Tackling Flaring: Learnings from Leading Permian Operators
Average Permian Basin natural gas flaring rate vs. top-tier operators interviewed

- Average Permian basin flaring rate: 3.7%
- Pioneer: 0.8%
- EOG Resources: 0.9%
- Chevron: 1.0%
- OXY: 1.0%
- Parsley: 2.6%

Findings: Three main themes facilitating best-in-class flaring performance

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<td>1</td>
<td>Strong governance structure coupled with leadership on environmental stewardship</td>
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<td>2</td>
<td>Commitment to reduce or eliminate flaring by ensuring that wells do not go online until gas takeaway is in place</td>
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<td>Best-in-class practices to ensure flare functionality and reduced vapor emissions</td>
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1 Governance and environmental stewardship

• **Sharing best practices** with other producers
• Establishing **cross-functional working committees** dedicated to reducing routine flaring
• **Communicating** flaring **targets and progress** against targets in group settings
• Conducting **internal learning** and technical conferences
• Making flaring intensity data **transparent** and visible to employees
• Setting **aggressive flare intensity** goals
  – Intensity-based; Absolute reduction targets; Year over year improvements; Public statements on appropriate level of flaring intensity
• Tying **compensation metrics** to flaring performance goals
The best flaring practice is to not flare at all

- Strategic leadership decisions requiring gas line be connected on all new wells, eliminating the need to flare associated gas in the first place
  - Infrastructure takeaway must be in place before well comes online, coupled with the willingness to shut in wells if the infrastructure is not in
- Takeaway not a barrier but constraint, *i.e.*, a condition that needs to happen before a project is successful
- Planning, communication, commitment
- Strategic, long term partnerships with midstream
- Integrated business model (gathering, processing, compression)
Best operating practices

• Non-routine flaring necessary in the case of operational upsets, high gas line pressures or for safety reasons

• Utilizing trained staff or contractors to routinely and frequently check flares was cited as one of the best practices in terms of both operational efficacy and cost efficiency; in addition
  − Equipment and processes in place to ensure flare tips are lit and functioning properly
  − Emissions monitors and controls incorporated into facilities design

• Pro-active, strategic approach to manage operational upsets

• Use of vapor recovery units on majority if not all, pad sites with the intent of achieving maximum emissions capture efficiency
Beneficial financial impact of leading practices

• Financial statement impact
  − Protect cash flows
• Risk mitigation
  − Long term investment stability; social license to operate
• Access to capital markets
  − Facilitate access to capital markets, lower bank risk profile, possibly drive a premium to multiples
Thank You

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Report may be accessed here:

It is available to download from here:
https://www.gaffneycline.com/methane-management-solutions