Case Study. Equinor: Hammerfest LNG leak detection improvements

METHANE GUIDING PRINCIPLES

Best Practice: Operational Repairs; Equipment Leaks

The Issue

- Hammerfest LNG liquefaction, 7.6 bcm/yr capacity
- CH4 emissions ~3,000 t/yr, fugitives and cold-vents ~80% of total
- Uses differential absorption lidar (DIAL) to estimate total emissions (but not pin-pointing)

The Approach

- In 2016, optical gas imaging (OGI) leak detection began
- “OGI leak/no leak” method defined as a Best Available Technology by the Industry Emission Directive
- Enables pinpointing and quick repair of identified leaks

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The Result

- In the first campaign 173 leaking sources identified (e.g. process valves, connectors).
- All leaks reported in the company's CMMS and corrective action taken.
- Total methane emissions reduced >80%
- In-house availability of technology has led to cultural shift for operators, seeing otherwise invisible leaks has raised focus on early warnings
- The technology is now a preferred tool to manage day-to-day operational risks in the plant.