

Appendix E: One-page public summary document.

Company: Prabhu Energy Labs

Project Title: Oil-Field Flare Gas Energy Systems “OFFGASES”

Introduction: Methane (CH₄) is the primary component of natural gas. It’s also a potent greenhouse gas with 86x more Global Warming Potential than CO₂ in the first 20 years after it enters the atmosphere. An odorless and invisible gas, methane is also a contributor to ground level ozone, which can be harmful to people, animals, crops, and other materials.

Problem Statement: Methane emissions from oil and gas production are a major concern to Wyoming’s oil and gas industry. Regulators are requiring methane emissions reductions from oil and gas production and low-emissions energy products are increasingly in demand from out of state markets. Wyoming’s oil and gas production is generally in remote areas, far from the electric grid, making methane abatement a challenge.

Objective: The Oil Field Flare Gas Energy Systems (OFFGASES) project will develop and demonstrate the ability to eliminate methane emissions from oil and gas production that would otherwise be vented or flared, and put those unwanted greenhouse gases to work generating useful power.

Expected Outcomes

- Demonstrate a new, proven technology, the “Oxiperator, as a new emissions control system for oxidizing a wide range of waste gases that also generates local power
- Provide Wyoming with a means to generate local power in remote areas
- Create new cleantech jobs in Wyoming

Project Description: OFFGASES is a co-operative project led by Prabhu Energy Labs in coordination with the US Department of Energy and Wyoming natural gas producer Jonah Energy. The University of Wyoming’s School of Energy Resources Center for Air Quality will witness and validate the project’s methane emissions reduction and publish research based on the project. Though the project will be hosted at a Jonah Energy facility, it will be a showcase for all oil and natural gas operators in Wyoming.

Over the course of four years, the project will develop and demonstrate the ability to to reduce emissions of methane, volatile organic compounds (VOCs) and nitrogen oxides (NOx) from the production of natural gas at the well site, and generate useful power to be used on-site by oil and gas producers for further emissions reduction.

Public Benefits: As an oil and gas emissions mitigation R&D project, OFFGASES directly supports the State of Wyoming in multiple ways:

- Leadership in low-emissions energy products
- Economic diversification, in development of methane mitigation technology
- Attracting manufacturers and higher education workforce from out of state
- Advancing the leadership of the University of Wyoming’s School of Energy Resources Center for Air Quality research on emissions monitoring