# EXECUTIVE SUMMARY

## DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

## OF

## PROPOSED EXPANSION OF SUGAR PLANT FROM 7200 TCD TO 15000 TCD & COGENERATION POWER PLANT FROM 30MW TO 68MW,

AT: PRAVARANAGAR- LONI, TALUKA: RAHATA, DISTRICT: AHMEDNAGAR, STATE: MAHARASHTRA.

**BY**

**M/S. PADMASHRI DR. VITTHALRAO VIKHE PATIL SAHAKARI SAKHAR KARKHANA LIMITED (PDVVPSSKL)**

## PROJECT PROPONENT

**M/S. PADMASHRI DR. VITTHALRAO VIKHE PATIL SAHAKARI SAKHAR KARKHANA LIMITED (PDVVPSSKL),**

PRAVARANAGAR- LONI, TALUKA: RAHATA, DISTRICT: AHMEDNAGAR, STATE: MAHARASHTRA.

# EXECUTIVE SUMMARY

## 1.1 Introduction

M/s. Padmashri Dr. Vitthalrao Vikhe Patil Sahakari Sakhar Karkhana Limited (PDVVPSSKL) Currently operating a Sugar Unit of capacity 7200 TCD, 60 KLPD Distillery Unit and 92 MW Cogeneration Plant at Pravaranagar- Loni, Taluka: Rahata, District: Ahmednagar, State: Maharashtra. The industry has obtained EC for Expansion of Sugar Unit from 4000 TCD to 7200 TCD (File No. SEIAA-EC-0000002271) on 24.06.2020. The industry has obtained EC for the expansion of Distillery Unit from 60 KLPD to 240 KLPD using C/B Heavy molasses/sugarcane juice/syrup to produce Rectified Spirit/ Extra Neutral Alcohol/ Ethanol (File No. IA-J-11011/251/2021-IA-II(I)) is obtained on 28.11.2022 and amended in EC on dated 09.07.2024.

M/s Pravara Renewable Energy Ltd has obtained Environmental Clearance (EC) for 30 MW Bagasse based Cogeneration unit (File No. J-13012/11/2009-IA) on 23.05.2012 granted by Ministry of Environment & Forests, New Delhi. Industry has submitted application for Transfer of Environmental Clearance (EC) of 30 MW Bagasse based Cogeneration Project at Village Pravaranagar-Loni, Taluka: Rahata, District: Ahmednagar, State: Maharashtra of M/s. Pravara Renewable Energy Ltd. (PREL) to M/s. Padmashri Dr. Vitthalrao Vikhe Patil Sahakari Sakhar Karkhana Limited (PDVVPSSKL).

Industry has obtained Consent to Operate (CTO) for Sugar Unit of 7200 TCD from Maharashtra State Pollution Control Board (MPCB), Consent No.: - Format1.0/CAC/UAN No. MPCBCONSENT-0000215543/CR/2503001233 issued on 08.03.2025 which was valid up to 31.07.2025. Industry has also submitted Renewal application UAN MPCB-CONSENT-000019862913 of CTO for 30 MW cogeneration on dated 13$^{th}$ February 2024.

The industry now proposes to expand the sugar crushing capacity from 7200 TCD to 15,000 TCD and Cogeneration Power plant 30 MW to 68MW within the existing premises.

| Sr. No. | Product | Unit | Existing | Expansion | Total |
|---|---|---|---|---|---|
| 1. | Sugar Unit | TCD | 7200 | 7800 | 15000 |
| 2. | Cogeneration Plant | MW | 30 | 38 | 68 |
| 3. | Distillery Unit | KLPD | 240 | - | 240 |

As per EIA Notification dated 14th September, 2006 and its subsequent amendment, the project falls under Category "B", Project or Activity '5(j)' Sugar industry & 1(d) thermal power plant. Project will be appraised at State level expert appraisal Committee. Accordingly, the project proponent has submitted prescribed application along with pre-feasibility report to the SEIAA, Maharashtra on Parivesh portal dated 26/03/2025 (Proposal No. SIA/MH/IND2/530397/2025). SEAC- I Maharashtra recommended Terms of reference for expansion of sugar and cogeneration in 295th State Level Expert Appraisal Committee (SEAC-I), Maharashtra meeting held on 10th and 11th April 2025. SEIAA Maharashtra granted terms of refence in 298th meeting held on 22nd & 23rd July 2025.

**1.2 Project Location**

The project is located at Pravaranagar- Loni, Taluka: Rahata, District: Ahmednagar, State: Maharashtra. The project is geographically located at 19°34'25.76"N and 74°30'8.92"E.

**1.3 Details of Project**

| Sr No | Particulars | Existing Sugar 7200 TCD & Cogeneration 30 MW | Expansion Sugar 7800 TCD & Cogeneration 38 MW | After expansion 15000 TCD & cogeneration 68 MW |
|---|---|---|---|---|
| 1 | **Name of the Company** | M/s. Padmashri Dr. Vitthalrao Vikhe Patil Sahakari Sakhar Karkhana Limited (PDVVPSSKL) | | |
| 2 | **Location** | Pravaranagar- Loni, Taluka: Rahata, District: Ahmednagar, State: Maharashtra. | | |
| 3 | **Constitution of the Organization** | Co-Operative | | |
| 4 | **Capacity of the Project** | 7200 TCD & 30 MW | 7800 TCD & 38 MW | 15000 TCD & 68 MW |
| 5 | **Products** | Sugar: 1152000 MT | Sugar: 124800 MT | Sugar: 240000 MT |
| | | Power: 30 MW | Power: 38 MW | Power; 68 MW |
| 6 | **By products** | Bagasse: 345600 MT | Bagasse 374400 MT | Bagasse: 720000MT |
| | | Molasses: 48960 MT | Molasses:53040 MT | Molasses; 102000 MT |
| | | Pressmud : 48960MT | Press mud: 53040MT | Press mud: 102000 MT |
| 7 | **No. of Working Days** | 160 Days | 160 days | 160 days |
| 8 | **Total Land** | 110.11 ha<br>Green Belt (33% of Total plot Area): 36.3 ha | | |
| 9 | **Raw material & Requirement** | Sugar Cane: 11.52 Lakh MT.<br>Bagasse:333033MT | Sugar Cane: 12.48 Lakh MT<br>Bagasse: 245760 MT | Sugar Cane: 24.0 Lakh MT<br>Bagasse: 578793 MT |
| 10 | **Fresh water Source** | Pravara River | | |
| 11 | **Fresh Water requirement** | Industrial: 1140 CMD<br>Domestic: 50 CMD | Industrial: 984 CMD<br>Domestic: 30 CMD | Industrial: 2204 CMD<br>Domestic: 80 CMD |
| 12 | **Boilers** | 160 TPH & 50 TPH | 160 TPH | Existing 160 TPH & 50 TPH<br>Proposed 160 TPH |
| 13 | **DG set** | 2 Nos. x 1250 KVA | - | 2 Nos. x 1250 KVA |

