



From dumping site to power station, Belo Horizonte, Brazil

Once the city's largest single source of greenhouse gas emissions, the Belo Horizonte landfill has been successfully transformed into a cost-effective energy generating waste treatment center after 32 years of operation.

Location



The project is located just outside Belo Horizonte, the capital city of the state of Minas Gerais, Brazil's second most populous state. Belo Horizonte is the sixth largest city and ranked as the third most populous metropolitan area in Brazil. The area around the landfill has an average annual precipitation of 1,460 mm and an average temperature of 21°C.

Project



Over the past 32 years, the city of Belo Horizonte has been receiving non-hazardous municipal, industrial, commercial, institutional and agricultural solid waste. As waste accumulated over the decades, the city's landfill site has grown to nearly 115 hectares. Until now, methane from the landfill- a greenhouse gas 21 times more potent than CO₂- was emitted directly into the atmosphere. Despite well-documented health risks, workers and those living close proximity were directly exposed to pollution from the site.

With the Belo Horizonte Landfill Gas (LFG) Project, methane from the site is being directly converted into energy by means of high temperature flares. The resulting electricity is being directly fed into the national grid, replacing alternative fossil fuel sources.

In total, 65 hectares of the landfill has been converted through the project's collection, transportation and treatment system- thus improving air, soil and water quality in the vicinity. The implementation of the project has further lead to improved occupational health and safety for workers at the landfill.

Not only does the center generate additional energy enough to support the electricity consumption of approximately 30,000-35,000 people, it also significantly improves the living environment and reduces the city's GHG emission.



Project achievements



Socio-economic impact:

- As well as health insurance, employees and their family-members receive free medical check-ups.
- World Environmental Weeks are organised in cooperation with Belo Horizonte municipal authorities.
- Various projects of Children Associations around the landfill area are funded.
- Funding of Alegro da Criança project which improves living conditions of over 500 children from poor families in the area, including playgrounds, entertainment events, after school group activities and other projects.
- A social involvement project targeting schools, local communities, universities and relevant stakeholders, provide environmental education.
- As part of the agreement between the landfill site operator and the city of Belo Horizonte, a share of revenues from sales of the carbon credits generated by the project will be transferred to the municipality and used for the improvement of local infrastructure.
- Funding of the National Day for Climate Change Awareness, celebrated on the 16th of March each year in Brazil, where all kids from the neighbourhoods are invited to join workshops and watch educational videos on good environmental practices.

Environmental impact:

- The project significantly improves local air, water and soil conditions.
- Methane can actually be harmful to humans, in some cases causing nausea, drowsiness or irritation of the eyes and nose. The implementation of the project and prevention of gas emissions has therefore greatly improved the local air quality, and the health and wellbeing of workers at the site and people living nearby.
- Prior to the project, solid waste was left untreated and there was no management system to prevent the water draining through the waste (known as leachate) from contaminating the local soil and groundwater. With the implementation of the project the leachate is now captured and treated, preventing further contamination of the water supply and associated health risks.
- The project and its pioneering holistic approach have served as a model for clean development throughout Latin America.

Checklist Projekt 301 656



The Gold Standard®
Premium quality carbon credits

✓ Additionality and permanence:	according to the rules of the Gold Standard
✓ 3 rd party validated:	by SGS
✓ Transparency:	provided by the Markit Environmental Registry
✓ Annual CO ₂ reduction:	134,000 tCO ₂ e
✓ Social and environmental benefits:	as documented in our database

For further information and to learn about availabilities please contact:

South Pole Carbon, Sales Department

sales@southpolecarbon.com

+41 43 501 3550

www.southpolecarbon.com

Zurich · Bangkok · Beijing · Hanoi · Hong Kong · Jakarta · Johannesburg · Kampala · London · Medellin · Melbourne · Mexico City · New Delhi · Stockholm · Sydney · Taipei

All information as of 2014. Disclaimer: Please note that this publication is for your information only. Neither South Pole Carbon nor any person acting on behalf of South Pole Carbon is responsible for the use which might be made of the following information, especially not for the completeness and correctness of the material contained herein.

