Non-CO$_2$ Greenhouse Gases: Methane

Source/Sectors: Natural Gas Systems (Field Production)

Technology: Other options for methane reductions related to dehydration (A.1.2.1.8; A.1.2.3.6)

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).

In addition to reducing glycol recirculation rate and installation of flash tank separators, there are other options for reducing methane emissions: they include:

- Replace glycol dehydrators with desiccant dehydrators (Tingley & Fernandez, 2003)
- Minimizing strip gas in glycol dehydration (Hendriks & de Jager, 2001)
- Increasing the pressure of the condensate flash (Hendriks & de Jager, 2001)
- Reroute glycol dehydrator vapor to vapor-recovery unit (Fernandez et al., 2005)

Effectiveness: Good

Implementability: Good

Reliability: Good

Maturity: Good

Environmental Benefits: It reduces methane emissions.

Cost Effectiveness: Data are not available.

Industry Acceptance Level: Good

Limitations: None reported

Sources of Information:


