Non-CO\textsubscript{2} Greenhouse Gases: Methane

Source/Sectors: Wastes/Landfills

Technology: Increased oxidation (A.5.1.6)

Description of the Technology:
Landfills are the largest anthropogenic source of methane emissions in the United States. Key reduction options for methane emissions from landfills are reduction of the amount of organics deposited into landfills, and energetic use or flaring of landfill gas (Lucas et al., 2006).

In this option, methane emissions are reduced by the top capping and restoration layers of the landfills. A clay cap minimizes methane leakage, while the landfill soil cover above the clay cap oxidizes the escaping methane (USEPA, 2004; Inamori et al., 2003).

Effectiveness: Good

Implementability: Good

Reliability: Good

Maturity: Good

Environmental Benefits: It reduces methane emissions.

Cost Effectiveness:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Lifetime (yrs)</th>
<th>MP (%)</th>
<th>RE (%)</th>
<th>TA (%)</th>
<th>Capital cost</th>
<th>Annual cost</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased oxidation(^1)</td>
<td>50</td>
<td>-</td>
<td>44</td>
<td>100</td>
<td>$465.43</td>
<td>$0.63</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

Note: MP: market penetration; RE: reduction efficiency; TA: technical applicability; costs are in year 2000 US$/MT\textsubscript{CO2-Eq.}


Industry Acceptance Level: Fair

Limitations: Unit capital cost is very high.

Sources of Information:


