

Cash begins growing at Gorai dump yard

Scientific capping of Gorai dump begins earning BMC carbon credits. First cheque of Rs 24.5 crore in

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The Brihanmumbai Municipal Corporation has become the country's first civic body to earn and encash carbon credits, a kind of international rewards programme that encourages reduction of greenhouse gas emissions.

And it's not a small sum -- the first cheque received by the corporation is of Rs 24,51,39,862. The second cheque could be on its way soon.

The BMC earned these carbon credits by successfully capping its Gorai dumping ground, that had reached its capacity, and then putting in place a mechanism to continually collect methane being released inside the dump and burn it before it escaped into the environment.

The Gorai dump is currently 'flaring' 300 to 400 cubic metre of methane gas, one of the most dangerous of the green-house gases, every hour.

The Solid Waste Management Department, which helmed this pioneering project, is now looking at various options to not burn the gas, but instead use it to generate energy. If it manages this transition, the corporation's carbon credit earnings will go up.

“The money earned from this project is a bonus for us. The dump had to be capped. The focus was on doing it scientifically to minimise environmental damage,” said Chief Engineer, Solid Waste management, Bhalchandra Patil.

For record, the corporation hopes to earn Rs 72 crore by selling the carbon credits and it has spent a little over Rs 49 crore setting up the project. It spends around Rs 83 lakh a year on its maintenance.



Capping the dump

The 19.6 hectare Gorai dump stopped accepting garbage on Jan 1, 2008, that's 30 years after it was designated a landfill site. By then, it had accumulated an estimated 2.34 million tonnes of trash. In the first stage of capping, the entire landfill site was walled from all sides.

These walls had their foundations dug deep enough to touch the hard rock underneath. This was done to prevent the

dirty groundwater from flowing into the creek on the one side and the adjoining land on the others. The dump was then covered with two feet of construction demolition waste, followed by a cover of high-density polyethylene sheet. A geo-membrane cover was laid on the polyethylene sheet, followed by another layer of construction and demolition waste and soil to grow grass.

Thirty interconnected wells were dug into this 'tamed' dump to collect the methane gas it will continue to generate for ten to fifteen years. This maze of wells was connected to an extraction unit and thence to a 20-foot chimney to 'flare' the gas.

Money from the dump

The project was registered with the United Nations Framework Convention on Climate Change (popularly known as Kyoto Protocol) in February 2010. Its international validation was carried out by DNV.

The carbon credits were sold in a future trading arrangement to the Asian Development Bank, with which the corporation signed an Emission Reduction Purchase Agreement in 2008.

The arithmetic of carbon trading is a little complex - 1 tonne of methane is equivalent to 21 tonne of CO₂. And 1 tonne of CO₂ is equal to 1 Certified Emission Reduction (CER).

The project has so far has been able to encash 3 lakh Certified Emission Reductions and 1.25 lakh Voluntary Reductions at \$13.85 per CER and \$ 8.81 per VER.

"It's a matter of pride for us that the BMC has become the first civic body in India to earn and encash carbon credits. This project has been recognised globally as a success story," said P S Awate, executive engineer, Solid Waste Management.

