

# Methane Mitigation Case Study

## The Climate Challenge

Leading energy companies are being challenged to sustainably deliver clean and affordable energy. This dual challenge of delivering more energy with less carbon emissions concerns society as a whole.

**7** AFFORDABLE AND CLEAN ENERGY



**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



**12** RESPONSIBLE CONSUMPTION AND PRODUCTION



**13** CLIMATE ACTION



**17** PARTNERSHIPS FOR THE GOALS



With the challenge of reaching carbon neutrality, the energy industry will need to be transformed. Electricity alone will not be sufficient for all needs, with responsibly produced gas and sustainable biofuels providing clean alternatives to conventional fuels.

## The Status Quo

Pneumatic devices powered by pressurized natural gas are widely used in the natural gas industry for process control and chemical injection. Gas powered pneumatic devices vent spent gas directly into the air, threatening the clean fuel advantages of natural gas. Methane (CH<sub>4</sub>) is the primary component of natural gas and is recognized to have a global warming potential 84x greater than CO<sub>2</sub> over a 20y time horizon (IPCC AR5).

## The Opportunity

Qnergy's CAP3 is an innovative product that replaces the methane emissions of pneumatic devices. Qnergy's proven PowerGen Stirling engine is the heart of the CAP3 solution, efficiently combusting normally vented methane, while economically providing reliable electric power and clean, dry instrument air. The CAP3 system conserves valuable instrument gas and eliminates methane venting at the well pad.

## The Solution

Qnergy deployed a CAP3 system at a multi-well pad in the Barnett Shale formation in Texas. The purpose of this 30-day trial was to quantify and characterize the pneumatic gas and electric power requirements of a typical 4-5 well pad.

With SmartView remote monitoring, system performance was measured and logged. In 30 days, the instrument air system had mitigated the vented emissions of 42,515 ft<sup>3</sup> of gas.



