

# Sustainable Landfill Management

Safe disposal at minimum costs

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In landfilling, proper management needs to be in place with regard to air, soil and ground water emissions. Measures such as liner systems help to prevent environmental damage, but have to be maintained and periodically renewed during the aftercare period. Sustainable landfill management can help to reduce the aftercare measures and save societal costs. As a renowned research institute and accredited test laboratory, ECN advises on preventing environmental damage while keeping costs in check.

- Environmental risk assessment
- Landfill management consultancy
- Geochemical modeling
- Emission tests (leaching)

## Prevent environmental damage

Water from inside the landfill may leach out substances such as metals and organic contaminants and can cause environmental damage if not managed appropriately. At ECN, we test materials for leaching properties and we model the geochemical processes related to emissions from landfills. Therefore, we can assess the environmental impact related to landfilling of various types of waste in relation to the soil composition and hydrological conditions at the location of individual landfills.

## Save on environmental costs

Measures to prevent contaminant leaching for eternity can be very expensive, but may not always be necessary to the full extent. We advise on which measures are necessary for proper management at individual sites based on site-specific impact assessment studies.

## Innovative concepts

Self-healing liners, improved aeration, and controlled leaching are innovative concepts that were devised at ECN and with our partners. We are happy to discuss concepts that are tailored to your situation.

## Modelling

With our models, we translate contaminant leaching from a landfill into contaminant concentration in the soil over time.



### **Decades of experience across many sectors**

ECN performs environmental risk assessments for various sectors, such as waste incineration, construction, mining, nuclear waste, and landfilling. We also advise on and develop methods to enable safe application of (waste) materials, such as contaminant immobilization and removal.

- Waste and Soil
- Circular Economy
- Hazard Classification
- Sustainable landfilling
- Leaching test equipment
- LeachXS

Materials that we have worked with include industrial waste, municipal waste, incinerator bottom ash, fly ash, boiler ash, electric arc furnace slag, steel slag, concrete, cement, mortar, red mud, various filter cakes, and many more.



### **Accredited, high-quality work**

All standardized tests are performed according to relevant norms and under ISO 17025 accreditation. Please contact us to determine which tests are most suitable for your product.

