 1620 energy audits have been carried out in various sectors, which has resulted in substantial energy saving in the industries. Under Walk Through Energy Audit (SME scheme) 3609 SMEs have been completed upto March, 2021. Under Demonstration projects for energy conservation in Buildings of Government/ Semi Government/ Urban Local Bodies programme total 113 buildings are covered upto March, 2021. Under Installation of energy saving devices in Street lighting and water pumping systems of Municipal Councils / Municipal Corporations / Maharashtra Jeevan Pradhikaran programme total 39 Municipal Councils/Corporations are covered upto March, 2021.





Apart from State's EC schemes, MEDA also implement BEE sponsored energy conservation programmes including Replacement of Old Pumps with Energy Efficient Pumps in Municipal Corporation / Councils, Replacement / Retrofitting of Energy Efficient devices at Govt. Buildings and Hospitals. Energy Efficient measures in 131 Government Schools and 6 Modern Energy Efficient Village campaign programmes.

MEDA participated in exhibitions to disseminate knowledge about renewable energy and energy conservation. I am sure that MEDA, with its inspired team, will keep up the tradition of excellence in the spheres of renewable energy and energy conservation.

Director General, MEDA





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1 | INTRODUCTION

Maharashtra Energy Development Agency (MEDA) registered under Societies Registration Act – 1860, commenced actual functioning from July 1986. MEDA's mandate is to undertake development of renewable energy and facilitate energy conservation in the State of Maharashtra, as a State Nodal Agency. Controlling body of MEDA is the Governing Body, with Hon. Minister for Non-conventional Energy, Maharashtra State, as a Chairman, Hon. Minister of State for Non-conventional Energy as a vice Chairman, Secretaries / Principal Secretaries of six other departments of Govt. of Maharashtra as a Member and Director General, MEDA, as a member secretary.

The broader objective is to promote, develop and diffuse knowledge in the various fields of Renewable Energy Source and assist the Government of Maharashtra and the Govt. of India in the efforts to develop and promote Renewable and alternate energy sources / technologies, evolve and promote energy conservation measures.

Energy from solar, water, wind, biomass, bagasse, ocean waves are renewable, clean and environment friendly energy sources. The importance of non-conventional renewable energy as well as energy saving is increasing day by day. When the electricity is generated by using the conventional sources, greenhouse gases are emitted, i.e., carbon monoxide, carbon dioxide and Sulphur dioxide etc. which when released into atmosphere cause global warming. The increase in temperature due to global warming has become a threat for the very existence of the human being. Further, taking into account the scarce availability of conventional energy sources and ill-effects of their uses, it is the need of an hour to produce energy that is pollution free and eco-friendly.

Maharashtra Electricity Regulation Commission (MERC) has set a target of achieving 25% Electricity generation from Renewable Energy by 2025. Among various non-conventional energy sources, Wind and Solar Energy have been widely tapped in the state. Besides this, Bioes of renewable energy. The potential of various non-conventional energy sources and its achievement is given below.

A. POWER GENERATION FROM RENEWABLES:

MEDA'S NEW FRONTIER:

In Maharashtra production of power from renewable by having around 9911.343 MW installed capacity upto 31/03/2021. (Including Small Hydro).

(Rs. in lakhs)

Sr. No.	Source	Potential in country (MW)	Potential in the state (MW)	Achievement (MW) (31/03/2021)
01	Wind	695500	98210	4998.21
02	Bagasse co generation	5000	3685	2301.30
03	Biomass	16881	781	215.00
04	* Small Hydro Power (SHP)	15000	732	370.025
05	Urban waste	1700	287	3.00
06	Industrial waste	1700	350	41.788
07	Solar Photovoltaic & Solar Thermal Power	749000	64320	1982.02
	Total	1484781	168365	9911.343





B. CUMULATIVE ACHIEVEMENTS UPTO 31 MARCH, 2021:

(Rs. in lakhs)

Sr No	Particulars	Cumulative Achievement upto 31 March, 2020	Achievement in 2020-21	Cumulative Achievement upto 31 March, 2021
1	Power Generation	(MW)	(MW)	(MW)
01	Wind Power Project	4998.21	0	4998.21
02	Bagasse co generation Power Project	2301.30	0	2301.30
03	Biomass Power Project	215.00	0	215.00
04	Small Hydro Power Project	370.025	0	370.025
05	Urban waste	3.00	0	3.00
06	Industrial waste	37.838	3.95	41.788
07	Solar Thermal & Photovoltaic	1662.20	254.415	1982.02
	Total	9587.573	258.365	9911.343
2	Energy Conservation Program	ıme		
a	Energy Audit (Nos.)	1620	0	1620
ь	Walk Through Energy Audit (Nos.)	3609	0	3609
С	Demo Project in Govt. / Semi Govt. office buildings of Energy Conservation (Nos)	113	0	113
d	Installation of EC Devices in Municipal Councils - (Nos)	39	0	39
3	Wind Monitoring Stations	409	0	409
4	Briquetting Project (Nos.)	191	0	191
5	Village Electrification (Villages) / Saubhagya Yojana	586/703	0	586/703
6	Solar Power plants in Govt. Builgs	347	92	439
7	Amrut Yojana	0		0
8	Kusum Yojana	0		0
9	Exhibitions (Nos.)	321	1	322





^{*} Small Hydro Power Projects are implemented by Irrigation Department, Govt. of Maharashtra.

C. Amount received from State Govt. in 2019-20 and 2020-21.

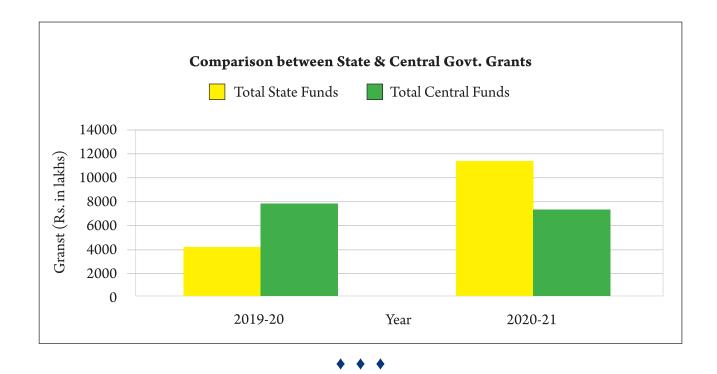
(Rs. in lakhs)

Sr.	Programme	2019-20	2020-21
1	Non-Conventional & Renewable Sources of Energy (NRSE) - 28100034	0	2313.00
2	Maharashtra Energy Development Fund / Green Cess Fund (GCF) - 28100123	4070.69	0
3	Solar Agriculture Pump - 28100902	0	0
4	13th Finance Commission - 28100911	0	5190.60
5	TOSE (Tax on sale of electricity)	0	4058.17
	TOTAL	4070.69	11561.77

D. Comparison between State and Central Govt. amount received in 2019-20 & 2020-21.

(Rs. in lakhs)

Year	2019-20	2020-21
Total State Funds	4070.69	11561.77
Total Central Funds	7891.38	7298.21
Total	11962.07	18859.98







2 | WIND POWER PROJECTS

I. Wind Energy:

Wind Energy is the energy created due to uneven heating of the earth's surface and rotation of earth. Uneven heating causes difference in the air pressure, which causes air to flow from high pressure region to low pressure region. This phenomenon is termed as 'wind'. Wind contains tremendous amount of energy which can be utilized to generate power on a large scale.

II. History:

The application of wind energy for producing electrical energy was introduced later in the 20th century. By 1910 several hundred wind turbine generators rated between 5 KW and 25 KW were in operation in Denmark. By 1930s several wind power generators were installed in various parts of the world. But due to the higher cost of installation, the increase in number of systems was very less. By the early 1960s, interest in wind power as a viable and alternative source of power generation somewhat declined because other energy sources were simple and easily available. Wind energy was not found to be cost-effective in comparison with the fossil fuel systems of that age. After the oil crisis in 1970s, wind turbines have been developed on commercial scale and have received more importance after 1980, the second oil crisis. Presently it is one of the major sources for supplementing energy needs of many countries including India.

III. Progress in India-

India is now recognized as a leading country in the world for the development and utilization of renewable energy, particularly in wind power development. In fact, power generation from wind has emerged as one of the most successful programs in the renewable energy sector. With an installed capacity more than 38,559 MW, India is the 4th largest wind-power producing nation in the world. Most of this capacity has come through private investment. Billions of units of electricity has been fed to various State grids from these projects. World's largest wind resource assessment program is also initiated to support these efforts. New initiatives have been taken for re-assessment expansion of the wind resource data base; and motivating large private sector corporations, public sector units and power utilities to set up wind power projects. Local manufacturing capacity has been established and wind turbines and wind turbine components are being exported to USA, Europe and several developing countries.

IV. Wind Power Projects in Maharashtra-

Wind Energy has paramount importance in the field of New & Renewable Energy Sources. Naturally, the Ministry of New and Renewable Energy, New Delhi has undertaken the Wind Energy program all over the country very intensively through nodal agencies in their respective states. In Maharashtra, this program is implemented through MEDA. 51 sites have been identified more than 200 w/m^2 wind power density in the state of Maharashtra with the help of NIWE, Chennai. Potential for wind power projects in the State is of 98210 MW. GoM has formulated conducive policy framework which has evoked positive response from entrepreneurs and investors to set up commercial wind power projects. With the declaration of attractive and conducive policies on Wind Power Projects, many private sector investors have been inspired to set up their projects in Maharashtra.

Govt. of Maharashtra has declared comprehensive policy for grid connected power projects based on New & Renewable (Non Conventional) Energy Sources - 2015 vide Govt. Resolution No. NCE-2015/C.R. 49/Energy-7 dated 20th July 2015 & its amendment vide GR. No. NCE-2016/C.R.110/Energy-7 dated 3rd December 2016 & its methodology vide Govt. Resolution No. NCE-2015/C.R.49/part-8/Energy-7 dated 9th September 2015.



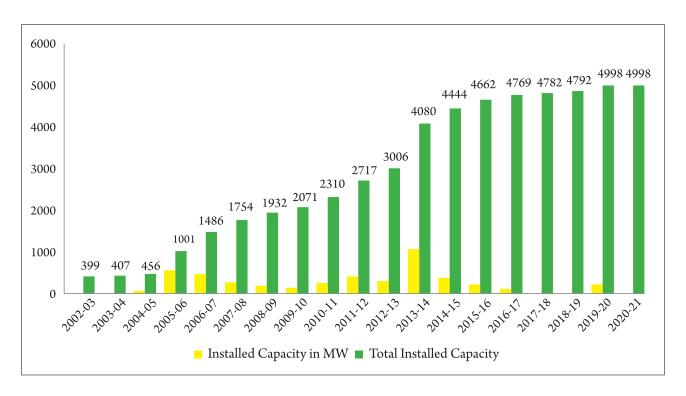


Renewable Energy Policy for Maharashtra - 2015

- Target:-5000 MW
- 1. Target for sale of power to Distribution Licensees: 1500 MW
 Achievement: 1493 MW
- 2. Target for sale of power inside the State:- 500 MW (Captive/Group Captive/Third Party Sale)
 Achievement: 137.50 MW
- 3. Target for sale of power outside the State / MSEDCL Competitive Bidding:-3000 MW (Captive/Group Captive/Third Party Sale)
 Achievement: -202 MW

Government of Maharashtra has declared New & Renewable Energy Generation Policy-2020 on dated 31/12/2020. Under this policy, the target of commissioning of new wind power projects of 2500 MW is being set.

Cumulative Capacity of projects set up and commissioned by the private sector up to March 2021 is as follows:







Wind power project had fed 5618.38 Million units of electricity in the state grid in FY 2020-21. Year wise installed capacity of wind power projects in the state of Maharashtra up to March 2021 is as follows:

Year	Installed Capacity in MW
Upto 2002-03	399.355
2003-04	7.93
2004-05	48.75
2005-06	545.1
2006-07	484.5
2007-08	268.15
2008-09	178.075
2009-10	138.85
2010-11	239.05
2011-12	407.6
2012-13	288.55
2013-14	1074
2014-15	364.15
2015-16	217.85
2016-17	107.30
2017-18	12.6
2018-19	10.2
2019-20	206.2
2020-21	0
Total	4998.21







3 | BAGASSE BASED CO-GENERATION POWER PROJECT

Introduction -

Bagasse is a by-product produced during crushing of cane in sugar factory. Bagasse is an excellent renewable source for generating steam and power. In view of continuous shortage of power and limited fossil fuel reserves this source of renewable energy is more acceptable.

Sugar industry is the backbone of the Indian agriculture sector. There are 225 registered sugar factories in the state. Power is co-generated from bagasse left after extraction of juice from cane in sugar industry. Along with the saving of fossil fuels, cogeneration also allows to reduce the emission of greenhouse gases (particularly CO2 emission). The production of electricity being on-site, the burden on the utility network is reduced and the transmission line losses eliminated.

The available surplus power potential as estimated by VSI, Pune in the state through co-generation is about 1374 MW (on installed capacity). To tap this power potential, GoM declared an attractive policy on 31-12-2020.

With advancement of technology, it has become possible to utilise the raw material from (bagasse) sugar industry as fuel in most efficient manner for generating surplus power. Due to this many sugar factories opted to go for efficient cogeneration. The surplus power now being fed in to the grid is approximately 1300 MW. Therefore, there is still enough potential left to be tapped.

The available power potential with the cooperative sugar factories can be harnessed provided they are financially supported. In view of this Urjankur Nidhi Policy has been declared by GoM for financing all types of RE projects. This fund can be utilized for the co-generation. Further an exclusive scheme for Cooperative sugar factories for setting up Cogeneration projects has also been declared by cooperative dept. GoM in the year 2008 in which 5-10% contribution is to be borne by co-operatives. For setting up cogeneration with 30% from SDF and 60% will come from Banks / FIS-.

I – Technical Information and Application –

Principle -

Cogeneration or Combined Heat and Power (CHP) is defined as the sequential generation of two different forms of useful energy from a single primary energy source, typically mechanical energy and thermal energy. Mechanical energy can be used to drive an alternator for producing electricity. Thermal energy can be used either for direct process applications like sugar manufacturing or for indirectly producing steam.

Bagasse is fed into the high-pressure boiler for producing high-pressure steam. This steam is injected into backpressure or extraction condensing turbine. The turbine is coupled to turbo generator for producing electricity. The condensing turbine is used during off-season whereas the backpressure turbine can be used only during the crushing season.

Basic components of Bagasse Cogeneration power project -

Boiler, Turbine, Generator, Water/Air Cooled Condenser, Electrostatic precipitator (ESP)

II - Application -

The surplus power generated from cogeneration route is fed into the grid. This helps to generate additional revenue to the factory.





2) Govt. Policies Announced -

A) MNRE Policy-

The MNRE, GoI vide sanction No. 3/141/2017-CPG dated May 11th, 2018 is extending Central Financial Assistance (CFA) to Bagasse Cogeneration power projects at the rate of Rs.25 Lakh/MW.

B) State Policy-

GoM declared Integrated Non-conventional Energy Generation policy dated 20-07-2015 and its implementation methodology on 31-12-2020.

C) MERC Order-

Financial Year	Fixed (Rs/kWh)	Variable Charge (Rs/kWh)	Tarrif Charge (Rs/kWh)	Benefit of Accelerated Depreciation (if availed) (Rs/kWh)	Net Tariff (Rs/kWh)
During FY 2020-21	2.28	5.55	7.83	0.15	7.68

D) Achievement for the current year -

The total installed capacity of bagasse cogen projects in the FY 2020-21 is 40 MW which has raised the total co-gen capacity in the state to 2339.3 MW by the end of March 2021.

E) Next Year Plan -

Having attractive central and state policies for cogeneration, target of 270 MW is fixed for implementation of bagasse cogeneration in sugar factories during the FY 2021-22. It is expected that the maximum Co-operative and private sugar factories will avail the benefit of this scheme and try to install the cogeneration power projects in following year.







^{*} The policy details can be seen at www.mnre.nic.in

4 | SMALL HYDRO POWER PROJECT

Introduction -

Hydro Power is a renewable and pollution free resource. The importance of decentralized power generation has made Small Hydro Power (SHP) an attractive venture. It has short gestation and almost negligible impact on environment. The necessity to secure energy security and abate global warming, renewable energy projects are gaining more attention not only in the developing countries but also in the developed ones. Small hydro is significant for off-grid, rural, remote area applications in far flung isolated communities having no opportunity of grid extension for years to come. Small Hydro is operationally flexible, suitable for peaking support to the local grid as well as for stand alone applications. Small Hydro power projects serve to enhance economic development and living standards especially in remote areas. In India Hydro power projects, up to 25 MW capacities are classified as Small Hydro.

In order to develop this sector, the Govt. of Maharashtra vide its policy dated 8th December, 2005, has mandated MEDA for developing small hydro power projects up to 5 MW capacities on Run of the River, KT Weir and Water Falls in the state.

1) Technical Information and Application Principle

The hydro power potential is determined on the available discharge of water and height from which it is available. The kinetic energy of water impinging on the blades of turbine rotates the turbine and generates mechanical energy. This turbine is coupled to alternator which converts mechanical energy to electrical energy.

Basic component of SHP

Civil components

Diversion weir, Intake, Power Channel, De-silting tank, Forebay, Penstock, Power House, Tail race etc.

• Electro-mechanical components

Generator, Protection Control, Hydro Turbines, Gates, Valves Transmission and Distribution etc.

a) Application

The micro / mini and small hydro power projects have less damaging effect on the environment and therefore are preferred. Such projects could be taken up in the remote areas where the transmission lines have not reached, availability of water is seasonal and requirement of energy is less.

2) Govt. Policies

MNRE Policy: -

The MNRE, GoI vide Policy No 14(03)2014-SHP dated 2nd July 2014 is extending central financial assistance to Small hydro power projects. The brief details are furnished as below

- **a)** Financial support for identification of new potential SHP sites and preparation of plan and preparation of DPR
 - 1. Rs. 6.00 lakhs for each project up to 1 MW capacity.
 - 2. Rs. 10.00 lakhs for each project above 1 MW up to 25 MW capacities. (For State Govt. dept. / Agencies / Local Bodies)
- b) Financial support to set up new SHP projects Upto 25 MW in private, Co-operative, joint sector etc.





Area	Above 0.1 MW and Upto 25 MW
Maharashtra	Rs. 1 crores / MW limited to Rs. 5 crores / project

^{*} The project developers / owners are required to contribute a minimum of 50 % of approved project cost.

