



JVML/ENV/GOV/KSPCB/FORM-V/2026-27/16
24.09.2025

To,

**Member Secretary,
Karnataka State Pollution Control Board,
5th Floor, #49, Parisara Bhavan, Church Street,
Bangalore-560 001**

JSW Vijayanagar Metallics Limited

Vijayanagar Works :

Regd: Room No. 8/, First Floor, HSM 1 Old Lab,
JSW Steel Ltd, Toranagallu - 583 275.

Correspondence : F&A, Dept. HRD Building,
JSW Steel Ltd, P.O. Vidyanagar - 583275.
Toranagallu. Dist. Bellary, Karnataka, India.

CIN. : U27300MH2019PLC334944

Phone : +91 8395 250 120-30

Fax : +91 8395 250 131/142

Website : www.jsw.in

Sub: Submission of Environment Statement (Form-V) for the Financial Year 2025-26 – JSW Vijayanagar Metallics Limited

Ref: Consent Order No. 354810 valid from 01/07/2026 to 30/06/2031

Dear Sir,

With reference to the subject cited above and the Combined Consent Order No. 354810, valid from 01.07.2026 to 30.06.2031, we are submitting herewith the **Environment Statement in Form-V** for the **M/s. JSW Vijayanagar Metallics Limited**, located at Toranagallu Village, Sandur Taluk, Ballari District, Karnataka for the financial year **2025-26 (April 2025 to March 2026)**.

The Environment Statement has been prepared in compliance with the provisions of the **Environment (Protection) Act, 1986** and other applicable statutory requirements. The same is being submitted for your kind perusal and record.

Thanking You,
Yours faithfully

For M/s JSW Vijayanagar Metallics Limited

Godavvarthi Jaya Prakash
Authorized Signatory



Enc: Form V

CC:

- I. Environmental officer, KSPCB, Regional Office, 4th Main, Kuvempunagara, Bellary 583104
- II. Director, Regional Office MOEF (SZ), Kendriya Sadana, IV Floor, E&F Wing, 17th Main Road, Koramangala, Bangalore-560034
- III. Regional Director, CPCB, A-Block, Nisarga Bhavan 1st & 2nd Floor, 7th D Cross, Thimmaiah Road, Shivaji Nagar, Bengaluru-560079.



Part of O. P. Jindal Group

Regd. Office :

5th Floor, JSW Centre
Bandra Kurla Complex,
Branch (East), Mumbai - 400 051



ENVIRONMENTAL STATEMENT

For Financial Year 2025-2026



BY

JVML

M/s JSW VIJAYANAGAR METALLICS LIMITED

**P.O. Vidyanagar, Toranagallu Village, Sandur Taluk,
Ballari Dist, Karnataka-583275**

ENVIRONMENTAL STATEMENT

Of



JVML

M/s JSW VIJAYANAGAR METALLICS LIMITED

for

Financial year ending the 31st March, 2025

(In the prescribed Form # 5)

As specified by Rule 14 of The Environment (P) Rules, 1986

&

Notified by G.S.R. # 396 (E) dated 22.4.1993

PART-A

GENERAL INFORMATION ABOUT THE PLANT

GENERAL INFORMATION

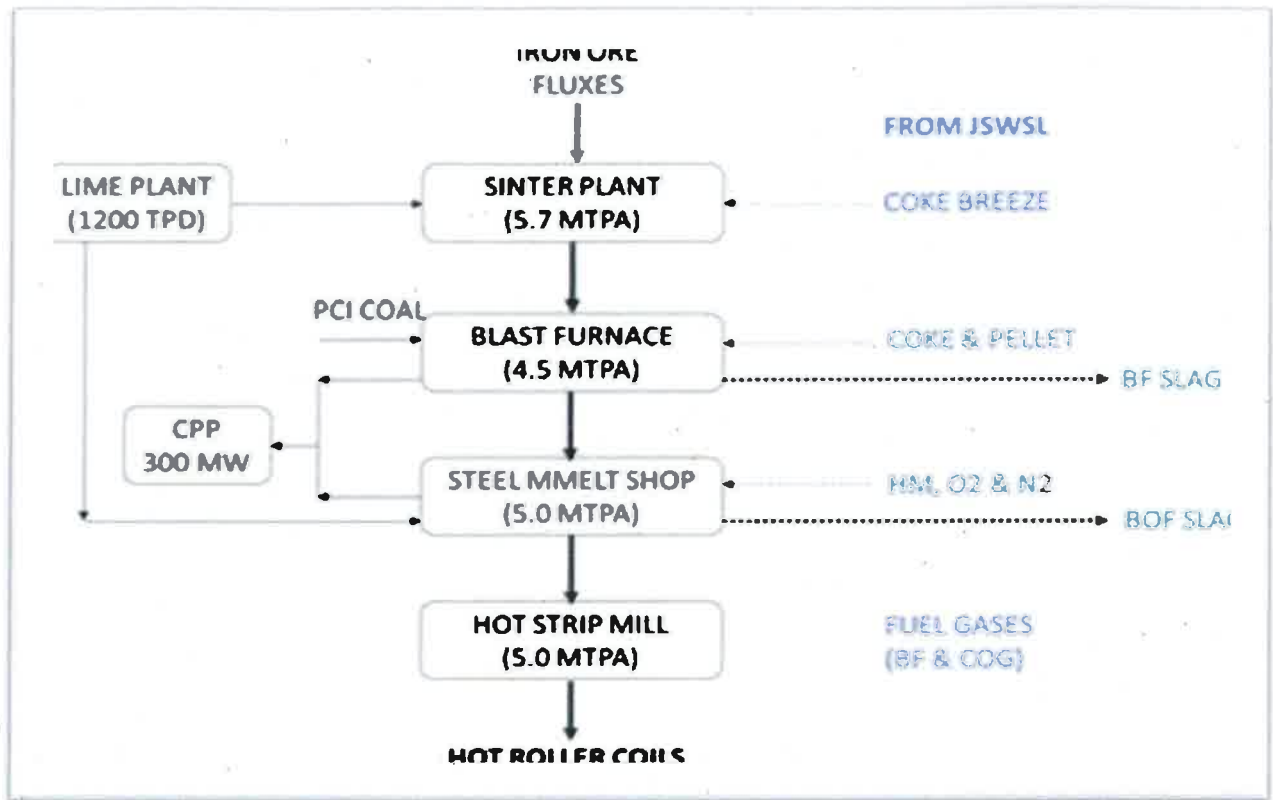
Statutory Clearances Details:-

1. M/s JSW Vijayanagar Metallica Limited has been granted Environmental Clearance by split/transfer of existing EC of JSWSL with JVML having final configuration of 5 MTPA Integrated Steel Plant Vide EC Identification No: EC24A1001KA5580178S File No: J-11011/489/2009-IA.II(I) Dated: 25.07.2024.
2. M/s JSW Vijayanagar Metallica Limited has been granted Environmental Clearance by split/transfer of Coke Oven 6 and its associated facilities from existing EC of JSWSL with JVML having final configuration of Coke Oven 6 - 1.5 MTPA Vide EC Identification No: EC26A1005KA5924109S File No: J-11011/489/2009-IA.II(I) Dated: 11.09.2026.
3. CFO and HWM Authorization renewed for further period of 5 years Vide CCO Order No: 354810 Dtd: 13.07.2026 valid upto 30.06.2031.

1.	Name and address of the owner/ occupier of the industry operation or process	:	Mr. Lokendra Raj Singh, Director, M/s JSW Vijayanagar Metallica Limited, Toranagallu Village, Sandur Taluk, Ballari District, Karnataka
1.a	Authorized person for the occupier	:	Mr. Godavvarthi Jayaprakash Head - Environment & Sustainability, M/s JSW Vijayanagar Metallica Limited, Toranagallu Village, Sandur Taluk, Ballari District, Karnataka
2	Industry category	:	Primary Metallurgical Industry
	STC Code	:	14 (a)
3a.	Production capacity	:	Integrated Steel Plant - 5 MTPA
b.	Units		
Sl. No.	Manufacturing facilities		Capacity
1	Sinter plant		
	Sinter plant - SP5		1 x 2.30 MTPA
2	Hot metal - Blast Furnace		
	Blast Furnace - BF5 (Hot Metal)		1 x 4.5 MTPA
3	Steel Melting Shop		
	Steel Melting Shop- SMS4 Basic Oxygen Furnace (BOF)		1 x 4.8 MTPA
4	Slab caster		

Sl. No.	Manufacturing facilities	Capacity
	Slab caster 4	5.0 MTPA
5	Finishing mill	
	Hot Strip Mill - HSM3	1 x 5.0 MTPA
6	Lime Kiln	
	Lime Kiln – LCP4	3 x 600TPD (Total 1800 TPD)
7	Metal Granulation Plant (MGP)	
	Metal Granulation Plant (MGP)	1 x 5000 TPD
4	Year of establishment	2024
5	Date of the last environmental statement submitted	24.09.2025

PROCESS FLOW SHEET



Process Description for 05 MTPA Integrated Steel plant

The manufacturing process is through the conventional route of blast furnace (BF)-basic oxygen furnace (BOF) route with continuous casting of liquid steel to slabs and / billets followed by steel finishing operations(HSM Mill) to meet the specific quality and shape requirements of the consumers.

