Disclaimer

This document has been developed by the Methane Guiding Principles partnership. The Synopsis provides a summary of current known mitigations, costs, and available technologies as at the date of publication, but these may change or improve over time. The information included is accurate to the best of the authors’ knowledge, but does not necessarily reflect the views or positions of all Signatories to or Supporting Organisations of the Methane Guiding Principles partnership, and readers will need to make their own evaluation of the information provided. No warranty is given to readers concerning the completeness or accuracy of the information included in this Synopsis by SLR International Corporation and its contractors, the Methane Guiding Principles partnership or its Signatories or Supporting Organisations.

This Synopsis describes actions that an organisation can take to help manage methane emissions. Any actions or recommendations are not mandatory; they are simply one effective way to help manage methane emissions. Other approaches might be as effective, or more effective in a particular situation. What readers choose to do will often depend on the circumstances, the specific risks under management and the applicable legal regime.
Methane emissions from the main sources of venting can be reduced by doing the following:

- Keeping an inventory of emissions from venting.
- Avoiding or reducing venting from the following:
  - Hydrocarbon liquid storage tanks
  - Compressor seals and starter motors
  - Glycol dehydrators
  - Removing liquids from gas wells
  - Well-completion operations
  - Oil well casinghead venting
- If methane needs to be released, using vapor recovery or flaring rather than venting.

The methods for reducing emissions from venting have a lot in common with best practice for reducing emissions from flaring, and through engineering design, which are summarized in separate documents.

**Methods of reducing methane emissions**

**Reduce venting from storage tanks**

Storage tanks, especially in production, can vent significant volumes of gas. Strategies to reduce emissions depend on the venting causes for your location. Strategies include:

- installing vapor-recovery systems;
- getting rid of tanks at production sites;
- adding automatic gauging and vapor-balance systems to tanks;
- adding tank-pressure monitors; and
- including tanks in a routine leak detection and repair program.
If venting cannot be reduced, flaring the gas released from tanks can reduce methane emissions.

**Reduce venting from compressor seals**
Emissions from reciprocating compressor rod packing can be reduced by including packing vents to a routing leak detection and repair program, or by replacing rod packing as part of a routine replacement program.

Venting from centrifugal compressors that have wet seals can be reduced by adding the vents in a leak detection and repair program, or converting the seals to dry systems, which release less gas.

Where venting cannot be reduced, flaring the released gas can reduce methane emissions.

**Reduce venting from compressor starter motors**
Compressor starter motors that are powered by natural gas can be converted to be powered by electricity or compressed air. If this is not possible, directing the released gases to a vapor-recovery system or flare can reduce methane emissions.

**Reduce venting from glycol dehydrators**
Glycol dehydrators can be replaced with alternative technologies (such as desiccant systems) that have lower emissions, or emissions can be reduced by electrifying the lean glycol pump, and by installing a flash tank so gas can be recovered and reused.

**Reduce venting arising from well completions**
Venting from the process of completing and flowback from wells can be reduced by using ‘green’ completion technologies, such as large temporary pressurized flowback equipment.

**Reduce venting arising from removing liquid from gas wells**
Venting from the process of removing liquid from gas wells (also called “gas well unloading”) can be reduced by altering the manual process to minimize the duration of venting, physically altering the well and downhole equipment to remove the need for processes that vent or, in some cases, adding automated liquid-removal systems.

**Reduce venting arising from oil well casinghead venting**
Venting at an oil wellhead from the annular casinghead space can be reduced by using vapor recovery systems or by flaring.
Further information

MGP Website:
www.methaneguidingprinciples.org

OGCI:
https://oilandgasclimateinitiative.com

CCAC OGMP:

IEA Methane Tracker:
https://www.iea.org/weo/methane

Natural Gas STAR Program:
https://www.epa.gov/natural-gas-star-program