

METHANE REDUCTION



Natural gas plays a critical role in helping reduce global levels of greenhouse gases, reducing energy poverty and protecting our country's global energy security. We also understand that reducing methane emissions is critical to ensuring the longterm viability of natural gas as a clean energy solution.

TAKING ACTION TO REDUCE METHANE EMISSIONS

At Caerus, reducing methane emissions from our operations is one of the most cost-effective and significant actions that we can take to reduce our impact to the environment. We take this opportunity seriously, and we have implemented four proven processes – from the air down to the ground – to identify and reduce methane emissions.

Aerial Surveys Using LiDAR Technology

Caerus was an early adopter of low-altitude flyovers to identify methane emissions. The flyovers use continuous-wave light detection and ranging (LiDAR) technology to scan infrastructure from the air, identifying sources of methane such as leaks in flowlines or emissions from enclosed combustors, pump jacks, pneumatic pumps, tanks and the unloading of liquids. The results are mapped, and ground crews are deployed to confirm and repair the identified leaks. We use information from the flyovers to proactively identify categories of potential future emissions sources. These flyovers are incredibly effective, and our commitment to using them as a tool to reduce emissions is so strong that we recently worked with Utah Gov. Spencer Cox's office to help secure a grant to help fund other similar flyover programs for the entire Uinta Basin.

Ground-based Leak Detection & Repair Efforts

In addition to using aerial equipment to identify sources of methane leaks, employees on the ground use infrared cameras to identify emissions sources. Our Leak Detection & Repair (LDAR) program deploys trained operators to both find and then immediately fix any methane leaks, and **more than 85% of the leaks we detect via infrared cameras are fixed immediately upon discovery**. That is an increase from 50% just four years ago. **In 2022, we performed 1,395 LDAR inspections – almost two times more than required under the regulations.**

Audio-Visual-Olfactory (AVO) Inspections

As a complement to our more technological approaches to methane detection, we also rely on the human factor. During routine field operations, our operators conduct Audio-Visual-Olfactory inspections of field equipment to identify any methane leaks. **We conducted more than 9,000 AVOs in 2022.**

Continuous Monitoring

Caerus employed continuous monitoring technology to detect and measure emission on approximately 100 new wells. This technology is tied to a dashboard that is monitored by our air compliance team. The dashboard immediately alerts us if high concentrations of methane and other organic contaminants are detected in the air. If we receive an alert, we can rapidly deploy a team to isolate the source and repair the problem.



At Caerus, we strive to be an industry leader as we adapt to the changing state, federal and tribal air landscape. We look for every opportunity to reduce methane emissions, but we also look for opportunities to prevent methane emissions from being created in the first place. Those actions include:

Removing Emission Sources Entirely

We look for opportunities to remove emission sources entirely by proactively employing new technologies, as well as upgrading and retrofitting equipment. When aerial flyovers identified that heat trace pumps were a significant source of emissions, we implemented a solar alternative through a formal replacement program. **This initiative will see more than 900 conventional heat trace pumps replaced by solar units this year.** We are also evaluating technologies for replacing natural gas-powered pneumatic devices with non-emitting ones. Scientists estimate that natural gas-powered pneumatic devices could be responsible for as much as 50 billion cubic feet of methane emissions annually from the oil and gas industry. **Our goal is to replace more than 5,000 of these devices with non-emitting options in 2023.**

Increasing Preventative Maintenance

Oil and gas equipment in the field takes a beating and diligent preventative maintenance is critical for keeping equipment operational and preventing unintended emissions. For example, we have an annual maintenance program focused on hatches and pressure relief valves that allows us to reduce emissions by replacing worn gaskets, sealing damaged surfaces and replacing damaged latches. We also focus on keeping our emission control devices working properly by inspecting burner rails for clogged tips, draining knockout vessels used to remove liquids from the emission control devices and blowing out vapor lines. By addressing potential issues before they cause methane releases, we minimize our impact on the environment.

Latch The Hatch Initiative

Caerus is one of the leaders in the Utah Petroleum Association's Latch the Hatch campaign to raise awareness on the issue of open thief hatches. The campaign's goal is to decrease emissions by reminding operators of the importance of ensuring that hatches are kept closed and secured to prevent the unintended release of methane. Caerus conducted an internal training and added more than 170 signs and thousands of stickers to equipment in the field to remind our operators and fuel haulers to take a small step to make a meaningful impact on the environment.

900+

conventional heat trace pumps will be replaced with solar units in 2023



IN CONCLUSION

Every day, our team members work hard to minimize our operation's environmental footprint because it is the right thing to do for our communities and our investors. Every cubic foot of methane that we prevent from being released into the environment is instead redirected to the marketplace.

We are taking a leadership role in reducing methane emissions, not just in our own operations but in the industry overall. Natural gas plays an important role in a clean energy future, and we are proud to be an industry leader in air quality compliance. We continue to move the needle through voluntary program enhancements such as aerial flyovers, removing emission sources from the field, increasing preventative maintenance, and awareness initiatives such as Latch the Hatch. **Step by step, we are making a meaningful difference.**

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