| | | | | |
|---|---|---|---|---|
| | | 1 No. x 500 KVA | | 1 No. x 500 KVA |
| **14** | **Power** | 9.5 MW | 4.5 MW | 15 MW |
| **15** | **Steam** | 125 TPH | 135 TPH | 260TPH |
| **16** | **Fuel** | Bagasse: 298422 MT | Bagasse: 222516 MT | Bagasse: 520938 MT |
| **17** | **Effluent Generation** | Industrial: 720 CMD<br>Domestic: 40 CMD | Industrial: 534 CMD<br>Domestic: 24 CMD | Industrial: 1254 CMD<br>Domestic: 64 CMD |
| **18** | **Effluent Treatment** | ETP of 1000 CMD | ETP will be Upgraded to 1500 CMD | ETP will be Upgraded to 1500 CMD |
| **19** | **APC system** | 160 TPH has stack of 91.5 m followed by ESP<br>and 50 TPH boiler has stack of 50 m followed by Wet scrubber | 160 TPH boiler will be provided with stack height of 85 m followed by ESP | **Existing:** 160 TPH has stack of 91.5 m followed by ESP<br>and 50 TPH boiler has stack of 50 m followed by wet scrubber<br>**Expansion:** 160 TPH boiler will be provided with stack height of 85 m followed by ESP |
| **20** | **Manpower** | 279 | 120 | 399 |
| **21** | **Project cost** | Sugar: 453.26 Cr<br>Cogeneration: 277.37 Cr | Sugar: 171.86 Cr<br>Cogeneration: 185.84 Cr | Sugar: 625.12 Cr<br>Cogeneration: 463.21 |

### 1.4 Basic Raw material

#### 1.4.1 Land Requirement

Total 110 Ha land is in possession of M/s. Padmashri Dr. Vitthalrao Vikhe Patil Sahakari Sakhar Karkhana Limited (PDVVPSSKL). The proposed expansion will be in existing premises of factory. No additional land will be required for the expansion.

#### 1.4.2 Raw Material

| Sr | Raw material | Existing MT/ Day | Expansion MT/Day | Total MT/Day | Source and transportation |
|---|---|---|---|---|---|
| 1 | Sugar cane | 11.52 Lakh | 12.48 Lakh | 24 Lakh | Sugar cane farms in command area and road |
| 2 | Bagasse for cogeneration | 333033 MT | 245760 MT | 578793MT | Own sugar unit |

**Bagasse Balance**

| Item | Unit | Values |
|---|---|---|
| **Season Operation** | | |
| Avg. cane crushing | TCD | 15000 |
| Gross season days | nos. | 180 |
| Net season days | nos. | 160 |

| | | |
|---|---|---|
| Hrs. / day | nos. | 22 |
| Normal cane crushing | TCH | 681.82 |
| Cane crushed | Lakh MT | 2400000 |
| Bagasse generation | % cane | 30 |
| Bagasse generation | TPH | 204.55 |
| Bagasse for bagacillo / handling loss | % cane | 0.8 |
| | TPH | 1.64 |
| Bagasse available for boilers | TPH | 202.91 |
| **Total available bagasse** | **MT/season** | **714240** |
| Bagasse used by existing boilers (160 TPH) | Kg steam / kg bagasse | 2.5 |
| | TPH | 64 |
| | MT | 245760 |
| Bagasse used by existing 50 TPH Boiler | Kg steam / kg bagasse | 2.2 |
| | TPH | 22.73 |
| | MT | 87272.73 |
| Bagasse used by Proposed 160 TPH boiler | Kg steam / kg bagasse | 2.5 |
| | TPH | 64 |
| | MT | 245760 |
| **Total bagasse used by boilers** | TPH | 150.73 |
| | **MT** | **5,78,793** |
| **Bagasse saved / available for sale, MT** | **MT** | **1,35,447.27** |

### 1.4.3 Water Requirement

- Water Source: Pravara River.

**Table 1:Water requirement**

| No. | Description | Water Consumption of Sugar Factory & Cogeneration Unit (M3/day) | | |
|---|---|---|---|---|
| | | **Existing 7200 TCD & 30 MW** | **Expansion 7800 TCD & 38 MW** | **Total after expansion 15,000 TCD & 68 MW** |
| 1 | Domestic | #50 | #30 | #80 |
| 2 | Industrial | | | |
| A | Process | *2124 | *2301 | *4425 |
| B | Cooling Makeup | 828 (#528+*300) | 996 (#515 +*481) | 1824 (#1043+*781) |
| C | Boiler Makeup | #504 | #384 | #888 |
| D | DM Backwash | #101 | #77 | #178 |
| E | Lab & washing | #7 | #8 | #15 |
| F | Ash Quenching | *4 | *4 | *8 |
| Total Industrial Use | | 3568 (#1140+*2428) | 3770 (#984+*2786) | 7338 (#2124+*5214) |
| Total | | 3618 (#1190 +*2428) | 3800 (#1014+*2786) | 7418 (#2204+*5214) |

**Remark: *- Excess Condensate, #- Fresh Water**

For 15000 TCD & 68 MW, the fresh water requirement will be 2204 CMD

### 1.4.4 Steam requirement:

Total steam generation for Sugar factory & Cogeneration Unit: Existing 160 TPH, 50 TPH & proposed 160 TPH: 361 TPH

Steam requirement will be 260 TPH for 15000 TCD.

- Existing sugar steam requirement: 125 TPH for 7200 TCD sugar
- After expansion: 260 TPH for 15000 TCD sugar

| No. | Description | Existing 7200 TCD & 30 MW | Total After Expansion 15000 TCD & 68 MW |
|---|---|---|---|
| | Cane Crushing Capacity (TCD) | 7200 | 15000 |
| | Crushing Rate (TCH) | **327** | **682** |
| A | Total Steam Generation (TPH) | 210 | 370 |
| B | Steam Utilization | | |
| 1 | Steam to Deaerator (TPH) | 5.76 | 12 |
| 2 | Steam to Condenser (TPH) | 10.08 | 21 |
| 3 | Steam to HP Heater (TPH) | 17.28 | 36 |
| 4 | Steam to Process (TPH) | 92 | 191 |
| | **Total Utilization** (TPH) | **124.8 say 125** | **259.9 say 260** |
| | Steam %cane | 28 | 28 |

**1.4.5 Power requirement:** Power requirement will be fulfilled from cogeneration power plant

| Description | Quantity (MW) |
|---|---|
| Power Generation | 64.43 |
| Power Consumption | |
| Sugar Unit | 16.36 |
| Cogeneration Unit | 5.06 |
| Distillery Unit | 5 |
| Colony | 0.20 |
| **Total** | **26.62** |
| **Export** | **37.80** |

### 1.4.5 Man Power:

- Existing 279 Persons and additional 120 Manpower will be hired from local.

### 1.5 Benefits of Project

Growth in the industrial sector creates new opportunities for employment and can also help diversify the economy. Unemployment is particularly high and an important factor in continued levels of low human well-being and slow growth. Synergistic growth in the chemical industries could have positive spin-offs for the socio-economic development.

- Market and business establishment facilities will increase
- Cultural, recreation and visual facilities will also improve
- The project will contribute additional revenue to the State and Central exchequer in the form different kind of taxes
- Surrounding villages and area will get unique identity in the map due to the development of the project.

### 1.6 Baseline Environment

The project is located at Pravaranagar- Loni, Taluka: Rahata, District: Ahmednagar, State: Maharashtra. The project is geographically located at 19°34'25.76"N and 74°30'8.92"E and at 557 m above MSL. The study area is considered to be within 10 km radius of the project site for baseline environment monitoring. The studies were conducted during summer season for the period of March to May 2025.

#### 1.6.1 Ambient Air Quality

- Particulate Matter (PM 10): The maximum 71.1 µg/m3 concentration of PM10 was observed at Loni village and minimum 50 µg/m3 concentration was observed at Bhagawatipur village.
- Particulate Matter (PM 2.5): The maximum 38.1 µg/m3 concentration of PM2.5 was observed at Kolhar Budruk while minimum 18.1 µg/m3 concentration was observed at Pathare Budruk.
- Sulphur Dioxide (SO2): The maximum 11.2 µg/m3 concentration of SO2 was observed at Kolhar Budruk while minimum 4.3 µg/m3 concentration was recorded at Loni Khurd.
- Oxide of Nitrogen (NOx): The maximum 19.5 µg/m3 concentration of NOx was observed at project site while minimum 6 µg/m3 concentration was recorded at Loni Khurd.
- Carbon Mono-oxide (CO): The concentration of CO was in the range of 0.1 to 1.6 mg/m3, Minimum concentration of Carbon monoxide (CO) was found at Tisgaon, while maximum was found at Loni village.

