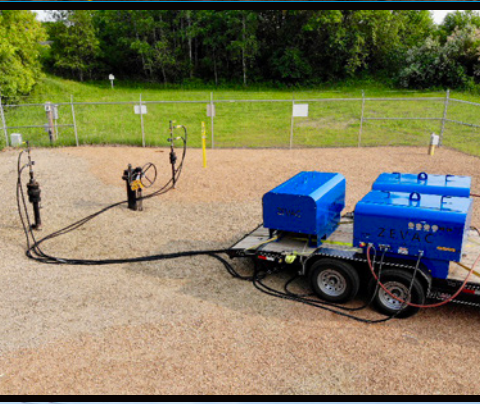
Using technology to minimize Minnesota pipeline methane emissions



CenterPoint Energy maintains about 14,000 miles of pipeline in Minnesota to provide safe, reliable natural gas service to more than 860,000 residential and business customers.

In early 2020, CenterPoint Energy announced a companywide goal of reducing its operational carbon emissions by 70 percent by 2035 (from 2005 levels). This goal includes a focus on limiting emissions of methane, a greenhouse gas that is the main component in natural gas. Toward this end, CenterPoint Energy is adopting a variety of technologies to reduce methane emissions from its pipeline distribution system.

Comprehensive approach to methane reduction

Methane makes up nearly 10 percent of all greenhouse gases emitted as a result of human activity in the United States, according to the U.S. Environmental Protection Agency. The main sources of methane include livestock agriculture, the energy sector, and waste management (landfills and wastewater treatment). CenterPoint Energy takes a comprehensive approach to reducing methane emissions from its distribution system by using innovative, cost-effective technologies. Since 2011, methane emissions from the company's Minnesota operations are down by nearly 25 percent.

Vent and flare avoidance

When a pipeline is being inspected, repaired or replaced, natural gas typically must be removed from the pressurized pipe. Within the industry, the traditional way to do this has been to vent or flare the gas directly into the atmosphere.

One technology to avoid methane venting or flaring is the Zero Emission Vacuum and Compressor (ZEVAC®). This innovative, environmentally responsible technology uses compressed air to suction a pipeline segment, transferring the gas to an adjacent pipeline so it is not released into the atmosphere.

After piloting the technology in Minnesota on a limited scale, CenterPoint Energy purchased two ZEVAC units for broader use across its pipeline distribution system in the state.

By regularly using the technology to reduce the need to vent or flare gas, CenterPoint Energy expects to achieve significant emission reductions in Minnesota.

But the ZEVAC technology is just one part of CenterPoint Energy's comprehensive approach to reducing methane emissions from its pipeline distribution system. Other solutions include:

Advanced leak detection

CenterPoint Energy uses a state-of-the-art smart gas detection technology called the Picarro Surveyor™, which is far more sensitive and faster at locating methane leaks than traditional methods.

Vehicles equipped with the Picarro technology efficiently survey CenterPoint Energy's pipeline system at street level, enabling the company to quickly identify and respond to even the smallest leaks. It can also discriminate among pipeline natural gas, naturally occurring biogas and vehicle exhaust, reducing the chance of false positives.

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ZEVAC pilot projects

Burnsville

During replacement of a 2.1-mile stretch of 24-inch steel pipe, ZEVAC® units helped CenterPoint Energy avoid the vented release of gas representing about 61 metric tons of CO2 equivalent, or nearly as much as the annual energy use of 13 cars.

Minneapolis

About 5 miles of 20-inch steel pipe was isolated for replacement. By depressurizing the isolated pipe and transferring the gas into another pipe, ZEVAC units avoided the vented release of gas representing about 22.4 metric tons of CO2 equivalent, or the same as driving a car nearly 55,000 miles.

Coon Rapids

During inspection of more than 3 miles of 24-inch-diameter pipe, ZEVAC units avoided the vented release of gas representing almost 67 metric tons of CO2 equivalent, or nearly as much as the annual energy use of eight homes

Pipeline modernization

CenterPoint Energy continues to make major investments in the reliability of its Minnesota pipeline infrastructure by identifying and upgrading pipes at risk of corrosion or leaks. Natural gas pipelines made with older materials and methods can pose a higher risk for methane leaks. As of 2017, CenterPoint Energy has replaced all 43 miles of cast iron pipelines in its Minnesota system. It is also replacing or upgrading 479 miles of unprotected or bare steel pipelines.

These major infrastructure investments not only improve pipeline safety and reliability; they also help protect the environment by preventing pipeline leaks that would release methane into the atmosphere.

CenterPoint Energy remains committed to ensuring access to affordable, reliable, sustainable energy, while leveraging innovative technologies to continue reducing emissions and helping transition communities to a clean energy future

To learn more about CenterPoint Energy's 2020 carbon policy and other corporate responsibility efforts, visit **CenterPointEnergy.com/en-us/corporate/about-us/corporate-responsibility**.