The principal process steps involved are;

- (i) Agglomeration through Pelletizing & Sintering of iron ore fines with coke and recycled dusts to make pellet & sinter burden for Blast Furnace. Raw Material is directly procured from JSWSL through resource sharing agreement.
- (ii) Iron making in Blast Furnaces (BFs) units from lump iron ore and agglomerates with coal /coke and fluxing materials;
- (iii) Coke making in by-product recovery type coke ovens. Raw Material is directly procured from JSWSL through resource sharing agreement.
- (iv) Conversion of hot metal to liquid steel by oxygen blowing in BOFs followed by refining of liquid steel in ladle furnaces with addition of alloying materials for micro adjustment of steel chemistry;

- (v) Continuous casting of refined liquid steel to slabs/billets in suitable casters;
- (vi) Hot rolling operations to produce various types of shaped steel products of desired size and dimensions.

A. Iron making

Blast Furnace: Sized iron ore, pellet, sinter and coke along with other fluxing materials are charged to the tall vertical BF for production of hot metal in presence of hot blast air. The temperature within the furnace is above 1600°C. The gangue minerals present in the iron ore are converted to slag known as BF slag and 'Fe' content of the oxide ore gets converted to molten iron due to reduction of iron oxides of the ore with carbon present in the coke. In order to have adequate carbon for reduction purpose, as well as to reduce coke consumption, powdered coal is injected into the furnace. The hot iron metal after desulphurization with carbide compound is ready for conversion to steel in BOF. For balancing the hot metal production and consumption, provision of pigging of the hot metal becomes necessary. The BF slag is granulated by water jetting and granulated BF slag produced can be used for cement making. The BF gas containing mostly Carbon monoxide (CO) is cleaned in venturi scrubbers, to bring down the dust level in the gas to below 5 mg/N cu m. The cleaned BF gas is used as plant fuel and for heating the BF stoves to produce hot blast air.

B. Lime calcinations:

Burnt lime (CaO) is required for steel making. Limestone is burnt in the tall vertical limekilns at a temperature of around 1050°C to produce burnt lime. The energy required for the endothermic reaction is provided by fuel gases. The burnt lime collected at the bottom of the kilns is screened. Lime dusts are recycled to the Sinter Plant.

C. Steel making: In the Steel Melt Shop (SMS), the desulphurised hot metal along with burnt lime and fluxing agents is charged to the BOF. Carbon present in the hot metal is oxidized by controlled blowing of oxygen. The temperature of BOF is around 1700°C, with the energy generated by the combustion of carbon present in the hot metal. The BOF gas having carbon monoxide and dust passes through the wet gas cleaning plant, comprising of venturi-scrubber where the dust in the gas is separated due to inertial impaction. The water containing dust is treated in a water treatment plant and recycled to the system. The clean BOF gas depending on 'CO' content is recovered and used as a fuel within the plant.

After tapping of BOF slag, the crude liquid steel is poured and transferred to ladle for further refining and chemistry adjustment in the subsequent steel refining operations. In this special type of ladle, crude liquid steel is vacuum-degassed and chemistry adjusted by addition of micro alloys to produce liquid steel of desired chemistry. Thereafter, the refined liquid steel is continuously cast to the slabs/billets in the casting machines.

D. Hot rolling of slabs / billets: The slabs/billets are reheated to a temperature of around 1250°C in walking beam type reheating furnace. After descaling of heated slabs/billets/blooms by high pressure water jet, the same is hot rolled in separate mills to produce shaped products like hot rolled coils, wire rods, sections, rebars, plates etc. The products are ready for dispatch. Some of the intermediates like slabs and billets are also sold outside for carrying out finishing operations at the customer end.

PART –B

WATER AND RAW MATERIAL CONSUMPTION

i. Water consumption in m³/d

Type of water	Water consumption in m ³ /day	
	During the current Financial Year (2024 - 25)	During the current Financial Year (2025 - 26)
Industrial	10453.16	21218
Domestic	70	265
Construction and Green belt Development	45	89

ii. Process water consumption per unit of product

Name of Products	Process water consumption per unit of products (m ³ /tcs)	
	During the current Financial Year (2024 - 25)	During the current Financial Year (2025 - 26)
Crude Steel * 5 MTPA	0.79	1.98

Consumption of Raw Material

Raw material consumption per unit of product

Name of Material	Financial Year 2024-25		Financial Year 2025-26	
	Crude Steel Production- 7,96,398 tons		Crude Steel Production- 39,86,506 tons	
	Consumption in tons	Rate kg/tcs	Consumption in tons	Rate kg/tcs
Anthracite	34163.90	42.89	123644	31.01
PCI Coal	318995.92	400.54	770942	193.38
Steam/ Thermal Coal	5330.92	6.69	563105	141.25
Purchase Coke	50841.97	63.83	0	0
Iron Ore Lumps	677296.56	850.44	1516084	380.30
Iron Ore Fines	1322346.44	1660.41	7716841	1935.74
Purchase Pellets	236550.80	297.02	20781	5.21
Limestone	451980.82	567.53	1428922	358.43
Dolomite	252016.14	316.44	901482	226.13
Quartzite	8124.67	10.20	0	0

Hard Cooking Coal (Primary and Secondary)	--	--	1590092	398.86
Semi Hard Cooking Coal (Primary and Secondary)	--	--	811001	203.43
Semi Soft Cooking Coal	--	--	387197	97.12
Coal Fines	--	--	449336	112.71

PART-C

POLLUTION DISCHARGED TO ENVIRONMENT / UNIT OF OUTPUT WATER AND AIR

a) Water

All the effluent generated from JSW Vijayanagar Metallic Limited (JVML) is collected and treated in treatment facilities where the process units are equipped with treatment facility (ETP), i.e. Clarifier / Thickener, Pressure Filters and cooling tower to recirculate water back to process.

- As stated above, following water pollution control systems have been provided for recycle and reuse of the water.

Water Pollution Control Equipment	Nos
ETP's /Thickeners/Water Treatment Units	3 Nos
RO Plant	2 Nos
Sewage Treatment Plant (STP) based on MBR Technology	1 Nos

- To sustain Zero Discharge, above latest treatment technologies such as Sewage treatment Plant based on MBR Technology (STP)-1 Nos, Effluent Treatment Plant (ETP) - 2 Nos and RO Plant – 1 Nos are provided for recycling and reuse of the water back in the process.
- Use of OPJC STP treated water in steel process that resulted in water savings of 210 m³/day
- The designated outlets are equipped with the continuous effluent monitoring system are connected to CPCB server.

b) Air:

Quantity of pollutants measured around the plant is given below

Pollutants (Air)	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants discharged (mass / volume)	% of variation from prescribed standards
	T/day	mg/Nm ³	%
Dust emission (PM)	0.98	34	-32

NAAQ Standard:**NATIONAL AMBIENT AIR QUALITY STANDARDS (2009)**

Pollutants	Time Weighted Average	Concentration in Ambient Air		Methods of Measurement
		Industrial, Residential, Rural and other Areas	Ecologically Sensitive Area (Notified by Central Government)	
Sulphur Dioxide (SO ₂), µg/m ³	Annual * 24 Hours **	50 80	20 80	-Improved West and Gaeke Method -Ultraviolet Fluorescence
Nitrogen Dioxide (NO ₂), µg/m ³	Annual * 24 Hours **	40 80	30 80	-Jacob & Hochheiser modified (NaOH-NaAsO ₂) Method -Gas Phase Chemiluminescence
Particulate Matter (Size less than 10µm) or PM ₁₀ , µg/m ³	Annual * 24 Hours **	60 100	60 100	-Gravimetric -TEOM -Beta attenuation
Particulate Matter (Size less than 2.5µm) or PM _{2.5} , µg/m ³	Annual * 24 Hours **	40 60	40 60	-Gravimetric -TEOM -Beta attenuation

Continuous Ambient Air Quality Monitoring at 06 stations FY 2025-26

JSW Vijayanagar Metallic Limited has installed 06 number of Continuous Ambient Air Quality Monitoring Stations around the JVML Complex. Continuous Emission monitoring of PM₁₀, PM_{2.5}, SO₂, NO_x & CO is being done at all 06 CAAQMS Stations. The data of all CAAQMS Stations is being transferred to KSPCB Portal.

The location details of 06 CAAQMS of JSWSL is as follows:

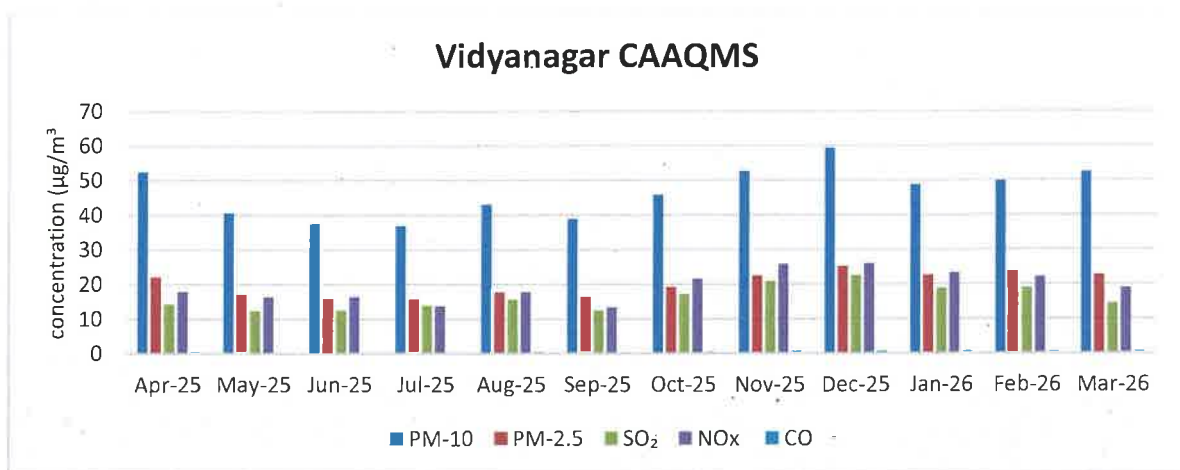
1. Vidyanagar
2. Vaddu
3. Shankar Hill Township
4. 10 MT
5. Sulthanpur
6. VV Nagar Township



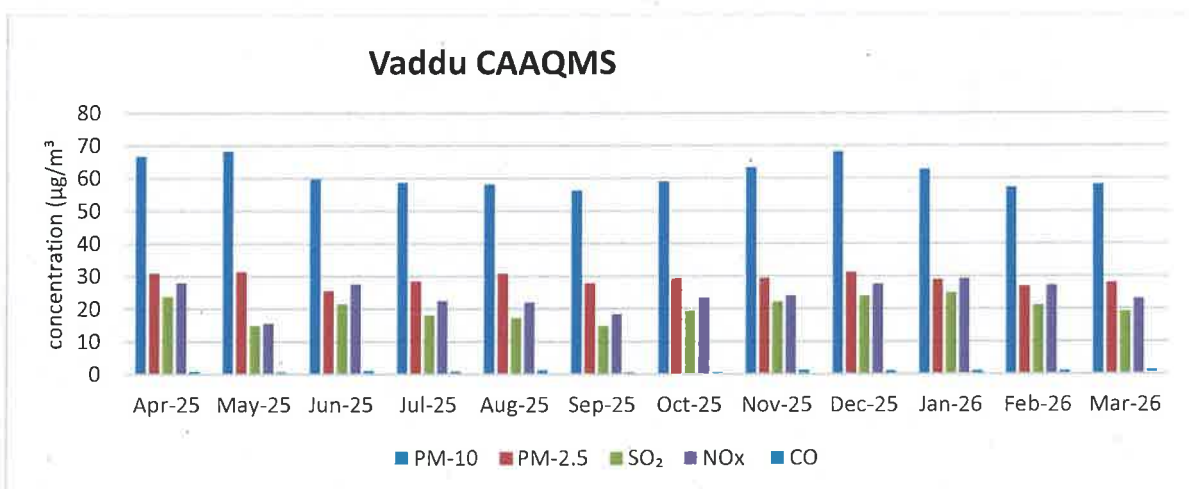
Continuous Ambient Air Quality Monitoring Stations

The data reported here is based on the time weighted average standard of 24 hrs as stipulated in NAAQS 2009.

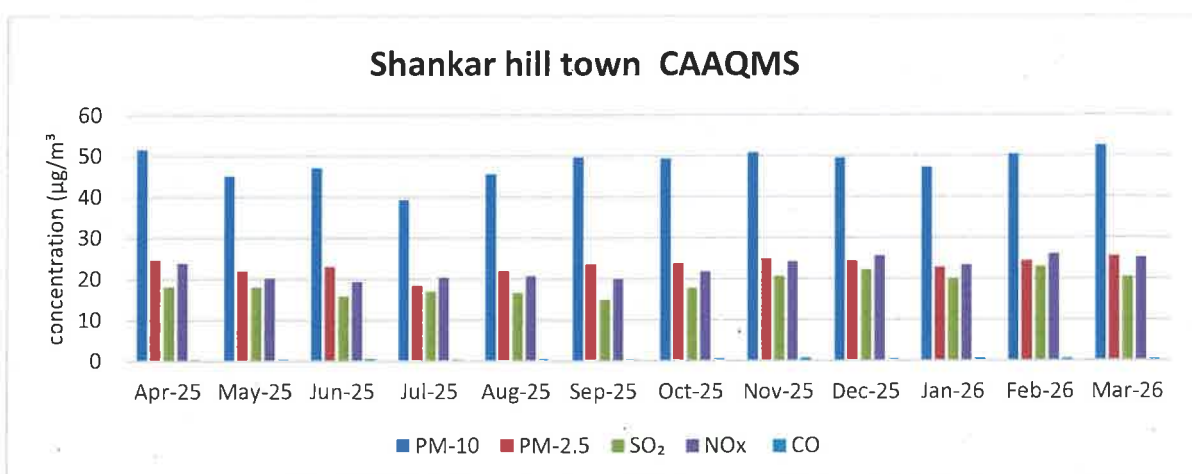
Continuous Ambient Air Quality Station Report – Vidyanagar 2025-26



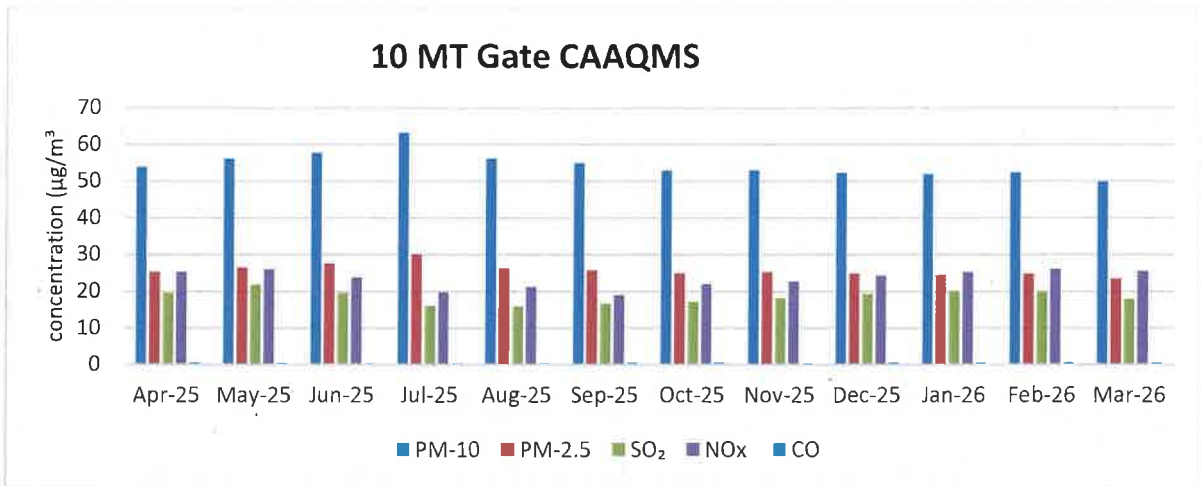
Continuous Ambient Air Quality Station Report – Vaddu 2025-26



