

Improved Landfill Management

Remediation, Closure and Aftercare

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Landfill closure planning should start early



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Tullamarine landfill – now closed



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Tullamarine closed landfill site

- Installation of final capping



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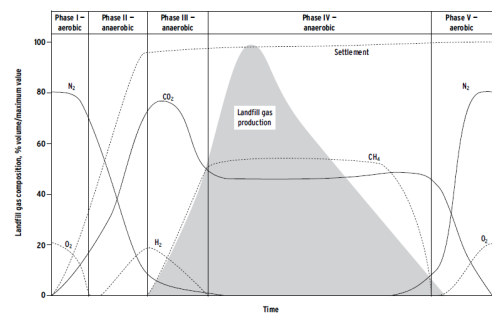
Tullamarine closed landfill site

- Installation of final capping



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Landfill gas generation



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Landfill gas generation and management

- Installing LDPE cover



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Landfill gas generation and management

- Gas collection manifold



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Landfill gas generation and management

- Installing pipeline along boundary fence



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Final HDPE cell cover and leachate pond



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Geotextile under topsoil cover



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Reclaimed mulch on batters



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Erosion on final cover, Bega Valley NSW



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Rehabilitation/sediment controls



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Rehabilitation area with sediment controls



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Rehabilitating cell cover



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Irrigation of rehabilitation area



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Buttonderry landfill, NSW – rehabilitation



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Landfill gas generation and management

- Stevensons Road Closed landfill, Cranbourne VIC
- Operated for 9 years, closed in 2005
- Brookland Greens estate commenced in 1999
- Buffer distance from landfill reduced from 500m to 200m by VIC Civil and Administrative Tribunal (VCAT) in 2004
- 29 families evacuated in 2008 as a result of landfill gas emissions
- Although the landfill had previously been capped, new capping and pipework to carry landfill gas and leachate was required to control the landfill gas emissions
 - 200,000m³ earthworks
 - 100,000m² liner low density polyethylene
 - 15,000m high density polyethylene pipe ranging from 32 to 355 mm diameter

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Gas well enclosure on closed landfill



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Landfill gas extraction from closed landfill



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Landfill gas well head



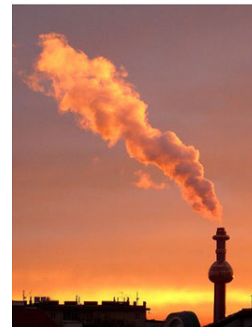
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Gas collection



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Landfill gas flare



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Buttonderry landfill, NSW – gas generator



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Landfill gas generator, Maryland, USA



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Cairns Regional Landfill



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Former landfill now sports ovals

- Kings Park, Raymond Terrace, NSW



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Golf course and sports ovals

- North Turrumurra landfill, Sydney, NSW



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Sydney Olympic Park

- Rehabilitated landfill



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Performance based aftercare

- Depends on leachate generation and quality, gas generation, settlement etc

