

# GHG Verification Under Alberta's Specified Gas Emitters Regulation

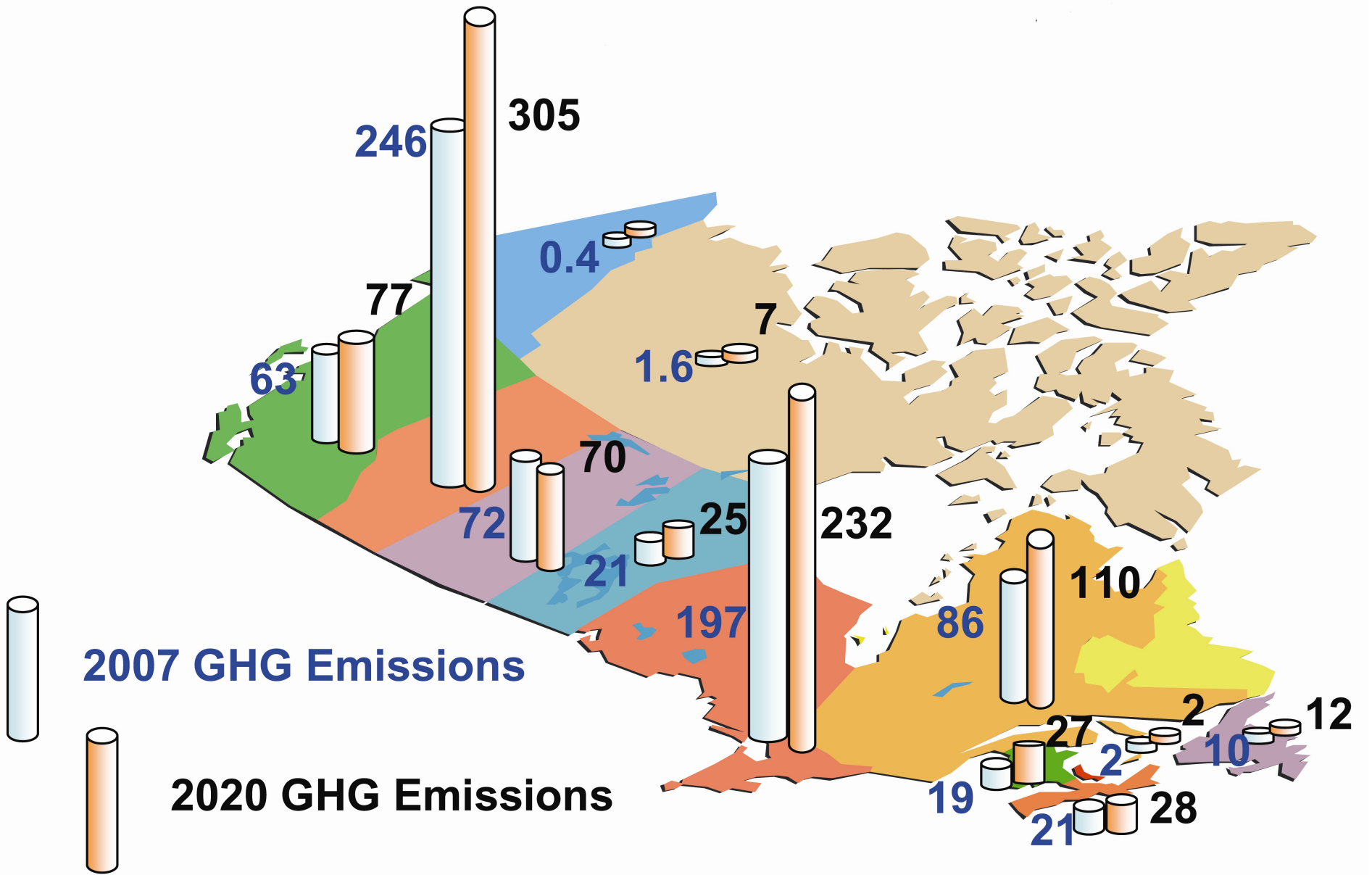


*Pincher Creek, Alberta*



*"Refinery Row", Edmonton, Alberta*

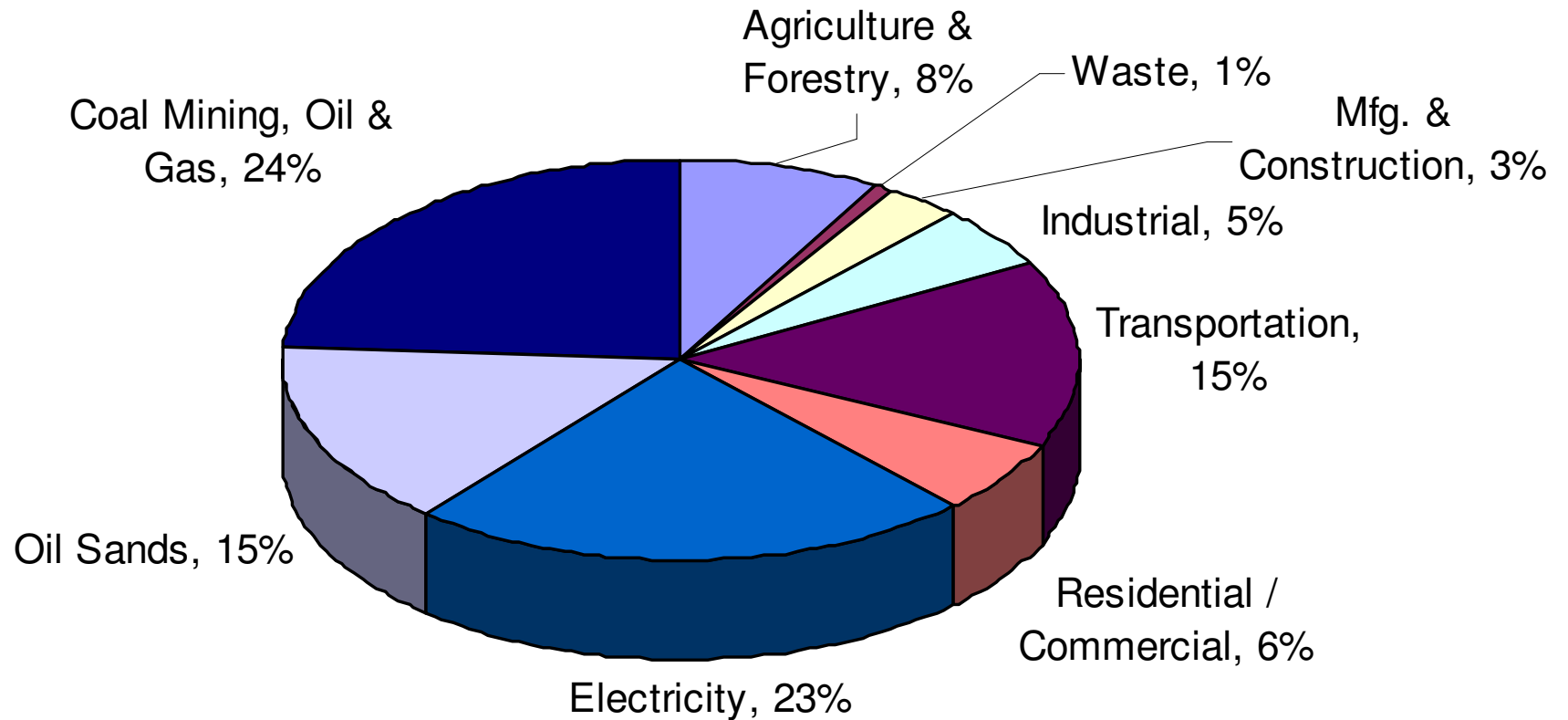
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(10<sup>6</sup> tonnes)

Source: Alberta Environment

# CO<sub>2</sub>e Emissions by Industrial Sector, 2008



# Specified Gas Emitters Regulation

- came into effect July 1, 2007
- Requires facilities in Alberta emitting over 100,000 metric tonnes CO<sub>2</sub>e per year to reduce emission intensity by 12% below their 2003-2005 baseline intensity
- 100 large point source facilities account for approx 50% of total Provincial GHG emissions

# Compliance Options

1. Meet reduction targets
  - direct facility efficiency improvements
2. Climate Change Fund Credits
  - \$15/tonne: promote development & deployment of technologies that reduce GHGs
3. Emission Performance Credits (EPCs)
  - from another regulated facility that has reduced emissions below intensity limit
4. Emission Offsets
  - purchase Offset Credits from an approved Offset project operating in Alberta



## Media Release

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### **Climate Change and Emissions Management (CCEMC) Corporation announces \$37.5 million in funding for renewable energy projects**

EDMONTON – The Climate Change and Emissions Management (CCEMC) Corporation is funding five renewable energy projects, totalling more than \$37.5 million.

The organizations receiving CCEMC funding are:

- Enerkem Inc., \$1.8 million for reduction of greenhouse emissions through greening biofuel production and carbon dioxide utilization, from pilot plant to commercialization, in Edmonton
- City of Medicine Hat, \$3 million, for the Medicine Hat Concentrating Solar Thermal Power Project
- ECB Enviro North America Inc., \$8.2 million for Lethbridge Biogas, Biogas Cogeneration Project
- Plasco Alberta Inc., \$10 million for the Plasco Alberta Energy and Waste Conversion Project, in Red Deer County
- Enmax Corporation, \$14.5 million, for home generation

# Third Party Verification

Purpose & Policy Intent:

*“to improve the overall assurance of the system and to bring additional expertise and scrutiny to bear.”*









# Level of Assurance

Limited assurance:

*“Based on our work described in this report, nothing has come to our attention that causes us to believe that the GHG statement is not, in all material respects, in accordance with the approved quantification protocols”*

# Parties Involved in Verification





# Verification Process

- Engage a Third Party Verifier
- Develop Verification Plan
- Review Documentation & Supporting Info
- Site Visit
- Verification Report & Statement of Verification
- Closing Meeting

# Field Portion of Verification

- Site tour, identification of GHG sources
- Confirm facility boundary
- Meet personnel
- Identify fuel inputs and products
- Identify key measurement meters
- Look for additional GHG sources
- View random samples of records
- Review data management system
- Visit laboratories



# Office Portion of Verification

- Review calculations and documentation
- Relate calculations to physical processes
- GHG estimation methodology review
- Emission factor review
- Confirmatory calculations
- Review production metric for intensity
- Develop verification report, sign-off forms
- Peer review

# Verification - AENV Observations

- Engineers and accountants approach assurance differently, but have complimentary strengths
- Guidance, methodologies and standards not always clear or always followed
- Quality of verification varies, as did the depth of the reports received
- Some verifiers slipped into the role of consultant or advocate for the facility

# Verifier's Observations



# Verifier's Observations

- “how you are received” and levels of preparation vary from facility to facility
- Staffing levels vary, no dedicated GHG dept., often a part-time job for 1 or 2 staff
- Facilities understand their processes and calculations very well, need to demonstrate verifiable flow of info
- Heavy reliance on fund contributions, some facilities view regulation as an “operating tax”

# Metering & Calibration

- Facilities vague about meter calibration
- Product custody transfer meters used for invoicing purposes may be owned and maintained by a third party
- Calibration reports not readily available for viewing during the site visit
- Maintenance on a “complaint basis”



# Data Management

- Varying levels of sophistication in data management systems
- Electronic systems with limited reliance on manual transfer of info are most robust
- “flow of information” diagrams are ideal
- Watch for error propagation in spreadsheets

# Verifier Accreditation

- Self-declaration of capabilities is inadequate
- Alberta: Professional Engineer and/or Chartered Accountant
- British Columbia: ISO 14065 accreditation
- Standards Council of Canada, ANSI, ECO Canada

# Conclusions

- The Regulation and verification process is a good example of a working system
- Establishes initial stages of a carbon market, the “shadow price” of carbon will be built into investment decisions leading to new carbon reduction opportunities
- Third party verification improves overall assurance of the system, adds credibility

# Wrap Up

More info:

<http://environment.alberta.ca/631.html>

Thank-you for your interest.

Questions?

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