

## Waste management

In 2011 South Africa generated in the region of 50,008,862 tons of general waste. <sup>1</sup>Of the waste that goes to landfill, approximately 10% was recycled in 2006. 40% of landfill waste is organic matter. Organic matter emits methane in a process of anaerobic decomposition. This methane can be captured to produce electricity or it can be combusted into pollutants that are less damaging to the climate (as they have a lower global warming potential). In 2006 2% of landfill gas was captured and 30% of this was used to generate electricity.

The *waste management* Lever uses methane from landfill gas and from sewage to produce electricity, and it leaves recycles organic wet waste to make compost and fertilizer.

### Level 1

Level 1 assumes that from now to 2050 10% of general solid waste is recycled. In 2006 no sewage was used to generate electricity. This grows to 3% by 2020 and to 10% 2050. By 2050 10% of landfill gas is captured and 75% of this is used for electricity.

### Level 2

Level 2 assumes that recycling grows from 10% in 2006 to 12% in 2050. Of total sewage sludge the amount used for energy production grows to 6% by 2020, and then to 20% by 2050. By then 30% of landfill gas is captured and 80% of this is used for energy production.

### Level 3

Level 3 assumes that by 2050 15% of general waste is recycled. The percentage of sewage used for energy grows from 10% in 2006 to 30% in 2050. 50% of all landfill gas is captured and of this 85% is used for energy production. The rest is flared.

### Level 4

Level 4 assumes that 24% of general solid waste is recycled. This is the maximum recyclable amount. 16% of sewage sludge is used for energy production by 2020 and this grows to 50% by 2050. Landfill gas capture becomes highly effective and 70% is captured, of which 90% is used to generate electricity.



The landfill gas to electricity generation plant at Durban eThekweni . Source: [www./impumelelo.org.za/](http://www./impumelelo.org.za/)