#### 1.6.2 Noise Level

- Noise monitoring was carried out as per MoEF and CPCB guidelines. To understand the Noise Quality with respect to zone category, twelve representative locations were

selected. Noise monitoring was carried out from time 06:00 Hrs to 22:00 Hrs and Night Time – 22:00 Hrs to 06:00 Hrs. Obtained results are compared with Noise pollution rules 2000. All values during day and night period are under the permissible standards.

### 1.6.3 Surface Water Environment

- pH: pH of surface water sample is ranges from 7.52 to 8.48.
- Total Dissolved Solids: The ranges of TDS to 107 mg/l to 295 mg/l.
- Biological Oxygen Demand (BOD): All surface water samples show less than 5 mg/l BOD.
- Chemical Oxygen Demand: All surface water samples show less than 20.0 mg/l.
- Chloride: The concentrations of the chlorides of all samples were between 10.4 to 30.4 mg/lit.
- Sulphate: The concentration values ranged from 8 to 20.9 mg/lit.

### 1.6.4 Ground Water Environment

- pH: the pH ranges from neutral to slightly alkaline, between 7.17 to 8.22.
- Total Dissolved Solids: The number of dissolved solids presents in water in the range of 296 to 486 mg/l.
- Total Hardness: The values of the samples analyzed are in the of 188 to 198 mg/l.
- Chloride: The chloride values are in the range on 20.7 to 94.6 mg/l.
- Sulphate: The concentrations of sulphates in the in the range on 17.8 to 137.2 mg/l.

**Soil Environment:**

- The bulk density & water holding capacity of the soil is in the range of 0.68 to 0.72 g/cm3 & 50% to 54% respectively.
- The pH of the soil in the study area is in the range of 8.13 to 9.43.
- The (Electrical Conductivity) of the soil in the study area is in the range of 158 to 970 µS/cm. CEC is in between 0.68 to 0.72 meq/100g.
- Analysis shows that the concentration of organic matter is in the range of 0.3 to 2.5 % and total organic carbon is in the range of 0.2% to 1.4%.
- Available phosphorous potassium and nitrogen, of the soil samples are found to be in the range of 11-21, 287-421 & 101-210.4 kg/ha respectively.

**Ecology:**

As per guidelines of MoEF for Environmental Impact Assessment, the study area was restricted upto 10 km periphery of the project site. Detail assessment was carried out for the determination of Floral, Fauna, Avifauna and Aquatic Ecology species.

Based on field survey Primary data were generated by preparing a general checklist of the plants encountered in this area. The study shows overall 52 plant species comprising of 27 trees, 10 shrubs, 13 herbs, and 2 climbers in study area. The floristic survey reveals that the study area shows dominance of trees, viz. Babhul (Vachellia nilotica). Hivar (Vachellia nilotica). Neem (Azadirachta indica) and Mango (Mangifera indica) etc.; shrubs viz. Tantani (Lantana camara), Ranmari (Chromolaena odorata) and Besharam (Ipomoea carnea) etc.; herbs like *Parthenium hysterophorus*, *Tridax procumbens, Celosia argentea,* etc.

A total of 18 bird species were recorded during the survey in the study area. Only one butterfly species was observed, likely due to the survey being conducted at the beginning of the wet season, when butterfly diversity is lower. As per secondary data, 20 species of mammals have been reported in the area.

**Socio-Economic**

The baseline assessment of the socio-economic environment within a 10 km radius indicates that a total of 42 villages fall under the study area. Dealing study area (10 Km radius from project site) as per secondary data the total population is 181543 in 36027 households. Male population is 93167 and female population is 88376. Highest population in study area is Loni Kh. (22728). There are 36027 households in the study area and the average size of household is 5 members per household in the study area. In the study area the average literacy rate is 72.29%, whereas the male literacy is 55.14% and female literacy is 44.84% in the study area. While dealing study area 10 km radius from project site as per Census of India 2011 total working population is 48.31 % and non-working population is 51.68 %, out of working population almost 90.31 % peoples are in main working population category. And 9.68 % Population is in marginal population category.

In the study area, cultivators (16.24%) and agricultural labour (13.53%) together constitute 29.78% of the total workers. Non-working population is study area is which are 51.68 % out of total population. This category includes below 15 years age population and not willing to any work is considered.

**1.7 Environmental Impacts & its mitigation measures**

**Air Environment**

- The source of dust emissions is loading/unloading, transportation and storage of raw material& finished product.
- Gaseous pollutants (SO2, NOx and CO) are also anticipated from stack emissions and vehicular emissions.

- A major source of air pollution is the bagasse-fired boiler. Industry provided 91.5 m stack with ESP to existing 160 TPH Boilers and 50 m stack with wet scrubber to 50 TPH boiler. The industry plans to install boilers with a capacity of 160 TPH. ESPs will be used to control emissions, ensuring PM levels stay below 50 mg/Nm3.
- Ambient air quality monitoring in and around the premises will be carried out as per direction by Maharashtra Pollution Control Board (MPCB).

**Land Environment**

- The project site of 110.11 ha area is in possession of factory. The main sources which will affect the land environment are by products from proposed activity i.e. ash, ETP effluent & sludge etc.
- Measures will be taken to minimize waste soil generation. Construction waste material will be recycled.
- Designation and demarcation of construction site with due provision for infrastructure.
- Appropriate measures are adopted for slope stabilization to reduce land erosions. Used oil from D.G. Set shall be sold to recyclers. There are no other hazardous wastes

**Noise Environment**

- During the operation phase noise will be generated from noise generating sources. The principle source of noise from industry are from fans, centrifuge, turbine, steam traps, steam vents etc.
- Transmission Loss should be installed for driving mechanism.
- If due to space constraints, mitigations are not installed, then Ear-plugs should be worn by all people entering this area.
- Install an acoustical enclosure with 30 dB transmission loss for the motor and gearbox to reduce noise.
- House compressors and blowers together and use acoustical enclosures with a 30 dB transmission loss.
- The personnel safety such as ear muffs, ear plugs and industrial helmets will also act as a noise reducers will be provided workers.
- Acoustic laggings and silencers will be provided in equipment wherever necessary. The compressed air station will be provided with suction side silencers. Ventilation fans will be installed in enclosed premises.
- The silencers and mufflers of the individual machines will be regularly checked.

**Water Environment:**

- Existing effluent generation is 720 KLD
- Effluent generation after expansion will be 1224 KLD
- Existing effluent Treatment plant capacity is 800 CMD. After expansion ETP plant capacity will be upgraded to 1500 CMD.

**Impact of Solid Waste:**

| Sr. No. | Type of Waste | Existing | Expansion | Total | Mode of Disposal |
|---|---|---|---|---|---|
| 1. | ETP sludge (MT/M) | 6 | 2.5 | 12.5 | Used as manure |
| 2. | Press Mud (MT/M) | 7992 | 9360 | 17352 | |
| 3. | Bagasse (TPD) | 2055 | 2340 | 4395 | Used as fuel |
| 4. | Fly Ash (TPA) | 14208 | 17997 | 32205 | Sale to brick manufacturer. |
| 5. | Bottom Ash (TPA) | 12264 | 15534 | 27798 | |
| | **Hazardous waste** | | | | |
| 1 | 5.1 Used or spent oil | 3.5 KL/Annum | 3.8 KL/annum | 7.3 KL/Annum | Burn in boiler |

**Greenbelt Development**

Total land: 110.11 Ha. Greenbelt area is 36.3 Ha., which is 33.11 % of total plot area. As per requirement per ha plants @ 2500. Industry planted 20000 plants; and has provisions to plant 70750 Nos of plants.

