



PTAC

**PETROLEUM
TECHNOLOGY
ALLIANCE
CANADA**

Roadmapping Methane Reductions

**Wayne Hillier
Alberta Manager
Canadian Association of Petroleum Producers**

Session 3: Accelerating the Innovation Agenda

The Canadian oil and gas sector is currently cultivating an innovation eco-system through the development of disruptive technologies which reduce GHG emissions. This session will focus on the mechanisms currently in place to help technology providers successfully develop and deploy their technology solutions, and also take a closer look at the gaps that need to be filled in terms of technology innovation and execution.

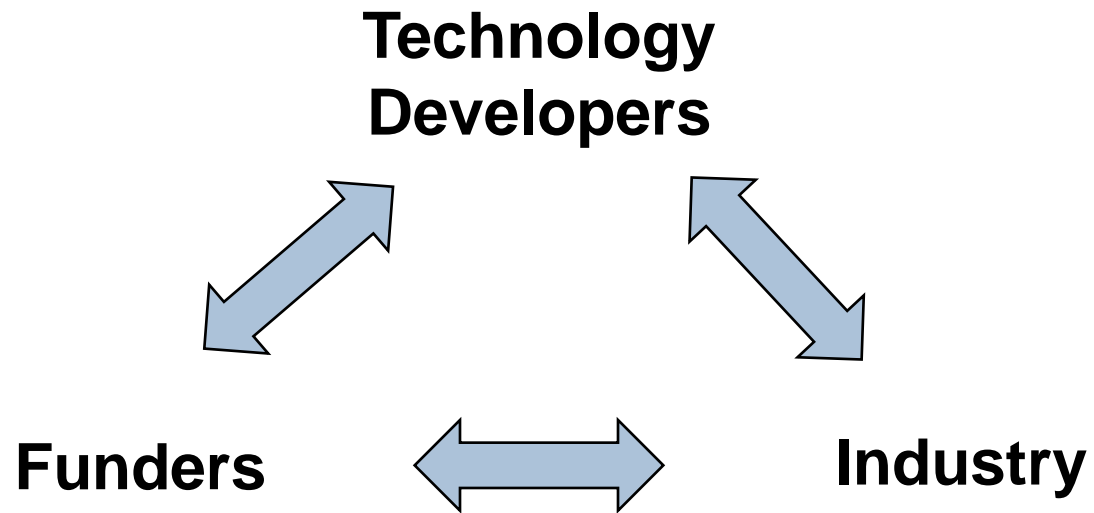
Accelerating the Innovation

- **Pending Federal and Provincial regulations to reduce methane emissions by 45% by 2025 from :**
 - **Fugitive Emissions**
 - **Pneumatic Devices**
 - **Compressors Seals**
 - **Tank Vents**
 - **Casing Gas Vents**

- **Regulatory design principle is ‘adaptive’: the regulation will promote innovation and achieve cost effectiveness by being adaptive.**

- **Opportunity to develop, demonstrate, and deploy solutions in 3 to 5 years**

Innovation Eco-System





PTAC

**PETROLEUM
TECHNOLOGY
ALLIANCE
CANADA**

Mechanisms for Technology Developers...

- **Understanding Industry's needs**
- **Opportunities to 'Scale-up'**
- **Access to funding and partnerships**

Three PTAC Initiatives.....

- **Methane Research Planning Committee**
- **Roadmapping Methane Emission Reductions**
- **Methane Hub**

PTAC's Methane Research Planning Committee (MRPC)

- **Formed June 2017**
 - **Seven projects launched:**
 - **Advanced Methane Measurements using Ground-based and UAV-based Sensors**
 - **Repeatable, Auditable, Cost-Effective Monitoring System to Locate and Quantify Emissions via small Unmanned Aerial Systems**
 - **Airborne 3D Gas Imager Aerial Verification**
 - **Aerial Emissions Detection and Mapping**
 - **Mobile Methane Sensing Analytics for Emissions Reduction**
 - **Verification of Quantitative Optical Gas Imaging System**
 - **Pilot Study for Quantifying Methane Emissions at UO&G facilities**
- **Need to develop, demonstrate, and deploy solutions in 3 to 5 years**

Roadmapping

Vision/Aspiration/Overall Objective



Identify Focus Areas¹



Define Gaps² in each Focus Area



Share past and present projects that help to close the gap.



Identify future work & projects of sufficient # and magnitude that we are confident we will close the gaps and meet the overall objective.

1: Focus Areas loosely defined to mean areas or groupings of similar activities.

2: Gaps is simply the difference between where we are now and where we want to be

Roadmapping (con't)

October 19th

- Fugitive Emissions Workshop
 - Federal & Provincial Regulators
 - Researchers
 - Industry SME's

December 7th

- Pneumatic Devices
- Compressors Seals
- Tank Vents
- Casing Gas Vents



- **Need comprehensive toolkit to find and quantify fugitive emissions**
- **Current tools are not designed for future requirements**
- **New tools need to be proven before including in regulations**
- **Divided into four gaps:**
 - **New technologies to find large leaks**
 - **Optimize frequency of looking for smaller leaks; new technologies**
 - **Explore opportunities to leverage existing practices to reduce fugitive emissions**
 - **Improve fugitive emissions inventory**

Roadmapping (con't)

- Fugitive workshop generated over 30 projects to launch over 3 years
- Next steps:
 - Prioritize & sequence
 - Issue RFP's
 - Publish roadmap on PTAC's new Methane Hub

What Roadmapping looks like

