

# Voluntary Greenhouse Gas Reduction Programs

Kansas State University  
Sustainability Seminar

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[www.kdheks.gov](http://www.kdheks.gov)

# Overview

- Local (Mayors Climate Protection Agreement)
- State (KEEP)
- Regional (RGGI, WCI, **MGA**)
- International (Copenhagen)

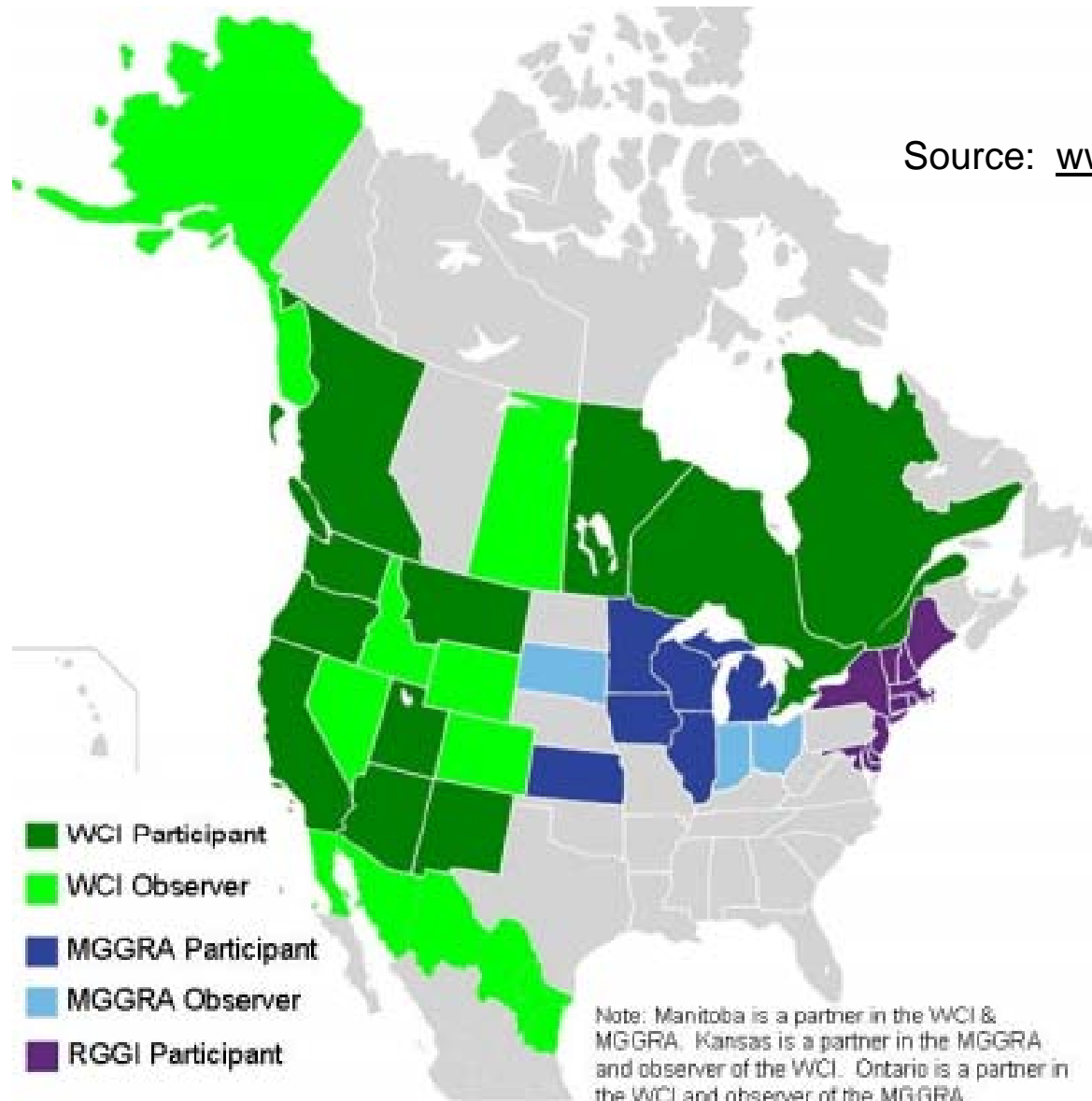
# Mayors Climate Protection Agreement

- U.S. Conference of Mayors
- Initiative launched on February 16, 2005
  - To advance the goals of the Kyoto Protocol
  - 1016 signatories as of December.
  - 12 Kansas cities have signed.
- Commitments:
  - Urge federal and state governments to meet 7% GHG reductions below 1990 levels by 2012.
  - Urge Congress to pass bipartisan GHG reduction legislation.
  - Strive to meet or exceed Kyoto Protocol targets for GHG reductions

# Kansas Energy and Environmental Policy Advisory Group (KEEP)

- Created by Governor's Executive Order.
- Four meetings held to date.
  - GHG emission inventory complete.
  - GHG reduction strategies narrowed to 49.
  - Quantification of emission reductions and cost pending.
- Future uncertain due to funding

# Regional GHG Programs



Source: [www.wri.org](http://www.wri.org)

# Regional Greenhouse Gas Initiative (RGGI)

- First market-based effort in the U.S. to reduce GHG emissions.
- 10 Northeastern and Mid-Atlantic States.
- Capped power sector CO<sub>2</sub> emissions to reduce 10% by 2018.
- Auction proceeds support low-carbon-intensity solutions, energy efficiency and renewable energy.
- Expanding to include low carbon fuel standard

# Western Climate Initiative (WCI)

- Agreement signed February, 2007
- 7 western states and 4 Canadian provinces
- Multi-sector cap and trade design.
- Cap and trade start date set for January 1, 2012.
- Fuels sector in 2<sup>nd</sup> compliance period.
- Initial emissions threshold at 25,000 MT/yr CO<sub>2</sub>e.
- Includes CO<sub>2</sub>, CH<sub>4</sub>, SF<sub>6</sub>, N<sub>2</sub>O, HFCs, PFCs.
- Point of Regulation varies by sector.