**1.8 Environmental Monitoring Programme**

| Sr. No. | Type | Locations | Parameters | Frequency |
|---|---|---|---|---|
| 1. | Ambient Air Quality (AAQ) | Two samples outside the factory direction at 500m and 1000 m at 120°<br>b. 1 sample within the factory | PM10, PM2.5, $SO_2$, NOX &CO | Half yearly |
| 2. | Stack Emission Monitoring | Process Flue gas emissions | $PM_{10}$, $PM_{2.5}$, $SO_2$ and $NO_x$ | Monthly |
| 3. | Surface Water | One each at upstream and downstream | pH, SS, BOD, TDS & color | Half Yearly |
| 4. | Ground Water | 2 locations near to ETP Two locations downward, one location upward additional three locations within 10km radius from site | Parameters as per IS-10500 | Half Yearly |

| | | | | |
|---|---|---|---|---|
| 5. | Ambient Noise | Day time and night time TG, DG set And 2 samples outside the factory | dB(A) levels | Half Yearly |
| 6. | Effluents Sample | Before and After treatment | As per MPCB consent | Monthly |
| 7. | Soil Quality | At lands utilizing compost manure and treated effluent, three locations | Organic matter, C, H, N, Alkalinity, Acidity, Heavy metals and trace metals, etc. | Pre–monsoon and Post monsoon. |

### 1.9 Corporate Environment Responsibility (CER)

As an additional part of the EMP cost, the proponent proposes to invest 2.68 Cr (0.75% of the project cost of 357.4Cr) before commencement of the project, to be considered for implementing the activities in the context of the local scenario of the area.

| **CER Implementation details** | | | | **Estimated Cost (Rs. in Lakhs)** | | |
|---|---|---|---|---|---|---|
| **Sr. No.** | **Activities** | **Villages** | **Details** | **Capital** | **O&M for 5 years** | **Total** |
| **1** | Installation of water purification system | Total 20 villages | Centralized RO water system for provision of drinking water @1000L/Rs. 5,00,000 and 20,000 Rs. per annum for O&M. | 100.0.0 | 20.00 | 120.00 |
| **2** | Development of Sanitation Units | Total 20 ZP schools | The unit will comprise of separate toilets for boys and girls with overhead tank water facilities and handwash stations @ Rs. 3,00,000/- per school and PHC and Rs. 15000/annum/ school and PHC for maintenance | 60.00 | 15.00 | 75.00 |
| **3** | Solar Power System | Total 15 ZP schools and 5 Grampanchayt | Rs. 3,20,000/- for 2Kw of solar power system per school and PHC, and Rs. 10000 per annum for maintenance | 64.00 | 10.00 | 74.00 |
| Total | | | | 224.0 | 45.0 | 269.0 |

## 1.11 Budget for Environment Management Plan

| Sr. no | Component | Description | Capital cost (Rs. in Lakhs) | Recurring cost (Rs. in Lakhs/yr) |
|---|---|---|---|---|
| 1 | Air Environment | ESP & Stack | 450.0 | 25.00 |
| 2 | Water and Waste environment | ETP & CPU | 1000.0 | 50.00 |
| 3 | Solid Waste management | Solid and Hazardous Waste Disposal & Transportation | 50.00 | 20.0 |
| 4 | Green Belt | Greening Belt Development | 50.00 | 10.0 |
| 5 | Renewable energy | Solar power plant of 200MW | 60.00 | 5.00 |
| 6 | Environment Monitoring | Online monitoring system and stack, AAQ, Noise, Soil, water from NABL approved laboratory | 20.00 | 5.0 |
| 7 | Occupational health and safety | - | 15.00 | 2.5 |
| **Total** | | | 1645 | 117.5 |