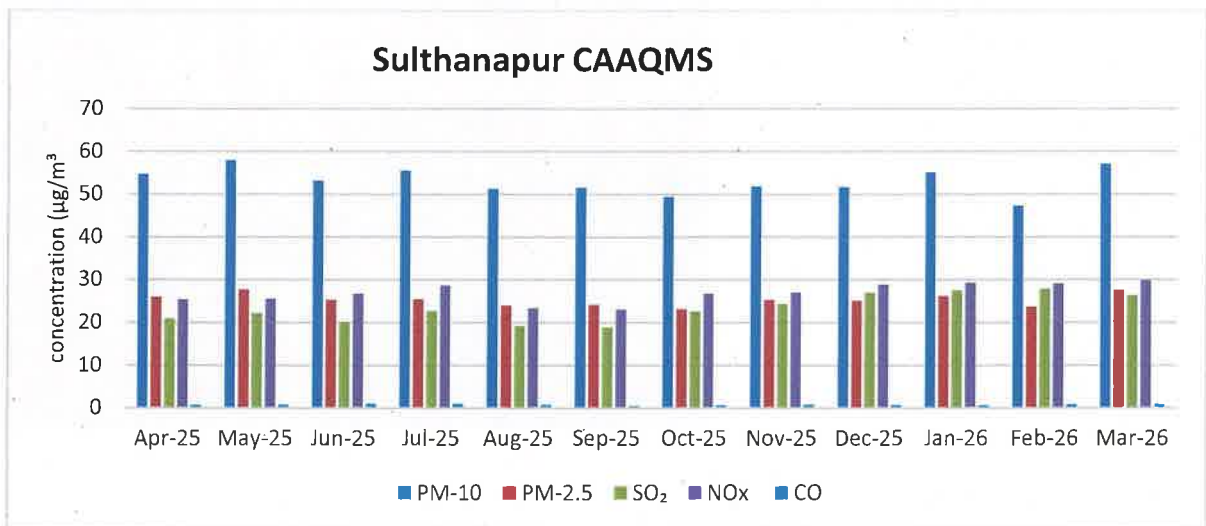
Continuous Ambient Air Quality Station Report – Shankar Hill Township 2025-26



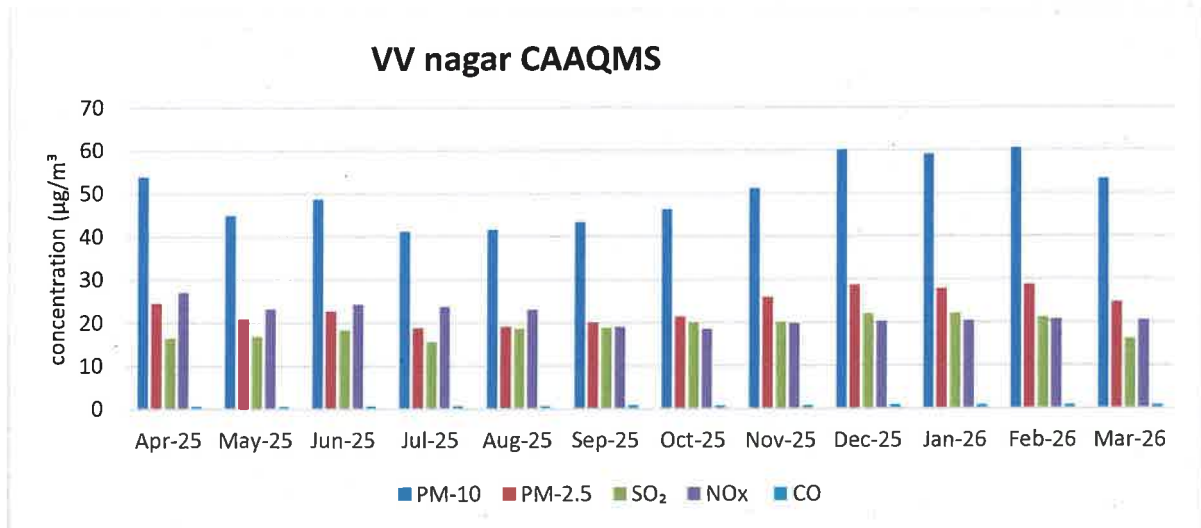
Continuous Ambient Air Quality Station Report – 10 MT 2025-26



Continuous Ambient Air Quality Station Report – Sulthanpur 2025-26



Continuous Ambient Air Quality Station Report – VV Nagar Township 2025-26



Ambient Air Quality Monitoring (Manual) at 11 stations FY2025-26

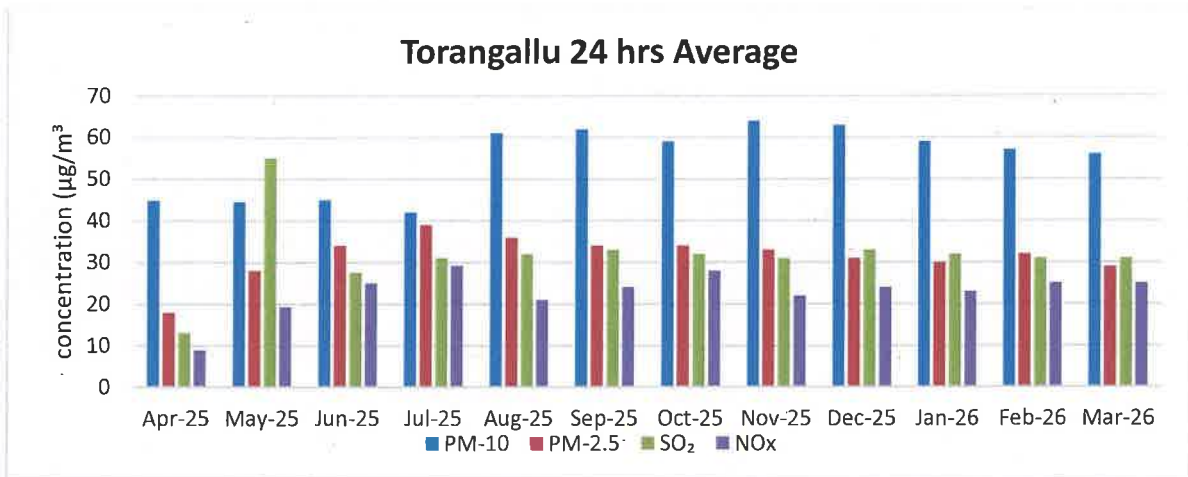
We have installed 11 number of manual monitoring stations at nearby villages

1. Toranagallu
2. Vaddu
3. Basapur
4. Talur
5. Kurekuppa
6. Gadiganur
7. Kuditini
8. Sultanpur
9. Karadidhama
10. Hampi
11. Vidyanagar

