## **April 2021**



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## THINGS TO KNOW ABOUT PROJECT CANARY

- **Project Canary's TrustWell™ Certification has** enabled 85% of all RSG (Responsibly Sourced Gas) deals to date
- 2. Project Canary's technology was designed by **Johns Hopkins PhDs**
- **3** Google searches for the term 'ESG' have more than doubled over the last year



Chris Romer 🛈 **CEO, Project Canary** 

## What and how does your Monitoring and TrustWell Tech detect? It detects Methane, total VOCS, temperature, humidity, pressure, wind direction, and wind speed.

# Another New Age of an Old Industry

## **Project Canary Monitoring** and TrustWell<sup>TM</sup> certification

## When/why should you use this technology?

You should use this technology anytime there is a risk of an emission and the site is not monitored in realtime. Our approach to emissions reduction is to take frequent measurements using a high detection limit with a robust instrument and catch small leaks before they grow to become larger. This is especially important when intermittent emission sources are present.

The diagram below shows how Project Canary fits into the differing approaches to monitoring we see on the market. Our technological emphasis is both on frequency of detection as well as detection limit, whereas other mobile technologies elect to focus on catching the largest leaks in a large area. This allows us to catch more leaks (and catch them much sooner) than competitors. While it is faster to fly a plane, helicopter, or satellite over a field than install hundreds of sensors, we believe that speed to completion is not the metric of importance here: once installed, our sensors catch the large leaks of our competitors before they even have a chance to revisit, plus all the small leaks they've missed.

#### Who are your customers?

We have contracts with and/or are in discussions with companies across the traditional energy value chain: upstream, midstream/pipeline companies, utilities and LNG providers.

## How is it used?

ESG, RSG, and more. Trusted Independent ESG - E&P ESG and compliance, Investors, Banks, RBL loans, Regulators, and EPA.

## What are some examples of it in use?

- -Chesapeake CLICK HERE for link
- -EQT CLICK HERE for link
- -Next Decade CLICK HERE for link
- -Crestone CLICK HERE for link

## What area of coverage and range of detection does it have?

Each sensor measures every second and has the ability to detect upwards of 99% of leaks when placed within 12m or over 85% of leaks when placed within 100m in standard meteorological conditions. See below comparison of our detection limit with common leak sources (figure/data from Stanford's Adam Brandt).

Our range of detection is from 250ppb to 10,000ppm; in standard configurations (placing one instrument in typical wind conditions), this translates into identifying leaks as small as .1 g/s and larger. Spatial resolution will of course vary by site and number of sensors installed; for example- at a small well pad, with three sensors we can identify the source of the leak down to the equipment group.



### What are the inherent limitations?

Our inherent limitations are an inability to see inside closed cabinets. As compared to satellites, our sensors are several orders of magnitudes more sensitive- see below next column for diagram comparing a conservative view of our resolution to a generous leak detection level of one satellite detection company. The diagram superimposes detection limits on distributions of emission sources taken from peerreviewed field campaigns. Please note that the advertised detection limit of certain satellites is after several overpasses whereas our measurements are instantaneous.



Typical use case on an oil and gas production pad involves three units to triangulate the emission sources - key elements for monitoring include an anemometer, sensor/monitor device, solar panel and backup battery.

### **Continuous Monitoring**

#### **Canary Unit**

Modular & affordable, can use 12+ pollutant sensors, cellular connection, 6+ days of backup battery power, 1 year of data storage

#### **Summa Canister**

Patented approach to automated "grab" air samples. Allows for parts per trillion clarity about a plume's composition

#### Anemometer

Precise wind speed & direction. Key to mass quantification and source attribution

#### Solar Power 20W – 30W solar panels

For more details please CLICK HERE or reach out to Brian Miller at brian.miller@projectcanary.com

# PEOPLE ARE TALKING

"Our new Land Manager has absolutely measured up to our expectations if not having exceeded them."

– VP Land, Energy Company

What is it's lifespan?



Our hardware is rated for over four years of operation, & we sell as a service model & include that maintenance as part of our servicing.

Project Canary provides independent, trusted and real time continuous methane and air emissions monitoring with our Canary X units. We also provide TrustWell<sup>™</sup> certification of operational impacts (air, water, land and community). These combined elements provide the highest level of certification available in the marketplace.



"Thank you for all your help on these great candidates!"

- Manager, Talent Management, **Energy Company** 



"You have done a great job for us. Those that we have hired have been significant contributors to our enterprise."

- VP of Geoscience, Energy Company

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