C) Financial support to set up new SHP projects Upto 25 MW in Government/State/Public sector

Area	Above 100 KW & Upto 1000 KW	Above 1 MW and Upto 25 MW
Maharashtra	Rs. 35,000 / KW	Rs. 3.5 crores/MW limited to Rs. 20 crores/project

^{*} A minimum of 10% of the total project cost is required to be borne by the state implementing agency or the owner of the project.

D) Financial support for renovation and modernization of existing SHP projects Upto 25 MW in Government sector

Area	Above 100 KW & Upto 1000 KW	Above 1 MW and Upto 25 MW
Maharashtra	Rs. 10,000 / KW	Rs. 1 crores/MW limited to Rs. 10 crores/ project

^{*} A minimum of 50% of the total project cost is required to be borne by the Central / State implementing agency or the owner of the project.

E) Financial support for Micro Hydel Projects

Micro Hydel projects Upto 100 KW capacity:

Area	Amount of CFA	
Maharashtra	Rs. 1,25,000 / KW	

[•] The policy details can be seen at www.mnre.nic.in

STATE POLICY:

GoM declared Integrated Non-conventional Energy Generation policy dated 31-12-2020.

3) MERC Tariff: -

The Maharashtra Electricity Regulatory Commission has (MERC) declared tariff for sell of power generated from small hydro power projects of different capacities for the FY 2020-21. The tariff details of the MERC tariff order are as below-

MERC Teri. 2020-21

Tariff for Micro, Mini and Small Hydro Projects 2020-21





Type of SHP		Tariff Period years	Levellised Tariff from 1st April 2020 to 31 March, 2021 (Rs / kWh)	Benefit of Accelerated Depreciation (if availed) (Rs / kWh)	Net Levellised Tariff (upon adjusting for accelerated depreciation benefit if availed) (Rs / kWh)
		Sm	all Hydro Projects		
Mini and	500 kW and below	35	5.82	0.32	5.50
Micro Hydro Projects	above 500 kW & upto and including 1 MW	35	5.32	0.32	5.00
Other Small	above 1 MW and upto and including 5MW	35	4.82	0.32	4.50
Hydro Projects	above 5MW and upto and including 25MW	13	4.13	0.29	3.84

More details are available on website: www.mercindia.org.in

4) Achievement in the current year-

The total installed capacity of Small Hydro Power Projects in the FY 2020-21 is NIL and the cumulative installed capacity of commissioned Small Hydro Projects in the state arrives at $370.025\,\mathrm{MW}$.

5) Next Year Plan

Having attractive central and state policies for Small Hydro Power Projects, target of 5 MW is fixed for implementation of Small Hydro Power Projects during the FY 2021-22.







5 | INDEPENDENT BIOMASS BASED POWER PROJECTS

Introduction -

Biomass is one of the important natural energy resources. Biomass is fuel that is developed from organic materials, a renewable and sustainable source of energy used to create electricity. Agricultural residues, forestry residues and woods are the main source of biomass. Biomass can either be used directly or converted into other form of energy such as biofuel.

The Ministry of New and Renewable Energy (MNRE), GoI with the help of ORG-Marg, Jaipur has conducted state level biomass assessment study for Maharashtra. This study shows the available biomass power potential in Maharashtra to be 781 MW.

The state government has been promoting energy generation from biomass power project. MEDA is giving technical support and guidance to induce private investment into this sector and ensures speedy implementation of the projects. At present, there are 19 nos. Biomass Power Projects of totalling 215 MW commissioned in the State.

I - Technical Information and Application -

a. Principle -

The basic principle of operation is based on Rankine Cycle. In an Independent Biomass Power Project, biomass is burnt in furnace and medium to high pressure steam is produced. This steam is injected into turbine coupled with turbo generator for producing energy. The low-pressure steam released from turbine exhaust is condensed and pre-heated water is recycled to the boiler.

b. Basic components of Biomass Power Project:

Boiler, Turbine, Condenser, Cooling Tower, Electrostatic Precipitator

c. Type of Biomass used are as follows:

The types of biomass used in the project are usually the ones which are used for burning purposes viz: domestic heating, cooking in rural areas. A few names are: Coconut shell, Jute sticks, Maize stalks, Ground nut straw/shell, Tur stalks, Chilly stalks, Rice husk, Juliflora etc.

II – Application:

The power produced from biomass power project is utility grade power and can be fed into the grid. Plant Load Factor from such projects could reach 80% and above. In order to set-up such project, it is essential to observe the - availability of sufficient surplus biomass in the vicinity of the project. Further water linkage & grid accessibility is essential for smooth functioning of the project.

III - Projects Taken-up -

Biomass Power project is being promoted in all districts of Maharashtra. With the available power potential, it has been decided to establish projects up to 300 MW capacity of the Non-Conventional Energy Policy dated 20-07-2015. MEDA has so far sanctioned 37 biomass-based power projects totaling 410.5 MW capacities projects in the state.

IV - Govt. Policies -

a. MNRE Policy: The Policy details can be seen at www.mnre.gov.in.





b. State Policy: GoM has declared the Integrated RE policy on 20-07-2015. For Biomass Power Projects the policy benefits are furnished as below:

1. Evacuation -

Financial assistance for laying transmission line is available from green cess (33 KV & above) after commissioning of project; subject to maximum Rs.1.00 Crores/project.

2. Capital Subsidy-

Capital subsidy of Rs. 1 Crores/project is given after commissioning of the project.

C) MERC Tariff - 2020-21 is as below:

Financial Year	Fixed (Rs/kWh)	Variable Charge (Rs/kWh)	Tarrif Charge (Rs/kWh)	Benefit of Accelerated Depreciation (if availed) (Rs/kWh)	Net Tariff (Rs/kWh)
During FY 2020-21	2.15	5.55	7.44	0.14	7.30







6 | SOLAR POWER PROJECTS - OFF GRID AND GRID CONNECTED

1. Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyaan (PM-KUSUM)

- Government of Maharashtra has declared a Composite RE Policy 2020 on dated 31st December 2020. Target for Solar Agriculture Pumps Under GoM Policy 2020 and PM-KUSUM Scheme ~ 1 Lakh no of Standalone Solar Agriculture Pumps of 3/5/7.5 Hp Capacity.
- Ministry of New and Renewable Energy (MNRE) has given Sanctioned for installation of 1 Lakh no of Standalone Solar Agriculture Pumps for Component-B under PM-KUSUM Scheme for FY 2020-21 dtd 13th January 2021.
- Under this Scheme 30% CFA has Sanctioned by MNRE, 10% will be beneficiary Share for General Category Beneficiaries (Farmers) and 5% beneficiary Share for SC/ST Category and We have submitted proposal for sanctioning remaining 60% and 65 % to Government of EESL, New Delhi floated the centralized tender dtd 21st August, 2019 to discover vendors and rates for FY 2019-20.
- MNRE informed vendor names and rates to MEDA. Rates are as follows:

KUSUM 2019-20				
Sr. No.	Capacity	Basic Rates (Rs) without GST		
1	3HPDC	156500		
2	5HPDC	222500		
3	7.5 HPDC	343500		

As per office Memorandum dated 27th August 2021,MNRE directed to issue LoA as per rates of tender conducted for FY 2019-20. As per directors letter of Award (LoA) has been issued to 7 Vendors for 2750 Solar Pumps. Out of 2750 Solar Pumps 2450 Solar Pumps has installed in the State of Maharashtra.

2. Rural Electrification Program:

- The Central Government and the State Government has given importance for electrification of those remote villages / wadya / pade where electricity cannot be supplied through conventional energy sources and for that purpose electrification through non conventional energy sources of such houses at such places is given importance.
- Under this scheme solar energy based lamps and fans would be given to beneficiaries on 100% finance assistance basis.
- For this purpose target is fixed for 10000 houses per year to be supplied with domestic lamps operated on solar energy. For that purpose provision of Rs. 38 crore would be made by the State Government every year.

3. Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Scheme

• As per the Government of Maharashtra GR dated 17th December 2018, the projects regarding Solar Energy under Amrut Abhiyan and the Maharashtra Suvarnajayanti Nagarothan Mahabhiyaan are implemented by MEDA. Under this Scheme Installation of Grid connected solar power projects is done for water pumping stations, water treatment plants and sewage treatment plants under the premises of Urban Local Bodies. (Municipal Corporations/Municipal Councils). The manufacturer shall be responsible for 5 years of CMC. The project is expected to generate 15 Lakh units per MW.





• Under this scheme, Work orders have been issued to contractors for installation of total 18.354 MW Grid connected solar power plants at various 12 Municipal Corporations/Municipal Councils/ Nagarpanchyat. Out of which, 2.5 MW Grid Connected Solar power plants have been installed in the state of Maharashtra and remaining Solar Power Plant installation work is under process.

4. Renewable Energy Gom Policy-2015 - Grid Connected Solar Power Generation Project Scheme

- Government of Maharashtra declared a composite RE Policy 2015 dated 20th July 2015. Target ~ 7500 MW, MAHAGENCO ~ 2500 MW with PPP mode, Private Developers ~ 5000 MW, Project capacity ~ Min. 1 MW, Sale of Power PPP mode ~ Sale to MSEDCL at preferential tariff for RPO compliance. To develop 10% of PPP target on places viz. lakes, canals, local self Govt. land. Developer ~ Sale to DISCOMs at competitive bidding with consent from MERC, Captive & 3rd Party Sale within / outside state & REC route. Electricity Duty exempted for captive consumption upto 10 years from CoD. 1549.585 MW of Solar Project Commissioned till date.
- Further, Government of Maharashtra has declared a composite RE Policy 2020 dated 31st December 2020. Target for Grid Connected Solar Power Projects Under GoM Policy 2020 ~ 10000 MW

5. Installation of Solar Water Heater System and Solar Cooking Systems (CST)

- Government of Maharashtra has declared a Composite RE Policy 2020 on dated 31st December 2020
- Under this scheme set target for every year of installation of 55000 Sq. meter.
- As per the policy, departments will take appropriate administrative approval to implement the scheme.

6. Micro Grid Project

- Government of Maharashtra has declared a composite RE Policy 2020 on 31st December 2020.
- As per the policy this scheme will be implemented on the basis of 100% financial assistance.
- Under this scheme for installation of single project in one village requirement of around 2 cr funds was expected. Accordingly for implementation of this type of project, the provision of 40 cr for 20 Villages was done by Government of Maharashtra.







7 | BIO-ENERGY

India is recognized as one of the fastest growing economies of the world. Improving living standards, increasing population, industrial expansions in the country has posed serious challenges on energy sector and accelerated the energy demand, due to which basic energy needs of thousands of millions of its citizens are yet to be fulfilled. The rising energy demand in India is expected to lead to a further increase in the use of fossil fuels. Hence, this will not only lead to growing GHG emissions and increased environmental problems, but will also to vast social problems such as inequalities between rural and urban populations, health-related disorders, and other community-level issues. Bio-energy, solar, wind and small hydro have been identified as the thrust areas of renewable energy development in India. Bio-energy is one of the key focus areas of renewable energy programs in India and its resources are relatively uniformly available in India compared to other renewable sources.

Bio-energy is the energy derived from waste like urban, industrial & agricultural residues etc. and which can also be utilized as a feedstock in the manufacture of biofuels. Mainly, Generation of wastes is one of the environmental growing concern in today's society. Due to rapid growth in urbanization and industrialization the collection, treatment and safe disposal of wastes has become a matter of concern. In recent years, technologies have been developed & those are helpful in generating substantial quantity of energy by treatment on different wastes resulting in its safe disposal and provide opportunities for meeting energy needs in a sustainable manner, improving quality of life and protecting the environment, including addressing climate change. Energy in the form of biogas, Bio-CNG, heat or power is seen as additional benefits, which improves the viability of such projects. Also, there exist huge potential in the state for setting up small scale decentralized biogas energy recovery projects based on biodegradable organic waste viz. animal waste, segregated MSW etc.

Realizing the potential, Ministry of New and Renewable Energy (MNRE), GoI has initiated several programs with encouraging fiscal and financial support. MNRE-GoI is also promoting various technological options for setting up projects for recovery of energy from wastes. Beside this, Maharashtra Energy Development Agency (MEDA) has also come up with RE policies to support such projects in the state.

The brief information of various schemes/programmes promoted by Government of Maharashtra and Ministry of New and Renewable Energy, GoI is furnished below;

Government of Maharashtra policy

A) Comprehensive Policy on Decentralised (off-grid) Energy Generation Projects based on New & Renewable Energy (Non-conventional) Energy Sources-2016 dated 11.02.2016 & its methodology dated 08.06.2016.

Eligible persons/entities for subsidy:

- Municipal Corporations/Corporations/Urban Local Bodies or Grampanchayat'
- Government/Semi-government organizations (viz. Prisons, Animal Husbandry Departments Bull rearing centers/Pedigree of bulls frozen semen laboratory etc., canteens of Industrial/Commercial organizations etc.) or private mode or Individual person etc.

Subsidy:

Capacity Range	Eligible Subsidy
3 kW - 250 kW	Rs. 40,000 per kW





Achievement in this year:

Sr. No.	Name of Project	Capacity (kW)
1.	Shri. Shivam Bharat Jadhav, at Village Pusegaon, Tal. Khatav, Dist. Satara	24
2.	M/s Sushila Agrovet Pvt. Ltd., Post Koparde, Tal. Khandala, Dist. Satara	96
3.	Ahmednagar District goat rearing farm, At post Wadgaon Tandli Tal. & Dist. Ahmednagar	36
4.	Shubham Bhaskar Ghule A-p. Dhandarfal Budruk Tal. Sangmner Dist. Ahmednagar	12
5.	M/s. S&P feeds Pvt. Ltd. At. Post-Thengoda Tal. Baglan Dist. Nashik	200
6.	M/s. MGM College of Agricultural Biotechnology, Gat no. 281, Village. Gandheli, Tal. & Dist. Aurangabad	24
7.	M/s. Prabhat Poultry Breeding Farm At post Vali, Savane Tal. Roha, Dist. Raigad	72
8.	M/s. Mudhai Dairy, Satara	60
9.	M/s. Vrushali V. Kulkarni, Sangli	50
10.	M/s. Bhagyalaxmi Dairy farm, Manchar, Pune	250
	Total	824

B) Biomass Briquette/Pellet Scheme dated 11.09.2007:

Eligible persons/entities for subsidy: Proprietary firms/Partnership firms/Company etc. Subsidy: 20% of the briquette/pellet machine cost or max. Rs. 4 lakhs whichever is less. Proposed plan for this year:

Sr. No.	Name of Project
1.	M/s. Samrudhi Energy gut no. 96 Anandpurta TalPaithan DistAurangabad
2.	M/s. Shyamsundar Shashikant Gokar Mauje Nimgaon Daku Tal. Karjat Dist. Ahmednagar
3.	M/s. Uttam Bio Agro Fuel Industries Tal. & Dist. Beed
4.	Thakur Agro Products & warehousing 18, vidyanagar, Gourakshan Road, Akola
5.	Shrungery Bio-energy Survey No. 148 Brhamgao Tal Ashti DistBeed.

Central Government Programmes:-

A) Biogas Power/Thermal (Off-Grid) Programme dated 29.11.2018

Eligible projects for subsidy:

- Municipal Corporations/Corporations/Urban Local Bodies or Grampanchayat'
- Government/Semi-government organizations (viz. Prisons, Animal Husbandry Departments Bull rearing centers/Pedigree of bulls frozen semen laboratory etc., canteens of Industrial/Commercial organizations etc.) or private mode or Individual person etc.





Central Financial Assistance:

Sr. No.	Capacity Range (kW)	Power Generation (🏿/kW)		Thermal Application (/kWeq.)	
		SC/ST	Others	SC/ST	Others
1.	3-20	40,000/-	35,000/-	20,000/-	17,500/-
2.	20-100	35,000/-	30,000/-	17,500/-	15,000/-
3.	100-250	30,000/-	25,000/-	15,000/-	12,500/-

Achivement in this year:

Sr. No.	Name of Project	Capacity (kW)
1.	M/s. S&P Feeds Pvt. Ltd. Post-Thengoda TalBaglan DistNashik	200
2.	M/s. Shubham Milk Product Post Nimgaon Ketki Tal. Indapur DistPune	25
3.	M/s. Bright Land Hotels Pvt. Ltd. Village-Nakinda Tal. Mahabaleshwar Dist. Satara	3.125 (25m3)
4.	M/s. Prabhat Poultry Breeding farm, Pvt. Ltd., Raigad	75
5.	M/s.Siddhivinayak Poultry Breeding Farm & Hatcheries Pvt. Ltd.	00
6.	M/s. BAIF Foundation A/p Urali Kanchan, Tal. Haveli, Dist. Pune	12.5
7.	M/s. Sunil Keda Dalvi, At Post. Lakhamapur, Tal Baglan DistNashik	100
8.	M/s. Mudhai Dairy Pvt. Ltd., At Post. Dahigaon, TalKoregaon DistSatara	62.5
9.	M/s. Vrushali Vinod Kulkarni, At Post. Belanki TalMiraj DistSangli	50
10.	M/s. Renuka Ragur, At Post. Jambhulagao, Tal Vadgaon-Maval DistPune	25
11.	M/s. Anju Ajay Deshpande, At Post. Garade, TalPurandar DistPune	50
12.	M/s. Milind Mondkar, At Post. Vave Tarfe Asare, Tal Sudhagad DistRaigad	75
13.	M/s. Vrientiatech Pvt. Ltd., At Post. Ghanegaon, Tal Gangapur DistAurangabad	12.5
14.	M/s.Trimurti Pawan Prathisthan At Post. Khadke, Tal Newasa DistAhmednagar	25
15.	M/s. Vasudev Joshi At post-Wadner Gangai TalDaryapur DistAmravati	10
	Total	825.625

B) Programme dated 30.07.2018 on Energy from Urban, Industrial & Agricultural Waste/Residues Objectives:

- a) To promote setting up of projects for recovery of energy from Urban, Industrial & Agricultural wastes;
- b) To create conducive conditions & environment with fiscal and financial regime, to develop, demonstrate and disseminate utilization of wastes and residues for recovery of energy.





Eligible projects for subsidy:

The scheme provides Central Financial Assistance for following applications;

i) Project based on Biogas production

Output	Capital Subsidy	Description
Biogas	Rs. 1 Crore Per 12000 m³ Biogas/ day (Max. Rs. 10 Crore/project)	Biogas generation from Urban Waste/ Agricultural Waste/ Industrial Waste/ Effluents or mix of these wastes. (Distillery waste is excluded)

ii) Project based on Power generation

Output	Capital Subsidy	Description
Power	Rs. 3 Crore Per MW (Max. Rs. 10 Crore/ project)	Power generation based on Biogas generated from Urban Waste/ Agricultural Waste/ Industrial Waste/ Effluents or mix of these wastes. In case, developer wants to set up power generating unit at already existing Biogas generation unit, in that case, the applicable CFA will be only Rs. 2 crore per MW.

iii) Project based on Production of Bio-CNG

Output	Capital Subsidy	Description
Bio- CNG/ Enriched Biogas	Rs. 4 Crore Per 4800 kgs of Bio- CNG/day generated from 12000 m3 of Biogas/day. (Max. Rs. 10 Crore/project)	Bio-CNG generation based on Biogas generated from Urban Waste/Agricultural Waste/Industrial Waste/Effluents or mix of these wastes. In case, developer wants to set up Bio-CNG unit at already existing Biogas generation unit, in that case, the applicable CFA will be only Rs. 3 crore.





v) Project based on Biomass Gasifier

Output	Capital Subsidy	Description
Gasifier Thermal/ Electrical in Industries/ Villages	Electrical • Rs. 2500 per kW with duel fuel engines. • Rs. 15000 per kW with 100% gas engines.	Biomass Gasifier based Captive Power and thermal applications in industries. Distributed off-grid power for villages using Biomass Power Systems.
	Thermal • Rs. 2 lakh per 300 kW for thermal applications.	

Achievement in this year: (Proposal forwarded to MNRE for CFA)

S.N.	Name of Project Promoter	Capacity (MW)
	Industrial Waste to Power:-	
1.	M/s. Gujrat Ambuja Exports Ltd. Chalisgaon-Jalgaon	1.2
2.	M/s. Sahyadri Starch Industries Pvt. Ltd. At – Miraj Sangli	1.25

C) National Policy on Biofuels dated 04.06.2018

Salient Features:

- An indicative target of 20% blending of ethanol in petrol and 5% of biodiesel in diesel is proposed by 2030
- Reinforcing ongoing ethanol/biodiesel supplies through increasing domestic production
- Setting up Second Generation (2G) bio refineries
- Development of new feedstock for biofuels
- Development of new technologies for conversion to biofuels
- Creating suitable environment for biofuels and its integration with main fuels.
- Blending ethanol in petrol through Ethanol Blended Petrol (EBP) Programme using ethanol derived from multiple feedstock
- Development of Second Generation (2G) ethanol technologies & its commercialization
- Blending biodiesel in diesel through Biodiesel Blending Programme exploring multiple feedstocks including straight vegetable oil in stationery, low RPM engines.
- Focus on drop-in fuels produced from MSW, industrial wastes, biomass etc.
- Focus on advanced biofuels including bio-CNG, bio-methanol, DME, bio-hydrogen, bio-jet fuel etc.
- Government of Maharashtra is planning to set up Biofuel Board in the State.







8 | ENERGY CONSERVATION

1. Introduction

With the intent of legislature to provide energy efficiency in Indian economy, the National Energy Conservation Act, 2001 came into force on 1st March 2002. The Government of India has set up Bureau of Energy Efficiency (BEE) on 1st March 2002 under the provision of the Energy Conservation Act, 2001. The mission of Bureau of Energy Efficiency is to assist in developing policies and strategies with a thrust on self-regulation and market principles with the primary objective of reducing energy intensity of the Indian economy within the overall framework of the Energy Conservation Act, 2001. This will be achieved with active participation of all stakeholders, resulting into accelerated and sustained adoption of energy efficiency in all sectors.

The Energy Conservation Act (EC Act), 2001 mandates creation of a two-tier organization structure to promote the efficient use of energy and its conservation in the country with BEE as the nodal agency at central level and SDAs as nodal agencies at State level. Section 15(d) of the EC Act stipulated that the State Government may designate any agency at the State level to co-ordinate, regulate and enforce the provisions of the Act within the State. In-line with this, Government of Maharashtra (GoM) vide notification dated 12th March, 2003, appointed Maharashtra Energy Development Agency (MEDA), as the State Designated Agency.

For effective implementation of provisions under EC Act 2001 in the State, GoM formulated "State Energy Conservation Committee" on 30th April 2005 and restructured the same on 1st July 2011. In exercise of the powers conferred by sub-section (1) and (4) of section 16 of EC Act 2001, GoM on 12th February 2013, notified Maharashtra State Energy Conservation Fund Rules, 2013 for the purpose of promotion of efficient use of energy and its conservation within the State.

2. The Mission

The mission of Maharashtra Energy Development Agency (MEDA) is to facilitate and enforce efficient use of energy and its conservation, within the overall framework of the Energy Conservation Act, 2001 (EC Act). This will be achieved with active participation of all stake holders in the State, resulting in accelerated and sustained adoption of energy efficiency in all sectors of the economy.

3. The Objective of MEDA and its role

- To coordinate, regulate and enforce provisions of Energy Conservation Act, 2001 (EC Act) within the State of Maharashtra.
- Take all measures necessary to create awareness and disseminate information for efficient use of energy and its conservation.
- Arrange and organise training of personnel and specialists in the techniques for efficient use of energy and its conservation.
- Take steps to encourage preferential treatment for use of energy efficient equipment or appliances.
- Authority to administer the State Energy Conservation Fund (SECF).
- To appoint Inspecting officers for the purpose of ensuring compliances, within the overall framework of the EC Act.
- Ensure implementation of BEE's flagship programs (PAT, ECBC, S&L, SME, DSM) and schemes under Strengthening of SDAs to promote efficient use of energy and its conservation.
- Ensure implementation of various State's schemes and Policy related to Energy Conservation.





4. State Level Energy Conservation Schemes

MEDA has implemented following State Government Energy Conservation schemes in Maharashtra.

a. Save Energy Programme

Maharashtra Energy Development Agency (MEDA) has implemented energy conservation programme in different sectors, since inception. Under "Save Energy Programme" MEDA provides financial assistance to conduct detailed energy audit in potential sectors. MEDA has done remarkable work up to March, 2021 and total 1620 energy audits have been carried out in various sectors, which has resulted in substantial energy saving in various sectors.

b. Walk Through Energy Audit (SME scheme)

Scheme aims to promote energy efficiency in small and medium enterprises (SMEs) by providing technical and financial assistance for conducting walk through energy audit (WTA). MEDA provides financial assistance to Empanelled Auditing Firm of Rs.3000/- per unit (SME). Under this scheme, around 3609 Walk through Energy Audits in SMEs have been completed up to March, 2021.

c. Scheme for implementing demonstration projects in Government / Semi Government / Urban Local Bodies buildings.

There is scope of around 20-25% energy saving in building sector. A scheme is designed for Government/Semi Government and Urban Local Bodies for implementation of energy conservation demonstration projects in their buildings. Under this programme financial assistance is up to Rs. 25 lakhs per building. Under this programme total 113 buildings are covered up to the financial year March, 2021; having estimated potential saving of 12.96 MUs per year.

d. Energy Efficiency in Streetlights in Municipal Councils / Municipal Corporations/ Maharashtra Jeevan Pradhikaran.

Street lighting systems of municipal and other bodies use 1.5 to 2% of State's total energy consumption while water pumping systems use 4% of State's total energy consumption. 30% energy savings can be achieved by installation of energy saving devices in street lighting and water pumping systems. Under this programme financial assistance is up to Rs. 25 lakhs. Under this programme total 39 Municipal Councils / Corporations are covered up to the financial year March, 2021; having estimated potential saving of 2.38 MUs per year.

e. Maharashtra State Level Energy Conservation Award Scheme

One of the important endeavour under awareness and outreach programme has been the Energy Conservation Awards. To raise awareness on energy efficiency and its conservation, the MEDA, under the guidance of Ministry of Power, GoM, recognizes and encourages endeavours of industrial units, institutions and establishments in reducing energy consumption by felicitating them with Maharashtra State Energy Conservation Awards (MSECA), celebrated every year.

MSECA 2020 started with first meeting of the award committee under the Chairmanship of Honourable Director General, MEDA on October 2020. In its first meeting Award Committee finalized the sectors and evaluation methodologies for MSECA 2020. Subsequently, advertisement in newspaper, website and social media were released in the month of 13th October 2020 inviting applications from participating units falling in the included sectors.





Sector wise number of participating units

Sr. No.	Sector/Industries	Number of applications received – 2020
1	Automobile & Engineering	6
2	Cement	3
3	Chemical & Petrochemical	4
4	Individual & NGO	5
5	Municipal Corporation	1
6	Metal & Steel	7
7	Drugs & Foods	1
8	Paper	2
9	Textile	9
10	Thermal Power Stations	7
11	General category (Industries)	1
12	Commercial Building	4
13	Educational Institutions	6
14	Government	10
15	Residential	3
16	Energy Consultants, Energy Auditor & ESCOs	3
17	Co-Operative Industries	2
18	SME	2
19	Gram panchayat	1
	Total	77

This year due to Covid-19 pandemic, MEDA organised 4-days online presentation for the participants of 15th State Level EC awards. Results of the 15th EC award announced on 14th December 2020. List of the winners is uploaded on www.mahaurja.com.

During FY 2020-21, the participating units have saved approx. 24648 Million kWh of electrical energy, which is equivalent to the energy generated form a 3538.9 MW thermal power.

In the last 15 years of Award Scheme (2003-2021), the participating units have cumulatively saved approx. 5024 Crores & during FY 2019-20 its around Rs. 362 Crores in energy terms, 2883 Million kWh of electrical energy and 470 MW equivalent avoided capacity was saved through the energy conservation measures by the all-participating units during FY 2019-20.







Year Wise Energy Savings Achieved By Participating Units Under Mharashtra State Level Energy Conservation Award Scheme

Baseline Year	Award No. of Annual Investment (Elec			Electrical Energy Saving trical + Thermal)		
of energy saving	Scheme	participating units	Saving in in Rs. Crores Rs. Crores		Million kWh	Equivalent Avoided Capacity in MW
2003-04	1st	46	150	205	317	25
2004 -05	2nd	50	200	285	400	37
2005 -06	3rd	75	292	356	584	45
2006 -07	4th	68	394	442	789	90
2007-08	5th	113	502	448	964	114
2008 -09	6th	117	515	1	1031	117
2009 -10	7th	67	304	-	608	88.9
2011-12	8th	113	330	-	2100	308
2012-13	9th	114	349	556	2880	422
2014-15	10th	110	155	86	1843	270
2015-16	11th	136	421	577	2640	386
2016-17	12th	120	316	436	2430	355
2017-18	13th	100	287	407	2210	327
2018-19	14th	87	447	444	2969	484
2019-20	15th	77	352	194	2883	470
Total 15 years		1393	5024	4350	24648	3538.9

5. Progress under Maharashtra State Energy Conservation (EC) Policy - 2017

Government of Maharashtra notified State Energy Conservation Policy -2017 on **22**nd **June 2017**. Under this policy, energy saving of 1000 MW is targeted to be achieved by implementing various energy efficient programs and energy conservation awareness in energy intensive sectors like Industry, Commercial / Government Buildings, Municipal Corporations / Councils, Distribution Companies, Generation Companies, Transmission companies other Cross Sectors etc.

$Following is the \, Sector \, wise \, progress \, on \, EC \, Policy-2017$

Industry:

- Energy Audit of Industrial & Commercial consumers whose contract demand is 1000kVA and above. Implementation of this through Chief Electrical Inspector is in progress.
- MSME Cluster formation Department of Industries, GoM had already completed MSME Cluster formation for 63 Industries. During year 2020, MEDA due to Covid-19 situation MEDA conducted 7 nos. of webinar for capacity building of Energy Professional. Refer Annexure -1 for List of webinars arranged.

Commercial / Government Buildings:

• Implementation of ECBC - Draft Maha ECB rules is under consideration with Government of Maharashtra. For effective implementation of same GoM established Technical Steering Committee on 8th march 2021.





- Energy audits of buildings having annual energy bill of Rs. 5 Lacs and above is in progress.
- Inclusion of Schedule of Rate (SoR) in PWD cost data: Draft SoRs for Electrical and Civil prepared and submitted to PWD for consideration.

Municipal Corporation/Council:

- Implementation Energy Conservation Measures in streetlight and water pumping through ESCO: Urban Development Department (UDD), GoM executed MoU with EESL and work is under progress at 368 locations.
- Mandatory purchase of LED lights in Street lights: UDD, GoM through its notification on 12.01.2018 made use of LED lights mandatory to all.

Generation/Transmission/Distribution companies:

• These companies of the State are fully committed to the conservation of energy and had made conscious efforts in this direction by adopting energy conservation technologies.

Cross Sector:

• Promotion of Electric Vehicles (EVs): - The financial assistance scheme for EVs is implemented by Industry Department separately.

6. Bureau of Energy Efficiency (BEE) Schemes

In order to build and strengthen the institutional, technical and financial capacities and capabilities of the MEDA for undertaking energy efficiency activities at the State level, BEE provides financial assistance to the MEDA under two major components cited as below.

- i. Providing financial assistance to the MEDA to coordinate, regulate and enforce efficient use of energy and its conservation.
- ii. Contribution to State Energy Conservation Fund (SECF).

The activities covered under each of these above components are as follows.

Providing financial assistance to the MEDA to coordinate, regulate and enforce efficient use of energy and its conservation.

i. State Partnership for Energy Efficiency Demonstrations (SPEED)

- a. Implementation of energy efficiency demonstration projects Demonstration projects mainly in areas buildings retrofitting have been taken up for implementation by the MEDA. MEDA has taken up Walk through energy audits & detailed energy audits in 26 nos. government building and water supply system of municipal corporation / Municipal Council completed and as per the availability of funds work order for 6 nos. projects issued.
- b. Implementation of energy efficiency activities in Government schools Replacement of existing conventional appliances with energy efficient appliances in Govt. schools is undertaken by MEDA under this head. MEDA targeted implementing this demonstration project in 100 Government Schools in the State of Maharashtra. The main objectives of these activities are to make schools energy efficient by replacing old luminaries & fan with energy efficient one and disseminate the awareness of energy efficiency and energy conservation amongst the school children. MEDA awarded tender for implementation of Energy Efficient Activities in total 181 Schools in the Month of May 2020. As on date work at 131 schools completed and as per the Covid -19 regulation in the State work for remaining 50 schools will be completed shortly. Energy Saving potential of 6,02,070 kWh/year and CO2 reduction 463 Mtons per year is estimated. Additional, 200 schools are proposed by MEDA for implementation next year.







ii. Model Energy Efficient Village Campaign

The Model Energy Efficient Village Campaign is initiated to convert villages into model energy efficient villages by replacing existing inefficient electrical equipment / appliances with BEE star rated appliances including bulbs, street lights, fans, water pumps, etc.

MEDA has implemented this campaign in year 2019 at 2 villages (Village Dudhgaon Tal & Dist. Osmanabad & Village Dhanora Tal & Dist Yavatmal) from Marathwada and Vidarbha region. Estimated energy saving potential for Village Dudhgaon Tal & Dist. Osmanabad is 57,600 kWh/year and CO2 reduction 44 Mtone per year and for Village Dhanora Tal & Dist Yavatmal is 19,400 kWh/year and CO2 reduction 15 Mtone per year.

This year MEDA planned to implement this scheme in 11 nos. of Villages (adhering to the fund availability) and completed above campaign in following 4 villages namely-

- a. Village Radhanagari, Tal. Radhanagari, Dist. Kolhapur.
- b. Village Jategaon, Tal. Shirur, Dist. Pune.
- c. Village Nategaon, Tal. Mahad, Dist. Raigad.
- d. Village Bamburdi Ghumat, Tal. & Dist. Ahmednagar.

Replacement of energy efficient equipment / appliances is carried out at Gram Panchayat office, Common communities lighting, Street Lighting, water pumping station, bus stand, Tourist Guest house, Government school Hostels, Government schools etc.

Estimated Energy Saving Potential of all 11 villages is 5,38,588 kWh/year and CO2 reduction 415 Mtone per year.

Detail energy audit for remaining 7 villages has been completed and work for the same is in progress. As per the Covid -19 regulation in the State work will be completed shortly.









Names of the 7 villages are as below: -

- a. Village Ashiv, Tal. Ausa, Dist. Latur.
- b. Village Utka, Tal. Ausa, Dist. Latur.
- c. Village Karepur (Govind Nagar) Tal. Renapur, Dist. Latur.
- d. Village Patoda, Tal. Dist. Aurangabad.
- e. Village Yenikoni, Tal. Narkhed, Dist. Nagpur.
- f. Village Palandur, Tal. Lakhani, Dist. Bhandara.
- g. Village Wambori, Tal. Rahuri, Dist. Ahmednagar.

7. Workshops/Trainings on Energy Conservation programmes

MEDA conducted various workshops, seminars and capacity building programme of energy professionals in the area of Energy Conservation Building Codes, Capacity Building of DISCOMs, Energy Efficiency in Industrial clusters and Energy Efficiency Financing for Financial Institution.

This year due to Covid-19 pandemic situation MEDA initiated this activity through webinars. Refer Annexure -1 list of webinars conducted during year 2020-21.

8. Energy club:

During year 2019, MEDA established total 102 Energy clubs in schools in State of Maharashtra under BEE program "Student Capacity Building Program." Under this program, MEDA provided financial assistance of Rs. 5000/- per school. Through these established energy clubs, various energy conservation activities are implemented by schools like – Elocution competitions, Essay competition, Painting competition, Slogan Competition, Quiz contest and celebration EC week etc.

This year, MEDA targeted 160 schools for establishing energy clubs across the State. But due to Covid-19 situation only 134 energy club's formation completed. All the possible energy conservation activities were conducted by the schools during EC week across various districts in Maharashtra.

9. Energy Conservation Day and Energy Conservation Week:

Every year MEDA celebrates National Energy Conservation day on 14th December and Energy Conservation week from 14th to 20th December on large scale. Following activities have taken up in the week for creation of awareness.

a. Industries, Industries association, all government departments, all local organizations were asked to celebrate the EC day and EC Week by carrying out various activities like:









- Administer Energy Conservation pledge by employees.
- Display of banner and posters at various locations to create mass awareness.
- Distribution of pamphlets giving tips on energy conservation & energy pledge.
- Energy conservation slogan competition for employees and their wards.
- Seminar for employees on energy conservation activities in the plant.





- b. Information and awareness messages were regularly disseminated through MEDA's web portal, Facebook, Twitter.
- c. Energy conservation awareness advertisement in local newspapers during Energy Conservation week.
- d. Energy conservation awareness through Radio Jingle during Energy Conservation week.

