

# OIL & GAS SUCCESS STORY

## Zero Emissions Technology

### Blair Air Systems Inc.

#### Morrin, Alberta, Canada

### OVERVIEW OF OIL & GAS PROJECT:

Blair Air Systems – Zero Emissions technology eliminates methane emissions at well sites. The technology has applications in the oil and natural gas production sector and is currently being used at facilities in Western Canada. The technology can be scaled for use at production facilities worldwide.

**ESTIMATED ANNUAL EMISSION REDUCTIONS: 387 MTCO<sub>2</sub>E / INSTALLATION**

### PROJECT DETAILS

- This is an ongoing, new technology project with the purpose of eliminating methane emissions from well-site equipment.
- With a few proven, current installations in Western Canada, there is potential for technology implementation at well sites world wide.
- The equipment package is compact, easily installed and may be easily moved as required.
- Suitable for remote locations (sweet or sour wells) where electricity is not available.
- With elimination of methane emissions at the well site, there are:
  - **Increases** in gas sales
  - **Safer** operating/working conditions
  - **Reductions** in greenhouse gases
  - **Elimination** of odors
- Optional pumps are available as an integral part of the machine, capable of injecting methanol, produced water and other liquids at high pressures.

Table 1 - Summary of measurement results

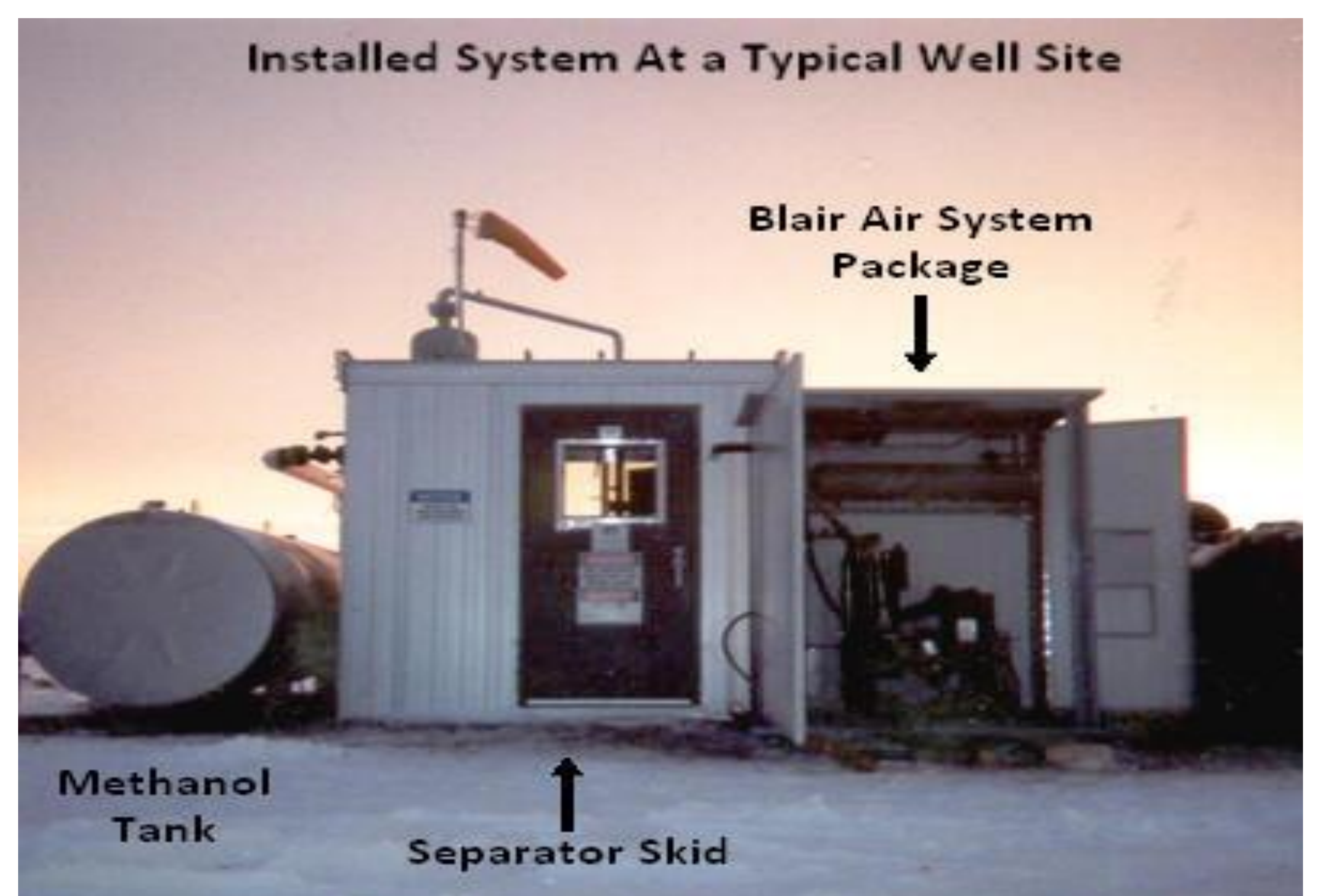
Time (min)	Rotary Meter Reading (m <sup>3</sup> )	Cumulative Volumetric Flow (m <sup>3</sup> )	Pressure (kPag)	Temperature (°C)	ΔT (min)	Volumetric Flow Rate <sup>1</sup> (m <sup>3</sup> /d)
0	14.39	0.00	305	5.7	---	---
18	14.69	0.30	305	4.7	18	96.07
30	14.88	0.49	300	4.1	12	94.93
41	15.06	0.67	300	3.7	11	95.16
62	15.41	1.02	295	3.0	21	96.50
79	15.70	1.31	290	2.6	17	97.70
92	15.94	1.55	290	2.4	13	105.16
<b>Time Weighted Average</b>						97.50

<sup>1</sup> Values are corrected to standard conditions (15°C and 101.325 kPa)

Based on the above field test, use of the Blair Air System avoided 97.50 m<sup>3</sup>/day of gaseous propane emissions at the site. This amount of gas corresponds to 358.47 L/day of liquid propane (at 15C ) and is worth an estimated \$54,954/year based on a propane price of \$0.42/L. (Volume of venting avoided will vary with the number and style of pneumatic devices used.) At sites not using propane, an equivalent amount of natural gas is prevented from being vented to the atmosphere.

### PROJECT CHALLENGES

- Unable to take advantage of economies of scale in manufacturing due to lack of capital.
- Venting of methane is still acceptable in many jurisdictions. This creates a lack of incentive to implement emissions reducing technology.
- Difficult to show a short payback period on sweet well installations.



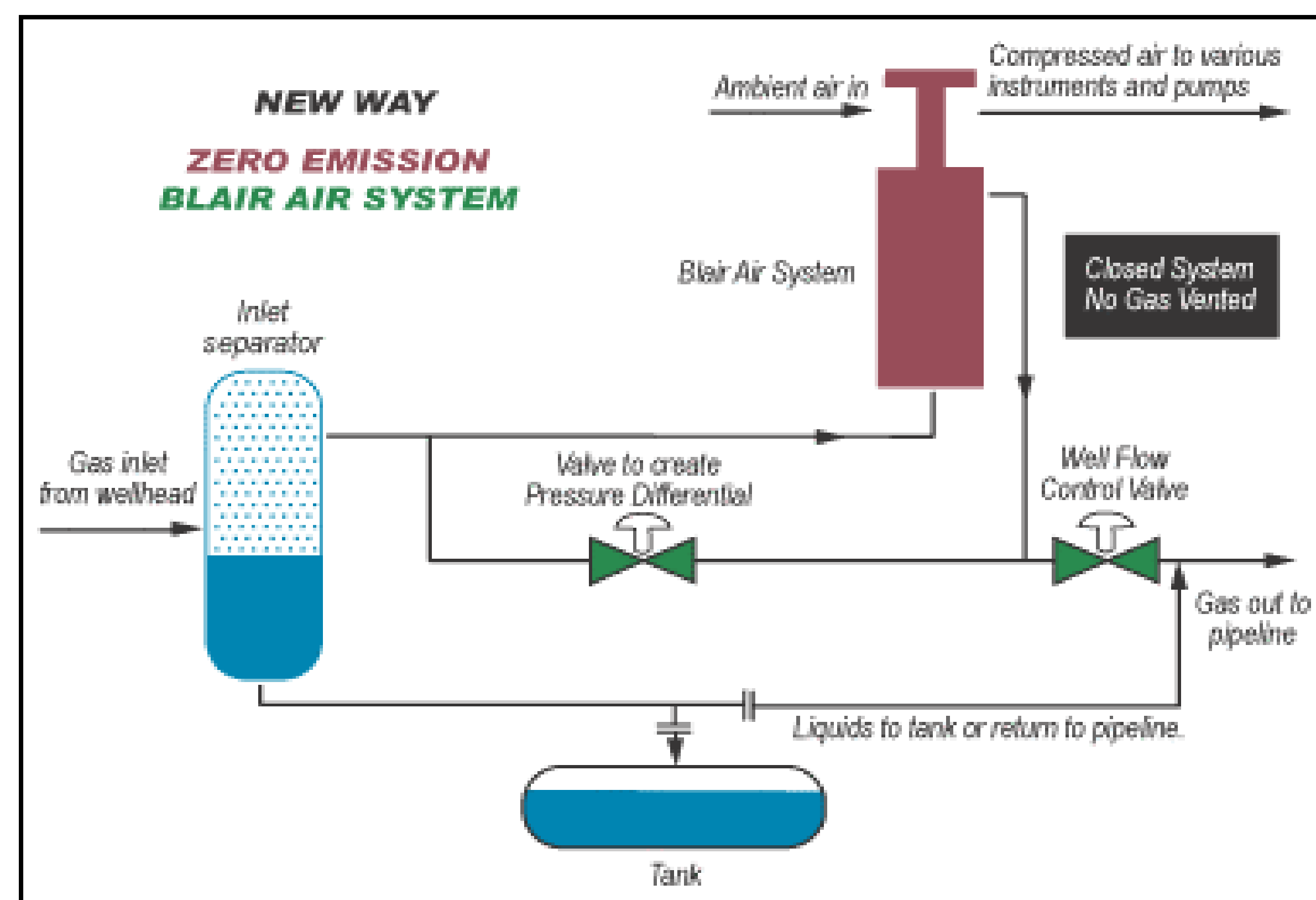
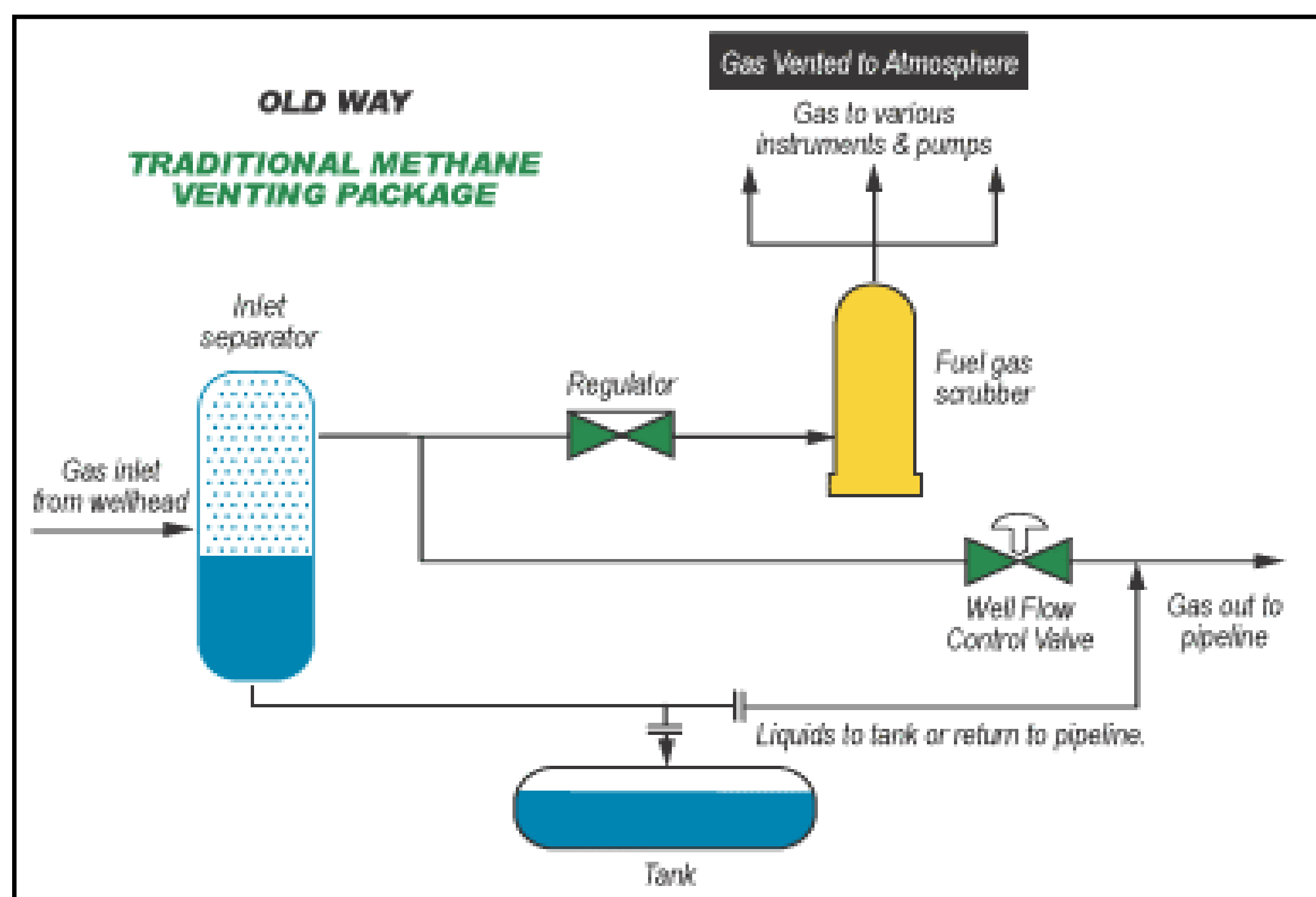
### TYPE OF ASSISTANCE SOUGHT

