Non-CO_2 Greenhouse Gases: Methane

Source/Sectors: Natural Gas Systems (Production)

Technology: Inspection and maintenance - equipment and facilities (A.1.2.1.18)

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 directed inspection and maintenance option is to survey facilities and equipment in the production sector to identify and quantify leak sources and perform maintenance/repair on leaks that are most cost-effective to repair (USEPA, 2004; IEA, 2003).

Effectiveness: Good

Implementability: Good

Reliability: Good

Maturity: Good

Environmental Benefits: It reduces methane emissions.

Cost Effectiveness:

Technology	Lifetime (yrs)	MP (%)	RE (%)	TA (%)	Capital cost	Annual cost	Benefits
Inspection and maintenance (facilities & equipment)[1]	5	-	33	1-3	$193.25	$289.88	$6.82

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

1: IEA (2003) & USEPA (2004)

Industry Acceptance Level: Fair

Limitations: Capital and O&M costs are high.

Sources of Information:

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