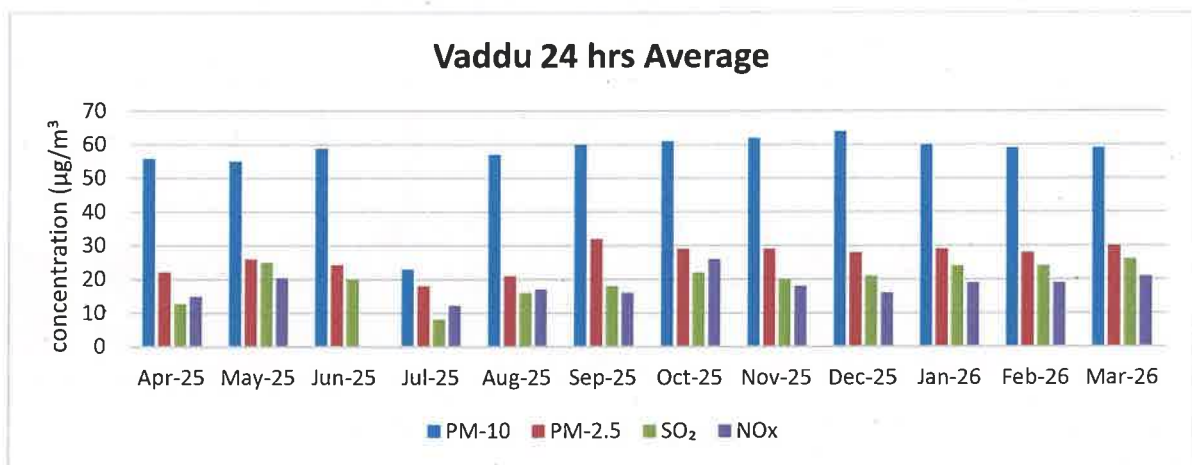


Ambient Air Quality Manual Monitoring Stations

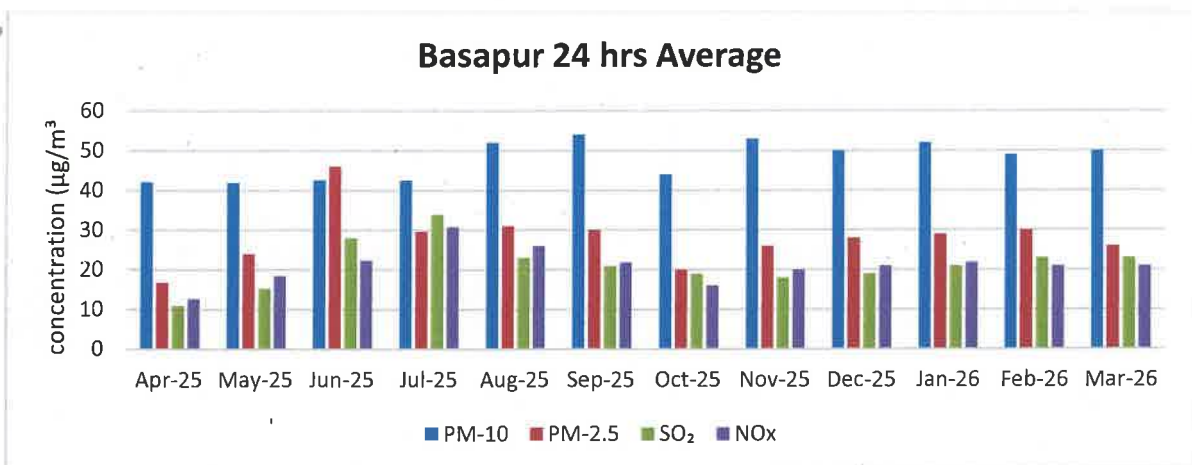
1.Torangallu



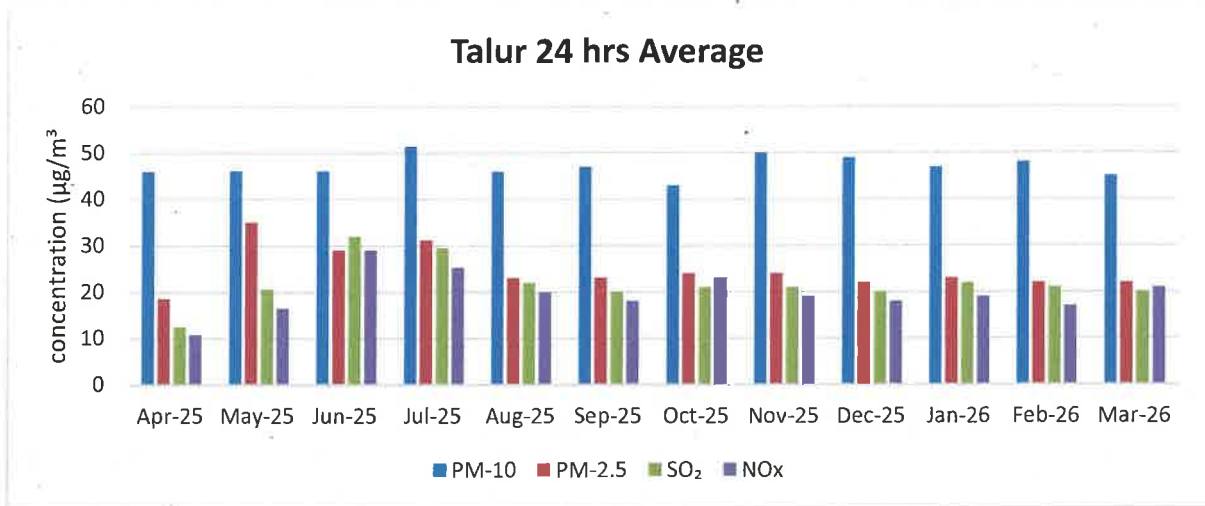
2.Vaddu



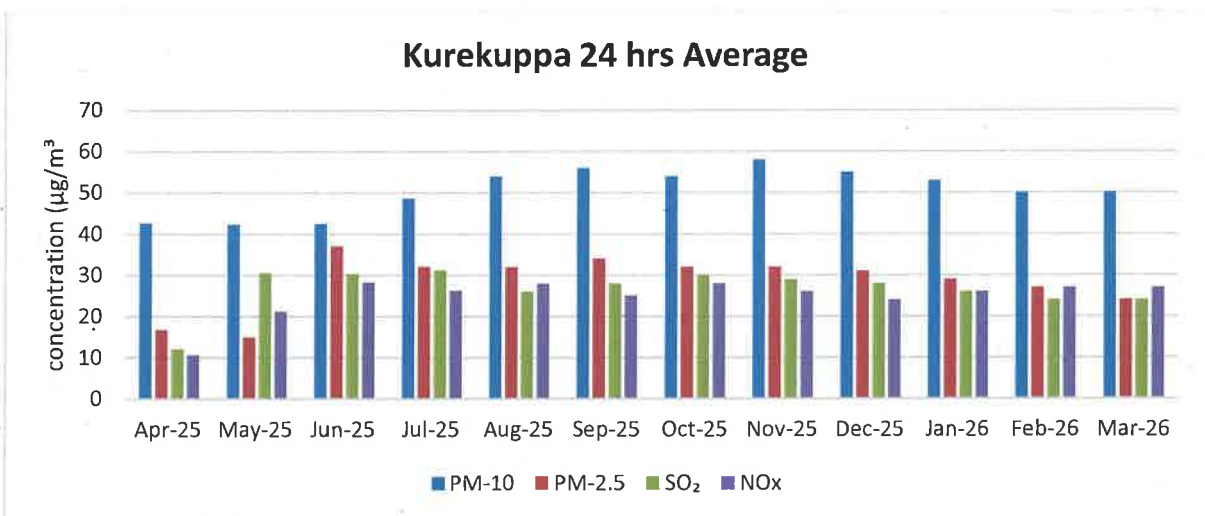
3. Basapur



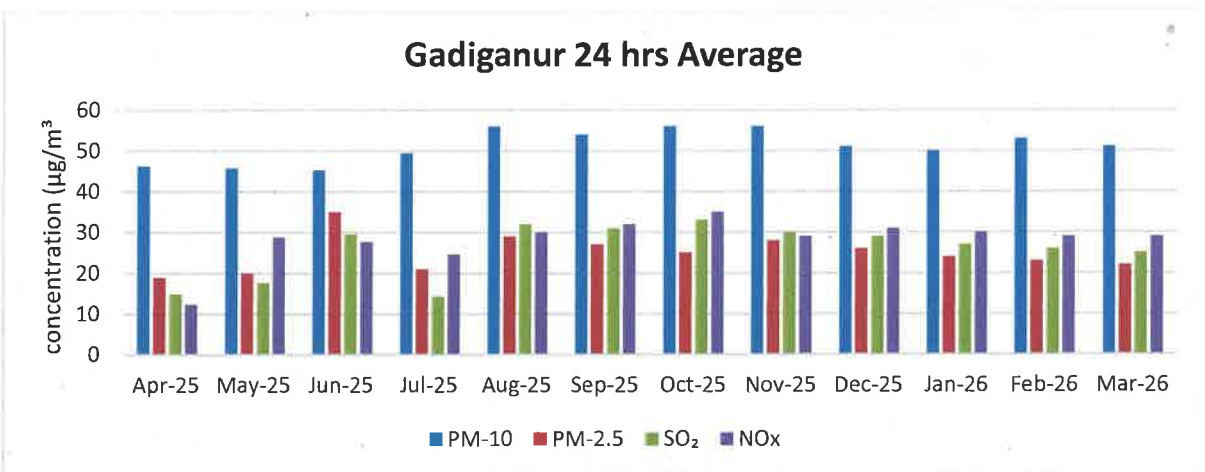
4.Talur



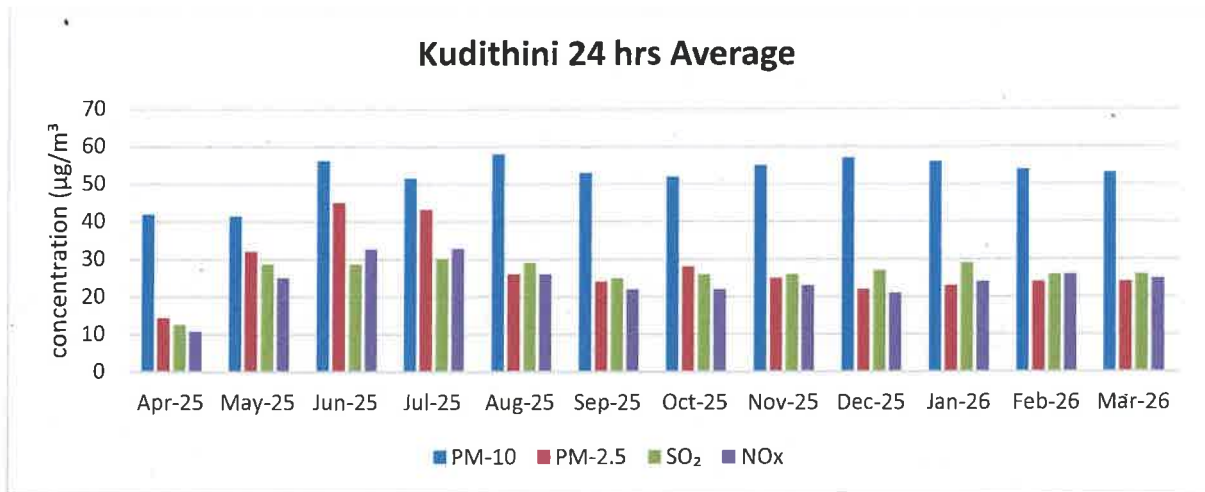
5.Kurekappa



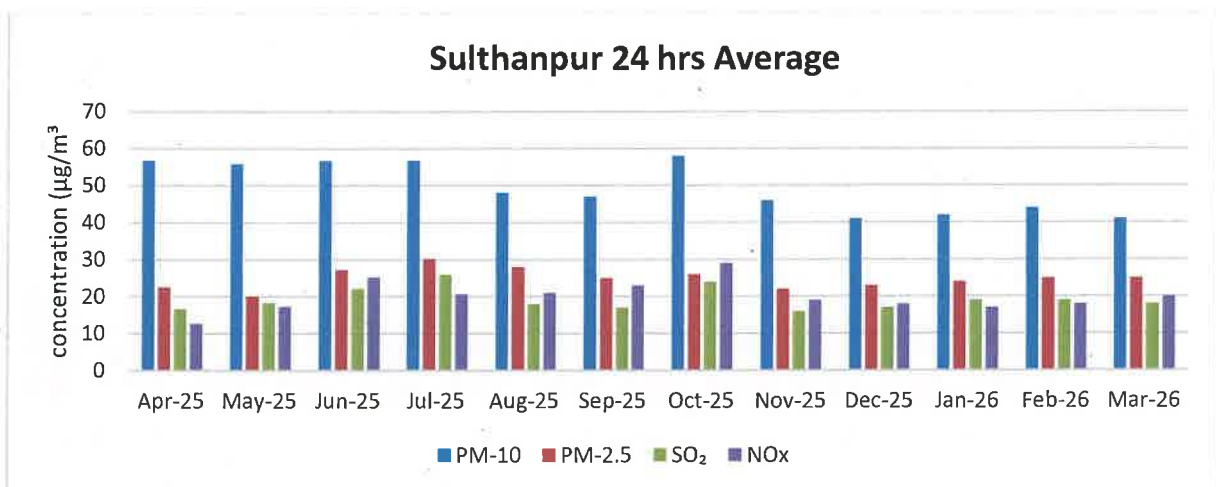
6.Gadiganur



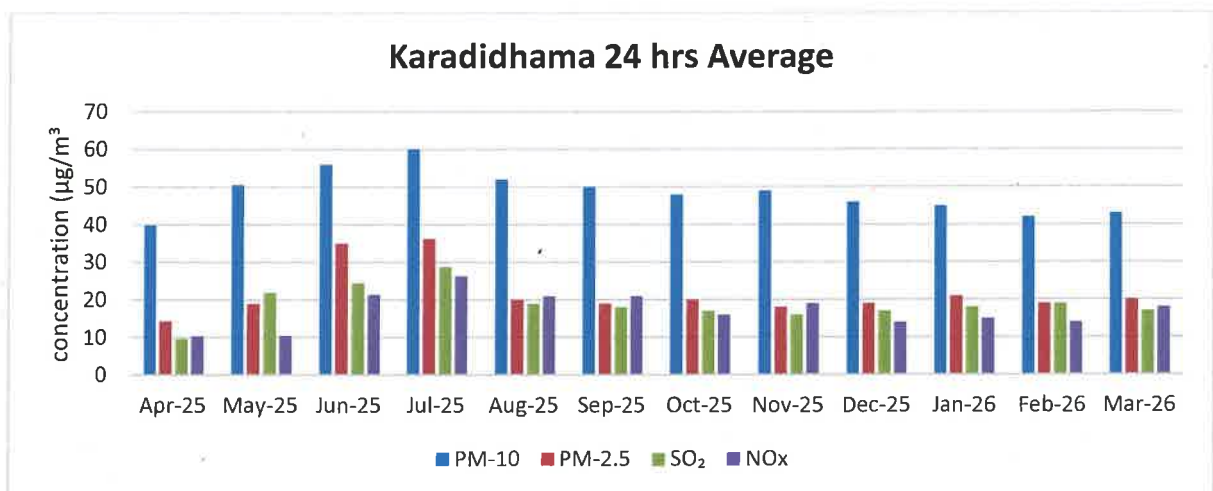
7. Kudithini



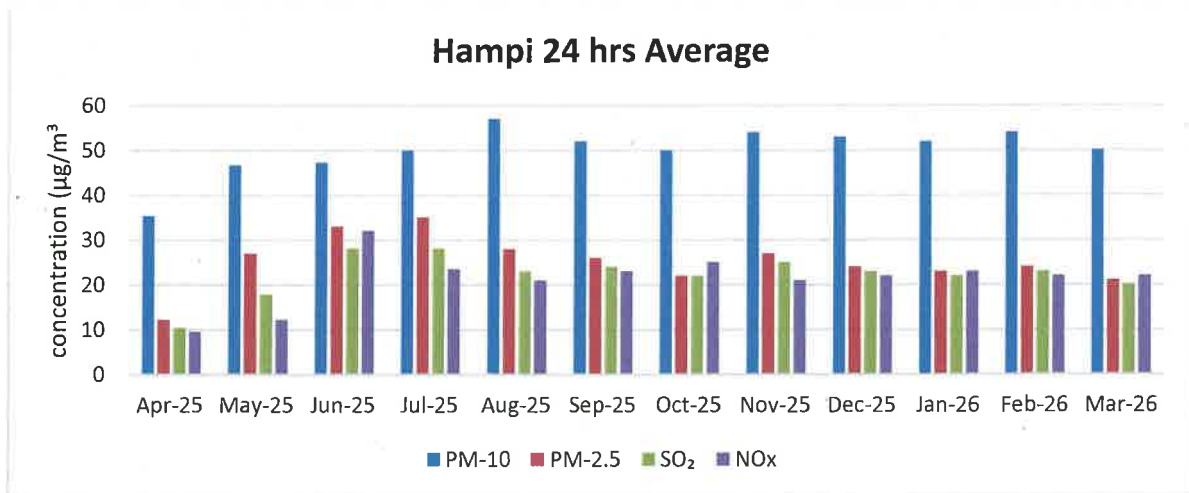
8. Sulthanpur



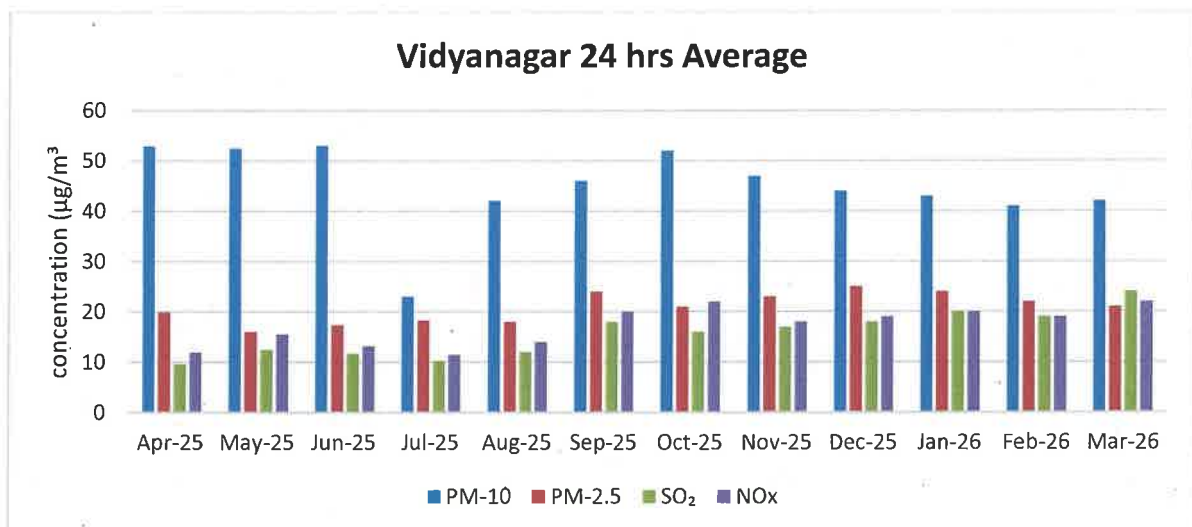
9. Karadidhama



10. Hampi



11. Vidyanagar



PART-D

HAZARDOUS WASTES METHOD OF DISPOSAL

Hazardous Waste Generation in MT/A

Annexure -1

Sl. No.	Hazardous Waste disposed	Consented capacity	Total HW Generated in 2025-26	Total HW Disposed in 2025-26	Mode of Disposal
1	5.1 - Used Oil	53 MT/A	0* (Opening Balance 6.2 MT)	6.2 MT	Sold to Authorized recyclers
2	4.1 - Waste Oil (Sludge and Filter contaminated with Oil)	346 MT/A	20.85* (Opening Balance 4.3 MT)	25.15 MT	Sold to Authorized recyclers
3	33.1 - Empty Barrels / containers/liners containing with Hazardous Waste	313 MT/A	0* (Opening Balance 10.5 MT)	10.5 MT	Sold to Authorized recyclers
4	Schedule III - Part - B - 1200 - Blast Furnace Granulated Slag (arising from the Manufacture of Iron and Steel)	16,68,780 MT/A	16,03,500 MT	16,03,500 MT	1-Sold to cement plant for Cement Manufacturing (PSC), 2-used as alternate aggregate for river sand
	Schedule III - Part - B - 1200 - Blast Furnace Granulated Slag (arising from air cooled BF Slag)	1,59,870 MT/A	1,40,598 MT	1,40,598 MT	Used in Road Making, consumed internally for bund construction
5	Schedule III - Part - B - 1210 Slag Arising from the Manufacture of iron and steel Including slag as a source of Titanium Dioxide and vanadium (BOF Slag)	12,65,090 MT/A	773784.02 MT	773784.02 MT	Used for Mill Scale Briquetting, BOF, Base mix, Consumed internally for bund construction
