

SOIL VAPOUR AND HAZARDOUS GROUND GAS



MARKET SECTORS



Property



Waste Management



Construction



Government



Transport & Logistics



Industrial

WHAT CAN EPIC DO?

Epic Environmental offers the comprehensive technical skills required for assessing and managing soil vapour and hazardous ground gas.

Our group comprises project managers, environmental engineers, scientists and technical specialists, all of whom possess extensive knowledge on soil vapour, vapour intrusion and hazardous ground gas assessment and management.

LANDFILL GAS MANAGEMENT

Epic's engineers and technical specialists uphold relationships with industry bodies and research groups, staying well informed of the latest landfill gas management, control and recovery processes.

Essentially, landfill gas is controlled in the design phase with appropriate extraction and control systems. However, landfill gas risks associated with closed or historical landfills, which may be subject to ever increasing urban encroachment, present several site-specific constraints and management challenges.

Our team is skilled in the assessment of landfill gas generation and migration risks, and has developed site-specific landfill gas risk models to assess impacts to potential receptors. The risk assessment process is crucial in developing appropriately targeted remedial or management measures. Epic has been at the forefront of developing and implementing on ground control measures such as:

- Vinyl sheet pile cut off walls
- Bentonite slurry cut off walls
- Membrane curtains and venting membranes
- Passive and active extraction systems
- Landfill gas, methane, H₂S real-time monitoring and alarms systems

VAPOUR INTRUSION AND MANAGEMENT

Epic offers comprehensive technical skills for the assessment and management of soil vapour and vapour intrusion. Our experience includes the assessment, management and remediation of sites impacted by hydrocarbons and chlorinated solvents, including service stations and fuel depots, gasworks, dry cleaners and former industrial sites.

Our team are up to date with the latest sampling techniques and equipment, as well as mitigation and remediation technologies.

We can assist with:

- Design and implementation of site investigation and monitoring programs
- Detailed risk assessment of sites impacted by soil vapour and vapour intrusion
- Identification of cost-effective remediation, mitigation and management measures
- Design of passive and active vapour barriers
- Installation of soil gas monitoring well networks
- Soil gas assessment and remediation
- Assessment of off-site soil gas and potential off-site impacts
- Assessment of soil gas volume and flow characteristics
- Assessment of ground contamination impacts

REMEDIATION AND REDEVELOPMENT

Epic has a proven record in the assessment of historical landfill sites and sites impacted by ground gas and vapour intrusion. We have developed cost-effective rehabilitation and remediation strategies to achieve project objectives.

With the ongoing growth of our urban environment, historical landfill and contaminated industrial sites are becoming a valuable resource for both commercial and public reuse. An assessment of the potential environmental risks and constraints is vital when developing the best beneficial reuse outcomes.

Our team can manage the design and implementation of remedial works for former landfills, waste disposal facilities and contaminated sites. We can efficiently assess a range of feasible options to determine the most effective reuse option for any given site.

OUR EXPERIENCE

- **Ipswich City Council** - Completion of detailed risk assessments for 10 closed landfill sites and recommendation of site-specific mitigation measures along with monitoring regimes to minimise impact and ensure safe and effective long-term management.
- **Westconnex Stage 3A (WCX3A)** - Completion of a preliminary hazardous ground gas risk assessment of a former landfill site and development of management controls for proposed site activities and tunnelling works.
- **South-east Queensland Landfill** - Completion of quarterly compliance monitoring at a south-east Queensland landfill site in accordance with EA conditions including sampling, analysis and quarterly and annual reporting of landfill gas, dust, groundwater, surface water and leachate monitoring completed at the site.

