

WHITEPAPER

Rapid deployment and system scalability:

130 tanks, 2,200 wells and 8,000 pneumatic devices addressed over 9 weeks in Colorado



TITLE

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devices addressed over 9 weeks in Colorado

CUSTOMER

E&P Operator in the Rockies

SITE TYPE

Existing brownfield well pads

APPLICATION

Convert all pneumatics from wellhead gas to nitrogen



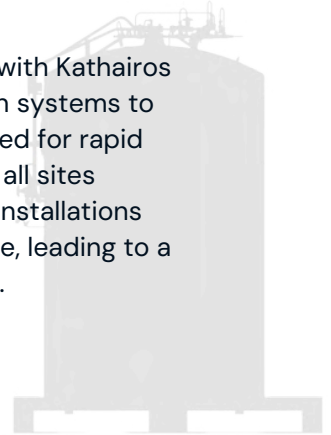
Scenario

An E&P operator in the Rockies with a large number of existing assets operating on wellhead gas for their pneumatic devices was facing a significant potential fee under the incoming IRA Waste Emission Charge (WEC) as of January 1, 2024. The fee applies to facilities emitting more than 25,000 metric tons (mt) of carbon dioxide equivalents (CO₂e) per year, set at \$900 per mt of methane in 2024, increasing to \$1,200 per mt in 2025 and \$1,500 per mt in 2026 and thereafter. The fee was set to take immediate effect as of January 1, 2024.

This operator was introduced to Kathairos' liquid nitrogen system by a neighbouring operator and current Kathairos customer who had recently deployed the system across their Piceance Basin pads.

Project

Introduced to the Kathairos nitrogen system by a peer, the operator engaged with Kathairos in mid-September 2023, quickly moving to request a proposal for 130 Nitrogen systems to retrofit over 2,200 wells and nearly 8,000 pneumatic devices. The project aimed for rapid deployment, with an installation start date in early October and a goal to have all sites operational before the end of the year. To ascertain the exact needs, the first installations were carried out on a range of well pad sizes to determine the optimal tank size, leading to a decision favoring the 1000L tanks, with larger 1500L tanks for bigger well pads.



Results and Next Steps

The installation of 130 nitrogen tanks was completed over nine weeks, converting approximately 2,500 wells across 130 pads and addressing about 8,000 pneumatic devices. This swift action resulted in avoiding an estimated \$10 million in Waste Emission Charges for 2024. The operation scaled up rapidly, with installations increasing to 20-25 tanks per week, facilitated by a dedicated third-party crew that performed the tie-ins to the existing gas distribution system.

Following this successful deployment, the operator installed an additional 70 tanks in the first quarter of 2024 and plans to continue expanding the nitrogen system to smaller sites, aiming for a zero-emission basin within the next few years. This strategy not only aligns with environmental regulations but also positions the operator for sustainable operational efficiency and financial savings in the long term.

Project Specifics

- Kathairos Nitrogen System Sizes: 1000L and 1500L
- Total Number of Wells Converted: Approximately 2,500 wells across 130 pads
- Total Number of Pneumatic Devices Addressed: Around 8,000
- Nitrogen Tanks Deployed: 130 tanks (121 of 1000L and 9 of 1500L)
- Installation Period: Over a 9-week timeframe
- Estimated Waste Emission Charge Avoided: Approximately \$10 million for 2024
- Installation Rate: Up to 5 sites per day, with a dedicated crew managing the tie-ins to the existing gas distribution system