- We are seeking advice in regard to placing the product on the market.

*DISCLAIMER: The information and predictions contained within this poster are based on the data provided by the site owners and operators. The Global Methane Initiative cannot take responsibility for the accuracy of this data.*



# NEW TECHNOLOGY



**Blair Air System packages have been installed at well sites for ConocoPhillips, Rife Resources, BP, Provident Energy, and Encana. One user documented the results as follows:** Emission free air compressor eliminates sour gas venting without power.

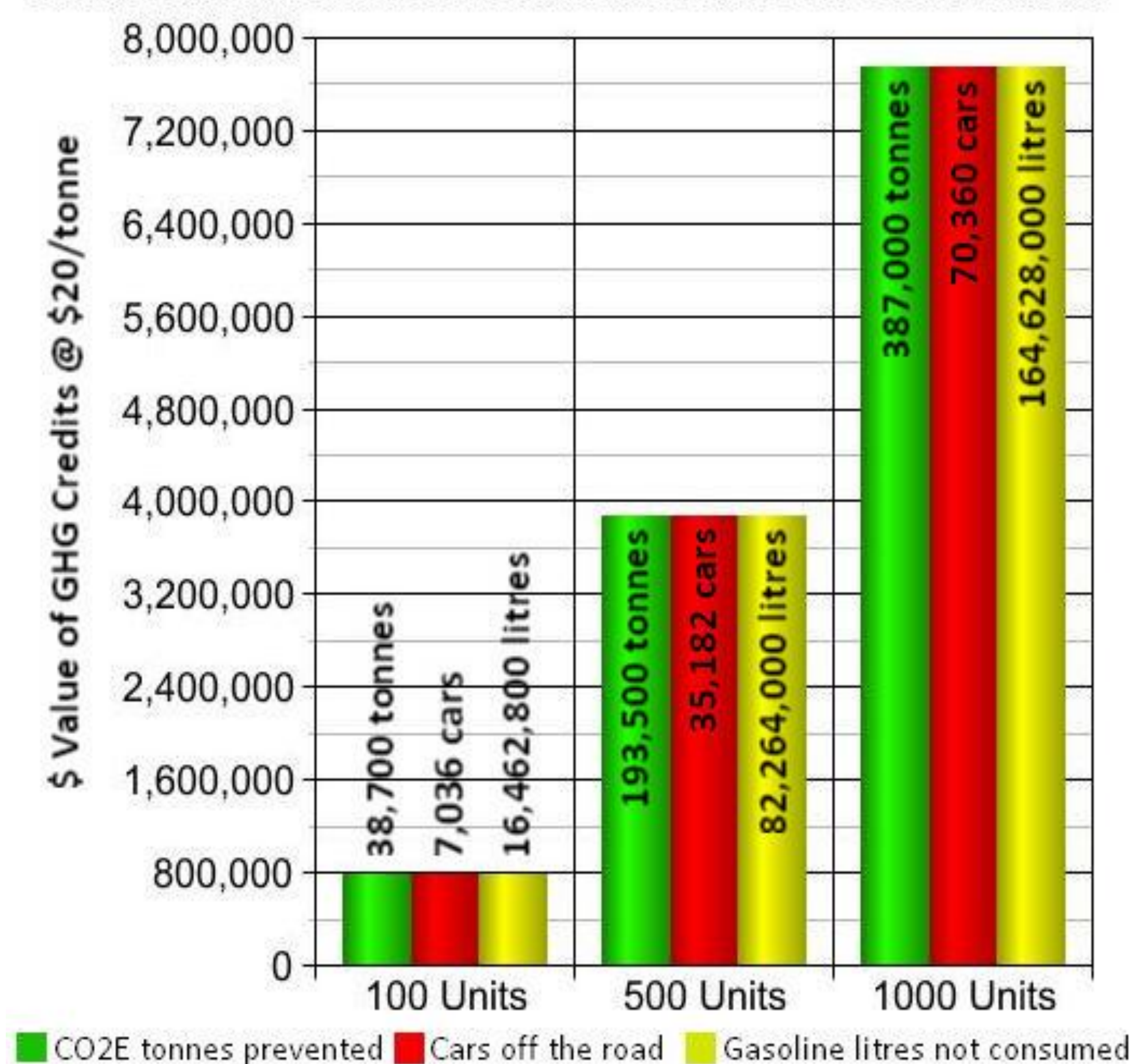
The Blair Air system uses gas differential to drive an air piston to supply instrument air at remote locations without the use of power. It replaces up to 3 Texteam style chemical pumps, and generates enough Instrument air to run all instrumentation in a gas well. The unit requires 10-15 psi of differential pressure, and the gas is routed back into the pipeline. At this location, the alternatives for instrumentation gas are either sour fuel gas processed through a Sulfa-treat drum, or propane, due to sour gas content and it's proximity to residences.

The Blair Air unit cost \$41,500 installed. Cost savings at our site were as follows: Propane = \$800/mth, Sulfa-treat = \$1500/mth. Fuel gas sold down the pipeline vs. venting increased net revenues by \$4,700/yr (at \$5.00/mscf). This equals \$32,300 of savings annually resulting in a payout of ~1.3 years.

