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

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

Technology: Use surge vessels for station/well venting (A.1.2.1.3; A.1.2.3.1)

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).

During production, processing, and distribution, a surge vessel can be used to enable gas emitted during blow-downs to be recaptured for reuse as fuel or re-injection into the pipeline (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>Surge vessels for station/well venting\textsuperscript{1}</td>
<td>10</td>
<td>100</td>
<td>50</td>
<td>&lt;1</td>
<td>$11,216</td>
<td>$224.52</td>
<td>$8.53</td>
</tr>
</tbody>
</table>

Note: MP: market penetration; RE: reduction efficiency; TA: technical applicability; costs are in year 2000 US$/MT\textsubscript{CO2-Eq.}
\textsuperscript{1}: USEPA (2004) & CEC (2005)

Industry Acceptance Level: Good

Limitations: Capital and O&M costs are high.

Sources of Information:


