



**Before the Hon'ble National Green Tribunal  
Principal Bench, New Delhi**

**Presentation on O.A. No. - 606/2018**

**Chief Secretary  
Government of Gujarat**

**23rd February 2023**

**2510**

# Measures taken for Liquid Waste Management

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- Improvement in completion of STPs:
  - **133 STPs** of **4,841 MLD** (2015-23 so far), 124 STPs of 510 MLD capacity ( 2022-23 so far)
  - **69 STPs** of **647 MLD** are presently in progress and expected to be completed in next 12 months
- All the STPs are expected to be operational by December 2024 for all **165 ULBs**
  - **15 STPs** combining to a total of **452 MLD** capacity in Municipal Corporations and **89 STPs** combining to a total of **692 MLD** capacity in Municipalities are under progress and will be completed by **Dec 2023**
  - Further, **18 STPs** with **845 MLD** capacity in Municipal Corporations and **7 STPs** combining to a total of **143 MLD** capacity in Municipalities are under progress and will be operational by **Dec 2024**
- The utilization of STPs is directly linked to sewerage network and individual household connection.
- To improve collection efficiency Govt provides an assistance of Rs. 7000/- per Sewerage Connection
  - Over **2.12 Lakhs** such connections were provided in last one year
  - **1.63 Lakhs** connections are planned in next one year
- The current works on hand will enable Gujarat to achieve **ZERO** treatment GAP by **Dec 2024**.
- Treatment **GAP** presently **1005 MLD** with **202 MLD** in **8** Municipal Corporations and **803 MLD** in **157** Municipalities.

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# Funds Spent by Gujarat for Liquid Waste Management

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- During last five years, 2017-2022, for Liquid Waste management, total fund of Rs. 9703/- crore allocations made by Central and State government schemes is as under:
  - State Own Funding scheme viz., Swarnim Jayanti Mukhya Mantri Scheme (SJMMVY), total fund of Rs. 6,872 crore has already been spent .
  - Besides, total fund of Rs. 2831 crore from AMRUT 1.0 mission, AMRUT 2.0 mission and Smart city mission by Central has also been spent
- In 2022-23, Budgetary allocation of total of Rs. 730 crore has been made in State Budget
  - Rs. 398 - crore from AMRUT 1.0 ,
  - Rs. 332 - crore from Smart city Mission.
- In 2023-24, Proposed budget of an amount of Rs.1,807 crore has been Made in State Budget
  - Rs. 750 - crore from own funds
  - Rs. 370 - crore from AMRUT 1.0 ,
  - Rs. 436 - crore from AMRUT 2.0
  - Rs. 251 - crore from Smart city Mission.
- After 2023-24 Planned allocation of total Rs. 6,622 crore from State & Central fund has been made
  - Rs. 3000 - crore from own funds
  - Rs. 3622 - crore from AMRUT 2.0

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# Sewerage Generation and Treatment in Gujarat

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ULB	Wastewater generated (MLD)	Existing Installed Capacity (MLD)	Wastewater Treated (MLD)	Gap (MLD)	Treatment Coverage by December 2023 (MLD)		Treatment Coverage by December 2024 (MLD)	
A	B	C	D	E = B - D	F=MLD1	Description	G=MLD2	Description
<b>Municipal Corporation</b>	<b>3268</b>	<b>4010</b>	<b>3066</b>	<b>202</b>	<b>452</b>	<ul style="list-style-type: none"> <li>• 452 MLD will be covered by STP under progress</li> </ul>	<b>845</b>	<ul style="list-style-type: none"> <li>• 845 MLD STP under progress</li> </ul>
<b>Municipalities</b>	<b>1146</b>	<b>744</b>	<b>343</b>	<b>803</b>	<b>917</b>	<ul style="list-style-type: none"> <li>• 692 MLD will be covered by STP under progress</li> <li>• 226 MLD will be covered by UGD under progress</li> </ul>	<b>145</b>	<ul style="list-style-type: none"> <li>• 143 MLD will be covered by STP under progress</li> <li>• 2 MLD from UGD</li> </ul>
<b>TOTAL</b>	<b>4414</b>	<b>4754</b>	<b>3409</b>	<b>1005</b>	<b>1369</b>	<ul style="list-style-type: none"> <li>• Covered from STP and UGD connections</li> </ul>	<b>990</b>	<ul style="list-style-type: none"> <li>• Covered from STP</li> </ul>

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- All the planned STP projects are targeted to be completed by Dec 2024
- The total coverage for 2023 as shown in the above table seems to cover the gap, however individual zones split highlights the gap remaining (i.e., it is surplus for a few zones and under coverage for the remaining zones) which is covered by Dec 2024
- To augment the treatment process, Phase-II of Underground drainage network is being implemented in all 156 Municipalities

# Municipal Corporations Gap Reduction Details

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ULB	Wastewater generated (MLD)	Installed Capacity (MLD)	Wastewater Treated (MLD)	Gap (MLD) (Generation - Treatment)	STP capacity increment by <u>December 2023</u>		Gap Remaining After Dec 2023 (MLD)	STP capacity increment by <u>December 2024</u>		Gap Remaining After Dec 2024 (MLD)
					F=MLD1	Description		G=MLD2	Description	
A	B	C	D	E = B - D	F=MLD1	Description		G=MLD2	Description	E-(F+G)
Ahmedabad	1280	1278	1240	40	167	• 167 MLD from STP	0	-		0
Surat	1032	1655	960	72	-		0	331	• 331 MLD STP	0
Vadodara	435	519	435	0	-		0	458	• 458 MLD STP	0
Rajkot	224	316	224	0	61	• 61 MLD from STP	0	-		0
Gandhinagar	75	88	53	22	105	• 105 MLD from STP	0	-		0
Bhavnagar	100	75	75	25	69	• 69 MLD from STP	0	-		0
Junagadh	40	8	8	32	-		32	56	• 56 MLD STP	0
Jamnagar	80	70	70	10	50	• 50 MLD from STP	0	-		0
<b>Total</b>	<b>3268</b>	<b>4010</b>	<b>3066</b>	<b>202</b>	<b>452</b>	<b>Covered from STP till 2023</b>	<b>32</b>	<b>845</b>	<b>Covered from STP till 2024</b>	<b>0</b>

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- No Gap found after December 2024. While gap for Ahmedabad, Vadodara, Rajkot, Gandhinagar, Bhavnagar, Jamnagar are being fulfilled by December 2023, gap for Surat & Junagadh is being fulfilled by December 2024
- Future planning for surplus waste generation done until December 2024

# Municipalities Gap Reduction Details

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RCM Zones	Wastewater generated (MLD)	Installed Capacity (MLD)	Wastewater Treated (MLD)	Gap (MLD) (Generation - Treatment)	STP capacity increment =Gap coverage December 2023		Gap Remaining After Dec 2023 (MLD)	STP capacity increment =Gap coverage December 2024		Gap Remaining After Dec 2024 (MLD)
					F=MLD1	Description		E-F	G=MLD2	
Ahmedabad	180	201	91	89	83	• 68 MLD from STP • 5 MLD from UGD	16	27	• 27 MLD from STP	0
Bhavnagar	140	63	30	110	193	• 158 MLD from STP • 35 MLD from UGD	0		• No planning as on date	0
Gandhinagar	217	153	82	135	127	• 116 MLD from STP • 11 MLD from UGD	0	33	• 33 MLD from STP	0
Rajkot	233	164	54	179	177	• 153 MLD from STP • 24 MLD from UGD	2	2	• 2 MLD from UGD	0
Surat	201	41	12	189	231	• 110 MLD from STP • 121 MLD from UGD	0	80	• 80 MLD from STP	0
Vadodara	175	152	74	101	117	• 88 MLD from STP • 29 MLD from UGD	0	3	• 3 MLD from STP	0
<b>Total</b>	<b>1146</b>	<b>744</b>	<b>343</b>	<b>803</b>	<b>917</b>	• 692 MLD from STP • 226 MLD from UGD	<b>18</b>	<b>145</b>	• 143 MLD from STP • 2 MLD from UGD	<b>0</b>

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- No Gap found after December 2024

# STPs in Municipal Corporations - Completed

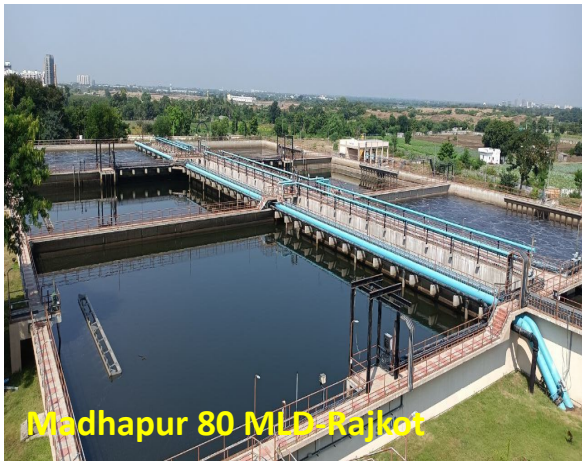
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# STPs in Municipal Corporations - Completed

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# STPs in Municipalities- Completed

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Nadiad STP 51.26 MLD



Deesa STP 18.40 MLD



Godhra STP 27.60 MLD



Dwarka STP 7.4 MLD



Valsad STP 20.20 MLD



Surendranagar STP 32.30 MLD

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# STPs in Municipal Corporations/ Municipalities In Progress- Expected to be Completed by December -2023

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# New Initiative- Solar projects at STP & WTP

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## Godhra -STP



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## Vapi-WTP Chala Water Works



# Gujarat Policy for Reuse of Treated Wastewater

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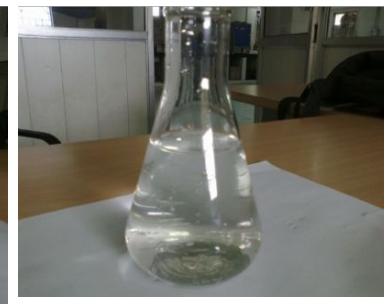
- Gujarat has policy for reuse of Treated Wastewater during 2017 with vision at-least 20% of waste water to be recycled” in all towns and cities of Gujarat state”.
- Presently in the Gujarat, reuse of about **800 MLD treated water** has already started
  - Surat is supplying about 319 MLD Treated wastewater up to potable water quality to Industries
  - Ahmedabad is using total of 396 MLD of recycled wastewater for Agricultural & Industrial supply
  - Bhavnagar is supplying 45 MLD of tertiary treated GSECL, private company
  - Gandhinagar is using 10 MLD of recycled wastewater for gardening & fire-brigade purpose
- Project of Supplying of treated waste water of 40 MLD to IOC and 20 MLD to Reliance Industries at an advance stage of completion and will start supply with 2-3 months
  - Rajkot has an agreement with farmer co-operative society with total of 50 MLD for irrigation purpose.



TTP Inlet



TTP Outlet



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# Reuse of treated Wastewater at Municipalities level

## 2522

### Anjar and Gandhidham, Kutch through PPP



Welspun STP – 40 MLD located in Anjar , Kutch

- Welspun has commissioned a **40 MLD STP** latest wastewater treatment technology with a **Cost of Rs. ~250 Crores**
  - STP – Rs ~150 Crore
  - 7 Pumping Stations & Pipelines – Rs ~100 Crore
- Reuse of urban sewage water, **generated by Anjar & Gandhidham ULB, as a high-quality clean water for industrial use**
- **The freshwater from the Narmada River is now utilized for agricultural purposes**
- **Revenue of INR 24 lakhs pa generated for Gandhidham ULB and of Rs 6.5 lakhs for Anjar ULB**

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# **Solid Waste Management**

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# Status of Solid Waste Management in Gujarat

## 2524

- **Door to Door Collection & Waste Generation.**
  - In Gujarat **100 % door-to door collection** in 1381 wards.
  - Total Solid Waste Generated in all ULBs are **9,542 Ton Per Day (TPD)**.
- **Waste Processing**
  - Total Solid Waste **Processing** in all ULBs are **8,090(86%)** Ton Per Day (TPD)
  - Processing of **98% in Municipal Corporation and 54% in Municipalities.**
- **Legacy Waste**
  - Total Quantity of Legacy Waste **255 Lakhs MTs**
  - Till date more than **142 Lakh MT (56%)** is Processed.
  - Balance **113 MTs of Legacy waste** will be processed by **December 2023**

# Measures taken for Solid Waste Management (Legacy Waste)

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- Legacy waste up to **67% in Municipal Corporation and 28 % in Municipalities** has been treated.
  - Cities of **Surat, Jamnagar & Gandhinagar** have **100% disposal** of legacy waste
  - Other cities **Ahmedabad, Vadodara, Rajkot, Bhavnagar & Junagadh** have bio-mining in progress and will achieve **100% treatment by December 2023.**
- **Common Draft RFP for Bio-mediation** has been prepared and circulated to ULBs
  - **Administrative Sanction and Technical Sanction** given : **63**
  - **Tender Issued: 56,**
  - **Work Order Issued: 21,**
  - **Work Completed : 14**
  - Timeline for **Work Completion: Within 5 Months**

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# Funds Spent by Gujarat for Solid Waste Management

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- **During last five years, 2014-2021, SBM 1.0 for Solid Waste management:**
  - Total fund of Rs. 1048 Cr. has been already released and
  - Total Rs. 633 Cr. has been Spent.
- **2022-2026 Action plan of Rs. 1644 Cr for SWM with Rs. 374 Cr for Legacy Waste Remediation** under SBM(Urban) 2.0 has been approved by GoI
- **In 2022-23, Rs. 114 crore has been allocated for Legacy waste & processing under SWM**
  - **Rs 91 Crore has been released to ULBs.**
- **In 2023-24 , Rs. 130 Crore has been proposed in state budget for Legacy waste & processing**

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# Municipal Corporations- Legacy Waste

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No	Municipal Corporation	Quantity of Legacy Waste ( lakh M.T)	Remediation of Legacy Waste till 9 <sup>th</sup> Feb, 2023 (lakh MT)	Remaining (lakh MT)	Timeline for completion
<b>100 % Target Achieved</b>					
1	Surat	25.2	25.2 (100%)	-	-
2	Jamnagar	0.48	0.48 (100%)	-	-
3	Gandhinagar	0.85	0.85 (100%)	-	-
<b>Work in Progress</b>					
4	Vadodara	8	7 (87%)	1	Mar-2023
5	Ahmedabad	125	76 (60%)	49	Dec-2023
6	Rajkot	10	4.5 (45%)	5.5	Dec-2023
7	Bhavnagar	5	4.14 (83%)	0.86	May-2023
8	Junagadh	4.5	1.71 (38%)	2.79	May-2023
<b>Total</b>		<b>179.03</b>	<b>119.84 (67%)</b>	<b>59.15(33%)</b>	

# Regional Zones - Municipalities- Legacy Waste

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No	Zone of Municipalities	Total ULBs	Total Legacy Waste (Lakh MT)	Remediated (Lakh MT)	Remaining	Timeline
1	Surat	19	10.63	5.7 (53%)	4.93	Aug-2023
2	Rajkot	30	16.68	2.5 (15%)	14.18	Dec-2023
3	Vadodara	26	12.11	5.84 (48%)	6.27	Sep-2023
4	Gandhinagar	29	17.31	4.39 (25%)	12.92	Dec-2023
5	Ahmedabad	25	10	1.28 (12%)	8.72	Nov-2023
6	Bhavnagar	27	9.6	1.98 (20%)	7.62	Sep-2023
<b>Total</b>		<b>156</b>	<b>76.33</b>	<b>21.69 (28%)</b>	<b>54.64</b>	

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# Ahmedabad Municipal Corporation- Pirana Site

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- Total Quantity of **Legacy Waste 125Lakhs MTs**
- **84 acres land** occupied.
- Till date more than **76 Lakh MT is cleared.**
- **Plantation** done on Cleared dumpsite land.
- **38 acres land reclaimed (Rs. 200 Crores).**
- Monthly **4.5 - 5.0 Lakh MT Legacy waste is processing**
- Total **69 automated segregation trommels machines** are working.
- **24.88 Lakh MT bio-mined waste used** for land filling in various Development Projects like Riverfront Phase-I&II, Gandhi Ashram Re-development, etc
- One More Shift started for Remediation.



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Phase 1 Ajmeri Dump Cleared with 45 lakh MT legacy waste



AJMERI SITE

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Tree plantation at Pirana



# Bopal Landfill site now Ecological Park

2.85 Lakhs MTs of legacy waste cleared



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# Legacy Waste Remediation – Municipal Corporation 2532

**Rajkot- Nakrawadi  
Dumpsite**



Quantity of Legacy Waste  
(Lakh MT) : 4 MT



Legacy Waste Remediate  
(Lakh MT) : 4 MT

**Bhavnagar- Nari  
Road Dumpsite**



Quantity of Legacy Waste  
(Lakh MT) : 5 MT



Legacy Waste Remediate  
(Lakh MT) : 4.14 MT

**Jamnagar- Gulabnagar  
Dumpsite**



Quantity of Legacy Waste  
(Lakh MT) : 0.48 MT



Legacy Waste Remediate  
(Lakh MT) : 0.48

**Junagadh- Medrda  
Road Dumpsite**



Quantity of Legacy Waste  
(Lakh MT) : 4.5 MT



Legacy Waste Remediate  
(Lakh MT) : 1.71 MT

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# Legacy Waste Remediation – Municipal Corporations

2533



**Vadodara- Atladra  
Dumpsite**

Quantity of Legacy Waste  
(Lakh MT) : 3.7 MT

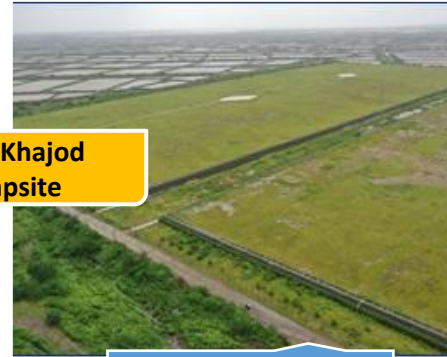


Legacy Waste Remediate  
(Lakh MT) : 3.7



**Surat- Khajod  
Dumpsite**

Quantity of Legacy Waste  
(Lakh MT) : 25.19 MT



Legacy Waste Remediate  
(Lakh MT) : 25.19



**Gandhinagar- Sector  
30 Dumpsite**

Quantity of Legacy Waste  
(Lakh MT) : 0.85 MT



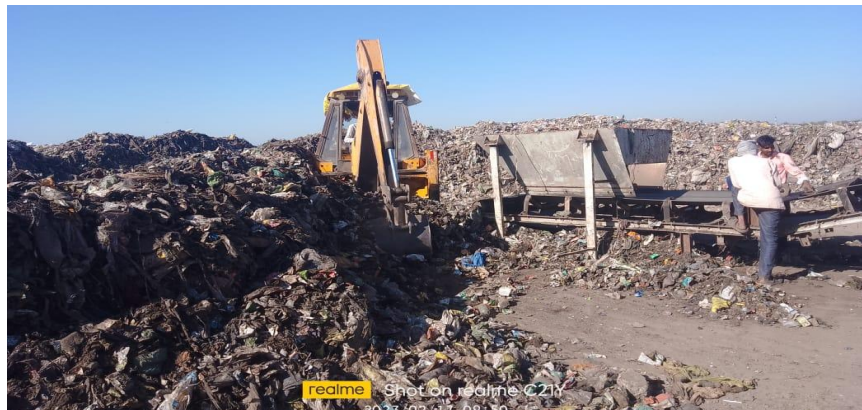
Legacy Waste Remediate  
(Lakh MT) : 0.85

2533

# Modasa Municipality

Total Quantity of Legacy Waste **1.02 Lakhs MTs**  
Till date more than **0.55 Lakh MT** is cleared.

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# Anand Municipality

Total Quantity of Legacy Waste 4.60 Lakhs MTs  
2535  
Till date more than 2.06 Lakh MT is cleared.



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# Vapi Municipality

Total Quantity of Legacy Waste **2536** 1.70 Lakhs MTs  
Till date more than **0.82 Lakh MT** is cleared.



**2536**

# Jetpur Municipality

## 2537 Remediation of about 43,000 MT of Legacy Waste



2537

# Bharuch Municipality

Total Quantity of Legacy Waste 0.85 Lakhs MTs

**2538**

Till date more than 0.41 Lakh MT is cleared.



# Una Municipality

Total Quantity of Legacy Waste 0.90 Lakhs MTs  
**2539**  
Till date more than 0.63 Lakh MT is cleared.



**2539**

# Navsari Municipality

Total Quantity of Legacy Waste 2.50 Lakhs MTs  
**2540**  
Till date more than 0.99 Lakh MT is cleared.



**2540**

# Radhanpur Municipality

Total Quantity of Legacy Waste 0.20 Lakhs MTs  
**2541**  
Till date more than 0.19 Lakh MT is cleared.



**2541**

# Bardoli Municipality



Total Quantity of Legacy Waste 0.72 Lakhs MTs  
**2542**  
Till date more than 0.67 Lakh MT is cleared.



