Non-CO₂ Greenhouse Gases: Methane

Source/Sectors: Natural Gas Systems (Production; Processing; Transmission)

Technology: Portable evacuation compressor for pipeline venting (A.1.2.1.10; A.1.2.3.8)

Description of the Technology:
In the United States and worldwide, many efforts have been made to identify and implement mitigation options to reduce methane emissions from the natural gas sector (USEPA, 2003). For example, the Natural Gas STAR program is a voluntary partnership between US EPA and the oil and gas industry to identify and implement cost-effective technologies and measures to reduce methane emissions. The measures to reduce methane emissions from the natural gas systems can be grouped into the following mitigation strategies: prevention, recovery and re-injection, recovery and utilization, and recovery and incineration (Hendriks & de Jager, 2001).

This option uses pump-down techniques to lower the pressure in the gas-line before venting in the natural gas production sector. An in-line portable compressor can be used to lower the line pressure by up to 90% of its original value without venting (USEPA, 2004; IEA, 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>Portable evacuation compressor for pipeline venting¹</td>
<td>15</td>
<td>100</td>
<td>72</td>
<td>&lt;1</td>
<td>$318.58</td>
<td>$2.28</td>
<td>$8.52</td>
</tr>
</tbody>
</table>

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


Industry Acceptance Level: Good

Limitations: Need to have a portable evacuation compressor.

Sources of Information:


