



Durban landfill gas recovery, South Africa

This project consists of an improved collection of landfill gas from the Bisasar Road landfill site in Durban. The recovered gas is then used to produce electricity.

Location



The project takes place in Durban, located in the southeast region of South Africa on the Indian Ocean coast.

Project



With lots of organic material and anaerobic conditions, landfills produce massive gas emissions. Global gas emissions from landfill are estimated to be between 30 and 70 million tonnes each year. The project aims to reduce and reuse gas emissions from the Bisasar Road landfill to produce electricity.

The project comprises of a series of innovative technologies that enable important environmental outcomes.

The first component of the project is converting methane into carbon dioxide to reduce greenhouse gas effects. Methane is considered over 20 times more detrimental to the atmosphere than CO₂. The second component of the project is generating and supplying electricity to the regional grid, thus displacing electricity generation from thermal (mainly coal) power plants.

By generating local electricity the project activity achieves a reduction in transmission losses, which occur when electricity is transmitted over longer distances.

In addition to reducing greenhouse gas emissions, the project boasts significant improvements for local communities, with locals benefiting from improved air quality.



Project achievements



Socio-economic impact:

- The project activity has enabled an increase of local employment in the area of skilled jobs for operation and maintenance of the equipment.
- The project activity also improves local air quality by reducing the amount of landfill gas released into the atmosphere and thus reducing the risk of exposure of neighbouring residents to associated health and odour risks. This is particularly relevant as the Bisasar Road landfill site is located close to a residential area.
- A proportion of the revenue from the sale of carbon credits is ring-fenced for community projects. Activities that are eligible for funding are, for example, waste management and recycling programmes, vocational training and skill enhancement, energy efficiency projects, and the development and use of renewable energy sources.

Environmental impact:

- By displacing electricity from the grid the project reduces emissions related to coal-fired power production. It also reduces the adverse impacts related to transportation of coal and coal mining.
- Furthermore, all landfill gas capturing wells are equipped for leachate removal, which contributes to the protection of local groundwater and improves local groundwater quality.

Checklist Project 301 226



✓ Additionality and permanence:	according to the rules of the VCS
✓ 3 rd party verified:	by TÜV Süd
✓ Transparency:	provided by the UNFCCC registry
✓ Annual CO ₂ -reduction:	370,000 tCO ₂ e
✓ Social and environmental benefits:	as documented in our database
✓ Marketing material:	pictures available

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