

ECONOMIC DEVELOPMENT ADVISORY COUNCIL
HELENA, MONTANA
JULY 22, 2015

Minutes approved: November 5, 2015

MEMBERS PRESENT

John Rogers, Chair	Chad Cottet
Senator Brian Hoven	Shari Eslinger
Senator Cynthia Wolken	Julie French
Representative Mary Ann Dunwell	Mike Henning
Jim Atchison	Wade Sikorski
Kathie Bailey	Jim Smitham
Brent Campbell	Paul Tuss

ABSENT

Director Meg O'Leary	Representative David Moore
Richard Sangrey	Tim Warner

ATTENDEES

Ann Desch, Commerce	Rebecca Ziegler, Commerce
Lori Gilliland, Commerce	Dan Lloyd, Governor's Office
Tom Kaiserski, Commerce	Kevin Keeler, SBDC Advisory Council
Doug Mitchell, Commerce	Linda Kindrick, SBDC Advisory Council
Anne Pichette, Commerce	Eric Rose, SBDC Advisory Council
Karyl Tobel, Commerce	

Dale Horton, National Center for Appropriate Technology
Duane Caflett, Northern Plains Resource Council
Jim Clark, Northern Plains Resource Council
Marla Clark, Northern Plains Resource Council
Ellie Elliott
Alicia Pettys, Northern Plains Resource Council
Ella Smith, Northern Plains Resource Council

The meeting was called to order at 1:00pm by Chairman John Rogers.

OPENING REMARKS

Chairman Rogers began the meeting with introductions of the new council members present. He also provided members with general council information.

COUNCIL MEMBER UPDATES

Council members shared information regarding economic development and specific projects in their communities.

LEGISLATIVE UPDATE

Deputy Director Doug Mitchell provided an overview of the Department of Commerce and an update on the recent legislative session. He discussed the combining of divisions within the Department and the connectedness of the different programs within the Department as a whole. He discussed that the combining was a result of listening to the needs of constituents and was part of providing more efficient government as outlined in the Montana Main Street Project. The Montana Promotions Division and the Business Resources Division have combined their efforts and are now known as the Montana Office of Tourism and Business Development. He discussed the work being done by the Department to help communities grow. Information on the legislative session included the Big Sky on the Big Screen Act, access to capital in reservation communities, primary sector workforce training, and a more holistic approach to economic development projects in the future. He shared a video (link provided below) of the Montana Marketplace event in Chicago and emphasized the importance of the event not only for potential tourists, but also for individuals who may want to relocate to Montana either to work or to move their business.

Members of the council discussed the infrastructure needs of communities across the state.

Montana takes over Chicago video:

<https://www.youtube.com/watch?v=cVWInM0PHWk>

RENEWABLE ENERGY PRESENTATION

Dale Horton, Energy Program Manager at the National Center for Appropriate Technology (NCAT) provided a presentation on renewable energy, Renewables and Energy Efficiency.

TRADITIONAL ENERGY PRESENTATION

Tom Kaiserski, Program Manager for the Industry Development Program at the Montana Department of Commerce and Dan Lloyd, Business Development Specialist at the Governor's Office of Economic Development provided a presentation on traditional energy. The presentation, Montana's Energy Resources, is attached as APPENDIX A.

PUBLIC COMMENT

Members of the public asked questions about the energy presentations. One question was if there was a good way to quantify the economic development of energy efficiency. The response was that currently ACEEE provides decent numbers for the country as a whole. Another member mentioned that she was encouraged by Deputy Director Mitchell's comments about communities as a whole and encouraged the group when looking at economic development to do what is best for the whole community. She also asked about the future of Colstrip and if it would be possible to put wind and solar technology on the reclaimed coal land since there are already experienced workers in the area to help.

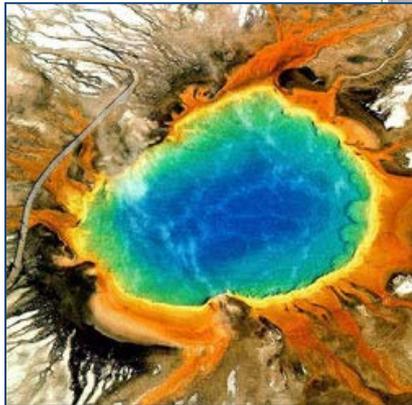
NEXT MEETING DATE

October 2015 was proposed as a tentative timeframe for the next Council meeting. An update on the Main Street Montana Project will be provided.

Chairman Rogers adjourned the meeting at 4:58pm.

