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Canada

Proposed Methane Regulations

A Significant Step in Addressing Climate Change in Canada

June 2017

Canada's Commitments

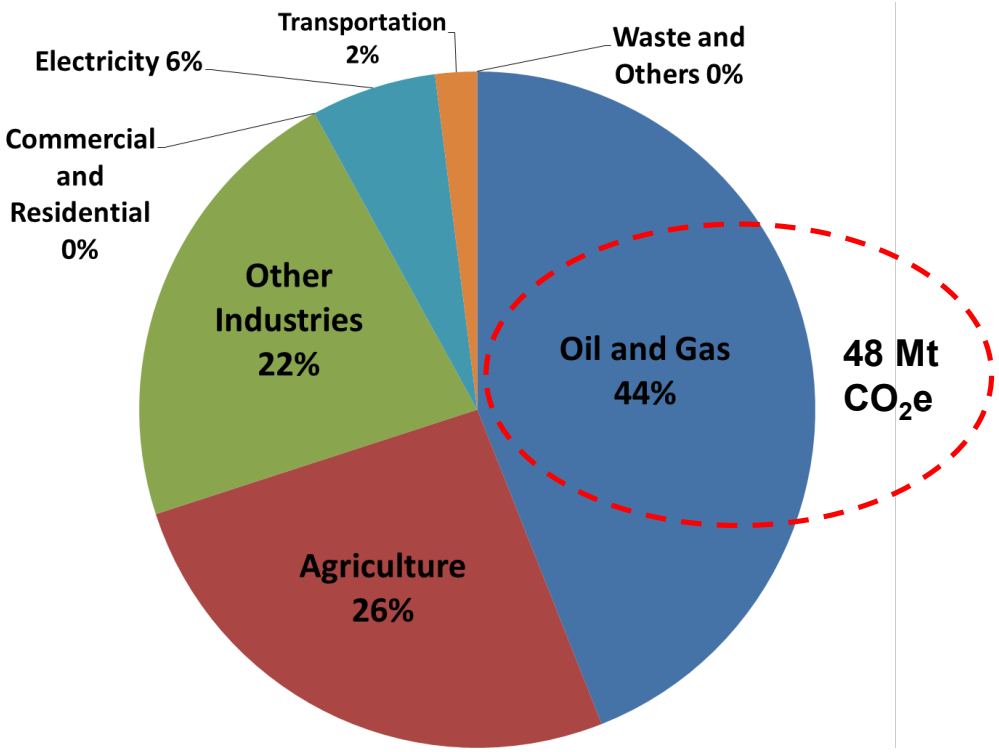
- In the March 2016 Canada-U.S. Joint Statement on Climate, Energy and Arctic, the Prime Minister announced:
  - Canada will reduce methane emissions from the oil and gas sector by 40-45% by 2025 relative to 2012 levels
  - ECCC will publish proposed regulations to reduce methane emissions from new and existing oil and gas sources in early 2017
  - Regulations will be developed in collaboration with provinces/territories, Indigenous Peoples and stakeholders
- In December 2016, the Pan-Canadian Framework on Clean Growth and Climate Change reiterated Canada's commitment to reduce methane emissions from the oil and gas sector by 40-45% by 2025.

Methane is a significant GHG

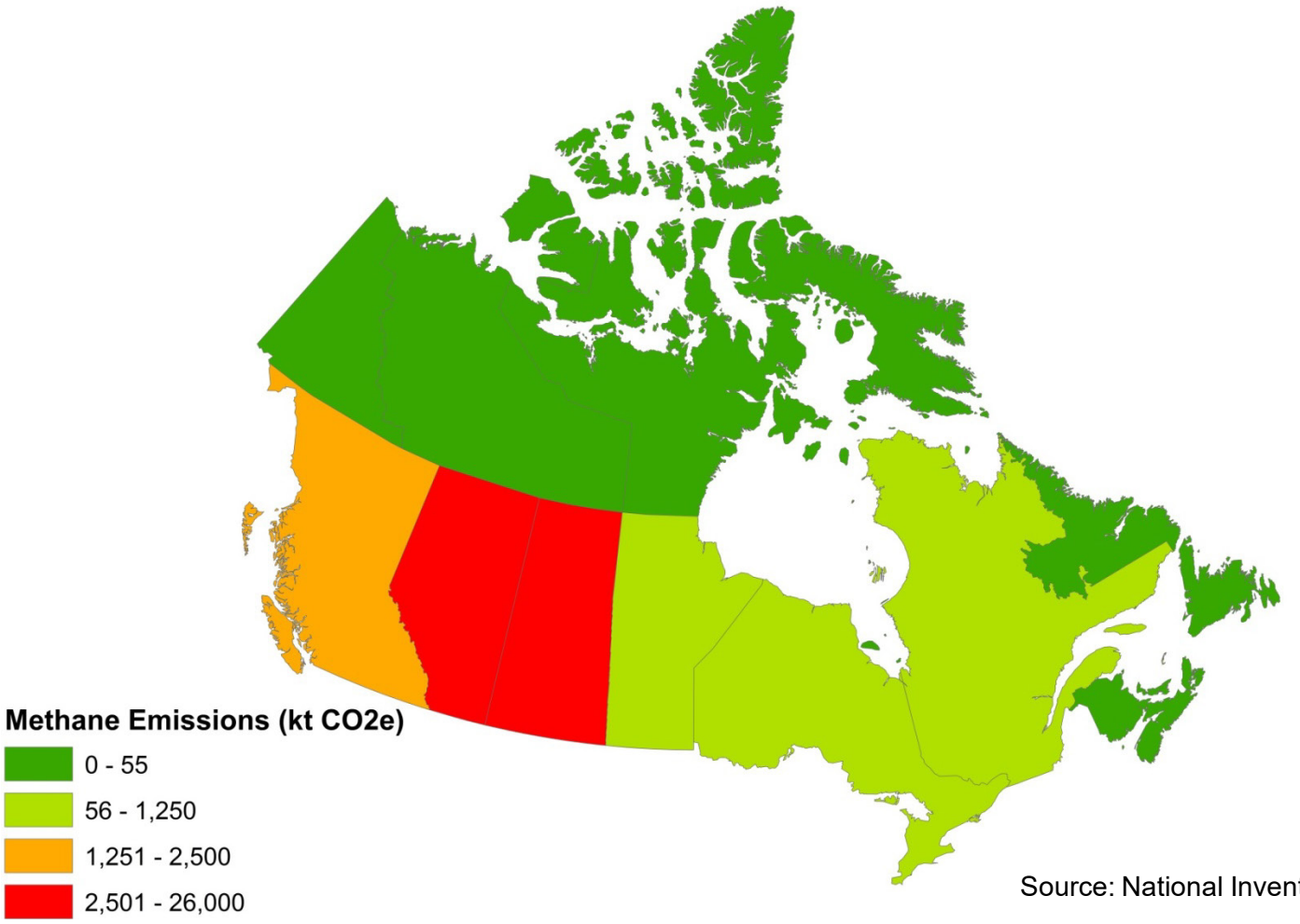
What is it?

- Colorless, odorless, flammable gas
- **Primary component of natural gas**
- Global warming potential **25 times greater than CO_2** over a 100-year period
- **Short-lived climate pollutant** – relatively short lifetime in the atmosphere and with a warming influence on climate
- 15% of Canada's 2012 greenhouse gas (GHG) emissions were methane

Canada's 2012
Total Methane Emissions (110 Mt CO_2e)



Oil &Gas Methane Emissions across Canada (2012)

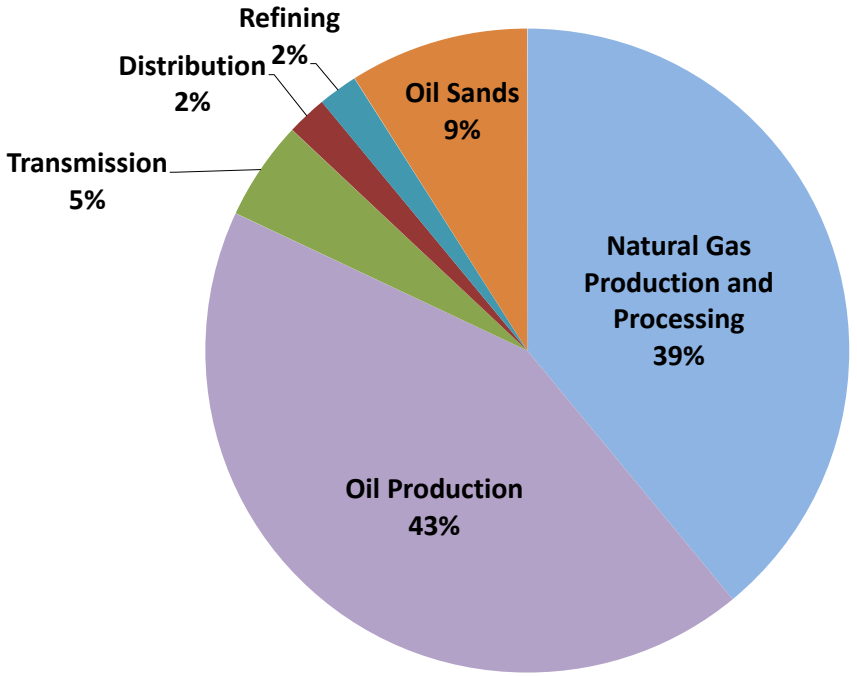


Source: National Inventory Report

Proposed Regulatory Coverage

- The proposed regulations cover over **95% of oil and gas methane emission sources**:
  - Natural gas production and processing
  - Oil production
  - Transmission
- A small portion of the sector's emissions are not covered:
  - Distribution
  - Refining
  - Some oil sands emissions

Canada's Oil and Gas Sector Methane Emissions (2012)



Source: National Inventory Report

Proposed Regulatory Approach

- ***Canadian Environmental Protection Act, 1999*** *(CEPA)*

- **Methane emission limits** are being proposed in 5 key areas:
    1. **Fugitive emissions: equipment leaks**
    2. **Venting**
    3. **Pneumatic devices (pumps and controllers)**
    4. **Compressors**
    5. **Well completions after hydraulic fracturing**

- Requirement for **corrective actions** (i.e. equipment repairs, gas combustion, gas conservation)

Regulatory Impact Analysis

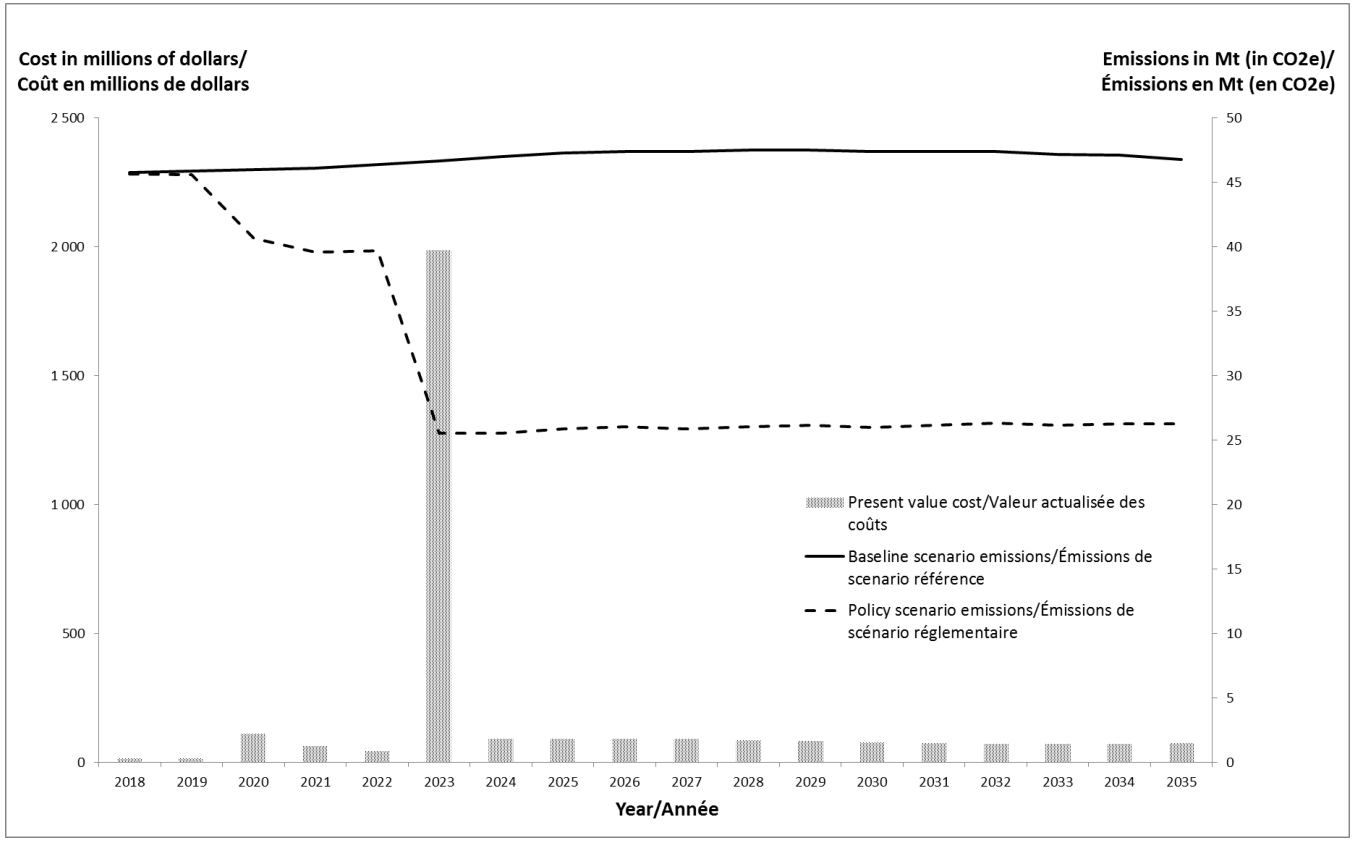
Cost and Benefits

- **Costs** for oil and gas industry estimated at $3.3 billion over the 2018-2035 period
- **Avoided climate change damages** expected for proposed reductions are valued at $13.4 billion over 2018-2035 (reduction of 282 megatonnes of CO_2e).
- Value of **conserved gas** estimated at $1.6 billion over 2018-2035.
- Expected net **benefits** of **$11.7 billion over 2018-2035**
- **Air quality co-benefits** from the VOC reductions (not yet factored into the cost analysis)
- Reducing methane is the **lowest cost GHG-related abatement opportunity** in energy sector:
  - ECCC: estimated average cost of C$10/tonne CO_2e over 2018-2030 period

Regulatory Impact Analysis

Cost and Benefits

Figure 1: Baseline and Policy Methane Emissions and Compliance Costs by Year



Regulatory Process in Canada

- The proposed regulations have been published in the *Canada Gazette*, Part I on **May 27, 2017:** **www.ec.gc.ca/lcpe-cepa/eng/regulations/detailReg.cfm?intReg=243**

- The 60-day public comment period ends on **July 26, 2017**.

- With new information from stakeholders and governments, ECCC will introduce any required changes to the proposed regulations, and publish final regulations in *Canada Gazette, Part 2*