10. Establishment of Energy Conservation Building Code in state

The Central Government vide notification dated 13th February, 2018 in consultation with Bureau of Energy Efficiency notified the Energy Conservation Building Code (ECBC) in 2007 which got amended in 2017. The code is applicable to all commercial buildings having connected load of 100 KW or above or contract demand of 120 kVA or above.

Energy Department, Govt of Maharashtra under section 57 (2) of Energy Conservation Act, 2001 published the draft "MAHA ECB Rules, 2019" on August 22nd, 2019 in official gazette No. MAHBIL/2009/31733 for comments & suggestions in public domain. All the received comments & suggestions have been compiled & the rules have been amended and submitted to GoM for consideration.

Energy Department, Govt of Maharashtra through government resolution dated 8th March 2021, established Technical Steering Committee for effective implementation and to decide roadmap for Maha ECB Rules in the State.

Further, Bureau of Energy Efficiency (BEE) established ECBC cell (VK:e Environmental LLP, Pune) in year May 2019 at MEDA, to provide technical assistance for effective implementation and enforcement of ECBC in the State. Major activities during year 2020 carried out by ECBC Cell are as below:

a. Demonstration projects - Technical assistance has been provided for 7 demos for different categories of buildings in different climatic zones were supported to showcase ECBC compliance across the State. List of demo projects are as below:

Sr. No.	Project name	Building Type	Compliance level	Climate zone	Est. Annual Energy Saving kWh
1	Maharashtra Energy Development Agency, Pune	Business	Super ECBC	Hot & Humid	4,30,089
2	National Cancer Institute, Nagpur	Hospital	ECBC	Composite	19,79,278.65
3	Amar Madhuan Tech Park, Pune	Business	ECBC	Hot & Humid	12,42,823
4	Family Court Building, Mumbai	Business	Super ECBC	Hot & Humid	16,79,048.4
5	GST Bhavan, Amravati	Business	ECBC	Hot & dry	42,157
6	a. Pre-IAS Training Centre, Amravati	Educational	ECBC	Hot & dry	5,651
	b. Pre-IAS Training Centre - Hostel Block, Amravati	Hospitality	ECBC+	Hot & dry	17,228
7	Administrative Building, Chikhaldara	Business	ECBC	Cold	1,55,228

b. Tip sheet - Tip sheet of the Energy Conservation Measures for adoption of ECBC in commercial buildings by using energy efficient materials, techniques and installing appropriate equipment control system for better Penetration of code compliance.





- c. Webinars/Workshops Due to pandemic situation no physical workshop conducted. To spread awareness about ECBC 2017 and draft Maha ECB Rules total 28 nos. of webinars has been organised for Govt Officers from ULBs, Town Planning Department, PWD Department, Architects, Engineers, Environment Consultants, Manufacturers, Students, Various associations etc. Refer Annexure -2 list of webinars conducted.
- d. List of ECBC Compliant Materials (Electrical and Civil) has been prepared, which are proposed for inclusion in PWD's Schedule of Rates.
- e. Prepared Design template which is used as a ready reference guide for achieving ECBC compliance of various building typologies in all the climatic classifications of the State.

11.Perform, Achieve & Trade (PAT) Scheme:

Perform Achieve and Trade (PAT) scheme is a flagship progarmme of Bureau of Energy Efficiency under the National Mission for Enhanced Energy Efficiency (NMEEE). NMEEE is one of the eight national missions under the National Action Plan on Climate Change (NAPCC) launched by the Government of India in the year 2008.

Perform Achieve and Trade (PAT) scheme is a market-based compliance mechanism to accelerate improvements in energy efficiency in energy intensive industries. The energy savings achieved by notified industries is converted into tradable instruments called Energy Saving Certificates (ESCerts). The ESCerts after issuance by Bureau of Energy Efficiency (BEE) are traded at Power Exchanges.

BEE launched new PATNet portal (https://escerts.gov.in) on 17th March 2019, for Designated Consumers (DCs), SDAs, EmAEAs for filling up forms, giving comments and registration. Role of MEDA as a SDA is to maintain list of DCs, to perform scrutiny documents uploaded by DCs and give comments on submissions of Form 1/2/3, Performance Assessment Document (Form A), cross check Monitoring & Verification (M&V) report and subsequently issue show cause notice to DCs for non-compliance.

BEE has rolled out six PAT cycles till 31st March, 2020, with a total of 1073 DCs covering 13 sectors. It is projected that total energy savings of about 26 MTOE translating into avoiding of about 70 million tonnes of CO2 will be achieved by March 2023.

To ensure effect implementation and enforce compliance for policy / scheme / programs covered under the section 17 of the Energy Conservation Act 2001, MEDA appointed officials as an Inspecting Officers. Detail of the same is published on www.mahaurja.com.

Overall achievement of PAT scheme in Maharashtra:

Pat Cycle	Target Year	No. of Dcs	Overall Achievement (escerts)	Total Energy Saving (million Toe)	GHG Emission Reduction (million Tonnes Of Co²)
I	2014-15	45	1,60,003	0.16	0.46
II	2018-19	57	8,51,208	0.85	2.5

12. Energy Efficiency (EE) Financing: -

Under the guidance from BEE, MEDA initiated constitution of a committee of Financial Institutions (FIs) on EE financing to make projects of EE more market oriented.

MEDA in consultation with BEE had arranged webinars on "Financing for Energy Efficiency projects and development of EE market in Maharashtra." MEDA is shortly going to form Financial Institutions (FIs) Committee in the State under the guidance of BEE.





13. National Energy Conservation Award 2020 -

Ministry of Power, in association with Bureau of Energy Efficiency (BEE), organised the 30th National Energy Conservation Awards (NECA) function 2020. This year, due to the COVID pandemic, the function was organised as a Hybrid event transmitted from Vigyan Bhawan. Stakeholders from across the country and the Awardees participated through virtual platform.

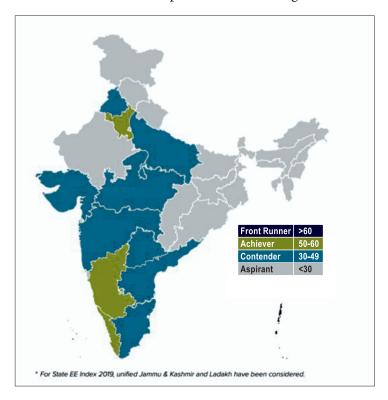
MEDA received National Energy Conservation Award (NECA) 2020 "Certificate of Merit" in appreciation of MEDA's efforts during FY 2019-20 in Energy Conservation in the State Level performance award category.



14. State Energy Efficiency Index (SEEI) 2020: -

BEE has developed the State Energy Efficiency Index to:

- Help drive EE policies and programme implementation at the state and local level.
- Highlight best practices and encourage healthy competition among States.
- Track progress in managing the States' and India's energy footprint.
- Set a baseline for EE efforts and provide a foundation to set state-specific EE Targets.
- Institutionalize data capture and monitoring of EE activities by States, especially by SDAs



The Index categorizes states as 'Front Runner', 'Achiever', 'Contender' and 'Aspirant' based on their efforts and achievements towards energy efficiency implementation.

Based on this in 2019 Maharashtra falls under "Contender" category.

This year MEDA had gathered and shared the data requested for the State Energy Efficiency Index 2020 despite the difficulties faced due to the COVID-19 pandemic situation. Final data review has been completed by BEE and State Energy Efficiency Index 2020 will be published by BEE shortly.





ANNXURE-1: List of webinars conducted on Energy Conservation during year 2020-21 by MEDA/BEE under \capacity building program.

Sr.	Date	Subject	Participation
1	26.06.2020	BEE Energy Mapping in the Forging Sector in India with AIFI Pune.	MSME
2	17.07.2020	Energy & Resource Mapping for MSMEs in Steel Re-Rolling Sector (Jalna Cluster)	MSME
3	23.07.2020	Overview of Energy Conservation activities in Maharashtra	MEDA officials
4	24.08.2020	EE in Buildings / Energy Conservation Building Code	MEDA officials
5	24.08.2020	Capacity Building program on Normalization Factor	PAT-VI Cement DCs
6	25.08.2020	Perform, Achieve & Trade	MEDA officials
7	26.08.2020	EE & Technology Upgradation in MSME	MEDA officials
8	27.08.2020	Financing schemes/mechanisms for EE projects	MEDA officials
9	28.08.2020	Agriculture & Municipal Demand Side Management	MEDA officials
10	31.08.2020	Standards & Labeling and E-mobility (incl. charging infrastructure for Electric Vehicles and Go-electric Campaign)	MEDA officials
11	01.09.2020	National EC Awards, Painting Competition on EC and Check-testing of appliances	MEDA officials
12	02.09.2020	Enforcement provisions and mechanisms	Inspecting officials
13	03.09.2020	Strengthening of SDAs (incl. SAATHEE portal's demonstration and explanation)	MEDA officials
14	14.09.2020	Online workshop on State Energy Efficiency Index 2020	MEDA officials
15	18.09.2020	ISO 50001 Energy Management System organized by EMC, Kerla	MEDA officials
16	18.09.2020	India Buildings Roadmap: Shaping a common vision for energy efficiency in residential buildings organized by IEA/BEE	MEDA officials
17	13.10.2020	Energy efficiency in the time of Covid-19: supporting the economic recovery in emerging Asia organized by IEA/BEE	MEDA officials
18	02.11.2020	Energy & Resource Mapping of MSME clusters in India (Dairy)	MSME
19	19.11.2020	Capacity Building of Designated Consumers (DCs) On Trading of Escerts under PAT Scheme in the State of Maharashtra".	Designated Consumers
20	17.12.2020	Carrying out Energy and Resource Mapping in MSME Bricks Sector –Nagpur Cluster workshop	MSME
21	18.12.2020	Overview of Energy Audit and Measuring Instruments	MEDA officials
22	16.02.2021	Energy Conservation and Management for SMEs organized jointly by MEDA & NPC	MSME
23	18.02.2021	Capacity Building of Energy professionals and agencies for DC's of Thermal Power Plant Sector organized jointly by MEDA & NPC	Designated Consumers





24	22.02.2021	Energy Conservation & Management for Designated Consumers of textile sector and Pulp & Paper sector organized jointly by MEDA & NPC	Designated Consumers
25	23.02.2021	Energy Conservation and Management for SMEs in Maharashtra organized jointly by MEDA & NPC	MSME
26	25.02.2021	Energy Conservation & Management for Designated Consumers of Cement Sector and Iron & Steel Sector organized jointly by MEDA & NPC	Designated Consumers
27	15.03.2021	BEE's latest financing initiatives and the EoI for the empanelment of Financial Institutions (FIs) on grading of Energy Efficiency Projects	Various Banks in Maharashtra
28	22.03.2021	Energy Conservation and Management for SMEs in Maharashtra organized jointly by MEDA & NPC	MSME

ANNXURE- 2: List of webinars conducted on ECBC during year 2020-21.

Sr.	Date	Stakeholder Department / Participants	No. of Participants
1	31-07-2020	Professionals - MEP Consultants with ISHRAE Actual Attendees - 57	Registrations - 62,
2	04-08-2020	Mixed Professionals (Architects & Research Scholars) Actual Attendees - 45	Registrations - 60
3	11-08-2020	MEDA Empaneled Energy Auditing Firms & Energy Auditors (Class A Class B)	Registrations - 56 Actual Attendees - 37
4	14-08-2020	MEP Contractors with ISHRAE	Registrations - 65 Actual Attendees - 30
5	18-08-2020	PWD Mumbai Region (Civil, Architecture and Electrical Department)	Registrations - 84 Actual Attendees - 40
6	20-08-2020	Professionals and Manufacturers - Glass, Lighting, solar Manufacturers and Private Professionals	Registrations - 70 Actual Attendees - 37
7	24-08-2020	PWD Solapur Circle (Civil, Architecture and Electrical Department)	Registrations - 66 Actual Attendees - 53
8	25-08-2020	PWD Kolhapur Circle (Civil, Architecture and Electrical Department)	Registrations - 89 Actual Attendees - 67
9	26-08-2020	PWD Satara Circle (Civil, Architecture and Electrical Department)	Registrations - 55 Actual Attendees - 53
10	05-09-2020	Mumbai Metropolitan Region Development Authority (MMRDA)	Registrations - 55 Actual Attendees - 42
11	08-09-2020	Municipal Corporation of Greater Mumbai (MCGM)	Registrations - 47 Actual Attendees - 40





12	09-09-2020	PWD Pune Circle (Civil, Architecture and Electrical Department)	Registrations - 68 Actual Attendees - 54
13	17-09-2020	Town Planning Department (Across the State) Actual Attendees - 39	Registrations - 42
14	19-09-2020	Mixed Professionals (Architects, Engineers, Green Building Consultants & Research Scholars)	Registrations - 51 Actual Attendees - 45
15	7-11-2020	CIDCO – Engineering Department Actual Attendees - 57	Registrations - 62,
16	11-11-2020	Refrigeration & Air Conditioning Traders Association (Including Consultants & Manufacturers)	Registrations - 60 Actual Attendees - 45
17	23-11-2020	PWD Nashik & Ahmednagar Circles.	Registrations - 56 Actual Attendees - 37
18	24-11-2020	PWD Dhule & Jalgaon Circles. Actual Attendees - 30	Registrations - 65
19	26-11-2020	Practicing Architects/Engineers/Green Building Consultants/Energy Auditors etc.	Registrations - 84 Actual Attendees - 40
20	4-12-2020	Members of Institute of Engineers – Maharashtra State Centre. Actual Attendees - 37	Registrations - 70
21	10-12-2020	Practicing Architects/Engineers/Green Building Consultants/Energy Auditors etc.	Registrations - 66 Actual Attendees - 53
22	14-12-2020	Members of Institute of Engineers – Maharashtra State Centre.	Registrations - 89 Actual Attendees - 67
23	17-12-2020	Members of IEEMA (Indian Electrical and Electronics Manufacturers Association).	Registrations - 55 Actual Attendees - 53
24	21-12-2020	Members of AESA (Architects Engineers & Surveyors Association)	Registrations - 55 Actual Attendees - 42
25	22-12-2020	Officials of Maharashtra Airport Development Company Ltd.	Registrations - 47 Actual Attendees - 40
26	23-12-2020	Officials of PWD Amravati & Nagpur Regions.	Registrations - 68 Actual Attendees - 54
27	24-12-2020	Officials of CIDCO – Planning Department. Actual Attendees - 39	Registrations - 42
28	30-12-2020	Officials of PMRDA/PCMC/PMC/MADC/PWD	Registrations - 51 Actual Attendees - 45







9 | PUBLICITY AND MASS AWARENESS PROGRAMME

Mahaurja regularly carryout following activities

- MEDA is advertising T.V. Spots on different TV Channels like DD Sahyadri, Sam TV, ABP Mazha and IBM Lokmat. to create awareness about Renewable Energy Power Projects like Solar, Wind, Hydro and Biomass.
- 2. MEDA is circulating documentary films on Renewable Energy and Energy conservation subjects like 'Sour Sheti' and 'Urja Sawardhan' through social media.
- 3. MEDA is also advertising Energy conservation and Renewable Energy through Radio Zingles.
- 4. MEDA had published all RE related GRs and information on MEDA website.
- 5. All application formats are available on website of MEDA
- 6. MEDA regularly conduct meetings with RE project developers to chart the progress of RE projects, to know and solve the problems faced by RE developers.
- 7. MEDA regularly participate in Exhibition to showcase the RE technologies. MEDA has live models for Solar pumps, Mukhyamantri Solar Feeder Yojana and many more.
- 8. Awareness activities are proposed through webinars and social media for the stakeholders such as Architects, Engineers, Officials of PWD, Municipal Corporations, Municipal Council, MJP, MMRDA, PMRDA etc. for proposed Maharashtra Energy Conservation Building Code (Maha ECB Rules) Rules, These rules will be notified shortly in the state and will be applicable to commercial consumers, having connected loads of 100 KW/120 KVA and above or built up area 1000 sq. m & above.
- 9. Events for webinars on Maha ECB Rules will also be uploaded on MEDA's website, MEDA Facebook and Twitter account will be created for wide publicity and awareness. Feedback will be sought from all stakeholders after every event.
- 10. Design and e- distribution of technical tip sheets for ECBC and energy conservation success stories/achievements in the state.
- 11. State Energy Conservation promotional schemes and Energy Audit schemes for Government building and Industries will be promoted through social media platforms, such as MEDA Facebook and Twitter account and e-media. The events for all the promotional activities and awareness programmes will be made available on MEDA's official website regularly.









12. BEE's Flagship schemes will be promoted through social media platforms such as Facebook, Twitter and e-media platform. Webinars for Perform Achieve and Trade (PAT), Standards & Labelling (S&L) schemes for ease of Industries will be conducted along with consultation meets.

Following outreach activities are planned for the future:

- 1. Web portal for registration of projects & award of grid connectivity.
- 2. Facebook & Twitter account for giving information about Schemes implemented by MEDA.
- 3. MEDA will have Twitter handle to reply queries raised by RE developers/common people.
- 4. MEDA will have dashboard showing RE projects working on field.

Exhibitions

MEDA Division office Mumbai participated in the exhibition organized by Sidheshwar Agrotech Company, Mumbai and Maharashtra Raja Abmba Utpadan Sangh on 23rd January, 2021 which was held at Samarth Krupa, Vardhaman Hall at Alibaug in Raigad. MEDA displayed the information of New and Renewable Energy and Energy Conservation schemes at the stall.

Advertisements

Advertisements are published in various leading newspapers, magazines and special supplements to promote renewable energy and energy conservation aiming at the target group of industries, private investors etc.

Information Brochures

To illustrate various renewable energy programmes being implemented by MEDA and renewable energy technology information brochure is available on website of MEDA. This brochure creates awareness of Renewable Energy and Energy Conservation.

Library

MEDA has a library with books of Renewable Energy. It also consists of books on various topics like laws, taxes, literatures etc for ready reference.







10 | RPO, REC and R & D Programme

Renewable Purchase Obligation (RPO)

Maharashtra Electricity Regulatory Commission (MERC) has declared (Renewable Purchase Obligation, Its Compliance and Implementation of REC Framework) Regulation, 2010 vide its order dated.7th June 2010. For implementation of this regulation MEDA has been designated as State Agency in Maharashtra State.

Renewable Purchase Obligation (RPO) is the obligation mandated by the Maharashtra Electricity Regulatory Commission (MERC) under the Act, to purchase minimum level of renewable energy with respect to the total consumption by the Obligated Entity.

As per MERC (Renewable Purchase Obligation, Its Compliance and Implementation of REC Framework) Regulations, 2019. RPO obligation shall be applicable to all Distribution licencees, Open Access Consumers and captive users within the Maharashtra, subject to the following conditions:

- a) Any person who owns a grid-connected Captive Generating Plant based on conventional fossil fuel with installed capacity of 1 MW and above, or such other capacity as may be stipulated by the State Commission from time to time, and consumes electricity generated from such Plant for his own use shall be subject to RPO to the extent of a percentage of his consumption met through such fossil fuel-based captive source;
- b) Any person having a Contract Demand of not less than 1 MW and who consumes electricity procured from conventional fossil fuel-based generation through Open Access shall be subject to RPO to the extent of a percentage of his consumption met through such fossil fuel-based Open Access source:

Every Obligated Entity may meet its RPO target by way of (i) Own generation or procurement of power from RE developer or (ii) Purchase from other licensee or (iii) Purchase of renewable energy certificate or (iv) Combination of any of the above options.

Obligation to purchase electricity generation based on solar as RE source can be fulfilled by purchase of solar REC only. Obligation to purchase electricity generation based on non-solar as RE source can be fulfilled by purchase of non-solar REC only. Procurement of REC's issued for RE generation outside the State of Maharashtra as well as REC's issued for renewable energy generation within the State of Maharashtra shall be considered as an eligible instrument for the purpose of RPO compliance.

RPO Targets as per MERC's RPO-REC Regulation 2019 are as below:

Year	Quantum of purchase (In %) from Renewable Energy sources (In terms of energy equivalent in KWh) Solar Non-Solar(other RE) Total					
2020-2021	4.50%	11.50%	16.00%			
2021-2022	6.00%	11.50%	17.50%			
2022-2023	8.00%	11.50%	19.50%			
2023-2024	10.50%	11.50%	22.00%			
2024-2025	13.50%	11.50%	25.00%			





The provisional achievement of state DISCOMs for FY 2020-21 is as follows:

Year	Gross Energy Consumption (GEC)(MUs)	Requirement of Non-Conventional Energy as per RPO (MUs)	RE procurement actual (MUs)	Target (in %)	Target Achieved (in %)	Shortfall (in %)
2020-21	140,162.00	22,425.92	16,856.02	16.00%	12.03%	3.97%

Renewable Energy Certificate) Mechanism

REC (Renewable Energy Certificate) is a market based instrument to promote renewable energy and to address the mis-match between available RE sources and the requirement of the obligated entities to meet their renewable purchase obligations.

For meeting the RPO targets Purchase of renewable energy certificate is an option for obligated entities. Obligation to purchase electricity generation based on solar as RE source can be fulfilled by purchase of solar REC only. Obligation to purchase electricity generation based on non-solar as RE source can be fulfilled by purchase of non-solar REC only. Procurement of REC's issued for RE generation outside the State of Maharashtra as well as REC's issued for renewable energy generation within the State of Maharashtra shall be considered as an eligible instrument for the purpose of RPO compliance. Others details of REC can be viewed from MERC website www.recregistryindia.nic.in

Significant Characteristics of the REC Framework

- According to Maharashtra Electricity Regulatory Commission (Renewable Purchase Obligation, Its Compliance and Implementation of Renewable Energy Certificate Framework) Regulations, 2019 dated.
 27.12.2019 Maharashtra Energy Development Agency (MEDA) has designated as a State Agency to undertake functions of this Regulation.
- MEDA as a State Agency will give REC Accreditation only to RE Generators. REC would be issued to RE
 generators and to the eligible Distribution Licensee. Grid connected RE Technologies approved by
 MNRE would be eligible under this scheme.
- There will be a Central Agency designated by the Central Commission i.e. National Load Dispatch Centre (NLDC) for registration of RE generators participating in the scheme.
- The RE generators will have two options either to sell the renewable energy at preferential tariff fixed by the concerned Electricity Regulatory Commission or to sell the electricity generation and environmental attributes associated with RE generation separately in the form of REC.
- The REC once issued shall remain valid for One thousand and ninety-five days from the date of issuance of such Certificate.
- The Central Agency NLDC will issue the REC to RE generators. The value of REC will be equivalent to 1MWh of electricity injected into the grid from renewable energy sources.
- The REC will be traded only in the Power Exchanges approved by CERC within the band of a floor price and a forbearance (ceiling) price to be determined by CERC from time to time.
- There are two categories of RECs, viz., solar RECs and non-solar RECs.





- a) Solar RECs are issued to eligible entities for generation of electricity based on solar as renewable energy source & non-solar RECs are issued to eligible entities for generation of electricity based on renewable energy sources other than solar.
- b) The solar certificate shall be sold to the obligated entities to enable them to meet their renewable purchase obligation for solar, and non-solar certificate shall be sold to the obligated entities to enable them to meet their obligation for purchase from renewable energy sources other than solar.
- The price of REC would be determined in power exchange. REC would be traded in power exchange within the forbearance price and floor price determined by CERC from time to time.
- The floor and forbearance price as determined by the Commission to be applicable from 01.07.2020 are as under:

	Non solar REC (Rs./ MWh)	Solar REC (Rs./MWh)
Forbearance Price	1000	1000
Floor Price	0	0

- The distribution companies, Open Access consumer, Captive Power Plants (CPPs) will have option of purchasing the REC to meet their Renewable Purchase Obligations (RPO). Pertinently, RPO is the obligation mandated by the State Electricity Regulatory Commission (SERC) under the Act, to purchase minimum level of renewable energy out of the total consumption in the area of a distribution licensee.
- There will also be compliance auditors to ensure compliance of the requirement of the REC by the participants of the scheme.

On national level REC mechanism has been started in November 2010. Accordingly MEDA received applications from RE generators for getting accreditation to their projects. MEDA in first stage scrutinize the application & enclosures submitted by RE generator. In second stage carry out field inspection & confirm the eligibility of project and after that issue an approval to concern RE project for accreditation.

Accreditation status:

Particulars	Total Capacity accredited till 31st March 2021			
Source	No. of Projects	MW		
Wind	257	577.21		
Solar PV	69	119.11		
Small Hydro	8	29		
Bio-mass	3	15.5		
Bio fuel Co-generation	26	222.981		
Others	1	1.668		
Total	364	965.469		





R&D (Research & Development)

MEDA as a State Nodal Agency implementing New Technology programme of MNRE in the state as under:

R&D Programmes:

- Solar https://mnre.gov.in/research-and-development/solar
- Wind-https://mnre.gov.in/research-and-development/wind
- Small Hydro https://mnre.gov.in/research-and-development/small-hydro
- Waste to Energy https://mnre.gov.in/research-and-development/waste-to-energy
- Bio Energy https://mnre.gov.in/research-and-development/bio-energy

Informative:-

1) Hydrogen Energy:-

MNRE has been supporting a broad based Research Development and Demonstration (R&D) programme on Hydrogen Energy and Fuel. Projects are supported in industrial, academic and research institutions to address challenges in production of hydrogen from renewable energy sources, its safe and efficient storage, and its utilization for energy an transport applications through combustion or fuel cells. With respect to transportation, major work has been supported to Banaras Hindu University, IIT Delhi, and Mahindra & Mahindra. This has resulted in development and demonstration of internal combustion engines, two wheelers, three wheelers, and mini buses that run on hydrogen fuel. Two hydrogen refuelling stations have been established (one each at Indian Oil R&D Centre, Faridabad and National Institute of Solar Energy, Gurugram). https://mnre.gov.in/new-technologies/hydrogen-energy

2) Energy Storage:-

Energy storage can play a very important role in grid integration and balancing of variable generation sources. By increasing the system's overall flexibility, it can improve power quality, reduce peak demand, enhance capacity of distribution / transmission grids, avoid/reduce deviation penalties etc. Use of energy storage systems by residential, commercial or industrial consumers, in conjunction with renewable energy has potential to improve power quality and reliability for such consumers. This would also allow for minimization of diesel consumption from back-up power applications. Energy storage is the main component of EVs both in terms of cost and performance determination. The thrust for electric mobility utilizing indigenous modern and reliable energy storage would significantly reduce the country's dependence on imported fossil fuels and energy storage systems. The NITI Aayog is coordinating the work relating to energy storage. https://mnre.gov.in/new-technologies/energy-storage

3) Ocean Energy:-

As per a study conducted by the Indian Institute of Technology, Chennai in association with CRISIL Risk and Infrastructure Solutions Limited in December 2014, the tidal power potential is estimated at around 12,455 MW. The potential areas with low/medium tidal wave strength are in the Gulf of Khambat, Gulf of Kutch & southern regions in Gujarat, Palk Bay-Mannar Channel in Tamil Nadu, and Hoogly river, South Haldia & Sunderbans in West Bengal. Tidal energy is still in Research & Development (R&D) phase and has not been implemented on a commercial scale in India. The earlier efforts for harnessing tidal power were not successful due to high capital cost ranging from Rs. 30 crore to Rs. 60 crore per MW.

https://mnre.gov.in/new-technologies/ocean-energy





4) Geothermal Energy:-

Geo-thermal resources in India have been mapped by Geological Survey of India (GSI). Broad estimate suggests that there could be 10 GW geo-thermal power potential. Present efforts are towards establishing cost-competitive geo-thermal potential in India.

https://mnre.gov.in/new-technologies/geo-thermal-energy

Geothermal Power

Geothermal energy is the natural heat generated within the earth due to radioactive activities. Earth has a large reservoir of geothermal heat and its potential has not been completely exploited for the process heat or power generation. The survey conducted by the Geological Survey of India regarding the available stored energy in the upper 3 km- depth range, estimates the potential of 40.9×1018 calorie in 13 well- defined and structurally controlled "Geothermal Provinces" [A. B. Dhaulakhandi et.al. SESI Journal 6(1): 9-27, 1996].



Hot Spring

Among these provinces, Maharashtra shares

West Coast (Konkan) geothermal province

Narmada-Tapi Garben geothermal province

Godavari valley geothermal province.

Some of the identified sites are Tapi basin, Jalgaon, Dhule and Salbardi hot spring in Maharashtra. Nearly 340 hot springs have been identified in the country having temperatures in the range of 60-1200C.

Some of the possible use patterns of geothermal energy are space heating, binary-cycle power generation, food processing, refrigeration, cold storage etc. Space heating and refrigeration have already been tried successfully at Manikaran, (Himachal Pradesh) and Puga (J&K). A pilot power plant of 5 kW based on close loop organic Rankine cycle was installed in Manikaran. Most of the geothermal sites are in low and moderate temperature range



Deep Hot Spring Illustration



Overview

Wave Power

Sea waves are the result of transfer of mechanical energy of wind to wave energy. The wave quality varies for different periods and seasons. It is possible to have a realistic formula to calculate the overall wave energy potential. A general study of the wave nature has shown that there is potential of 40,000 MW along the Indian coast.

A similar study along the coast of Maharashtra has shown that there are some potential sites such as Vengurla rocks, Malvan rocks, Redi, Pawas, Ratnagiri and Girye, possessing an average annual wave energy potential of 5 to 8 kW/m and monsoon potential of 15 to 20 kW/m. Considering this, the total potential along the 720 km-stretch of Maharashtra coast is approximately 500 MW for wave energy power plants. Fortunately after decades of research and development activities all over the world, some technologies are now available commercially. We need to explore the possibility of wave energy power





plants at the identified sites by inviting proposals from private investors / promoters / technology providers from all over the world. They attract the private investment to the tune of Rs3000 crores. The Govt. of Maharashtra and Govt. of India have plans to announce policies to attract private investors in this field on BOO (Build Own Operate) basis.

Energy Potential of Sea Waves -

Wave energy is, in fact, the storage of mechanical energy of wind in the sea water. Sea waves are variable in nature and their height and width changes with time and season. The average potential along the Indian coast is around 5 to $10 \, \mathrm{kW}$ /m. India has a coast line of approximately $7500 \, \mathrm{km}$. Thus the total potential comes to around $40,000 \, \mathrm{MW}$. Even a 15% utilization would mean the availability of approximately $6000 \, \mathrm{MW}$. Generally it has been observed that the western coast is more useful than the eastern coast. This is because the former has more stable waves and is less vulnerable to cyclones that can damage the power plant.

Status In Maharashtra-

MEDA sponsored a study, conducted by Centre for Earth Science Studies, Thiruvananthapuram, to find the wave energy potential along the Maharashtra coast. The study completed in 1994, has shown the Maharashtra coast has an annual wave potential ranging between 4 to 8 kW per metre of the length of the wave crest. During the monsoon, i.e., between June and August, the potential is quite high, i.e. 12 to 20 kW/m. The wave energy potential of the most feasible sites in Maharashtra is estimated as given in the following table:-

Wave power at selected sites along Maharashtra coast							
OFF SHOP	RE Avg. Wave Po	ower kW/m	COASTAI	L Avg. Wave Pov	wer kW/m		
Site	Annual	(Jun-August)	Site	Annual	(Jun-August)		
Vengurla Rock	8.01	20.61	Girye	5.90	14.21		
Square Rock	6.79	16.64	Vijaydurg	5.86	13.58		
Redi	6.35	16.57	Ambolgarh	5.74	13.48		
Malvan Rock	6.91	16.73	Kunkeshwar	5.64	13.35		
Kura Inset	5.79	13.74	PawaPoint	5.36	13.10		
			Wagapur	5.70	13.10		

The Vengurla and Malvan rocks and Redi are on the top among the offshore locations. In the other group, Pawas and Ratnagiri top the list followed by Girye and Miyet point.

DEVELOPMENT IN MAHARASHTRA

Power Generation Projects based on Wave Energy are not yet commercially established in India.







11 | HUMAN RESOURCES AND ORGANIZATION DEVELOPMENT

Human Resource Management-

Human Resource Development plays an important and vital role in effective management of an organization.

Maharashtra Energy Development Agency, during financial year 2020-21 has nominated its staff members from various levels for short and long term training courses all over India. This was particularly done taking into consideration their job requirements and academic qualifications. The details of category-wise staff attended various training courses during the period is as under.

Director General - 01

General Manager - 04

Manager-01

MEDA has spent Rs. 31,240/- on these training programs during financial year 2020-21.







12 | FINANCIAL REPORT



Malani Somani Chandak & Associates

Chartered Accountants



AUDITORS' REPORT

We have audited the Balance Sheet of MAHARASHTRA ENERGY DEVELOPMENT AGENCY (MEDA) as on 31st March 2021 and the Income & Expenditure account of the Agency for the year ended on that date and report that:

- 1. We have obtained all the information and explanation, which to the best of our knowledge and belief were necessary for the purpose of our audit.
- In our opinion, books of account are maintained regularly and in accordance with the provisions of the Bombay Public Trust Act and Rules and Societies Registration Act and Rules, so far as appears from our examination of these books.
- 3. The Balance Sheet and Income and Expenditure Account dealt with by this report are in agreement with the books of account.
- 4. In our opinion and to the best of our information and according to the explanations given to us, the said accounts give a true and fair view of the assets and liabilities as at 31st March 2021 and receipts and payments as on that date prepared on cash receipts and disbursements basis as described in Notes appearing as a part of Balance Sheet.
- 5. In our opinion and to the best of our information and according to the explanations given to us and *subject to annexure attached to this report*, the said accounts give a true and fair view.
 - a) In the case of the Balance Sheet of the State of affairs of the Agency as at 31st March 2021,
 and
 - b) In case of Income & Expenditure Account of the deficit for the year ended on that date.

For Malani Somani Chandak & Associates

Chartered Accountants

F.R. No. 119584W

CAN R Malani

Partner M. No.042589 Place: Pune

Date: 11/02/2022

UDIN-22042589ABZZVQ2718

2, Dream Presidency, 1202/17 E, Apte Road, Santosh Bakery Lane, Deccan Gymkhana, Pune 411004 Ph.: +91-20-25538240,25538241,25538242 | E: mscassociates@gmail.com





THE BOMBAY PUBLIC TRUSTS ACT 1950 (SCHEDULE VIII (Vide Rule 17(2))

MAHARASHTRA ENERGY DEVELOPMENT AGENCY (Registration No. F-11906) CONSOLIDATED BALANCE SHEET AS AT 31ST MARCH, 2021

FUNDS & LIABILITIES	SCD.	AMOUNT (RS)	AMOUNT (RS)	PROPERTY & ASSETS	SCD.	AMOUNT (RS)	AMOUNT (RS)
TRUSTS FUNDS OR CORPUS TRUST FUNDS		20,89,21,993	20,89,21,993	IMMOVABLE PROPERTIES (at cost)	F (A)	(no)	15,03,17,929
Balance as per last Balance Sheet Adjust-		20,03,22,333	20,03,21,333	FURNITURE & FIXTURES	F(B)		1,33,25,636
ment during the year			85	OTHER FIXED ASSETS	F(C)		84,36,17,235
				BUILDING WORK IN PROGRESS	F(D)		30,25,97,000
OTHER EARMARKED FUNDS Development Fund (created under the provision		2,45,71,19,771		ADVANCES	G	1,84,69,658	1,84,69,658
of the Trust Deed of Scheme or out of the income) Infrastructure Rd fund Publicity Fund Depreciaton Fund		12,60,42,061 45,54,459 80,29,17,622	2 20 05 22 044	CASH AND BANK BALANCE a) In Current / Saving Account b) Fixed Deposits C) Cash in hand		99,62,50,846 9,39,96,46,835 3,75,208	
		00,29,17,622	3,39,06,33,914	d) Cheque in hand		5,42,665	10,39,68,15,554
LIF TIES FO Benses For Beneficiary Contributions	A	39,37,68,036		OTHER CURRENT ASSETS	н	46,35,66,008	46,35,66,008
For Rent & Deposits For Unspent amount received against Government Schemes	B C D	38,20,98,594 43,87,99,184 1,67,12,03,090	2,88,58,68,904	DUTIES & TAXES		19,81,93,911	19,81,93,911
GRANTS PAYABLE TO GRANTORS INCLUDING GREEN CESS FUND	E	8,54,399	8,54,399				
INCOME & EXPENDITURE ACCOUNT							
Balance as per last Balance Sheet Add : surplus as per Income and Expenditure a/c		5,81,43,25,346 8,62,98,374					
income in respect of previous year		-	5,90,06,23,720				

Notes forming part of Balance Sheet

As per our report of even date FOR MALANI SOMANI CHANDAK & ASSOCIATES

F. R. No. 119584W PUNE

dActo

Chartered Accountants

laun F.R. No. 119584W

NANDKISHOR R MALANI

Partner M. No.042589

Place : Pune Date: 11/02/2022 The above Balance Sheet to the Best of our belief contains a true account. of the Funds and Libilities and of the Property and Assets of the Trust.
FOR MAHARASHTRA ENERGY DEVELOPMENT AGENCY

Director General Place : Pune Date: 11/02/2022







THE BOMBAY PUBLIC TRUSTS ACT, 1950 (SCHEDULE IX (Vide Rule 17(2))

MAHARASHTRA ENERGY DEVELOPMENT AGENCY (REGISTRATION NO. F - 11906) CONSOLIDATED INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2021

EXPENDITURE	SCHE- DULE	AMOUNT (RS)	INCOME	SCHE- DULE	AMOUNT (RS)
TO EXP IN RESPECT OF PROPERTIES Rates and Taxes		300	Interest	к	36,04,05,881
Depreciation	F	17,92,508 5,41,96,298	Receipt against Government Schemes	L	1,93,04,06,735
Establishment Expenses	i	30,13,37,427	Income from Other Sources (in details as far as possible)	М	24,34,47,017
Expenditure on objects		1			
of the Trusts					
a) Religious	1				
b) Educational	1				
c) Medical Relief		erano.			
d) Relief of Poverty		K			
e) Other Charitable objects	J	2,09,06,35,027			
Surplus carried over to Balance sheet		8,62,98,374			
TOTAL		2,53,42,59,634	TOTAL		2,53,42,59,634

Notes forming part of Income and Expenditure Account

As per our report of even date

FOR MALANI SOMANI CHANDAK & ASSOCIATES

Chartered Accountants

F.R. No. 119584W

NANDKISHOR R MALANI

Partner

M. No.042589

Place : Pune

Date: 11/02/2022

FOR MAHARASHTRA ENERGY DEVELOPMENT AGENCY

Director General Place : Pune

Date: 11/02/2022





MAHARASHTRA ENERGY DEVELOPMENT AGENCY SCHEDULES FORMING PART OF CONSOLIDATED BALANCE SHEET AS AT 31 st MARCH 2021

PARTICULAR	AMT	AMT	
	(RS)	(RS)	
SCHEDULE A	1		
LIABILITY FOR EXPENSES			
Recovery Of Employees On Deputation	7,118		
Group Insurance Scheme	85,068		
LIB E C Act 2001 Bee- 1604	12,26,90,870		
LIB Energy Conservation Fund 2012	5,92,94,410		
LIB Infrastructure Road Maintainance	2,87,60,042		
RPO Renewable Purchase Obl	2,31,16,664		
EC Energy Effnt St Light Fitting 15-16	1,52,95,794		
LIB Service Tax	3,000		
LIB Grant For Specific Purpose	15,595		
LIB - Outstanding State Grant Exps 1433	1,66,34,580		
LIB Road Repair & Maint. 1010 A[Policy 2015]	8,40,20,000		
LIB TDS CONTRACTOR PAY-1461	5,11,541		
LIB.Tds Cgst1% On Contractor (Divisional Off.)	3,72,179		
LIB Tds Contractor Professional Pay 1464-10%	2,99,582		
LIB.Tds.Igst On Contractor (Divisional Off.)	(3,60,295)		
LIB. T D S On Contractor [Divisional Off.]	(11,04,239)		
LIB.Tds On Non-Resident Sec195 (10%)	(19,24,647)		
LIB.Tds On Professional Fess	1,33,257		
LIB Tds On Rent	(65,079)		
LIB.Tds Sgst1% On Contractor (Divisional Off.)	3,38,730		
LIB Tds On Salary	-		
LIB.Bank Stale Cheque	24,25,000		
LIB Tds Paid	(69,713)		
LIB Other Deduction	11,965		
Cheques For Clearing	25,39,311		
Labour Welfare Cess	45,076		
LIB. Outstanding Fund [Bank]	2,43,29,261		
Salary Payable	1,417		
Other Payable	5,72,935		
DIST SOCIAL WELL FARE AKOLA	96,07,560		
G P ANJANI (KHU DIST BULDHANA)	9,55,250		
MUNCIALPAL CONCIAL KHAMGAO	13,45,000		
Chief Accounts & Finance Officer Z P Washim	38,80,805	39,37,68,03	
Total of Sche	ndula A	39,37,68,03	

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PARTICULAR	AMT (RS)	AMT (RS)
SCHEDULE B		
LIABILITY FOR BENEFICARY CONTRIBUTION	1	
BEN. Cont Solar Power Plant-4274	28,45,62,588	
BEN Contribution Solar Roof Top	5,85,89,370	
BEN Contribution Solar Water Heater	55,47,953	
BEN Khasdar Nidhi	18,77,910	
BEN.Con.Solar Hybrid System	76,50,000	
BEN.Cont Wind Solar Hybrid System	9,444	
Dev Fund Spv Solar Power Plant	32,14,401	
MNRE Grid Connect.Solar Roofop Plant Prog.	1,02,79,259	
Other Biogas Project & On Grid Gcrt Kinwat	36,64,477	
SPV Solar Water Pumping System	14,35,237	
BEN CONT. (EC) LED HIGH MAST AKOLA / WASHIM	52,67,955	38,20,98,594
Total of sche	edule B	38,20,98,594

PARTICULAR	AMT (RS)	AMT (RS)
SCHEDULE C		
OTHER LIABILITIES- FOR RENT AND OTHER DEPOSITS		
Earnest Money Deposit - 1301	2,36,36,131	
Penalty Recovered-1305	20,87,520	
LIB.Security Depo.(Roof Top)	1,79,39,469	
LIB Security Deposit-1302	9,77,68,201	
LIB Wpp Security Depo 1006 A [Policy 2015]	9,54,00,000	
LIB Wpp Security Deposit 1006	20,11,08,750	
Penalty [Divisional Officer Enquiry]	10,000	
CPF[Deput. MSEB]	(4,840)	
Technical Service Charges Deposit	1,55,460	
LIB SECURITY DEPO [HIGH MAST-SOLAR]	6,98,493	43,87,99,184
Total of sche	edule C	43,87,99,184

Page 2







PARTICULAR	AMOUNT (RS.)	AMOUNT (RS)
SCHEDULE D	(1.0.)	(1.0)
UNSPENT AMOUNT RECEIVED AGAINST GOVERNMENT SCHEMES	1	
UNSPENT AMOUNT RECEIVED FROM CENTRAL GOVT	1	
	1	
Unspent grantbiomass based power proj [4031]	9,34,000	
Unspent grant- gcrt 2017-18 (15.41 cr)	6,11,30,674	
Unspent grant gcrt 2018-19(rs.35.11cr)	7,81,59,011	
Unspent grantspv power pumps prog 4099	12,80,57,346	
Unspent grant-wind monitoring- 4043	3,39,667	26,86,20,698
UNSPENT AMOUNT RECEIVED FROM STATE GOVT	1	
Green Cess Fund 2019-20	5,84,21,038	
Unspent grant- 13th finance 2020-21	27,67,81,985	
Unspent grant- NRSE 2020-21	19,16,04,332	
Unspent grant - tose (MSEDCL)	5,84,37,837	58,52,45,192
UNSPENT AMOUNT BENEFICIARY SHARE	1	
Unspent Grant- Attal Sour Krishi Pump-2	36,17,421	
BEN. Cont Solar Power Plant 4274	16,23,50,983	
BEN.Cont.Solar Rooftop Grid-	4,69,753	
Unspent Grant - Ben rooftoop contri	11,64,80,349	
Unspent Grant- Amrut Yojana	44,36,35,075	
Other Unspent grant	9,00,86,519	
Ben cont Majid Memon MP fund	6,97,100	81,73,37,200
Total of schedule I	,	1,67,12,03,090

PARTICULAR	AMT (RS)	AMT (RS)
SCHEDULE E GRANTS PAYABLE TO GRANTORS LIB Green Cess Fund 1419 LIB Tsp Grant 1606	8,15,124 39,275	8,54,399
Total of	schedule E	8,54,399







Maharashtra Energy Development Agency SCHEDULE - F: FIXED ASSETS

No.	Particulars	Gross as on 01-04-2020	Additions	Adjust.	Ded. For the year	Total as on 31.03.2021	Depreciation as on	Depr writt back	Depreciation for the	Total Dep.as at
								anime me year	year	31.03.2024
		1	2	3	,		,			
					4	2	٥	,	80	6
- IMMOVA	A - IMMOVABLE PRPERTIES					(1+2-3-4)				
Building [HO]	[но]	64,80,407								
Land [V'durg]	V'durg]	19.25,678			•	64,80,407	45,33,732	•	1,94,667	47,28,400
Building	Building [C'wadi]	36 13 346			•	19,25,678	•			
Land [Cwadi]	[jew]	810:01			•	36,13,346	32,79,842	•	33,350	33,13,192
Land Sautada	sautada 1	066,10,41		•		14,01,950	•	•		
Land [Motha]	Mothal	7,00,04,242				1,66,04,242		•		
Building	Building [Vdure]	784,01,45			9	24,10,482	•			
Road []	Road (Thoseear)	31,06,818				31,06,818	29,30,322	•	17,650	29,47,971
Building	Building guest house	25,49,053			•	25,49,053	•			
10 Mumbai Office	Office	41,80,500				41,80,500	32,23,446		95,705	33,19,152
_	Land [Panumbre]	4//505/6				3,35,49,774	78,10,285	9	25,73,949	1,03,84,234
12 Land I G	G pachgani 1	5,66,35			•	3,88,335				
	Land MEDA HO	745,44,4				4,44,947		•		
14 Building	Building at Kolhapur office	000,54,04,6			•	5,40,45,000	•			
15 Peshwe	Peshwe Park buiding	7.42.63.64.1			•	32,96,500	22,62,024		1,03,448	23,65,472
16 HOLand	H O Land (fencing)	1742,04,01		٠	•	1,42,62,817	1,09,53,590		3,30,923	1,12,84,512
17 Aurangabad	peq	1,74,885				1,74,886	1,13,907		6,098	1,20,005
18 Mumbai Office	Office	43,050		,	•	43,050				
SUB TOTAL (A)	(A)	10,40,144		•		18,40,144	92,007		87,407	1,79,414
		15,03,17,929				15,03,17,929	3,51,99,156		34,43,197	3,86,42,352
B FURNITL	FURNITURE AND FIXTURES									
19 Furnitur	Furniture & Fixture	74,72,510	055'60'5	٠	•	79.82.060	55 44 277		130.01.0	7.55 23.77
20 Furnitur	Furniture & Fixture at Divisions	53,26,049	17,527		•	53,43,576	8.81.069		4 55 932	13 37 001
SUB TOTAL (B)	IAL (B)	1,27,98,559	5.27.077						manifest.	Tank radas









Particulars	Gross as on 01-04-2020	Additions	Adjust.	Ded. For the year	Total as on 31.03.2021	De stion as on 01.04.2020	Depr writt back during the year	Depreciation for the	Total Dep.as at 31.03.2021
Other Fixed Assets									
Vehicles	2,38,08,570		2						
Project Equipments	21.90.807			1,24,350	2,36,84,220	1,33,04,345	٠	15,75,634	1,48,79,979
Office Equipments	68.06.958	4 44 052			21,90,807	16,22,052	•	85,313	17,07,365
Electrical Fittings	5.77.885	200,000		•	72,51,910	52,60,516		2.69.713	55,30,230
Computers	2.19.44.517	71,50,0			14,47,062	5,20,718	•	49,176	5,69,893
Computer Softwere Purchased	4.87.301	040'00'0	1		2,48,50,162	1,72,92,496		27,08,520	2,00,01,016
Softwere Purchased	24.59,72.000				4,87,301	4,23,372		25,571	4,48,944
P&M [V'durg]	5.58.25.378	•			24,59,72,000	13,36,49,654		4,49,28,938	17,85,78,592
Elect Inst. [V'durg]	96.19.893				5,58,25,378	5,58,25,378	•		5,58,25,378
P & M [C'wadi]	7.80.74 338				96,19,893	96,19,893			96,19,893
P&M[HQ]	9 11 531				7,80,74,338	7,80,74,338			7,80,74,338
P & M [Motha]	0.80 38 000				9,11,531	9,11,531			9,11,531
Elect Inst. [C'wadi]	1 59 59 070		e	•	000'88'08'6	9,80,38,000			9,80,38,000
Elect Inst. [Thosegar]	69 387				1,59,59,070	1,59,59,070	**		1,59,59,070
P & M [G'pachgani]	8.04.72.000				69,387	69,387			286'69
Elect Inst. [G'pachg]	1.53.14.428				8,04,72,000	8,04,72,000			8,04,72,000
Elect Inst. [Motha]	5.26.622		e.		1,53,14,428	1,53,14,428			1,53,14,428
P & M [C'wadi II]	14.24.47.000			•	5,26,622	5,26,622			5,26,622
Books & perodicals	1 73 525				14,24,47,000	14,24,46,450		82	14,24,46,533
Peshwe Park Machenery	74.04.570			•	1,73,525	1,73,525			1,73,525
Seven stage Evaporator Machine	2.92.51.334			•	74,04,570	74,04,570			74,04,570
Other Fixed Assets At Divisions	32 07 187	200 000	e i	•	2,92,51,334	2,92,51,334	•		2,92,51,334
SUB TOTAL (C)	82 00 03 202	505,55,4	•		36,46,696	9,37,145	•	4,35,169	13,72,314
	20,30,02,307	46,59,283		1,24,350	84,36,17,235	70,70,96,824		5,00,78,117	75,71,74,942
Green Building WIP	30,25,97,000				30 25 97 000				
SOB LOTAL (D)	30,25,97,000			•	30,25,97,000				
COANT TOTAL CO. C.									
SIGNAL [A+B+C+D]	1,30,47,95,790	51.86.360		030 000					







PARTICULAR	AMOUNT (RS.)	AMOUNT (PS)
SCHEDULE G	(110.)	(RS)
ADVANCES- To Employees	1	
Project Office	2,36,114	
H.O. Employees	0.000,000,000	
Computer Advance	67,093	
Festival Advance	2,85,978	
Advance For Fuel	2,43,500	
Advance To Director General	2,25,914	
	15,160	
House Building Advance	1,55,23,423	
Advances To Suppliers	2,88,000	
Rent Deposit	10,98,199	
Loans and advances	4,86,276	1,84,69,658
Total of	f Schedule G	1,84,69,658

PARTICULAR	AMOUNT	AMOUNT
SCHEDULE H	(RS.)	(RS)
OTHER CURRENT ASSETS		
Deposits		
Other Current Assets	13,34,399	
other current Assets	46,22,31,609	46,35,66,00
Branch and Division	1	
PROJECT OFFICE AHEMDNAGAR DIVISIONAL OFFICE EXPS.	5,99,000	
Project Office-Akola Divisional Office	1,08,00,603	
Project Office-Amravati Divisional Office	76,78,038	
Project Office-Aurangabad Divisional Office Exps.	1,70,24,830	
Project Office Beed Divisional Office	10,31,000	
Project Office Bhandara Divisional Office	13,64,080	
Project Office-Chandrapur Divisional Office Exps.	6,90,466	
Project Office-Kolhapur Divisional Office Exps.	1,43,73,997	
Project Office-Latur Divisional Office	1,29,86,465	
Project Office-Nagpur Divisional Off Exps	12,10,64,075	
project office nagpur regional div. office exps.	29,20,188	
Project Office-Nasik Divisional Office Exps	1,80,16,427	
Project Office Parbhani Divisional Office	3,94,482	
Project Office-Pune Divisional Office Exps	1,63,44,841	
Project Office Ratnagiri Divisional Office	1,31,000	
Project Office Solapur Divisional Office	-	
Project Office Thane Divisional Office.	- 1	
Project Office Wardha Divisional Office	9,05,083	
Project Office Yavatmal Divisional Office	23,13,668	
Project Off- Mumbai Divisional Office	3,31,69,981	
Proj.Office -Regional Director Office-Pune	43,92,552	
PROJECT OFFICE DHULE DIVISIONAL OFFICE EXPS.	6,15,000	
PROJECT OFFICE JALGAON DIVISIONAL OFFICE EXPS.	4,58,300	
Pune HO	(26,72,74,076)	-
Total of Sched	ule H	46,35,66,00





MAHARASHTRA ENERGY DEVELOPMENT AGENCY SCHEDULES FORMING PART OF CONSOLIDATED INCOME EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 st MARCH 2021

PARTICULAR	AMT	AMT
	(RS)	(RS)
SCHEDULE I		
ESTABLISHMENT EXPENSES		
Additional Allowance 5609	E 51 525	
Advertisment & Publicity [ADM] 5675	5,51,525	
Bank Charges-5661	19,47,190	
Books & Periodical 5643	49,498 13,180	
Computer Expenses 5645	14,96,906	
Consultancy Charges 5608	16,43,456	
Conveyance (Staff) 5618	28,321	
Director Tavellling and Conveyance 5611	4,500	
Electricity Expenses 5641	15,74,577	
Gratuity - Employee 5623	1,02,02,067	
GST Expenses	4,79,22,920	
Insurance 5642	4,75,22,920	
Interest on TDS	1,000	
Internet Expenses 5671	6,59,366	
Leave Salary Contribution 5619	62,45,628	
Leave Travel Concession [L T C] 5610	\$4 10	
Medical Expenses 5604	3,280	
Meeting Expenses 5644	15,25,408 5,92,615	
Office Expenses 5649	5-46-00-1-00-00-00-00-00-00-00-00-00-00-00-0	
Pension Contribution 5620	8,07,96,192	
	22,37,241	
Postage & Telegram 5622	2,07,919	
Printing and Stationery 5646	14,13,459	
Professional Charges 5650	2,25,000	
Proj.ExpsGST	15,000	
Public Relations Expense 5655	13,875	
RENT-5632	99,53,373	
Repaires & Maintenance Other 5637	6,56,208	
staff Expenses	11,62,26,176	
staff Welfare Expenses 5603	2,68,739	
elephone Expenses 5621	14,33,933	
ravelling and Conveyance - Staff 5612	28,55,761	
Pehicle Hire Charges 5617	52,55,404	
/ehicle Insurance 5615	3,77,108	
Pehicle Repairs & Maintenance 5614	12,27,787	
eh Running Expenses 5613	31,56,035	
Cerox 5647	1,41,148	20 (2 27 :
Round off	631	30,13,37,427
Total of Sche	dula I	30,13,37,427







