

# Equipment and Process Standards



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Methane Abatement for Oil and Gas: Handbook for Policymakers

# About the Handbook

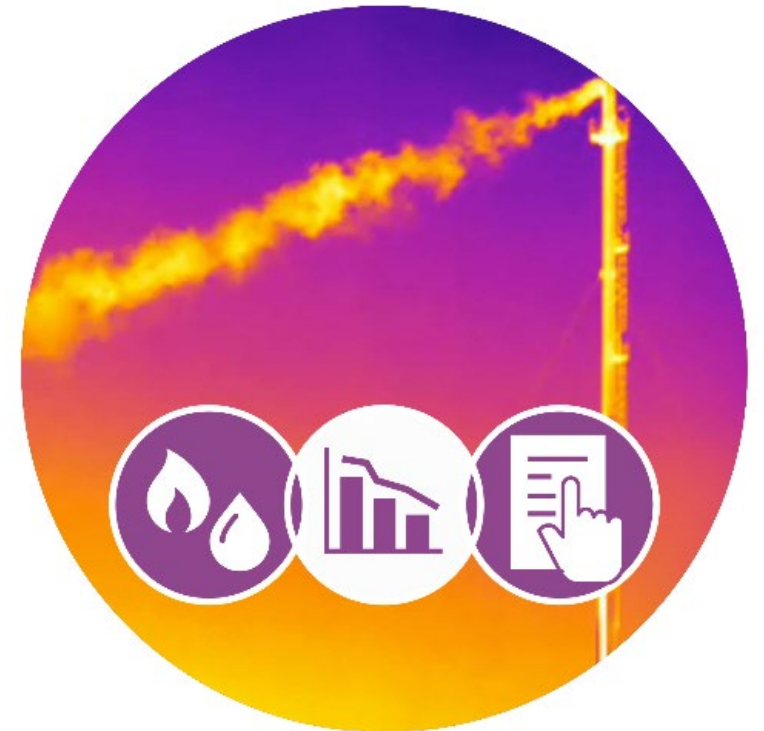
A 'how-to' action guide to empower legislators, ministries, regulators, and NOC officials to adopt and enforce legal instruments that will rapidly and effectively reduce methane emissions from the oil and gas sector.

Available here:

<https://cldp.doc.gov/methane-abatement-resources>

## Methane Abatement for Oil and Gas

Handbook for Policymakers



Methane Abatement for Oil and Gas: Handbook for Policymakers

# About the Handbook (Cont.)

- Sponsored by **U.S. Department of State, Bureau of Energy Resources.**
- Drafted over one week in an intense session with 13 expert co-authors.
- Co-written by authors representing:
  - Government (U.S., Sri Lanka, and Bangladesh)
  - NGOs
  - Multilaterals
  - Industry
  - Academia



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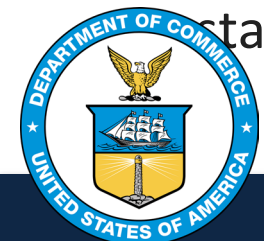
CLEAN AIR  
TASK FORCE



## Equipment and Process Standards

# Key Takeaways

- Methane can be emitted from equipment used in the oil and gas sector as a result of the design of that equipment or by the operating standards for that equipment. Requiring operators to follow equipment and process standards is an important regulatory tool for methane abatement.
- Regulations may require companies to replace higher-emitting equipment with lower-emitting alternatives or adopt specific procedures that reduce methane emissions.
- There are many examples of equipment and process standard regulations in the oil and gas sector. These regulations can apply to well completions and pneumatic devices, including valve controllers and pumps, compressors, storage tanks, glycol dehydrators, and liquids unloading.
- In 2022 Nigeria adopted a regulation which includes equipment and operating standards as part of implementing its methane reduction plan.



## Equipment and Process Standards

# Key Features of Equipment or Process Regulations

- Includes standards for reducing **emissions** related to **equipment** and **processes**.
- **Targeted regulations** for equipment/process:
  - Pneumatic devices, compressors, storage tanks, glycol dehydrators, Liquids unloading, well completions, zero-bleed pneumatic controllers, etc.
- **Performance-based equipment standards** – Instead of requiring a specific device, a regulation can list the required level of performance, e.g., pneumatic controller that emits less than 0.17 standard cubic m/hr.
- **Coverage of sources** – Regulations may distinguish between large and small sources or provide other distinctions related to the cost or feasibility of compliance.
- **Monitoring** – A key consideration is determining the emissions reductions achieved by a requirement, which may be determined either by product design or with periodic testing.
- **Reporting, certification, and auditing** – Reporting requirements are important for tracking compliance and can also help improve compliance by assuring that companies know how they are performing. Regulations may also require third-party certification via an audit.



## Equipment and Process Standards

# Example: Equipment Standard Regulations in Nigeria

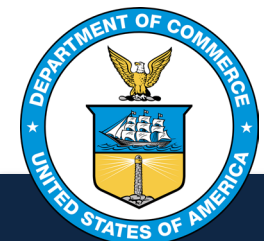
Nigeria adopted regulation in 2022 that established specific standards for classes of equipment used in upstream oil and gas operations. The regulation is a good example of using equipment standards to abate methane.

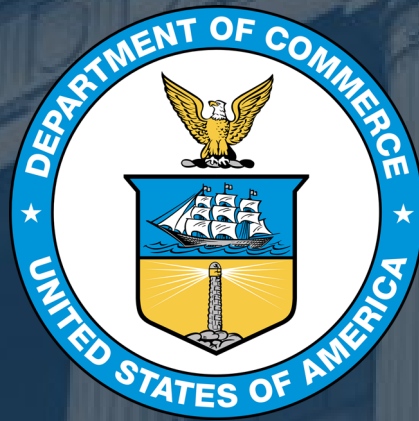
### Liquid Storage Tanks

- **Alternative equipment/process** – The regulation requires operators to implement either a vapor recovery system or a combustion device (flare) for tanks that meet a certain size threshold.
- **Coverage of sources** – The regulation applies to all fixed roof tanks with the potential to emit more than two tons per year of VOCs, regardless of the age of the tanks.
- **Monitoring** – A specific monitoring requirement for tank control devices: the storage tank and associated vapor recovery systems must be included in activities like audio, visual, and olfactory (AVO) surveys and in LDAR programs.

### Pneumatic Controllers

- Requires replacing (or retrofitting) high-bleed devices with low-bleed or zero-bleed devices, and disallows natural-gas-driven pneumatic controllers that vent gas directly to the atmosphere for many facilities.
- **Coverage of sources** – Applies to all compressor stations and processing plants, but only newly constructed well production facilities.
- **Monitoring** – There is a required annual test and regular inspections of pneumatic controllers.
- **Reporting, certification, and auditing** – Operators must keep records of the bleed rate pneumatic controller type for at least 5 years and each year must submit a report demonstrating compliance.





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