

# PRIVATE SECTOR, MARKETS & METHANE

Observations from the Field on Getting  
Results in the Oil & Gas Sector

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# About Bluesource

## Carbon Project Investment, Development, Marketing

- Leader in carbon project finance, development, marketing since 2001
- >100M t portfolio, >30M t sold to date
- All key regulatory/voluntary registries (Alberta, CAR, VCS, ACR, CSA) in North America
- Market presence: ~17-22% of all offsets in Alberta on yearly basis and ~15% in California/Quebec market to date
- Selected as top North American Project Developer for the past 3 years by Environmental Finance

## Advisory Services

- Corporate carbon mitigation and offset strategies, compliance plans & education
- Technical services including emission reduction quantification and valuation
- Protocol development: methodologies for over 25 project types
- Facility GHG/emission reporting
- Project finance and other funding/grant applications



Calgary



Salt Lake City



San Francisco

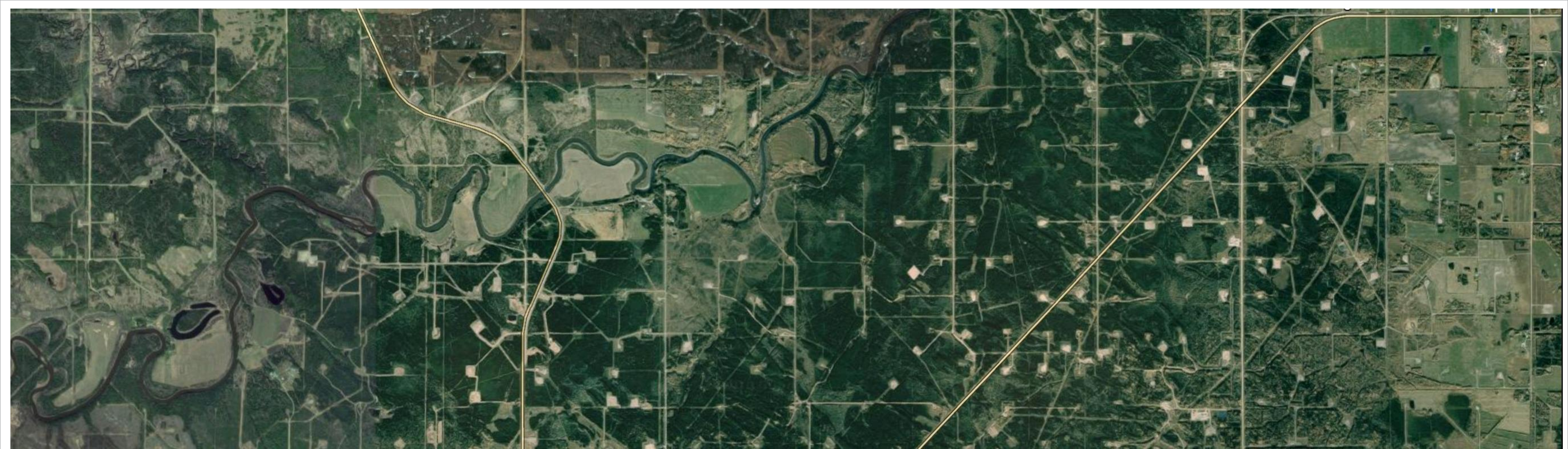


Toronto



# Bluesource Canada Client Snapshot



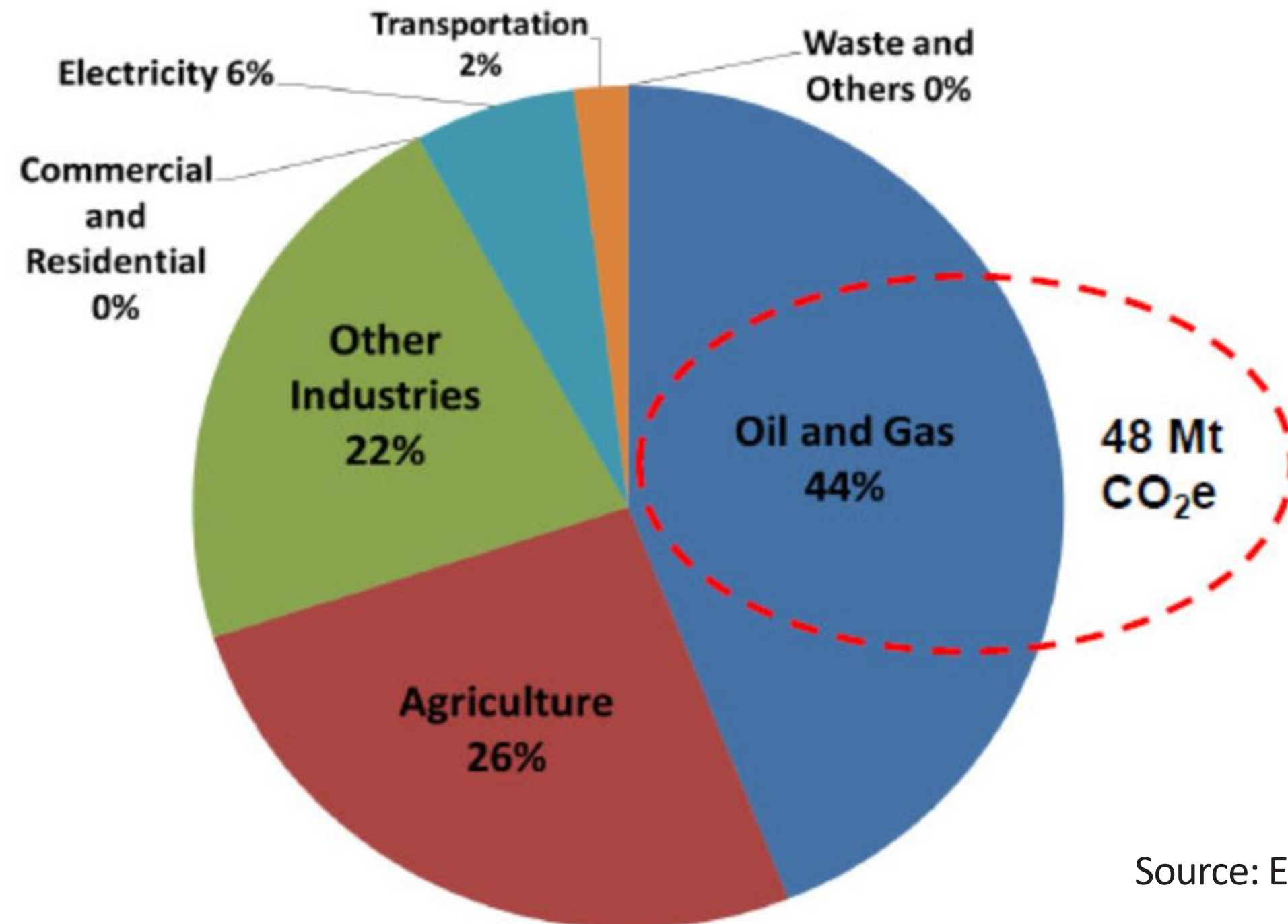


# |01 | The Canadian Oil & Gas Methane Challenge

# Canadian Oil & Gas Methane Challenge

- ~15% of Canada's Total Emissions are from Methane
  - 44% of those emissions from the oil & gas sector
  - Large share of emissions in oil & gas from small sources

Canada's 2014 Total Methane Emissions (110 megatonnes [Mt] of carbon dioxide equivalent [CO<sub>2</sub>e])



Source: Environment and Climate Change Canada



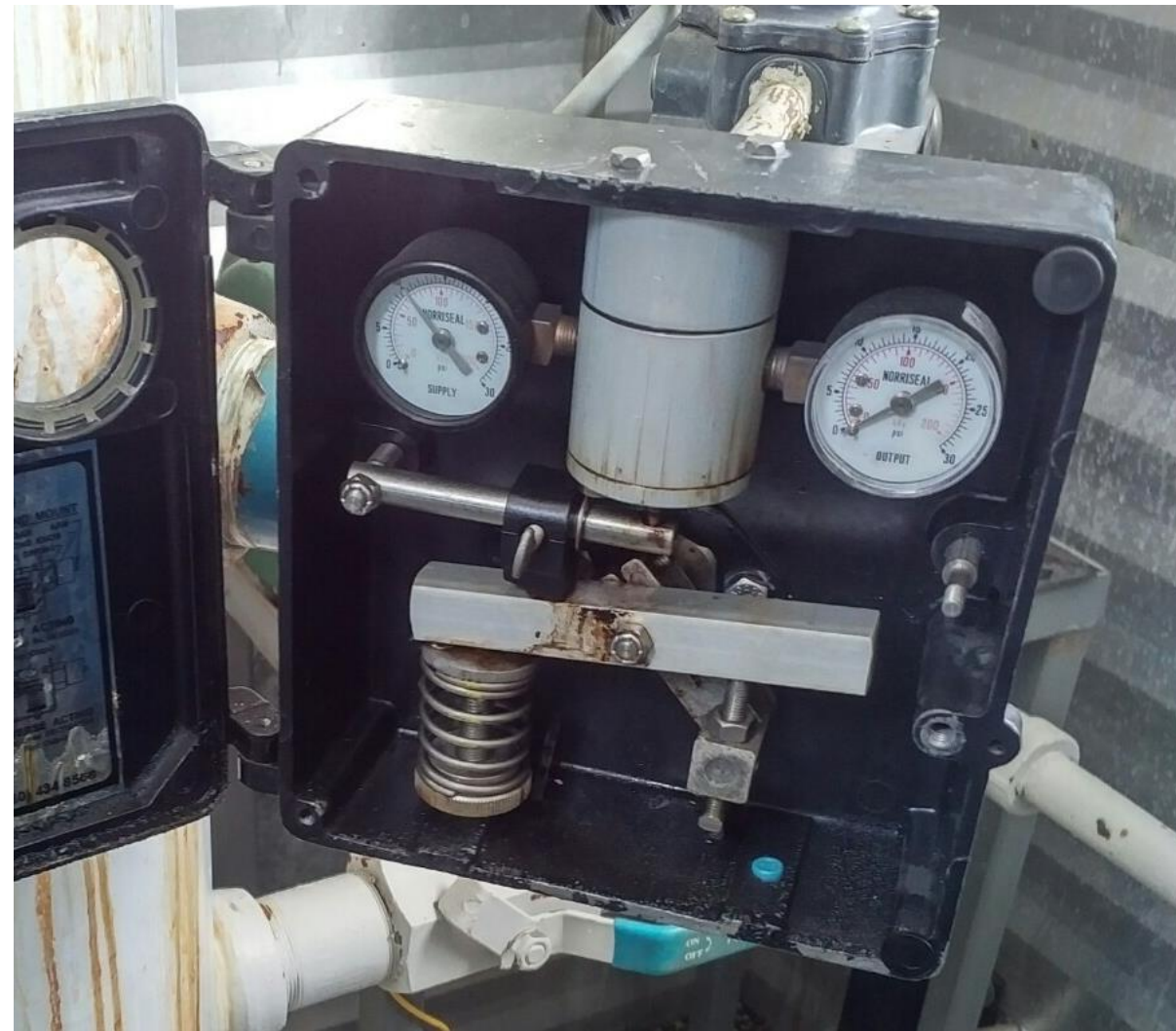
# Canadian Oil & Gas Methane Challenge

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- Federal and Provincial Gov't goal to meet 40-45% reduction in methane emissions from oil and gas sector
  - Regulations include more stringent performance standards on fugitives, venting, compressors and pneumatic devices
    - For pneumatic controllers and pumps
      - Low/no bleed devices on new equipment in 2020
      - High bleed pneumatic controllers need to be replaced on existing equipment by 2023
- Low commodity prices are putting extreme pressure on Canadian oil & gas producers
  - AECO/NGX May 2018 Gas: CAD \$0.85/GJ
  - NYMEX May 2018 Gas: USD \$2.82/MMBTU
  - Limited CapEx budgets focused on core investments, companies in survival mode

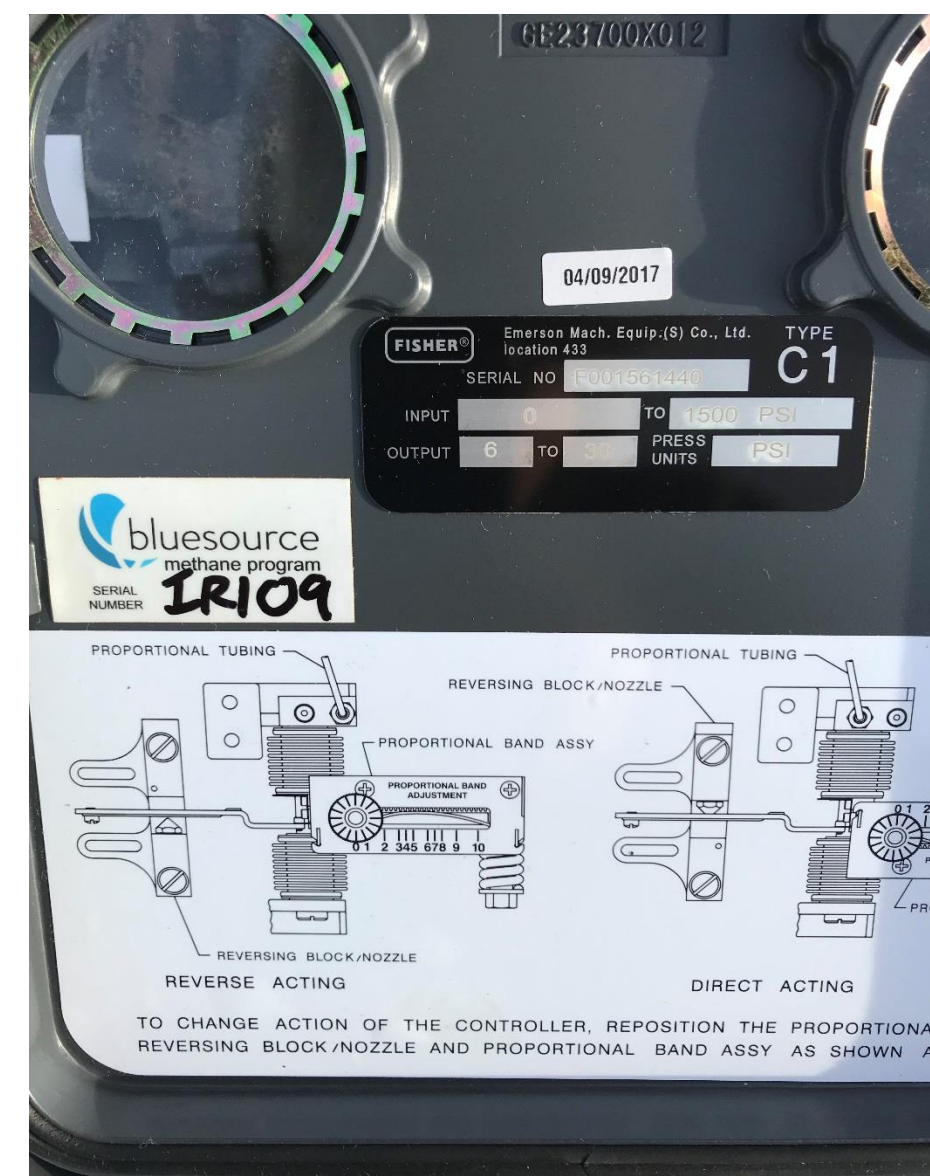


# Canadian Oil & Gas Methane Challenge



- Distributed and small-scale nature of emission reductions
  - The Province of Alberta alone has 174,000 operating wells, with the majority having pneumatic devices, although many newer sites have newer low/no-bleed devices
  - Emissions range from <5 to >150 tonnes/year per pneumatic controller
  - Significant administrative burden and logistics involved in identifying controllers that need to be replaced, and executing the replacement
  - Not the core business for producers





# |02 | Bluesource Methane Program Solution



# Bluesource Methane Reduction Program

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- Bluesource has designed and is executing a program to solve this challenge for producers
  - Carbon finance-based, with offsets generated from the swap out of controllers providing the economic rationale to support project financing
  - Full turnkey solution for producers from identification of controllers, through the installation of new controllers and carbon credit creation and monetization
  - Project management services enabling efficient scheduling, deployment and installation of controllers
  - No capital outlay from producer
  - Payback of program costs to Bluesource from sale of carbon offsets
  - Profit share post payback with participating producers