# MGA Energy Summit 2007

- Energy Security and Climate Stewardship Platform
  - Endorsed by ten governors and one Canadian premier.
  - Initiatives:
    - Carbon Management Infrastructure - **Kansas did not sign.**
    - Midwestern Bioproduct Procurement Program
    - Regional Electricity Transmission
    - Renewable Fuels Corridors and Coordinated Signage
    - Bioenergy Permitting
    - Regional Low-Carbon Energy Transmission Infrastructure
    - Regional low-carbon fuels policy
    - Greenhouse Gas (GHG) Reduction Accord



# Midwestern Greenhouse Gas Reduction Accord (MGGRA)

- Establish GHG reduction targets and time frames.
- Develop market-based and multi-sector cap-and-trade mechanism.
- Establish system to enable tracking, management, and crediting of GHG emissions.
- Develop and implement other strategies to achieve targets:
  - **Low-carbon fuel standard (LCFS).**
  - Regional incentives.
  - Funding mechanisms.

# MGA Accord Approach

- Program starts 2012.
- Targets:
  - 18% below 2005 levels by 2020 (additional 2% reduction to reserve pool).
  - 80% below 2005 levels by 2050.
- Scope:
  - Electricity combustion, including imports.
  - Industrial combustion and process emissions.
  - Transportation fuels.
  - Residential, commercial, and industrial (RCI) fuels.

# MGA Accord Approach

- **Point of regulation:**
  - Electricity and industrial sources at point of emissions.
  - Transportation and RCI fuels at the point where the fuels enter the participating jurisdiction.
- **Threshold for coverage:**
  - 25,000 MT/yr emissions.
  - 3-year rolling average; once-in, always in.
  - Electric generators with nameplate capacity < 25 MW are exempt.

# MGA Accord Approach

- Recommendation for distributing allowances:
  - ~33% auction; 67% sold for fee.
  - Transition to 100% beginning in 4<sup>th</sup> compliance period.
- Offsets:
  - May be used to cover up to 20% of each entity's compliance obligation.
  - Offsets from region, plus states & provinces with MOU.

