

CT launches landfill gas flaring project

Late last week saw the official launch of the Cape Town Department of Solid Waste Management's landfill gas flaring project at the Coastal Park landfill facility. This process destroys the methane, which has a global warming potential approximately 25 times greater than carbon dioxide, that is present in landfill. Not only does this offset carbon emissions, but gas that is converted to energy can be used to fuel a variety of operations.



The project, which will soon be in operation at three separate landfill sites in the city, has been years in the making, requiring extensive work to be done by officials to develop a UN-approved Clean Development Mechanism (CDM). CDM is a mechanism of the Kyoto Protocol, which allows developing countries to implement approved carbon offsetting projects which developed countries may invest in by purchasing “carbon credits”.

Fuel for electricity generation

Organic matter disposed of in landfill decomposes anaerobically (in the absence of oxygen) and forms a landfill biogas that is rich in methane. Methane is a highly combustible gas that can be collected and used as a fuel in industry, to generate electricity or as a fuel for vehicles. The city intends using the energy largely as a fuel for generation of electricity. This means additional operating cost savings can be expected by reducing bulk electricity purchases with the aid of these small-scale generation projects.

The projects are likely to produce approximately 1MW of energy, based on estimates, and are dependent on the volumes of gas available. This is sufficient to power an energy-intensive operation such as a wastewater treatment facility.

The gas extraction and flaring systems have been established at Coastal Park and Bellville South landfills, and a similar system is in development for operation at the Vissershok South landfill. The system comprises a wellfield made up of a combination of vertical and horizontal wells, well heads, condensate traps, pipeline, gas blowers, measuring instrumentation, and a gas flare.

Contributing to SA's climate change mitigation goals

"This kind of intervention is critical for moving Cape Town a step closer to being a sustainable city. Global warming is one of the key factors that drives climate variability – and ultimately climate change – the effect of which we are already feeling acutely in the Western Cape. The destruction of this greenhouse gas, which is a major contributor to global warming, assists not only the city but contributes to national climate change mitigation goals," said mayoral committee member for informal settlements, water, waste services, and energy, councillor Xanthea Limberg.

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