6	Schedule III - Part - B - 1210 Slag Arising from the manufacture of iron and steel including slag as a source of Titanium Dioxide and vanadium (LF Slag)	1,05,485 MT/A			
7	Schedule III - Part B - B1230 - Mill scale arising from the manufacturing of Iron and steel	1,08,770 MT/A	81196.87 MT	81196.87 MT	Used in Mill Scale Briquetting Plant

PART - E
SOLID WASTES

Generation and Utilization of Solid waste in MT/A

Category	UOM	Solid Waste FY 26	
		Generation	Utilisation
Iron Making Slag	MT	17,44,098 MT	17,44,098 MT
Steel Making Slag	MT	773784.02 MT	773784.02 MT
Sludge	MT	14144 MT	14144 MT
Process Dust	MT	355717 MT	355717 MT
Mill scale	MT	81197 MT	81197 MT
% Utilisation		100	

Other wastes

Category	UOM	Total Quantity (During the previous financial year 2024-2025)	Total Quantity (During the current financial year 2025-2026)
E-waste	MT	0	0
Battery Waste	MT	0	0

PART – F

CHARACTERISTICS OF WASTE

Generation, Chemical Composition and disposal of Solid Wastes

Sl. No.	Type of Waste	Typical Chemical Analysis (and size)	Mode of Utilization/ Disposal
Blast Furnace (BF)			
1	Blast Furnace Air Cooled Slag	CaO- 35.84, SiO ₂ -32.78, Al ₂ O ₃ -17.82, MgO-6.59, FeO-0.66, MnO- 1.0, TiO ₂ -0.89, Na ₂ O-0.17, K ₂ O-0.45, S-0.605	For Road making purpose as a sub base material.
2	Blast Furnace Granulated slag	CaO- 35.84, SiO ₂ -32.78, Al ₂ O ₃ -17.82, MgO-6.59, FeO-0.66, MnO- 1.0, TiO ₂ -0.89, Na ₂ O-0.17, K ₂ O-0.45, S-0.605	Selling to Cement Making Plants and as slag sand, an alternate of river sand.
3	Blast Furnace Flue Dust	Fe(t)-32.25;SiO ₂ -2.96;Al ₂ O ₃ -4.57;CaO-3.25;MgO-1.42;TiO ₂ -0.11;P ₂ O ₅ -0.11;SO ₃ -0.66;Na ₂ O-0.26;K ₂ O-0.15;ZnO-0.99;LOI-39.04	Re-used in waste to wealth to recover Fe & C