# MGA Accord Approach

- Reporting:
  - Commence in 2011.
  - Reporting threshold: 20,000 MT/year.
- Cost containment:
  - Compliance period is 3 years.
  - Banking allowed.
  - Borrowing allowed 2 years into next compliance period.
- Next steps:
  - Influence the federal cap and trade discussion.
  - Modeling of macroeconomic impacts prior to final design recommendations.
  - Model Rule development – final stages.

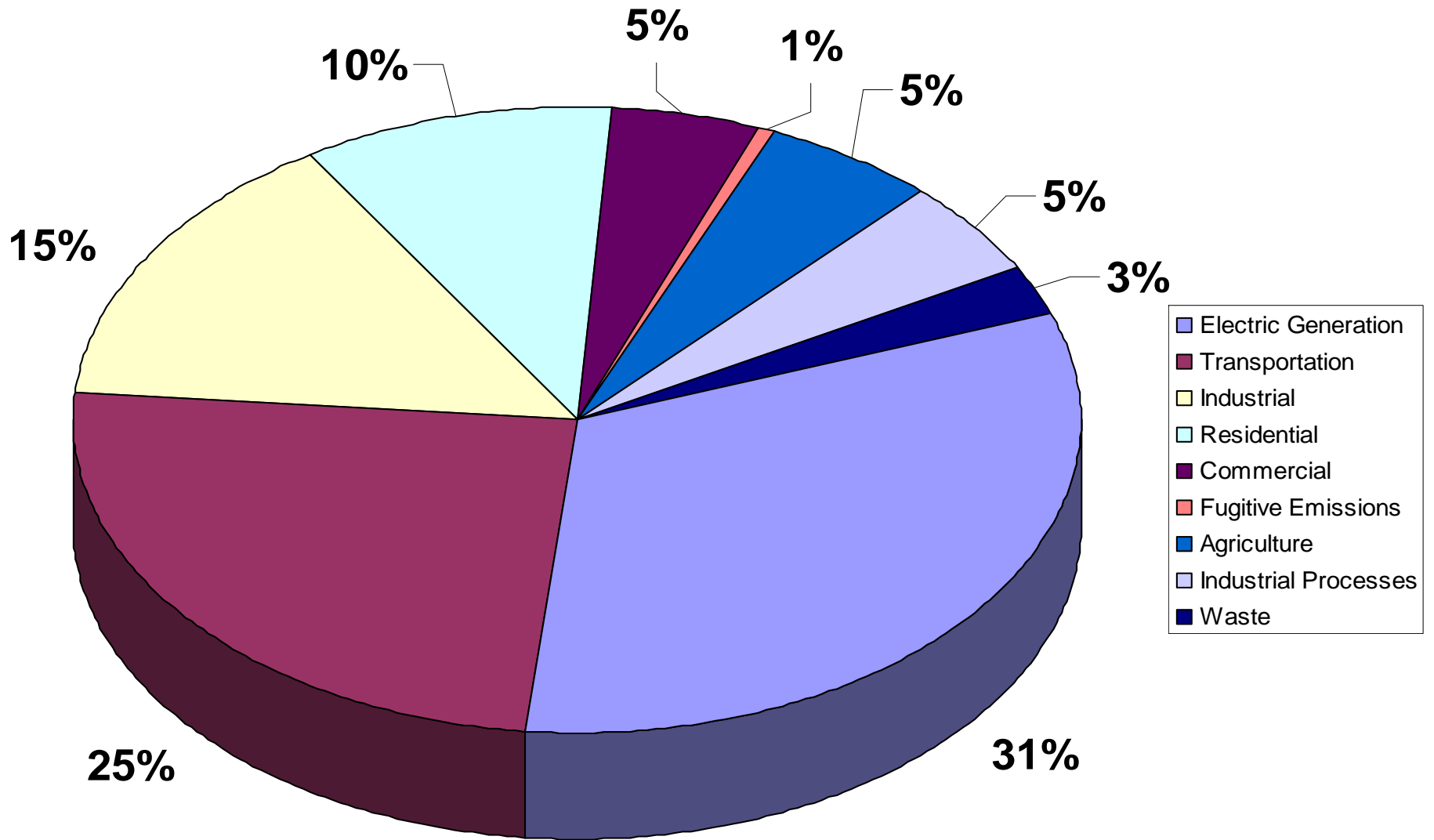
# MGA Low Carbon Fuel Standard Timeline

- November 2007: MGA Summit, announcement of platform.
- Spring 2008: appointment of LCFS advisory group.
- January 2009: consensus on recommendations.
- March 2009: adoption by MGA steering committee.
- March 2009 – present: planning, preparation, fundraising, and outreach.

# MGA LCFS Objectives

- Create framework and incentives for low carbon fuels in Midwest.
- Decrease the GHG intensity of transportation fuels.
- Take advantage of agricultural and industrial strengths to benefit regional economy
- Complement other policies focused on improving transportation efficiency and reducing GHG emissions in the region.

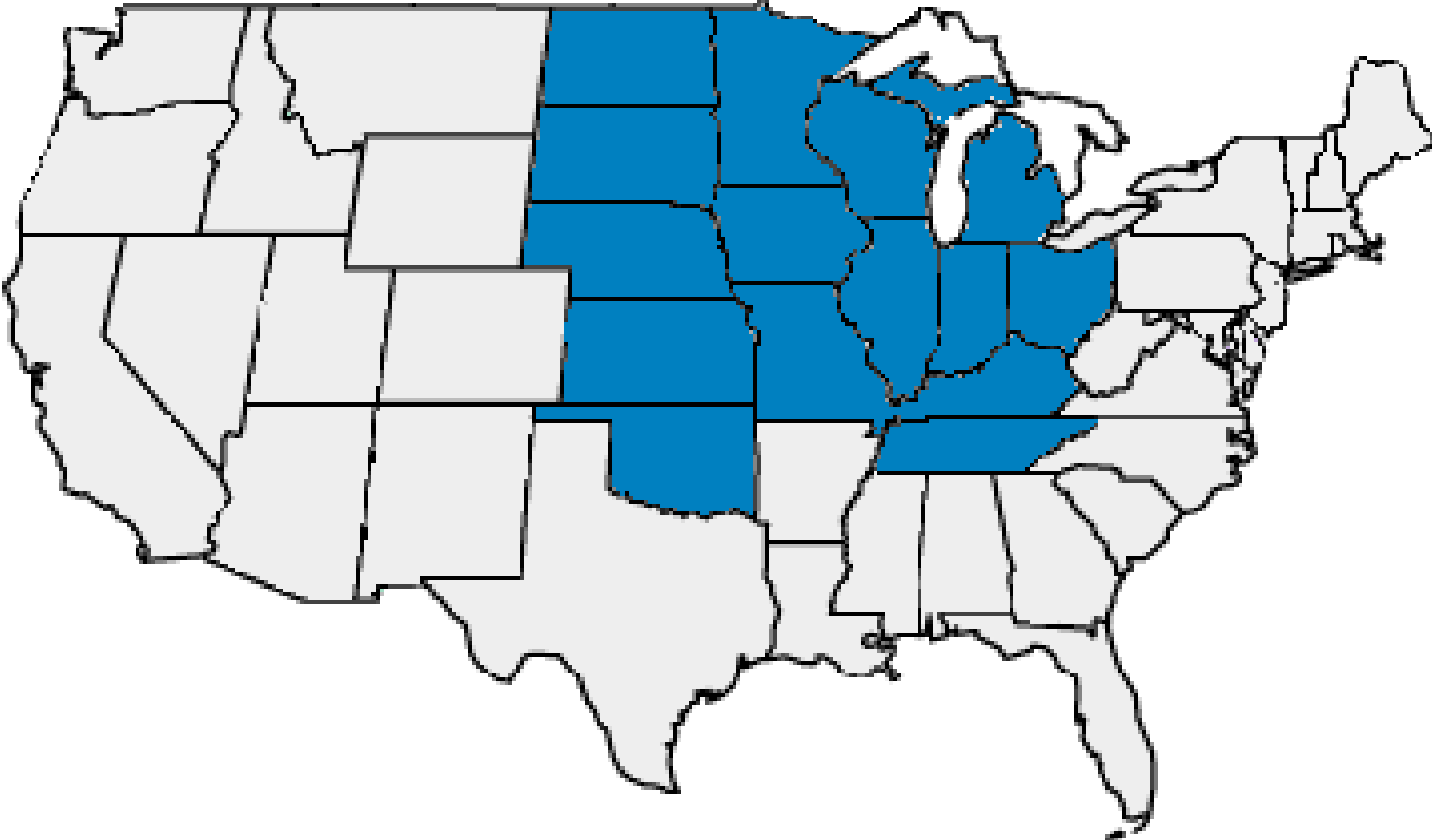
# MGA Energy Emissions



All data are for 2003 and reported in million metric tons of CO2 equivalent (MtCO2e)

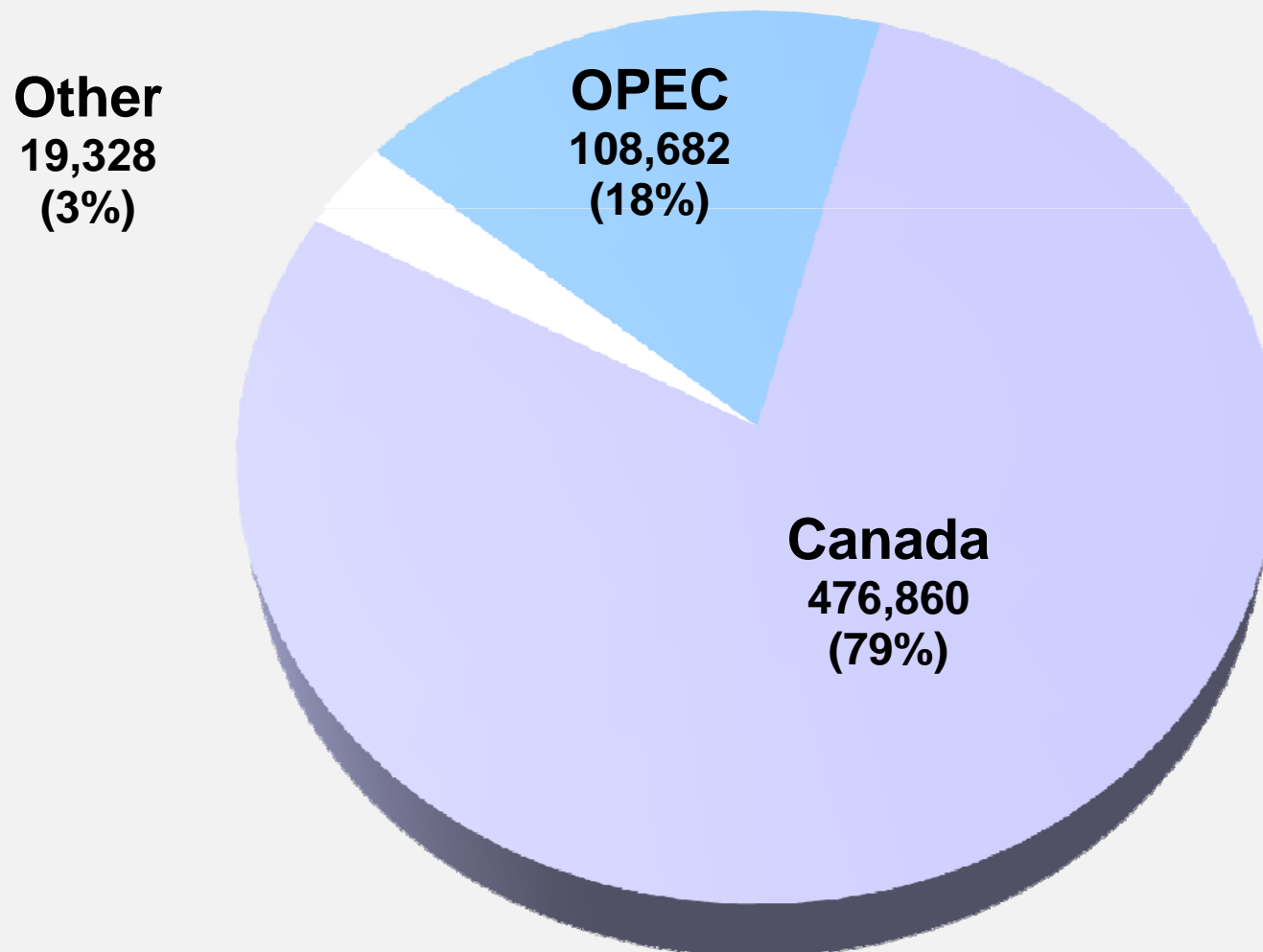


# Petroleum Administration For Defense Districts (PADD) II: Midwest



# Midwest (PADD2) Petroleum Imports

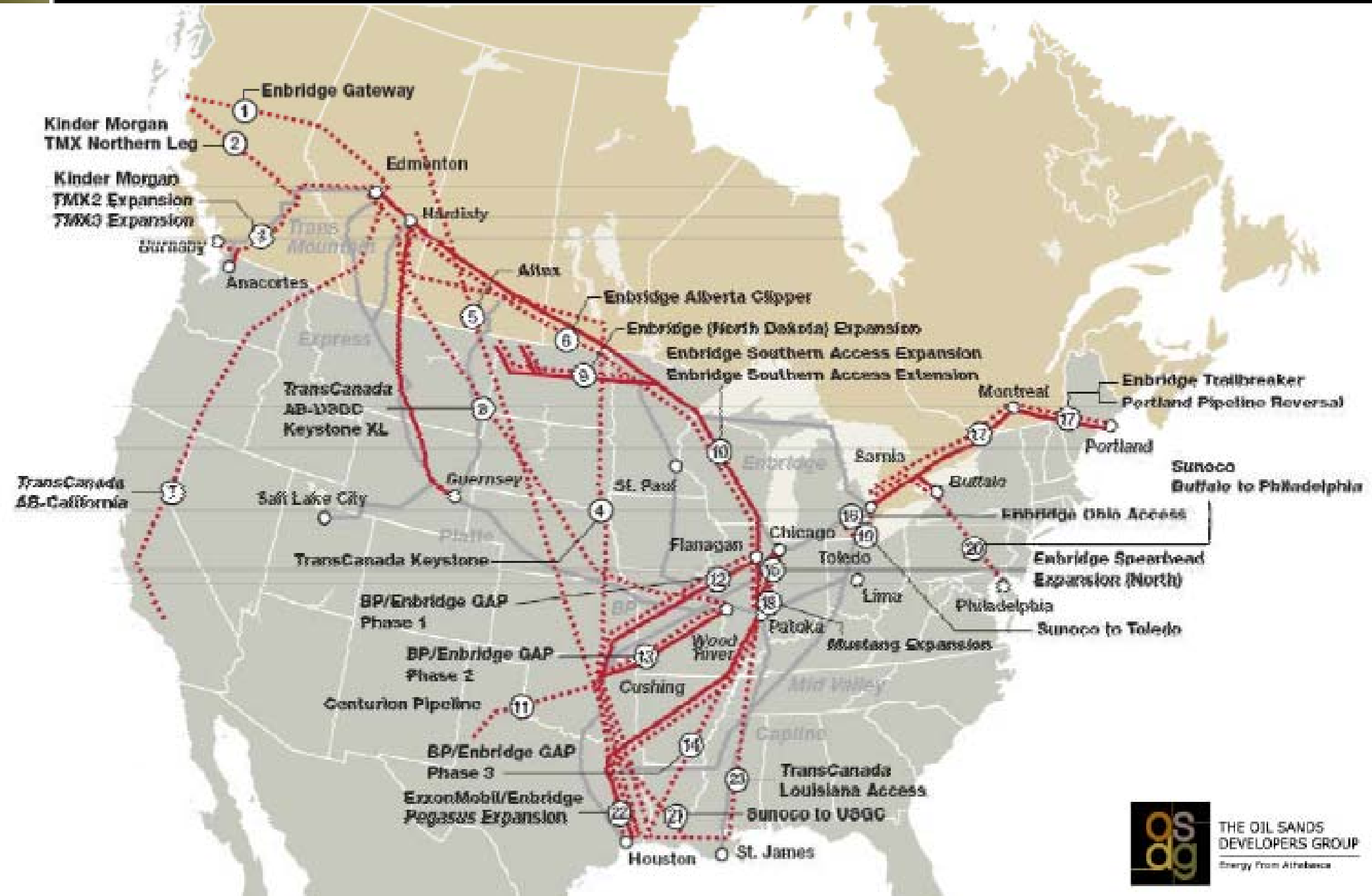
thousand barrels, 2008



Source: EIA, 2009

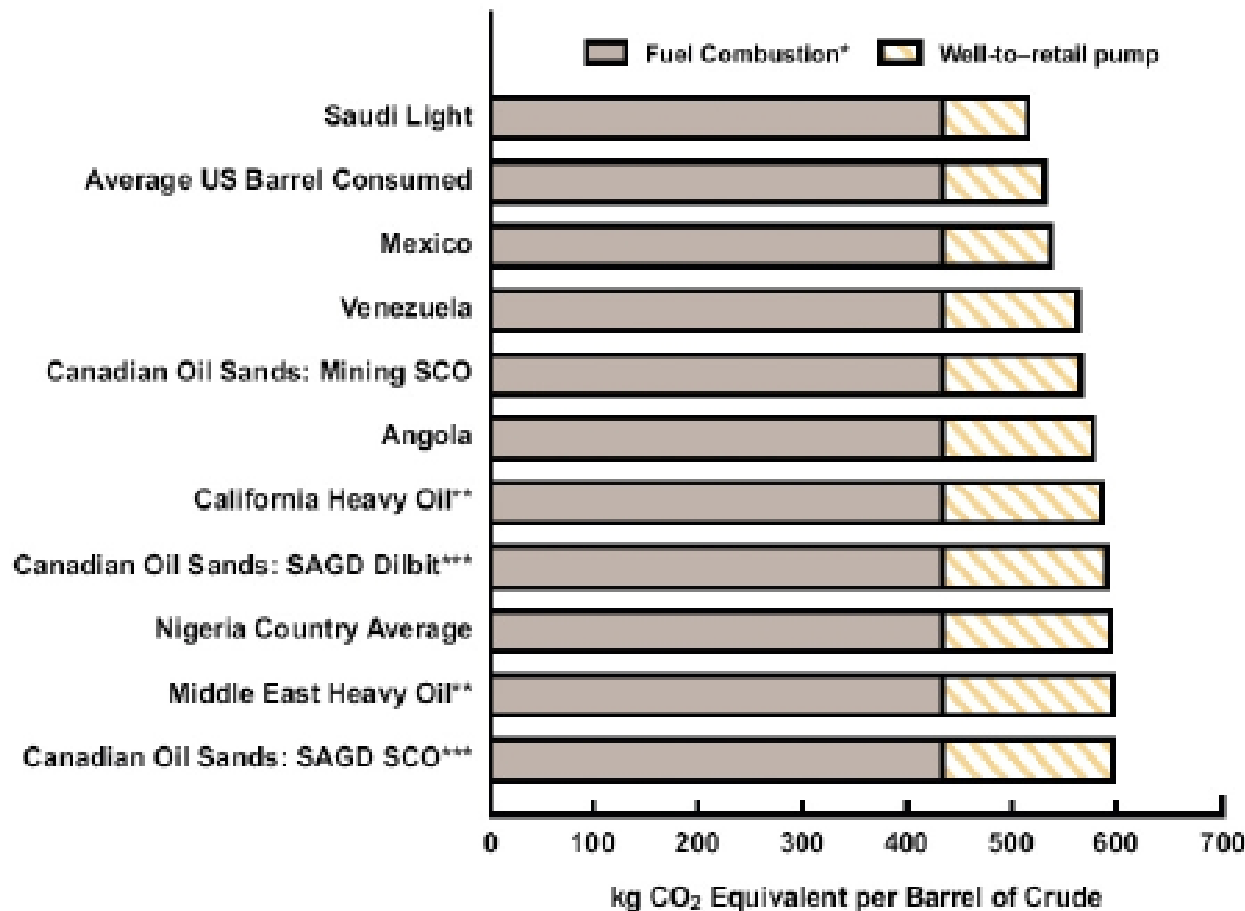
[http://tonto.eia.doe.gov/dnav/pet/pet\\_move\\_impcp\\_a2\\_r20\\_ep00\\_ip0\\_mbb1\\_a.htm](http://tonto.eia.doe.gov/dnav/pet/pet_move_impcp_a2_r20_ep00_ip0_mbb1_a.htm)

# Canadian & U.S. crude oil pipeline proposals



# Wells to Wheels

Life-cycle Greenhouse Gas Emissions  
for Various Sources of Crude Oil



Source: Cambridge Energy Research Associates Inc. *Growth in the Canadian Oil Sands Report 2009*

Source: Cambridge Energy Research Associates.



THE OIL SANDS  
DEVELOPERS GROUP  
Energy From Athabasca

# MGA LCFS Highlights

- 2005 baseline; 10% reduction within 10 years.
- Scope: liquid and non-liquid ground transportation fuels.
- Develop mechanisms for commercialization of “very low carbon” fuels, 50% lower GHG intensity than baseline.
- Advisory group recommends=
  - methodology; default values; point of regulation; compliance; penalties; interaction with other programs.
- Firms offer Life cycle analysis values based on site-specific analysis
- Auditing by state regulators or 3<sup>rd</sup> party

# LCFS Model Rule Development

## Timeline

- January 4: Skeleton draft model rule.
- April 5: First model rule draft delivered to entire advisory group.
- May 3: Near final model rule draft complete for 3<sup>rd</sup> in-person meeting.
- May 17-24: 3<sup>rd</sup> in-person meeting.
- June 7: Final model rule draft complete.

# LCFS Model Rule Outline

- Applicability

- Fuels (Types)

- Gasoline; Reformulated Gasoline; Diesel Fuel; Electricity; CNG or LNG; Biogas CNG or LNG; Hydrogen; Hydrogen Fuel Blend; 10% Ethanol Fuel Blend; Biomass-based Diesel Fuel Blend; Denatured Fuel Ethanol (E100); Neat Biomass-based Diesel (B100); Any Other Liquid or Non-Liquid Fuel.

- Credit for Fuels Presumed to Comply

- Fuels presumed to comply: Electricity; Hydrogen; Hydrogen Blends; Fossil CNG from North American Sources; Biogas CNG; Biogas LNG.

# LCFS Model Rule Outline

- **Applicability (cont'd)**
  - Exemptions for Specific Fuels
  - Exemptions for Specific Applications
  - Exemption for Small Producers and Importers
- **Definitions**
- **Carbon Intensity Requirements for Transportation Fuels**
- **Requirements for Regulated Parties**



# LCFS Model Rule Outline

- Calculation of Credit Balance
- Reporting Requirements
  - Annual Compliance Report
  - Rounding, Significant Digits
  - Recordkeeping
- Compliance
- Calculation of Credits and Deficits
- Credit Acquisition, Banking, and Trading
- Determination of Carbon Intensity

# International Efforts

- **United Nations Framework Convention on Climate Change (UNFCCC)**
  - March 21, 1994
  - Sets overall framework for intergovernmental efforts
  - Ratified by 192 countries.
- **Kyoto Protocol**
  - 5% reduction against 1990 levels in GHG emissions over five years, 2008 – 2012.
  - Binding targets for 37 countries.
  - Ratified by 184 parties of the UNFCCC.
  - Mechanisms: Emissions Trading; Clean Development Mechanism; Joint Implementation.

# International Efforts

- Copenhagen
  - December 7-18, 2009
  - Copenhagen Accord
    - Aspirational goal of limiting global temperature increase to 2°C.
    - Process for countries to enter specific mitigation pledges by January 31, 2010.
    - Broad terms for reporting and verification of countries' actions.
    - Collective commitment by developed countries for \$30 billion in “new and additional” resources in 2010-2012 to help developing countries.
    - Goal of mobilizing \$100 billion per year in public and private finance by 2020 to address developing countries' needs.
- November 2010 in Mexico City.

# Contact Information

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