PARTICULAR	AMT	AMT
201501115	(RS)	(RS)
SCHEDULE J	1	
Schedule J1	1	
EXPENSES INCURRED FROM STATE FUND	1 - 1	
Proj. Exp. Solar power plant	24,94,684	24,94,684
13th Finance Commission-2020-21		
Proj.Exps.Atal Saur Krushi Pump Y-213 Fin.2020-21	14,04,98,766	
Proj.Exp Solar Power Of-Grid.Govt.Bdg-13th Fin20-21	10,65,09,257	
Proj Exps Solar Water Heater Syst13th Fin.C.20-21	18,06,000	24,88,14,023
Green Cess Fund 2019-20		
Proj.Exps Bagass Co-Gen.Evacution-GCF2019-20	4,08,23,000	
Proj.Exps.Bagasse Co Gen P Proj Cap Sub GCF 19-20	3,00,00,000	
Proj.Exps. Biogas Project GCF 2019-20	3,29,60,000	
Proj.Exps.Small Hydro Proj.Capital-GCF 2019-20	2,00,00,000	
Proj.Exps.Small Hydro Proj.Evaucation-GCF2019-20	2,06,14,447	
Proj.Exps. Solar Water Heater SysGCF-2019-20	15,47,30,515	29,91,27,962
N R S E 2017-18		
E C-E C Measures in Govt./semi Govt Bldg.N 17-18	(98,556)	(98,556
NRSE 2018-19		
Proj.Exps.Energy Conservation-N 2018-19	53,24,933	
EC .EC.LED Pilot Projec.89.Villages.NRSE-18-19	3,63,68,390	
Proj.Exps Energy Conservation-N 2018-19	(7,74,500)	4,09,18,823
TOSE(MSEDCL)Fund Atal Saur K Pump40.58cr-2020-21		
Proj.Exps.Atal Saur K.Pump2-TOSE(MSEDCL40.58cr20-21	34,73,79,768	34,73,79,768
Total of Schedule	11	93,86,36,704
Schedule J2 EXPENSES INCURRED FROM CENTRAL FUND	1	
MNRE Atal Solar Krushi Pump Yoj-2	1,84,11,854	
MNRE Biogass Power Gen Project 6075	10,83,179	
MNRE-GCRT 2017-18 [15.41cr]	11,96,86,656	
	29,16,36,562	
MNRE GCRT 2018-19 [35.11 Cr.] MNRE Grid Connect Solar Rooftoop 40.36 Cr	1,42,22,678	
MNRE Grid Connect Solar Roofton Sys 27 00 Cr	4,07,99,218	
MNRE Grid Connect Solar Rooftop Sys 27.00 Cr MNRE PM Sahaj Bijli Saubhagya Scheme (DDUGJY)	35,75,97,662	
MNRE PM Sanaj Bijli Saudriagya Scheme (1996) MNRE Solar Water Heating System Proj Exp 6016	8,700	
MNKE Solar Water Heating System Floy Expression	2,55,04,864	
MNRE SPV Mini Water Supply Pumping Syst.	4,15,000	
MNRE Spv Project (Solar Shoppee -6097	3,60,333	86,97,26,70
MNRE Wind Monitoring Stations 6043		
Total of Schedul	e J2	86,97,26,70







Schedule J3		
EXPENSES INCURRED FROM BENEFICIARY FUND		
Ben.Pay.Solar Power Plant 8274	21,65,11,407	
Ben Pay Solar Power Base Pumping System	1,91,98,497	
Ben.Pay.Atal Sour Krushi Pump Yoj.2	1,11,48,423	
Ben.Pay Solar Roof Top Grid-Con.Plant,Loni Bu.A'Ngr	1,03,33,180	25,71,91,507
Total of Schedul	e J3	25,71,91,507
Schedule J4		
EXPENSES INCURRED FROM OWN / DEV FUND		[
Dev Fund Exibition Expenses 7502	3,06,913	
Ramadham Solar Project	26,45,154	1
Dev Fund Advt & Publicity Expenses-7506	40,000	ì
Dev Fund Chalkewadi Project Exps 7047	27,59,867	}
Dev Fund Energy Conservation 7062	5,89,920	1
Dev Fund Foreign Tour	4,42,180	Į.
Dev Fund G'pachgani W F Exps 7048	1,82,169	
Dev Fund High Mast Proj. Solar High Mast Led Light. S	51,99,533	
Dev Fund Micro Hydro Power Proj.	2,50,000	
Dev Fund Motha Wind Farm Exps 7049	3,48,970	1
Dev Fund Solar Lantern	27,40,477	1
Dev Fund Spv Solar Power Plant	5,26,874	
Dev Fund Spv Water Pumping Sys	84,63,558	
Dev.Fund - Staff Welfare Activities	53	
Dev Fund Training Prog. Expenses	18,000	
Dev Fund Vijaydurg Project Exps 7046	5,66,443	2,50,80,11
Total of Schedu	ıle J4	2,50,80,11
Total of Scheo	tule I	2,09,06,35,02







PARTICULAR	AMT (RS)	AMT (RS)
SCHEDULE K INTEREST RECEIVED From Bank And Investments	36,04,05,881	36,04,05,881
Total of Schedule K		36,04,05,881

	AMT	AMT
PARTICULAR	(RS)	(RS)
SCHEDULE L		
RECEIPTS AGAINST GOVERNMENT SCHEMES		l
SCHEDULE L1		
RECEIPTS FROM CENTRAL GOVERMENT		
Cent.Sub-Akshay Urja Shop	4,15,000	
Cent Sub Biogass Power Generation-4075	2,50,000	
Cent Sub GCRT 2017-18 (15.41 Cr)	11,96,86,656	
Cent Sub GCRT 2018-19(Rs.35.11Cr)	29,16,36,562	
Cent.Sub Sahaj Bijlee Saubhgya	25,63,10,522	
Cent.Sub.SPV POWER PUMPS Prog 4099	4,39,16,718	74 25 75 701
Cent.Sub. Wind Monitoring- 4043	3,60,333	71,25,75,791
Total of S	chedule L1	71,25,75,791
Schedule L2		
RECEIPTS FROM STATE GOVERMENT	1 1	
Green Cess Fund 2019-20	29,91,27,962	
State Grant13th Finance 2020-21	24,22,78,015	
State Grant- N R S E 2020-21	4,01,40,738	
State GrantTOSE (MSEDCL)	34,73,79,768	92,89,26,482
	11-44-12	92,89,26,482
	chedule L2	32,03,23,102
Schedule L3	1 1	
BENEFICIARY SHARE RECEIVED	28,99,60,886	
Ben. Cont Solar Power Plant 4274	3,60,000	
Ben. Cont. Adim Jati Sewa Sangh	1,98,084	
Ben Cont.District MiningShivtekadi Kanolibara	(76,94,242)	
Ben Cont.for Attal Krishi Pump Yojana	8,98,880	
Ben.Cont.Hajarat Baba Tajuddin Trust	5,84,751	
Ben Cont.Solar Pannel LED Light Pole	34,60,494	
Ben.Cont,Solar Rooftop	85,163	
Ben Khasdar Nidhi	10,50,446	28,89,04,462
Ben Cont Majid Memon MP Fund	20,700,700	5 1 7
Total of S	Schedule L3	28,89,04,462
		1 02 04 06 725
Total of	Schedule L	1,93,04,06,735

-118432387







PARTICULAR	AMT (RS)	AMT (RS)
SCHEDULE M		
INCOME FROM OTHER SOURCES	1 1	
Ben.Cont Energy Audit-8261	6,180	
Rect. 1% Technical Fees	1,92,58,039	
Rect. 5% Project.Management Consultancy [PMC]	4,43,84,444	
Penalty received	8,13,527	
Rect Registration Fees-4602	6,51,52,510	
Rect Other Income 4649	1,00,509	
Rect Miscellanous Income 4603	18,202	
Rect Accredition Fees & Charges 4620	56,31,400	
Rect Bagasse Co-Gen	1,08,90,000	
Rect Interest on Acrreditation	44,947	
Rect Service Charges 3% [Amrut] 4656	51,58,103	
Rect Service Charges 4655	5,42,27,148	
Rect Tender Fees-4601	2,59,47,007	
Rect Transfer and Clearance Fees-4622	1,18,15,000	24,34,47,017
Total of Sche	dule M	24,34,47,017







(SCHEDULE VIII (Vide Rule 17(2))
MAHARASHTRA ENERGY DEVELOPMENT AGENCY (Registration No. F-119C-1
BALANCE SHEET AS AT 31ST MARCH, 2021
HEAD OFFICE (ONLY)

CHANGE & HABILITIES	5	TAMOUNT		HEAD OFFICE (Only)			
		(RS)	(RS)	PROPERIT & ASSEIS	SCD.	AMOUNT (RS)	(RS)
TRUSTS FUNDS OR CORPUS				IMMOVABLE PROPERTIES	G (A)		14,84,34,735
201112				(at cost)			
Balance as per last		20,89,21,993	20,89,21,993	20,89,21,993 FURNITURE & FIXTURES	G (B)		79,82,060
Balance Sheet Adjust- ment during the year				OTHER FIXED ASSETS	()) ₉		83,99,70,539
OTHER EARMARKED FUNDS				BUILDING WORK IN PROGRESS	(O)5		30,25,97,000
Development Fund (created under the provision of the Trust Dash of Scheme		2,45,71,19,771		ADVANCES Towards Employees	w	1,68,13,577	1,68,13,577
or out of the income in Infrastructure Rd/WPP fund Publicity Fund		12,60,42,061 45,54,459		OTHER CURRENT ASSETS		73,22,77,873	73,22,77,873
Depreciaton Fund	U	80,00,28,894	3,38,77,45,185				
UABILITIES For Expenses For Rent & Other Deposits For Unspent Grant	∢ ∞ ,∪		37,30,92,840 40,71,95,437 1.30,27,85,339	CASH AND BANK BALANCE a) In Current Account b) Fixed Deposits () Cash in hand		78,25,46,555 8,48,13,93,422 48,758	9,26,39,88,735
GRANTS PAYABLE TO GRANTORS INCLUDING GREEN		0		DUTIES & TAXES		19,81,82,195	19,81,82,195
CESS FUND	•	6,54,599	8,54,399				
INCOME & EXPENDITURE ACCOUNT							
Balance as per last Balance Sheet		5,74,41,71,197					
and Expediture a/c		8,59,80,424					
previous year		•	5,83,01,51,621				
TOTAL			11,51,02,46,715	TOTAL			11,51,02,46,715
					1		

Notes forming part of Balance Sheet

FOR MALANI SOMANI CHANDAK & ASSO. As per our report of even date Chartered Accountants F.R. No. 119584W

Modowy NANDKISHOR R MALANI Place : Pune Date : 15-01-2021 M. No.042589 Partner

The above Balance Sheet to the Best of our belief contains a true account. of the Funds and Libilities and of the Property and Assets of the Trust. FOR MAHARASHTRA ENERGY DEVELOPMENT AGENCY

Hon.Director General Place : Pune Date : 15-01-2021

F. R. No.





THE BOMBAY PUBLIC TRUSTS ACT, 1950

(SCHEDULE IX (Vide Rule 17(2))

MAHARASHTRA ENERGY DEVELOPMENT AGENCY (REGISTRATION NO. F - 11906)

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2021

		HEAD OFFICE (Only)	nly)		
EXPENDITURE	SCHE-	AMOUNT	INCOME	SCHE-	AMOUNT
	DULE	(RS)		DULE	(RS)
TO EXP IN RESPECT OF PROPERTIES			Interest	¥	32,68,26,054
Rates and Taxes		11,57,148			2 24 25
Depreciation	U	5,32,17,789 Grants	Grants	_	1,68,94,88,320
Establishment Expenses	I	27,02,56,796	27,02,56,796 Income from Other	Σ	22,87,46,674
Miscellaneous Expenses	-	36,17,402	36,17,402 as possible)		ў 0 9
Expenditure on objects of the Trusts a) Religious b) Educational	*		Deficit carried over to Balance Sheet		(8,59,80,424)
c) Medical Relief d) Relief of Poverty e) Other Charitable objects	-	1,83,08,31,488			
TOTAL		2,15,90,80,623	TOTAL		2,15,90,80,623

Notes forming part of Income and Expenditure Account

FOR MALANI SOMANI CHANDAK & ASSO. As per our report of even date

Chartered Accountants F.R. No. 119584W

Leasterin NANDKISHOR R-MALANI

Date: 08-01-2022 M. No.042589 Partner / Place: Pune

FOR MAHARASHTRA ENERGY DEVELOPMENT AGENCY

Hon.Director General

Place : Pune Date : 08-01-2021







MAHARASHTRA ENERGY DEVELOPMENT AGENCY SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31 st MARCH, 2021

PARTICULAR	AMOUNT (RS.)	AMOUNT (RS)
SCHEDULE A		
LIABILITY FOR EXPENSES		
RECOVERY OF EMPLOYEES ON DEPUTATION	7,118	
GROUP INSURANCE SCHEME	85,068	
LIB E C ACT 2001 BEE- 1604	12,26,90,870	
LIB ENERGY CONSERVATION FUND 2012	5,67,94,410	
LIB INFRASTRUCTURE ROAD MAINTAINANCE	2,87,60,042	
RPO RENEWABLE PURCHASE OBL	2,31,16,664	
BEN CONT. (EC) LED HIGH MAST AKOLA / WASHIM	52,67,955	
EC ENERGY EFFNT ST LIGHT FITTING 15-16	1,52,95,794	
LIB SERVICE TAX	3,000	
LIB GRANT FOR SPECIFIC PURPOSE	15,595	
LIB - OUTSTANDING STATE GRANT EXPS 1433	1,66,34,580	
LIB ROAD REPAIR & MAINT, 1010 A[POLICY 2015]	8,40,20,000	
LIB TDS CONTRACTOR PAY-1461	28,863	
LIB.TDS CGST1% ON CONTRACTOR (DIVISIONAL OFF.)	(6,89,235)	
LIB TDS CONTRACTOR PROFESSIONAL PAY 1464-10%	2,51,365	
LIB.TDS.IGST ON CONTRACTOR (DIVISIONAL OFF.)	(4,26,970)	
LIB. T D S ON CONTRACTOR [DIVISIONAL OFF.]	(21,43,995)	
LIB.TDS ON NON-RESIDENT SEC195 (10%)	(19,24,647)	
LIB.TDS ON PROFESSIONAL FESS	(1,18,024)	
LIB TDS ON RENT	(3,32,983)	
LIB.TDS SGST1% ON CONTRACTOR (DIVISIONAL OFF.)	(7,22,683)	
LIB.BANK STALE CHEQUE	24,25,000	
LIB. OUTSTANDING FUND [BANK]	2,43,29,261	
SALARY PAYABLE	1,417	
OTHER LIABILITIES	(2,75,625)	37,30,92,840
Total of Sche	dule A	37,30,92,840

PARTICULAR	AMOUNT (RS.)	AMOUNT (RS)
SCHEDULE B		
OTHER LIABILITIES- For Rent and Other Deposits		
EARNEST MONEY DEPOSIT - 1301	2,24,86,564	
PENALTY RECOVERED-1305	19,67,968	
LIB.SECURITY DEPO.(ROOF TOP)	1,79,39,469	
LIB SECURITY DEPOSIT-1302	6,75,89,033	
LIB SECURITY DEPO [HIGH MAST-SOLAR]	6,98,493	
LIB WPP SECURITY DEPO 1006 A [POLICY 2015]	9,54,00,000	
LIB WPP SECURITY DEPOSIT 1006	20,11,08,750	
PENALTY [DIVISIONAL OFFICER ENQUIRY]	10,000	
C P F [DEPUT. M S E B]	(4,840)	40,71,95,43
Total of schedule B		40,71,95,437







PARTICULAR	AMOUNT (RS.)	AMOUNT (RS)
SCHEDULE C	(non)	(10)
UNSPENT GRANT		
UNSPENT GRANT RECEIVED FROM CENTRAL GOVT		
UNSPENT GRANTBIOMASS BASED POWER PROJ [4031]	9,34,000	
UNSPENT GRANT- GCRT 2017-18 (15.41 CR)	6,11,30,674	
UNSPENT GRANT GCRT 2018-19(RS.35.11CR)	7,81,59,011	
UNSPENT GRANTSPV POWER PUMPS PROG 4099	12,80,57,346	
UNSPENT GRANT-WIND MONITORING- 4043	3,39,667	26,86,20,698
UNSPENT GRANT RECEIVED FROM STATE GOVT		
GREEN CESS FUND 2019-20	5,84,21,038	
UNSPENT GRANT- 13TH FINANCE 2020-21	27,67,81,985	
UNSPENT GRANT- N R S E 2020-21	19,16,04,332	
UNSPENT GRANT - TOSE (MSEDCL)	5,84,37,837	58,52,45,192
UNSPENT GRANT BENEFICIARY SHARE		
BEN CONT MAJID MEMON MP FUND	6,97,100	
Unspent Grant- Attal Sour Krishi Pump-2	36,17,421	
Unspent Grant- Amrut Yojana	44,36,35,075	
Unspent Grant - Solar Rooftop	4,69,753	44,84,19,349
Total of schedule C		1,30,22,85,239

PARTICULAR	AMOUNT (RS.)	AMOUNT (RS)
SCHEDULE D GRANTS PAYABLE TO GRANTORS		
LIB Green Cess Fund 1419	8,15,124	
LIB TSP Grant 1606	39,275	
		8,54,399
Total of schedule D		8,54,399

PARTICULAR	AMOUNT (RS.)	AMOUNT (RS)
SCHEDULE E		
ADVANCES- To Employees		
PROJECT OFFICE	1,92,509	
H.O. EMPLOYEES	39,093	
COMPUTER ADVANCE	2,85,978	
FESTIVAL ADVANCE	2,43,500	
ADVANCE FOR FUEL	2,25,914	
ADVANCE TO DIRECTOR GENERAL	15,160	
HOUSE BUILDING ADVANCE	1,55,23,423	
ADVANCES TO SUPPLIERS	2,88,000	1,68,13,577
Total of So	hedule E	1,68,13,577