4	Blast Furnace Sludge	Fe(t)-27.13;SiO ₂ -3.91;Al ₂ O ₃ -4.31;CaO-4.76;MgO-1.64;TiO ₂ -0.11;P ₂ O ₅ -0.11;SO ₃ -0.69;Na ₂ O-0.18;K ₂ O-0.25;ZnO-0.64;LOI-44.26	Re-used in waste to wealth to recover Fe & C
5	Blast furnace bag filter dust	Fe(t)-57.03, Fe (M)-1.22, FeO-7.496, C-9.87, S-0.089;SiO ₂ -1.06;Al ₂ O ₃ -0.039;CaO-6.90; MgO-0.83;TiO ₂ -0.027;P ₂ O ₅ -0.006;Na ₂ O-0.010;K ₂ O-0.077;SO ₃ -0.01ZnO-0.001	Reused in micro pellet plant, further to sinter making
Steel Melting Shop – 5			
6	Fume Extraction System(FES) Dust	T.Fe – 30.46,Fe (M)- 2.4, FeO-6.32,CaO - 32.31%,MgO –5.707,SiO ₂ – 4.77%,Al ₂ O ₃ – 2.07%, C- 5.84, S-0.632, P ₂ O ₅ -0.312,	Re-used in micro pellet plant further to sinter making
7	Mill Scale	Fe (T)-70.72,FeO-49.76, Fe(M)-10.06, C-0.240, S-0.007, SiO ₂ -1.33, Al ₂ O ₃ -0.38, CaO-0.76, MgO-0.361, MnO-1.386, TiO ₂ -0.026,P-0.029	Used for mill scale briquetting for further use in BOF as coolant
8	GCP sludge	Fe(T) – 67.10% ,Fe (M)- 34.75 FeO-34.51% , SiO ₂ – 2.38%, Al ₂ O ₃ – 0.53%, CaO-13.02%, MgO-3.214%, MnO-0.084%, TiO ₂ -0.057%, P ₂ O ₅ – 0.114%, Na ₂ O-0.004%, K ₂ O-0.158%, ZnO-0.061%, C-1.80%, S-0.093.	Re-used in micro pellet plant further to sinter making
9	Ladle Furnace(LF) Slag	Fe ₂ O ₃ -4.40, SiO ₂ -3.27, Al ₂ O ₃ -35.0, CaO-42.0, MgO-9.90, MnO-1.95, TiO ₂ -0.250, P ₂ O ₅ -0.110, K ₂ O-0.015, Na ₂ O-0.030,	Re-used in micro pellet plant further to sinter making
10	BOF slag	Fe ₂ O ₃ -23.0, SiO ₂ -12.11, Al ₂ O ₃ -1.63, CaO-45.16, MgO-8.38, MnO-3.12, TiO ₂ -0.580, P ₂ O ₅ -2.27, K ₂ O-0.020, Na ₂ O-0.003,	Used in micro pellet plant, blast furnace and sinter as source of flux, as scrap in BOF and bund construction
Hot Strip Mill- 3			
11	Mill Scale	Fe (T)-69.84,FeO-57.16, Fe(M)-13.270, C-0.240, S-0.008, SiO ₂ -4.17, Al ₂ O ₃ -1.17,	Used for mill scale briquetting for further use in BOF as coolant

Sl. No.	Type of Waste	Typical Chemical Analysis (and size)	Mode of Utilization/ Disposal
		CaO-3.25, MgO-0.477, MnO-0.354, TiO ₂ -0.046, P-0.007, Na ₂ O-2.083, K ₂ O-0.023	
12	Sludge	Fe (T)-67.57, FeO-14.14, Fe(M)-0.52, C-0.71, S-0.010, SiO ₂ -1.50, Al ₂ O ₃ -0.37, CaO-0.83, MgO-0.54, MnO-0.52, TiO ₂ -0.016, P ₂ O ₅ -0.106, Na ₂ O-0, K ₂ O-0.018	Used for mill scale briquetting for further use in BOF as coolant
Lime calcinations Plant :			
13	Dolo (Dolime) Fines	CaO: 51.31, MgO: 40.26, SiO ₂ : 1.04, Al ₂ O ₃ : 0.23, Fe ₂ O ₃ : 0.26, LOI: 4.73	Re-used in CRM, Corex, and Sinter Plant.
14	Lime Fines	CaO: 93.12, MgO: 1.05, SiO ₂ : 1.19, R ₂ O ₃ : 1.60, LOI: 3.89	Re-used in CRM, Corex, and Sinter Plant.
15	Bag house Fines (Lime/Dolo dust)	CaO: 38.86, MgO: 11.94, SiO ₂ : 6.85, Al ₂ O ₃ -2.08, MnO-0.069, P ₂ O ₅ -0.076, LOI-35.77	Re-used in micro pellet plant further to sinter making

Method of disposal of Hazardous Wastes

Hazardous Wastes			Method of Handling & Disposal
1. From Process	Waste Category	Waste generated	
	5.1	Used oil	Collected in leak proof containers & disposed to CPCB registered & KSPCB authorized re-processor.
	4.1	Waste oil	
	5.2	Oil soaked cotton waste	Stored in a secured manner and incinerated in captive incinerator.
	35.4	Oil and grease skimming residue	Used back in Coke oven
	36.2	Filter and filter materials which have organic compounds	Stored in a secured manner and incinerated in captive incinerator
	33.1	Discarded plastic containers	Stored in a secured manner and handed over to KSPCB authorized recycler after washing.
	33.1	Discarded MS barrels	
2. From Pollution Control Facilities	35.3	ETP Sludge	Used back in pellet making.

Other Wastes

Category	UOM	Disposal
E-waste	MT	Sent to Authorised E-waste recyclers/vendors
Battery Waste	MT	Sent to Authorised Battery waste recyclers/vendors

PART – G

IMPACT OF THE POLLUTION CONTROL MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES

CONSERVATION OF NATURAL RESOURCES

A. WATER ENVIRONMENT

JSW Vijayanagar Metallic Limited receives water from Tunga Bhadra (TB) Dam and Almatti Dam. Our JVML plant has launched a comprehensive water stewardship initiative aimed at maximising effluent treatment and increasing the use of treated water from sewage treatment plants. This approach includes immediate actions and long-term technological advancements to conserve and recycle water resources. Currently, our efforts are focused on enhancing effluent treatment and increasing the use of treated water from sewage treatment plants. We are addressing water leakage and seepage to prevent wastage and improving RO system efficiency. RO plant has been installed to efficiently reuse and recycle process effluents, significantly decreasing freshwater use. Sewage water is treated through our sewage treatment plant and utilised for both RO feed and horticultural purposes. To optimise wastewater discharge, we are minimising discharge and maximising recycling. Desilting one guard pond has enhanced its capacity, improving effluent neutralisation and supporting increased secondary usage. Going forward, our short-term goals include streamlining processes for efficient water use, implementing advanced RO technology for better water treatment, and expanding guard pond capacity for maximum water retention. Through continuous innovation and a holistic approach to water stewardship, we aim to set new standards in responsible water management within the industrial sector, safeguarding valuable resources for future generations.

Water Pollution Control Measures implemented:

JVML has been conserving water through following interventions in FY25-26:

- Enhancing capacity utilisation of RO plants has increased water availability.
- Recycling the Blow down water through RO plants in SMS-4 by 400 m3/day.
- Chemical Pyrophosphate dosing in cooling towers to increase the COC in BF-5.
- Water saving through uses of AVGF backwash water in secondary purpose.

The following are the major Water Pollution Control systems installed in JVML

Sl No	Systems	Quantity (nos)
1	Water Treatment Facilities	3
2	STP based on MBR Technology	1
3	RO water plant	2

Water Pollution Control Systems in JVML



RO Plant



The following Sewage Treatment plant is implemented at town ship and the treated sewage is recovered and reused.

B. AIR Environment

In an integrated Steel Plant, dust emissions are the major air emission concerns.. We have taken extensive air pollution control measures in the plant to control the dust emission.

The details of Air pollution control measures implemented are as follows:

- a. Installation of 18 MTPA DDS - BF-5 East & West Cast house, Stock house & surge hopper, SMS-4 DDS for process & material handling, SP-5 DDS screen, storage building and JH
- b. SMS-4 dust is now being consumed in both Sinter Plant 1 and Pellet Plant 1.
- c. 2 No. of CAAQMS station has been installed within JVML plant boundary besides OP Jindal centre and Near BF 5 Project Office in addition to 6 No. of CAAQMS installed by JSW Steel Limited. The data of the CAAQMS is being submitted to KSPCB/CPCB Servers.
- d. We have provided an independent Fume extraction system (FES) for LRF of SMS 4.
- e. 4 no. of Vacuum sweepers are provided and being operated in the shop floors to capture all fugitive dust.
- f. Vacuum sweeping of the roads and road wetting is done on regular basis.
- g. In addition to the above, all the internal roads have been paved and concreted and extensive tree plantation is done on either sides of the road.
- h. Bag leakage detection system provided and PLC based bag cleaning systems are installed. Regular maintenance of these bag filters is being done to assure the emission norms.
- i. We have installed efficient air pollution control (APC) equipment for all dust generating points, the summary of APC as follows Bag filter 19 No, Scrubber/Cyclone 1 No, ESP 1 No. We are maintaining the stack emission and fugitive emissions within standard limits. We are submitting the stack emission monitoring data to KSPCB. In addition to this, we are monitoring manual stack emission on monthly basis and report is being submitted to KSPCB.

With the above air pollution control measure insignificant air quality impact on the surrounding villages is envisaged.

C. SOLID WASTE MANAGEMENT

- Collection and reuse of steelmaking slag that has resulted in Post metal recovery, used as coolant in steelmaking and redirected for use in the micro pelletisation plant.
- Application of waste glass wool in concrete to improve flexural strength outcome in Piloting the use of waste glass wool as a fiber reinforcement in concrete to enhance its tensile capacity and overall strength, within optimised dosage limits.
- We are utilizing 100 percent solid waste i.e. dust, mill scales and sludge in Sinter Plant. BF Slag is being sold to JSWCL and other cement industries. The steel slag is being utilized 100 percent in slag processing plant of JSWSL.
- Oil collection trays are being provided at oil handling area. In addition to this, secondary containers are provided at the oil storage area to avoid the spillages.



PART – H

ADDITIONAL MEASURES / INVESTMENT PROPOSAL FOR ENVIRONMENTAL PROTECTION

Environmental initiatives

- Reducing steam injection in JVML Blast Furnace (BF) to zero level which results in lower Fuel Rate and higher PCI consumption to reduce overall cost.
- The newly commissioned BF-5 transitioned to zero steam. 8 kg of CO₂ per tonne of crude steel saved. Beyond carbon reduction and cost savings, the initiative has improved furnace stability and control. With plans to embed this model across all furnaces, we are setting a new benchmark in process-led decarbonisation and operational efficiency in steelmaking.
- Installation of 18 MTPA DDS - BF-5 East & West Cast house, Stock house & surge hopper, SMS-4 DDS for process & material handling, SP-5 DDS screen, storage building and JH
- SMS-4 dust is now being consumed in both Sinter Plant 1 and Pellet Plant 1.
- The recycle and reuse of iron ore fines, coal and coke fines and other fines collected from Pollution Controlling devices and vacuum cleaning devices is being used in the steel manufacturing process after briquetting or agglomeration at JSWSL.
- Wind shelter fence has been provided in the raw material storage yard. We have provided the chemical spraying system at the raw material stock piles.
- We have installed 225 MW solar power plant at Rajapura and Thimmalapura village. In addition to this 70 KW roof top solar plant is provided at Sanjeevani Hospital.
- We have implemented and operating international standard for environment i.e ISO 14001. Environmental Management System. We have Environmental policy as stipulated

PART – I
MISCELLANEOUS

- JSW Vijayanagar Metallics Limited has planted 2.80 lakhs plants over 112 ha area to under greenbelt with the tree density of 2500 trees per hectares.
- By product gases like BF gas, Corex gas, Coke oven gases are being used as fuel in the process (Blast Furnace stove, SMS, reheating furnace etc.) and also for power generation, thereby reducing the significant coal consumption, hence improving the ambient air quality.
- Truck parking yard is provided with concrete floor and three tire plantation along the parking yard boundary. In addition to this, Tarpaulin covered trucks are provided to transport the raw material so as to minimize the fugitive dust emissions. Mechanical Road Sweeping Machines with the succession mechanism are provided for the area clearing.