**2542**

# Ankleshvar Municipality

Total Quantity of Legacy Waste 1.10 Lakhs MTs  
**2543**  
Till date more than 0.67 Lakh MT is cleared.



**2543**



# Gadhada Municipality

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**Before**

Disposal of 14000 MTs Legacy waste at Dump site



**After**



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# New Initiatives: Waste to Energy Projects

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## Jamnagar WTE

No.	Name of City	MSW TPD	Capacity MW	Commissioning Year	Plant Status
1	Jamnagar	450	7.5	July - 2022	Operational
2	Ahmedabad	1000	14	March - 2024	Under Construction
3	Ahmedabad	1000	11	March-2024	
4	Rajkot	600	14.9	Dec - 2023	
5	Vadodara	1000	14.9	June- 2023	
<b>Total</b>		<b>4250</b>	<b>62.3</b>		



## Ahmedabad WTE (under progress)

- New “Gujarat Waste to Energy Policy - 2022” Published 2022-27.
- UDD/ULB to bear 20% of tariff approved by GERC.



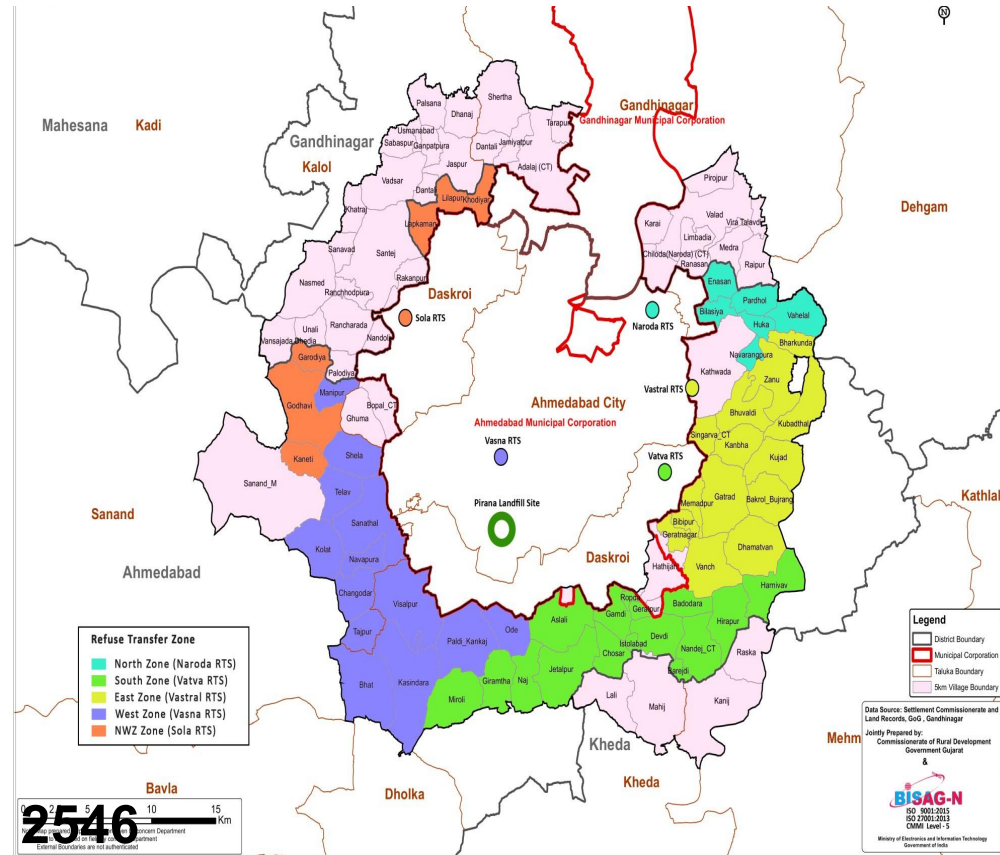
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# New Initiative : SWM in 55 villages under 5 km distance of AMC boundary

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## Clearing Legacy & Existing SW Dump site:

- Transportation & Management - by **AUDA**
- Processing by – **AMC**
- Cost to be borne by **AUDA** (Rs. 5 Cr pa)
- Started since **24 July 2022**
- **30 Vehicles** deployed
- Total **8321 MTs** waste is removed in total **8821 trips**. (upto 31st December 2022)
- Daily waste removed is around **52 MTs**.





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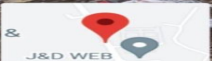
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