PARTICULAR	AMOUNT	AMOUNT
PARTICOLAR	(RS.)	(RS)
SCHEDULE F		
OTHER CURRENT ASSETS		
TDS INCOME TAX RECEIVABLE	46,22,07,987	
ASSET DEPOSIT -DIVISIONAL OFFICES	5,90,500	
ASSET DEPOSITS	7,36,311	46,35,34,79
BRANCH AND DIVISION		
PROJECT OFFICE AHEMDNAGAR DIVISIONAL OFFICE EXPS.	5,99,000	
PROJECT OFFICE-AKOLA DIVISIONAL OFFICE	92,30,232	
PROJECT OFFICE-AKOLA DIVISIONAL OFFICE.PROJECT EXPS	4,45,371	
PROJECT OFFICE-AMRAVATI DIVISIONAL OFFICE	96,72,769	
PROJECT OFFICE-AURANGABAD DIVISIONAL OFFICE EXPS.	1,79,60,228	
PROJECT OFFICE AURANGABAD DIV.OFFICE PROJECT EXPS.	(2,36,043)	
PROJECT OFFICE BEED DIVISIONAL OFFICE	10,31,000	
PROJECT OFFICE BHANDARA DIVISIONAL OFFICE	13,56,882	
PROJECT OFFICE-CHANDRAPUR DIVISIONAL OFFICE EXPS.	6,12,466	
PROJECT OFFICE DHULE DIVISIONAL OFFICE EXPS.	6,15,000	
PROJECT OFFICE JALGAON DIVISIONAL OFFICE EXPS.	4,58,300	
PROJECT OFFICE-KOLHAPUR DIVISIONAL OFFICE EXPS.	1,43,73,997	
PROJECT OFFICE-LATUR DIVISIONAL OFFICE	1,29,86,466	
PROJECT OFFICE-NAGPUR DIVISIONAL OFF EXPS	14,35,33,164	
PROJECT OFFICE-NAGPUR DIV.OFFICE.PROJECT EXPS.	(2,00,43,960)	
PROJECT OFFICE NAGPUR REGIONAL DIV. OFFICE EXPS.	8,12,678	
PROJECT OFFICE-NASIK DIVISIONAL OFFICE EXPS	1,62,86,180	
PROJECT OFFICE-NASIK DIV.OFFICE.PROJECT EXPS.	17,30,247	
PROJECT OFFICE PARBHANI DIVISIONAL OFFICE	(3,04,873)	
PROJECT OFFICE-PUNE DIVISIONAL OFFICE EXPS	1,47,53,431	
PROJECT OFFICE PUNE DIV.OFFICE.PROJECT EXPS	15,88,410	
PROJECT OFFICE RATNAGIRI DIVISIONAL OFFICE	1,31,000	
PROJECT OFFICE SOLAPUR DIVISIONAL OFFICE	5,69,000	
PROJECT OFFICE THANE DIVISIONAL OFFICE.	9,00,000	
PROJECT OFFICE WARDHA DIVISIONAL OFFICE	6,72,662	
PROJECT OFFICE YAVATMAL DIVISIONAL OFFICE	14,43,937	
PROJECT OFF- MUMBAI DIVISIONAL OFFICE	3,31,69,981	
PROJ.OFFICE -REGIONAL DIRECTOR OFFICE-PUNE	43,95,552	26,87,43,07
Page 2		73,22,77,873
Total of Schedule		13,22,11,813







Maharashtra Energy Development Agency 9 FIXED ASSETS - SCHEDULE - G

Į,	Particulars	Gross as on	Additions	Adjust.	Ded. for	Total		Description hash	Donmointion	Total		Not as at
ó					the year	31.03.2021	Depreciation as	during the year	for the year	at 31.03.2021	31.03.2021	31.03.2020
П							01.03.6046					
f		-	2	9	4	5	9	7	8	6	10	=
A	IMMOVABLE PRPERTIES					(1+2-3-4)						
,		207 00 702										379 34 04
- 6	Land [Vdurg]	19,25,678				64,80,407	45,33,732		1,94,667	47,28,400	17,52,007	19,25,678
9	Building [C'wadi]	36,13,346		•	•	36 13 346	. OF CC	i i	33 350	33 13 103	3.00.154	3,33,504
4	Land [Cwadi]	14,01,950			•	14,01,950	32,13,042		200	261,61,66	14,01,950	14,01,950
2	Land [Sautada]	1,66,04,242		•	•	1,66,04,242	•	•		•	1,66,04,242	1,66,04,242
9	Land [Motha]	24,10,482		•	•	24,10,482	,	v		•	24,10,482	24,10,482
-	Building [Vdurg]	31,06,818			•	31,06,818	29.30.322	•	17,650	29,47,971	1,58,847	1,76,496
00	Road [Thosegar]	25,49,053			•	25,49,053		•			25,49,053	25,49,053
6	Building guest house	41,80,500		•		41,80,500	32,23,446	•	95,705	33,19,152	8,61,348	9,57,054
2;	Mumbai Office	3,35,49,774				3,35,49,774	78,10,285	•	25,73,949	1,03,84,234	2,31,65,540	2,57,39,489
= \$	Land [Panumbre]	3,88,335				3,88,335	٠	•			3,88,335	3,88,335
4 6	Land MEDA HO	4,44,947				4,44,947	•	•		•	4,44,947	49,44,947
2 4	Ruilding at Kolhagur office	32.06.500		•		5,40,45,000		6			5,40,45,000	5,40,45,000
4	Doeburg of Normapul Office	32,36,300				32,96,500	22,62,024	•	1,03,448	23,65,472	9,31,028	10,34,476
1 9	H O Land (fencing)	1,42,52,817				1,42,62,817	1,09,53,590	•	3,30,923	1,12,84,512	29,78,305	33,09,227
1	SIIR TOTAL (A)	44 84 74 725				1,74,886	1,13,907		960'9	1,20,005	54,881	216,00
	(ע) דער (ע)	14,04,04,15		•	•	14,84,34,735	3,51,07,149	•	33,55,790	3,84,62,939	10,99,71,796	11,33,47,000
8	FURNITURE AND FIXTURES											
17	Furniture & Fixture	74,72,510	5.09.550	•		79 82 060	55 44 277	•	2 19 051	57 63 327	22 18 732	19.28.233
	SUB TOTAL (B)	74.72.510				79.82.060	55.44.277		2.19.051	725.00,10	22,13,132	19.28.233
L									2000	170,00,10	7010177	
O	OTHER FIXED ASSETS											
18	Vehicles	2 38 08 570		0	1 24 350	236 84 220	1 33 04 345	31	15 75 634	4 40 70 070	242 40 99	1 05 04 225
19	Project Equipments	21,90,807		•		21,90,807	16,22,052	•	85.313	17.07.365	4.83.443	5,68,756
2		68,06,958	4,44,952	٠		72,51,910	52,60,516		2,69,713	55,30,230	17,21,680	15,46,442
5		5,77,885	8,69,177	•	•	14,47,062	5,20,718	•	49,176	5,69,893	8,77,169	57,168
2 2		.2	29,05,646	•		2,48,50,162	1,72,92,496	•	27,08,520	2,00,01,016	48,49,146	46,52,020
3 3						4,87,301	4,23,372	•	25,571	4,48,944	38,357	63,929
4 5		24,59,72,000				24,59,72,000	13,36,49,654		4,49,28,938	17,85,78,592	6,73,93,408	11,23,22,346
8 8		5,58,25,378				5,58,25,378	5,58,25,378			5,58,25,378		
8 8		96,19,893				96,19,893	96,19,893	•		96,19,893		
28	P & M C Wadi	7,80,74,338				7,80,74,338	7,80,74,338	•		7,80,74,338	•	
3 8		156,11,8				150,11,8	15,11,9	•		9,11,531	. "	
3 8		1 59 59 070				1 59 59 070	9,80,38,000			9,80,38,000	•	>
3 5		785.69				785 987	0/0,60,60,1			0/0,80,80,1	•	
32		8.04.72.000			•	8.04.72.000	8 04 72 000	9		8 04 72 000	de	
8		1,53,14,428		•	•	1,53,14,428	1,53,14,428			1,53,14,428	0	0
¥		5,26,622		•	,	5,26,622	5,26,622	•	3	5,26,622		•
8		14,24,47,000		٠	•	14,24,47,000	14,24,46,450	•	82	14,24,46,533	467	250
8 8		1,73,525		•		1,73,525	1,73,525	•		1,73,525		•
3 8	Seven stade Evanorator Machine	0,4,04,570				74,04,570	74,04,570			74,04,570	. 5	
1	Ŧ	0	42 19 774	-	4 24 350	•	2,92,01,034		8 4 9 C A 3 9 A 8	75 58 02 528	0 44 67 044	42 07 45 435
	(2) 2012 (2)	011010000	ļ	-	1,24,350		62,62,56,247		4,30,42,346	15,58,02,628	116,70,116	12,97,15,455
	Green Building WIP	30,25,97,000		•	•	30.25.97.000	•	•	•	,	30 25 97 000	30 25 97 000
Ц	SUB TOTAL (D)	30,25,97,000				30,25,97,000					30,25,97,000	30,25,97,000
								/ UNV				
	GRANT TOTAL (A+B+C+D)	1,29,43,79,360	47,29,324		1,24,350	1,29,89,84,334	66,69,09,672	JULI OF	5,32,17,789	80,00,28,894	49,89,55,440	54,75,68,255
								1	100			





MAHARASHTRA ENERGY DEVELOPMENT AGENCY SCHEDULES FORMING PART OF INCOME EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 st MARCH 2020

PARTICULAR	AMOUNT	AMOUNT
	(RS.)	(RS)
SCHEDULE H		
ESTABLISHMENT EXPENSES		
STAFF EXPENSES	13,71,87,625	
TRAVELLING EXPENSES	4,87,218	
VEHICLE EXPENSES	27,51,218	
RENT	1,27,050	
TELEPHONE & INTERNET EXPENSE	10,57,661	
REPAIRS & MAINTENANCE	73,820	
POSTAGE & TELEPHONE	89,304	
PRINTING & STATIONERY	3,54,334	
OFFICE EXPENSES	7,88,08,840	
GST EXPENSES	4,79,22,920	
INTERNET EXPENSES	5,19,173	
INSURANCE EXPENSES	4,15,002	
ELECTRICITY EXPENSES	4,62,631	27,02,56,79
Total of Schedule H		27,02,56,79
SCHEDULE		
MISCELLENEOUS EXPENSES		
BOOKS AND PERIODICALS	320	
MEETING ALLOWANCE & EXPENSES	29,461	
COMPUTERS EXPENSES	12,64,074	
PUBLIC RELATIONS EXPENSES	9,805	
PROFESSIONAL CHARGES	17,83,712	
ADVERTISEMENT & PUB (ADMN)	4,64,209	
XEROX EXPENSE	49,415	
BANK CHARGES	15,407	
INTEREST ON TDS	1,000	36,17,40
Total of Schedule I		36,17,40







PARTICULAR	AMOUNT (RS.)	AMOUNT (RS)
SCHEDULE J-	(1.5.7	(IO)
Schedule J1		
EXPENSES INCURRED FROM STATE FUND		
13TH FINANCE COMMISSION-2020-21		
PROJ.EXPS.ATAL SAUR KRUSHI PUMP Y-213 FIN.2020-21	13,98,23,766	
PROJ.EXP SOLAR POWER OF-GRID.GOVT.BDG-13TH FIN20-21	10,06,48,249	
PROJ EXPS SOLAR WATER HEATER SYST13TH FIN.C.20-21	18,06,000	24.22.78.015
GREEN CESS FUND 2019-20		24,22,70,010
PROJ.EXPS BAGASS CO-GEN.EVACUTION-GCF2019-20	4.08.23.000	
PROJ.EXPS.BAGASSE CO GEN P PROJ CAP SUB GCF 19-20	3,00,00,000	
PROJ.EXPS. BIOGAS PROJECT GCF 2019-20	3,29,60,000	
PROJ.EXPS.SMALL HYDRO PROJ.CAPITAL-GCF 2019-20	2,00,00,000	
PROJ.EXPS.SMALL HYDRO PROJ.EVAUCATION-GCF2019-20	2.06.14.447	
PROJ.EXPS. SOLAR WATER HEATER SYSGCF-2019-20	15,47,30,515	29,91,27,962
N R S E 2017-18	10,47,00,010	20,01,27,002
E C-E C MEASURES IN GOVT./SEMI GOVT BLDG.N 17-18	(98,556)	(98,556
NRSE 2018-19	(50,000)	(90,000
EC.EC MESURES IN GOVT./SEMI GOVT.BLDG.N-18-19	19,72,264	
EC .EC.LED PILOT PROJEC.89.VILLAGES.NRSE-18-19	3,63,68,390	
PROJ.EXPS ENERGY CONSERVATION-N 2018-19	(7,74,500)	3,75,66,154
TOSE(MSEDCL)FUND ATAL SAUR K PUMP40.58CR-2020-21	(1,14,000)	0,70,00,104
PROJ.EXPS.ATAL SAUR K.PUMP2-TOSE(MSEDCL40.58CR20-21	34,73,79,768	34,73,79,768
Total of Schedule J1	04,10,10,100	92,62,53,343
Schedule J2		
EXPENSES INCURRED FROM CENTRAL FUND	1	
MNRE ATAL SOLAR KRUSHI PUMP YOJ-2	1,84,11,853.92	
MNRE BIOGASS POWER GEN PROJECT 6075	2,50,000.00	
MNRE-GCRT 2017-18 [15.41CR]	11,96,86,656.00	
MNRE GCRT 2018-19 [35.11 CR.]	29,16,36,562.00	
MNRE GRID CONNECT SOLAR ROOFTOOP 40.36 CR	1,42,22,678.00	
MNRE GRID CONNECT SOLAR ROOFTOP SYS 27.00 CR	4,07,99,218.00	
MNRE PM SAHAJ BIJLI SAUBHAGYA SCHEME (DDUGJY)	35,75,97,661.72	
MNRE SOLAR WATER HEATING SYSTEM PROJ EXP 6016	8,700.00	
MNRE SPV MINI WATER SUPPLY PUMPING SYST.	2,55,04,864.00	
MNRE SPV PROJECT [SOLAR SHOPPEE -6097	4,15,000.00	
MNRE WIND MONITORING STATIONS 6043	3,60,333.00	86,88,93,526.64
		8 8 8







Schedule 13		
EXPENSES INCURRED FROM BENEFICIARY FUND BEN.PAY.ATAL SOUR KRUSHI PUMP YOJ.2		
BEN.PAY.SOLAR POWER PLANT 8274	1,11,48,423	
	9,02,156	
BEN.PAY SOLAR ROOF TOP GRID-CON.PLANT,LONI BU.A'NGR	17,30,247	1,37,80,826
Total of Schedule J3		1,37,80,826
Schedule J4		
EXPENSES INCURRED FROM OWN / DEV FUND		
DEV FUND ADVT & PUBLICITY EXPENSES-7506	40,000	
DEV FUND CHALKEWADI PROJECT EXPS 7047	27,59,867	
DEV FUND ENERGY CONSERVATION 7062	5,89,920	
DEV FUND FOREIGN TOUR	4,42,180	
DEV FUND G'PACHGANI W F EXPS 7048	1,82,169	
DEV FUND HIGH MAST PROJ. SOLAR HIGH MAST LED LIGHT.S	49,75,282	
DEV FUND MICRO HYDRO POWER PROJ.	2,50,000	
DEV FUND MOTHA WIND FARM EXPS 7049	3,48,970	
DEV FUND SOLAR LANTERN	27,40,477	
DEV FUND SPV SOLAR POWER PLANT	5,26,874	
DEV FUND SPV WATER PUMPING SYS	84,63,558	
DEV.FUND - STAFF WELFARE ACTIVITIES	53	
DEV FUND TRAINING PROG. EXPENSES	18,000	
DEV FUND VIJAYDURG PROJECT EXPS 7046	5,66,443	2,19,03,793
Total of Schedule J4		2,19,03,793
Total of Schedule J	Annual Control	1,83,08,31,488

PARTICULAR	AMOUNT (RS.)	AMOUNT (RS)
SCHEDULE K INTEREST RECEIVED FROM BANK AND INVESTMENTS	32,68,26,054	32,68,26,054
Total of Schedule K		32,68,26,054

PARTICULAR	AMOUNT (RS.)	AMOUNT (RS)
SCHEDULE L		1,
GRANTS RECEIVED		
SCHEDULE L1		
GRANT RECEIVED FROM CENTRAL GOVERMENT	_	
CENT.SUB-AKSHAY URJA SHOP	4,15,000	
CENT SUB BIOGASS POWER GENERATION-4075	2,50,000	
CENT SUB GCRT 2017-18 (15.41 CR)	11,96,86,656	
CENT SUB GCRT 2018-19(RS.35.11CR)	29,16,36,562	
CENT.SUB SAHAJ BIJLEE SAUBHGYA	25,63,10,522	
CENT.SUB.SPV POWER PUMPS PROG 4099	4,39,16,718	
CENT.SUB. WIND MONITORING- 4043	3,60,333	71,25,75,79
Total of Schedule L1		71,25,75,79
chedule L2		
GRANT RECEIVED FROM STATE GOVERMENT	1	
GREEN CESS FUND 2019-20	29,91,27,962	
STATE GRANT - 13TH FINANCE 2020-21	24,22,78,015	
STATE GRANT- N R S E 2020-21	3,96,95,668	
STATE GRANT - TOSE (MSEDCL)	34,73,79,768	92,84,81,41
Total of Schedule L2		92,84,81,413
chedule L3		
ENEFICIARY SHARE RECEIVED	- 1	
EN.CONT. ATTAL SOUR KRISHI PUMP-2	1,11,48,423	
EN CONT MAJID MEMON MP FUND	10,50,446	
EN. CONT SOLAR POWER PLANT 4274	3,45,02,000	
EN.CONT.SOLAR ROOFTOP GRID-CON.PLANT,LONI BU,A'NGR	17,30,247	4,84,31,116
Total of Schedule L3		4,84,31,116
Total of Schedule L		1,68,94,88,320







PARTICULAR	AMOUNT (RS.)	AMOUNT (RS)
SCHEDULE M	(10.7	(KS)
INCOME FROM OTHER SOURCES		
RECT. 1% TECHNICAL FEES RECT. 5% PROJECT.MANAGEMENT CONSULTANCY [PMC]	1,42,64,372 3,56,94,191	
RECT ACCREDITION FEES & CHARGES 4620 RECT BAGASSE CO-GEN	56,31,400	
RECT INTEREST ON ACRREDITATION	1,08,90,000 44,947	
RECT MISCELLANOUS INCOME 4603 RECT OTHER INCOME 4649	5 37,800	
RECT REGISTRATION FEES-4602 RECT SERVICE CHARGES 3% [AMRUT] 4656	6,50,36,700 51,58,103	
RECT SERVICE CHARGES 4655 RECT TENDER FEES-4601	5,42,27,148	
RECT TRANSFER AND CLEARANCE FEES-4622	2,59,47,007 1,18,15,000	22,87,46,674
Total of Schedule M		22,87,46,674











For more information contact:

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