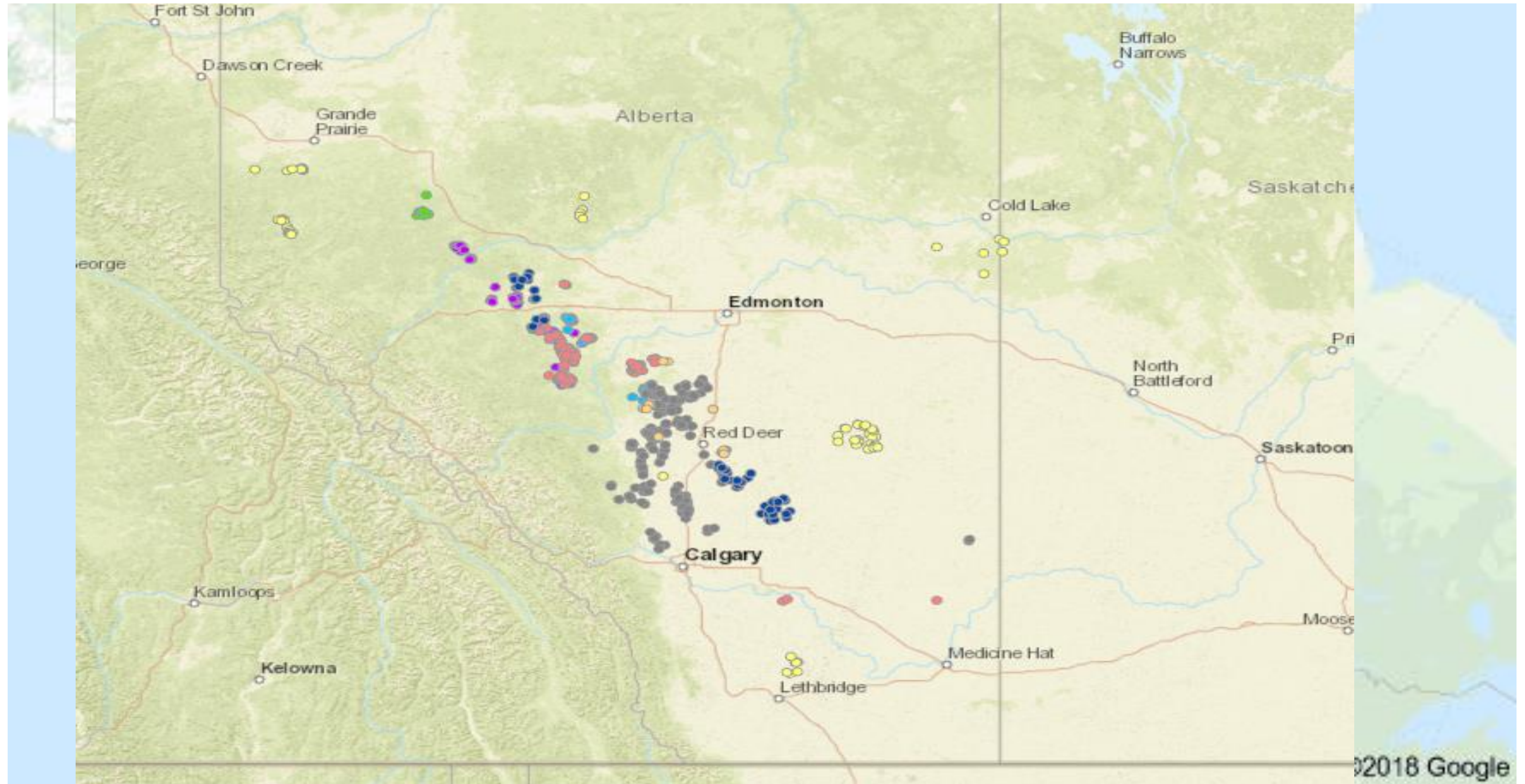
# Current Status and objectives

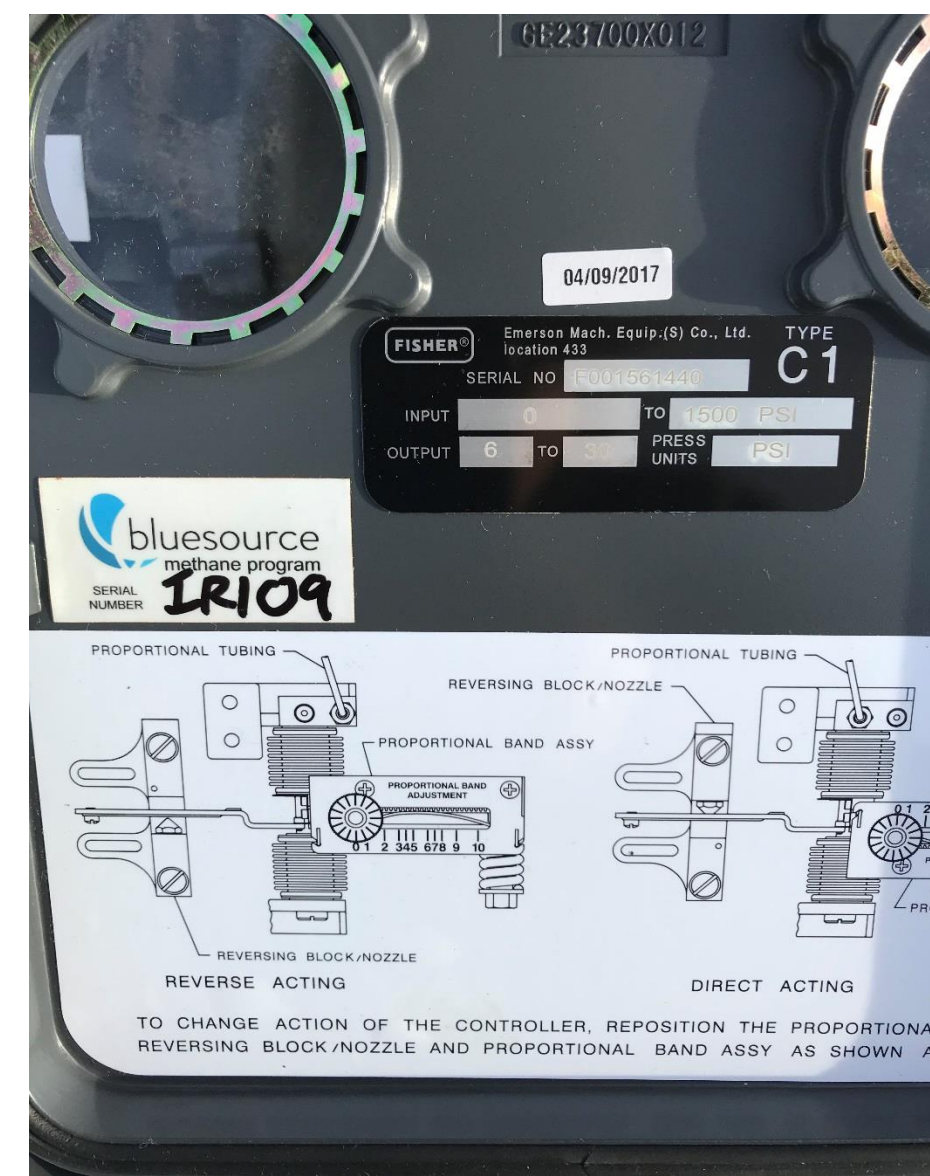
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- Program began changing out controllers in mid November, 2017
- Swap out of controllers for 7 oil & gas producers either complete or now underway
  - In various stages of discussions with over 50 producers
- Program goal is to replace 7,000 controllers prior to January, 2020
- If successful, will generate over 4 million tonnes of high-quality GHG reductions prior to 2023.
- Significant and material reduction in GHG intensity of upstream gas production for participating producers



# Current Status





# |03 | Key Take Aways

# Policy Design and Markets Matter

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- Federal Regulations allow for early action crediting
  - Creates powerful incentive for producers to act early and pull forward reductions
- Alberta has well-designed and functioning carbon market
  - Output-Based Allocation (OBA) framework for facilities that emit above 100,000 tonnes CO<sub>2</sub>e/year
  - Compliance flexibility options include offsets from ~30 different eligible protocols
  - Protocol for GHG emission reductions from pneumatic devices
    - Crediting period aligned with federal regs and 2023 deadline
  - Robust demand and pricing (>CAD \$20/tonne) for offsets in Alberta market



# Key Take Aways

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- 1. Combination of smart regulations and well designed carbon market tools can be extremely powerful to mobilize and pull forward oil & gas sector reductions**
  - **Government's role is to get the framework right, provide clarity and certainty, let the market do what it does best**
- 2. We need the oil & gas sector in the tent**
  - **Carrots help secure buy-in, not opposition from the sector**
  - **With right incentives, industry can deploy capital and deliver results**
- 3. The type of carbon pricing matters**
  - **Not just about price, quality and resiliency of the signal matters**
  - **Positive price signals (markets) can be more effective than negative price signals (taxes) at mobilizing the power of entrepreneurship and innovation**





# | THANK YOU. QUESTIONS?

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