Methane Roadmap

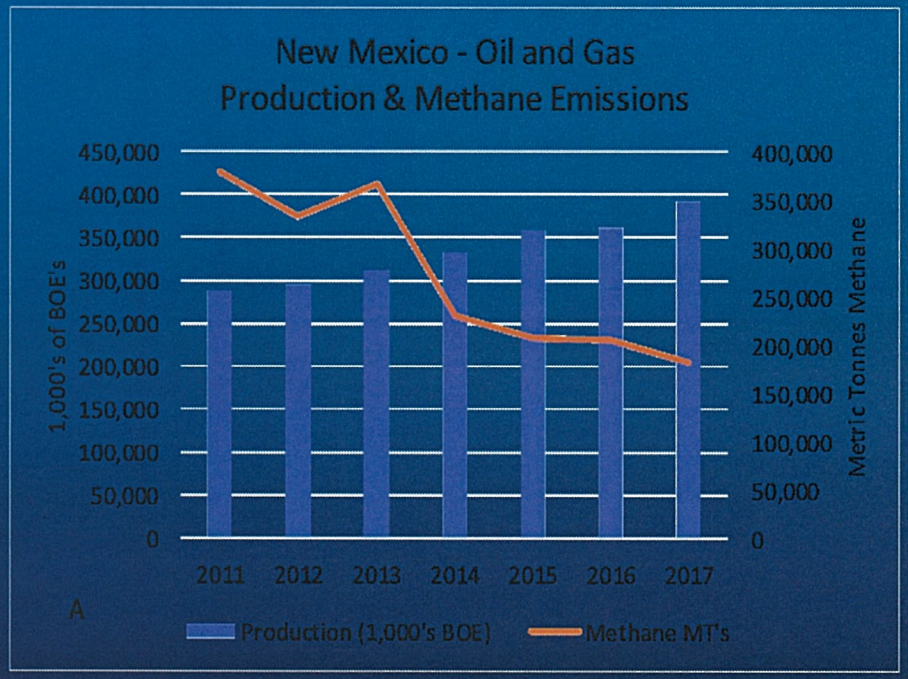
Water & Natural Resources Committee

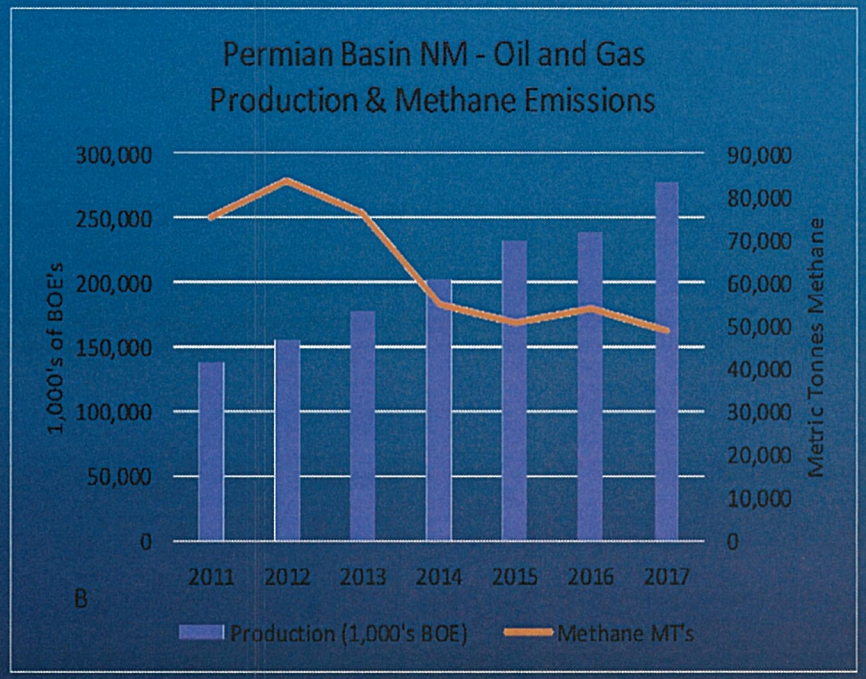
September 5, 2019

Methane and VOCs

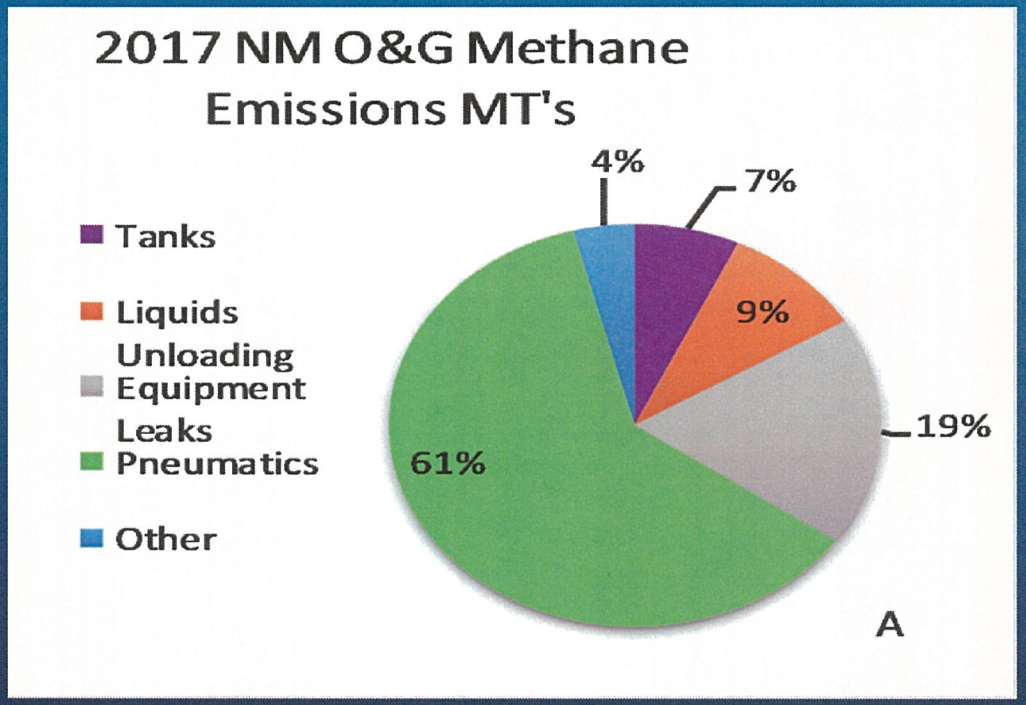
- Methane and VOCs are co-emitted from equipment, and the same control reduces both.
- Methane is a greenhouse gas with a shorter atmospheric lifetime than CO2 (12.4 years). Methane is 25 times more potent than CO2 on a 100 year timeframe.

Methane Declining as Production Increases





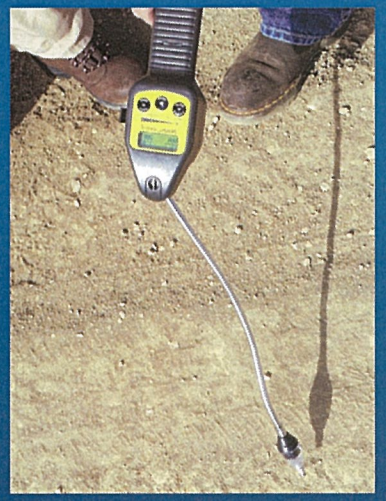
EPA Data on Methane in New Mexico



Analysis of US EPA GHGRP Data, NMOGA Roadmap

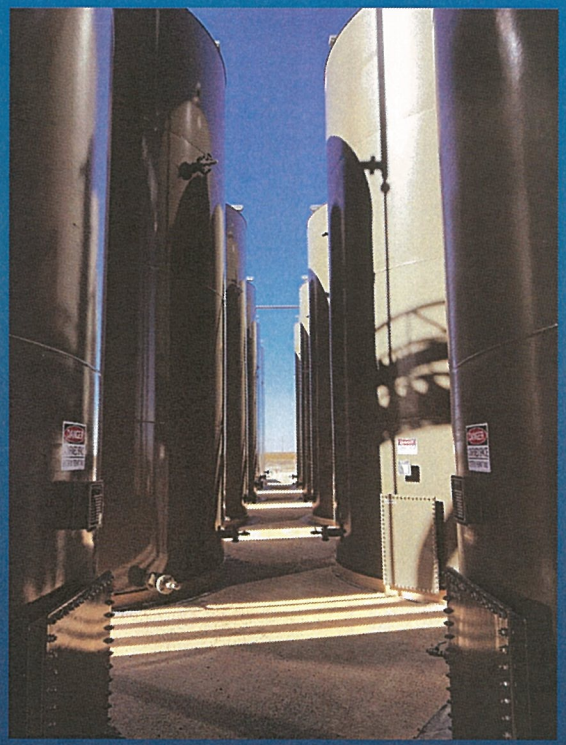
Fugitive Emissions

- Production facilities contain numerous equipment components such as valves, flanges, threaded connections, that are all intended to contain gases or liquids. Over time, leaks can occur.
- Larger leaks are generally detected quickly by changes in operating parameters, or by sight, sound or smell.
- Industry data shows that leak occurrence rates are significantly lower than previously assumed.
- NMOGA supports an annual program of instrumented inspections on facilities that are not currently subject to EPA's OOOOa New Source Performance Standard, are not marginal well facilities, and contain more equipment than just wellheads.



Tanks/Storage Vessels

- Storage vessels hold crude oil, condensates and produced water. They can be installed individually or in a group called a battery.
- Before being routed to a storage vessel, liquids pass through separation equipment where most of the entrained gas is separated and routed to sales or a control device. Some gas remains and will flash off when liquids reach an atmospheric storage vessel.



Tanks/Storage Vessels (cont.)

- Tanks built or modified after August 23, 2011 are required by US EPA (40 CFR 60 Subpart OOOO) to be controlled to 6 tons per year VOC.
- NMOGA supports control requirements for tanks not subject to OOOO with appropriate thresholds.

Pneumatic Devices

- Used for various control purposes – shut down, level control, pressure, temperature, flow.
- NMOGA supports phasing out continuous, gas powered, high bleed pneumatic controllers as there are commercially proven, cost-effective alternatives available. Sufficient time (e.g. 3 years) for manufacturers of alternatives to stock enough supply is necessary.

Well Liquids Unloading

- Gas wells occasionally need to have liquids removed from the wellbore.
- NMOGA supports best practices to limit emissions from unloadings.
- University of Texas Liquids Unloading animations:
  - https://www.youtube.com/watch?v=hH-Q1JMX4_M&feature=youtu.be
  - https://www.youtube.com/watch?v=tup1SICEXGY&feature=youtu.be

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