

Non-CO₂ Greenhouse Gases: Methane

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

Technology: Inspection and maintenance - storage wells, enhanced (A.1.2.3.27)

Description of the Technology:

Natural gas produced from gas fields needs to be transported to distribution systems, power plants, or chemical plants through high-pressure pipelines. Compressor stations, which contain large reciprocating engines and turbine compressors, are used to move the gas throughout the United States. Natural gas is also injected and stored in subsurface formations, or liquefied and stored in aboveground tanks to meet the fluctuations in gas demand. Sources of methane emissions include emissions from compressors, metering, and regulating stations, dehydrators, and pneumatic devices (USEPA, 2006a).

This option is a more aggressive inspection and maintenance program with increasing frequency to survey storage wells in the processing and transmission sectors to identify and quantify leak sources and perform maintenance/repair on leaks that are most cost-effective to repair. It costs more, but also achieves greater saving by reducing leaks further (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 (storage wells - enhanced) ¹	5	-	50	<0.5	\$38.59	\$38.59	\$7.08

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

1: IEA (2003) & USEPA (2004)

Industry Acceptance Level: Fair

Limitations: Annual O&M cost is relatively high.

Sources of Information:

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