However, on top of all the cost savings, there is the environmental aspect of reducing greenhouse gases by 940 mscf annually from the methanol pumps and another 525 mscf annually from the Instrument air venting creating the potential for future carbon credits of \$8,350 per year (methane emissions 14.4 tons and CO<sub>2</sub> equivalent tons 302 at \$20/ton). Adding in these greenhouse dollars reduces the payout to ~1.0 year.

**Additional Information:** In addition to the financial benefits, conversion to a Blair Air unit improves safety for our employees by eliminating sour fuel gas and/or exposure to treating chemicals. It also provides a community relations benefit through the reduction in fugitive emission and odor complaints.

Dollar Values of Annual Emission Reductions Vs. Units Installed



## ECONOMIC BENEFITS

- Eliminates the need to purchase propane or electricity, or vent sweet gas from instrumentation and pumps.
- Qualifies the user for GHG Credits as per above bar graph.
- Reduces health and safety costs since venting has been eliminated.
- Payback period can be as little as six months (when propane is the medium being replaced by air).

## PROJECT FINANCES

- The product currently is costing near \$30,000 USD per unit to produce, as the units are being built individually. With economies of scale, we believe the units could be produced for less than \$20,000 USD each.
- A yearly turn-around is recommended. The cost of this maintenance can run \$1,000 to \$4,000 per unit each year depending on whether unit is in sweet or sour service.

## FOR MORE INFORMATION:

### BLAIR AIR SYSTEMS INC.

Jim Blair, President

Phone: 403-820-9715

[info@blairair.com](mailto:info@blairair.com)

[www.blairair.com](http://www.blairair.com)

**Blair Air System**  
**Zero Emissions**