

SFC Energy North America

Methane Emission Reduction Strategies

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Eliminating Methane Emissions

Agenda

- 01 SFC Energy Company Introduction
- 02 Methane Emissions in Upstream Applications
- 03 Managing Pneumatic Devices
- 04 Device Electrification
- 05 Instrument Air Conversions
- 06 Application Examples
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50,000

Fuel cells sold worldwide



ISO-certified for quality standards and environmental guidelines

European Innovation Award winner in 2021

100 million

Operating hours

6.5 million kWh

Environmentally friendly energy

Sales

53.2€ million

(2020 Prelim)

300

Employees

100+

Global Sales and Distribution Partners



4

Locations

Brunnthal (HQ)

Calgary

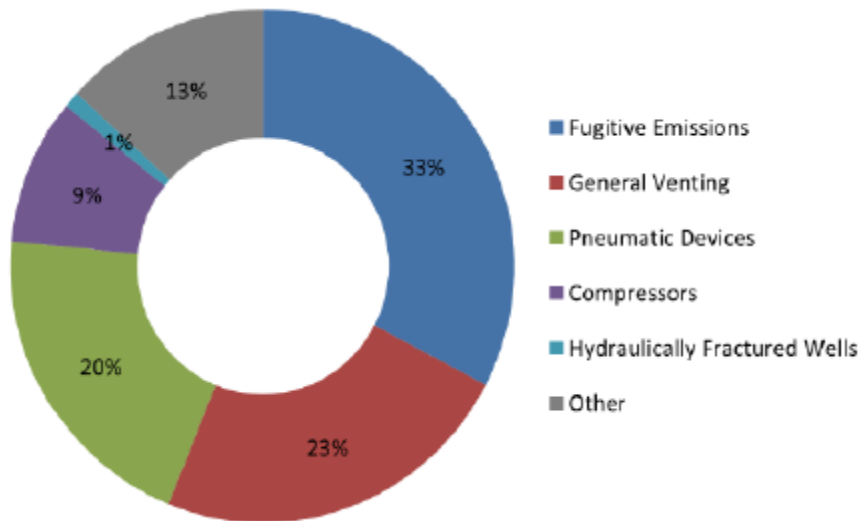
Almelo

Cluj



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Methane Emissions in Upstream Applications



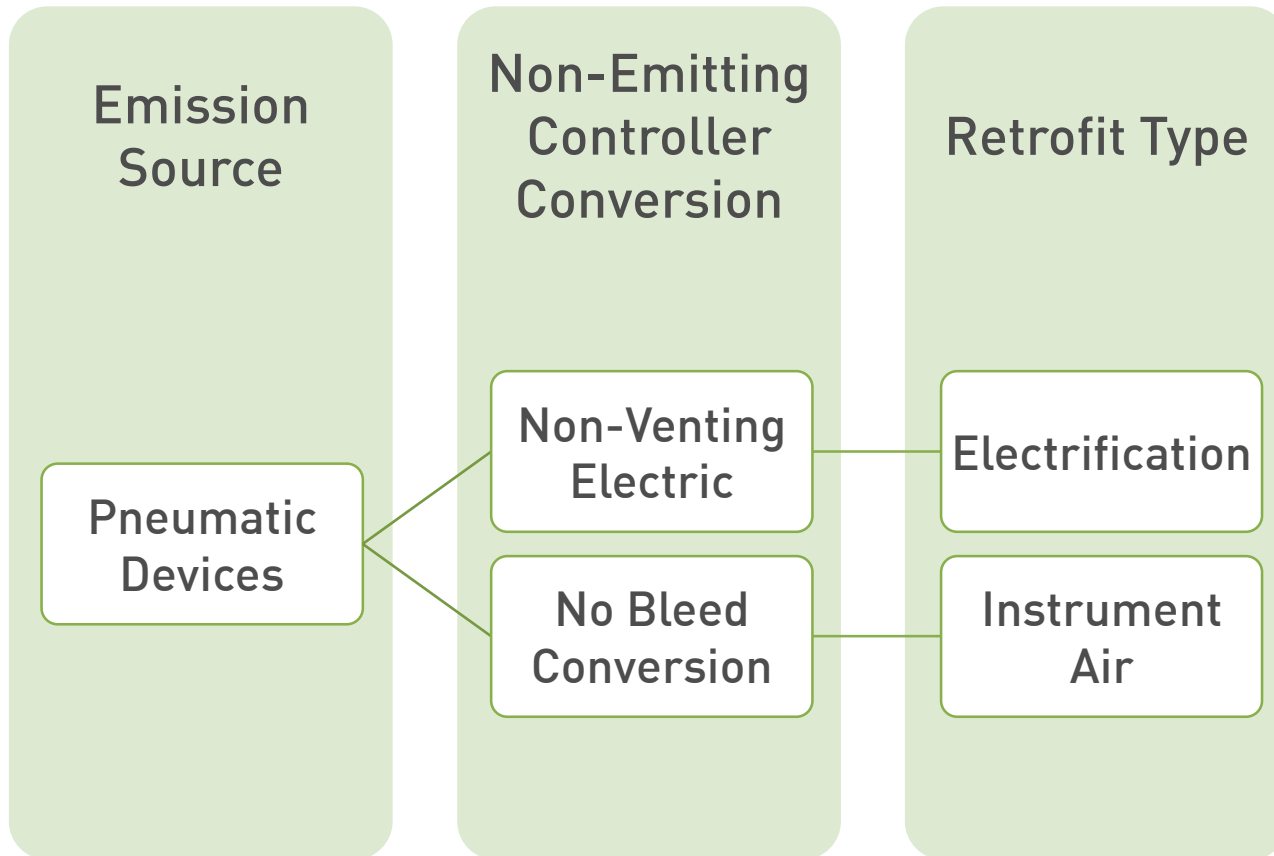
Sources of Venting At Well-Pads:

- ⏻ Pneumatic Pumps
- ⏻ Level Controllers
- ⏻ Wellhead Choke Controller
- ⏻ Electro-Pneumatic Transducer
- ⏻ Vented Methane (FLIR Camera)

Pneumatic devices contribute 20% of methane emissions in upstream well pads

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Managing Pneumatic Devices



} Both retrofits create the need for a highly reliable, power solution to handle the increase in power demand

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Device Electrification



Pros:

- ⏻ Highly reliability
- ⏻ Autonomous design results in reduced costs
- ⏻ Low operating & maintenance costs

Cons:

- ⏻ High CAPEX cost

When does this methodology make sense?

- ⏻ Ideal for greenfield applications
- ⏻ Single wells and multi-well pads

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Instrument Air Conversion



When does this methodology make sense?

- ⏻ Brownfield applications
- ⏻ Large well pad applications

Pros:

- ⏻ Use existing pneumatic devices & infrastructure
- ⏻ Air compressors readily available

Cons:

- ⏻ High power demand on air compressors – can be challenging for remote sites
- ⏻ Regular maintenance intervals

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Example: Electric Chemical Injection Pumps



- ⏻ Methane Emission free site design
- ⏻ Turnkey solution: Integrated RTU & pump controller
- ⏻ EFOY Methanol Fuel Cell & Solar Hybrid Power
- ⏻ High reliability regardless of inclement weather
- ⏻ Long Autonomy & Low Maintenance
- ⏻ Competitive total cost of ownership

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Example: Non-venting Instrument Air Solution

- Ⓞ Integrated air compressor package for well pads (10 – 60 scfm options)
- Ⓞ Renewable off-grid power solution as power source – EFOY Fuel Cell, Batteries & Solar
- Ⓞ Scalable power generation & instrument air package



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Example: Fully Electric Well Pad Solution



- ⏻ Methane Emission free site design
- ⏻ EFOY Methanol Fuel Cell & Solar Hybrid Power
- ⏻ Scalable, load following Power solution
- ⏻ Long Autonomy & Low Maintenance
- ⏻ Competitive total cost of ownership
- ⏻ Redundant design for critical, high-producing wells

Questions?



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