APPENDIX A

MONTANA'S ENERGY RESOURCES

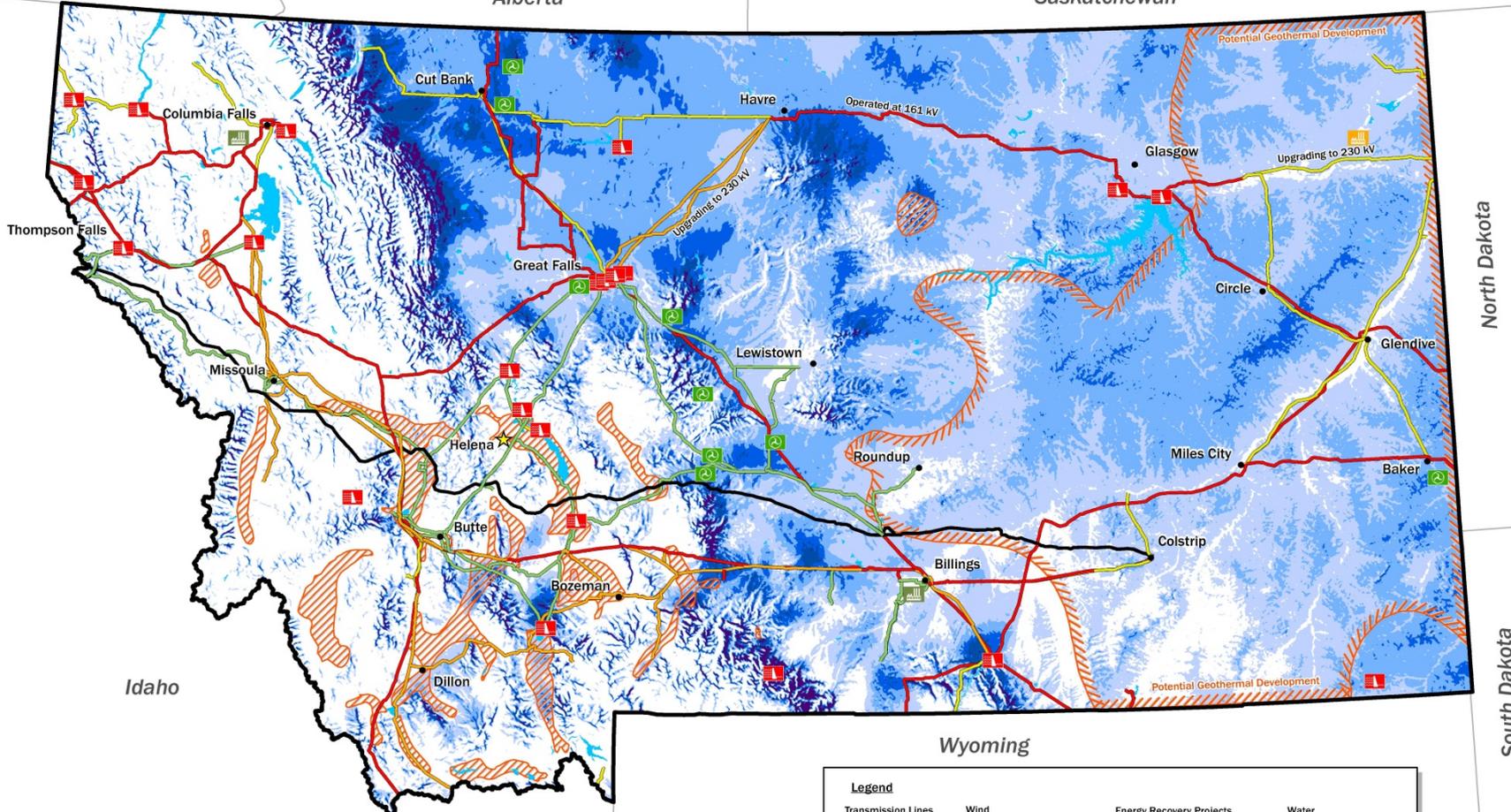


Renewable Energy Resources

British Columbia

Alberta

Saskatchewan



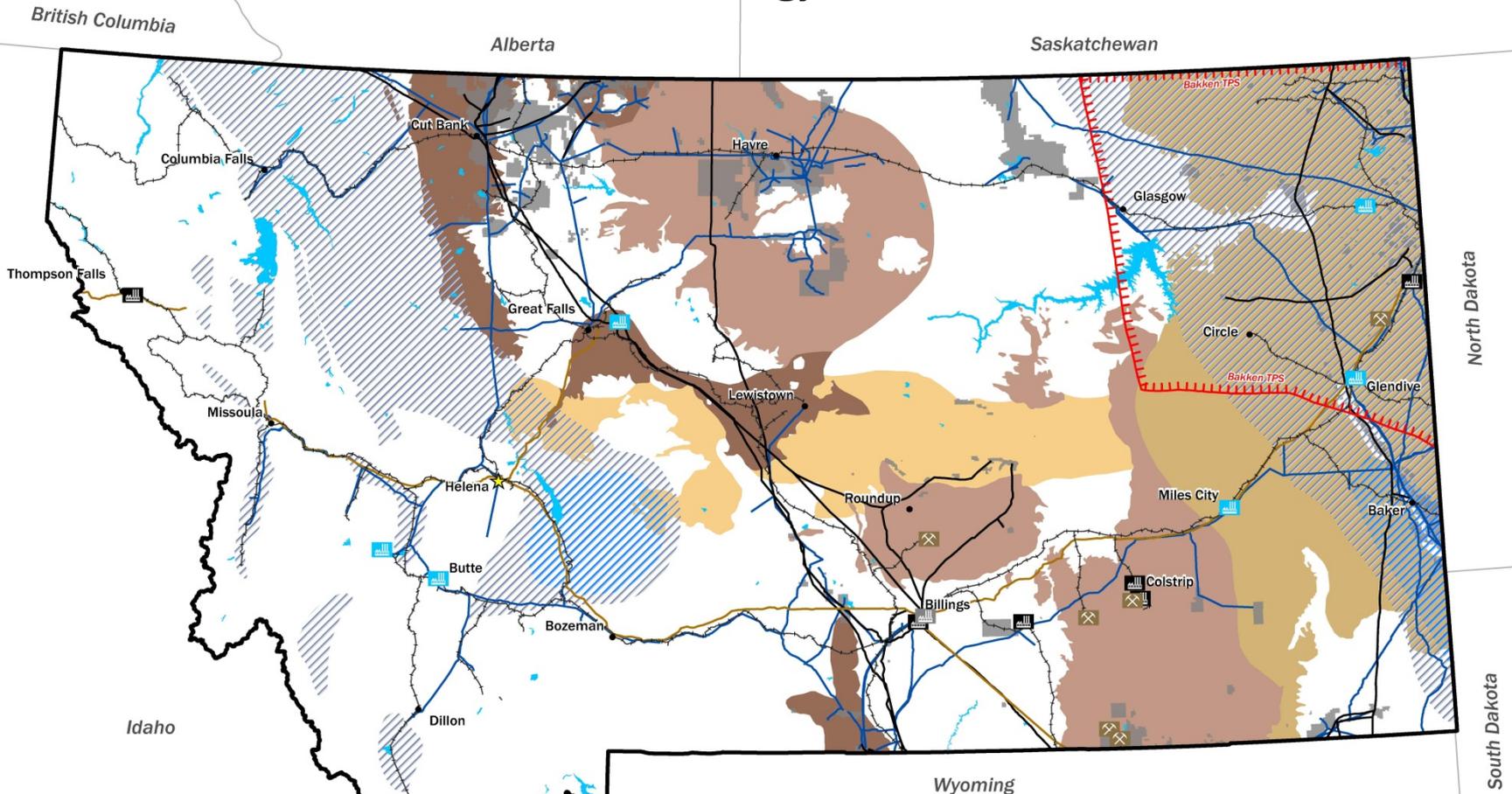
Map Sources:
 Transmission Lines: Department of Environmental Quality
 Wind Farms: Department of Environmental Quality
 Wind Power Class: TrueWind Solutions (2002)
 Energy Recovery: Department of Environmental Quality
 Hydroelectric Dams: Montana Fish Wildlife and Parks
 Higher Temperature Geothermal Resource: Idaho National Engineering & Environmental Laboratory (2003)

Legend

Transmission Lines	Wind	Energy Recovery Projects	Water
500 kV	Operating Wind Farms	Waste Heat	Hydroelectric Dams
230 kV	Wind Power Class	Landfill Methane Collection	Geothermal
161 kV	3 4 5 6 7		Higher Temperature Geothermal Resource
115 kV	@ 50m elevation		
100 kV			

0 5 10 20 30 40 Miles

Traditional Energy Resources



Legend

Pipelines Natural Gas	Bakken TPS	Coal Coal Mines	Power Plants Coal
Crude Oil	Oil & Gas Fields	Bituminous	Natural Gas
Refined Oil	Shale Gas Plays	Sub-bituminous	Oil
Railroads	Shale Gas Basins	Lignite	
	Oil-shale		

0 5 10 20 30 40 Miles

Map Sources:
 Pipelines: Department of Environmental Quality
 Railroads: Montana Department of Transportation
 Bakken TPS (Bakken-Lodgepole Total Petroleum System): United States Geological Survey (2008)
 Oil & Gas Fields: Board of Oil & Gas Conservation and Department of Environmental Quality
 Shale Gas Plays & Basins: US Energy Information Administration
 Coal Mines: Department of Environmental Quality
 Shale Deposits: Montana State University (1974)
 Power Plants: Department of Environmental Quality

Traditional Resources

Coal

28% of US reserves (8% of world); high quality, cleaner.

Oil

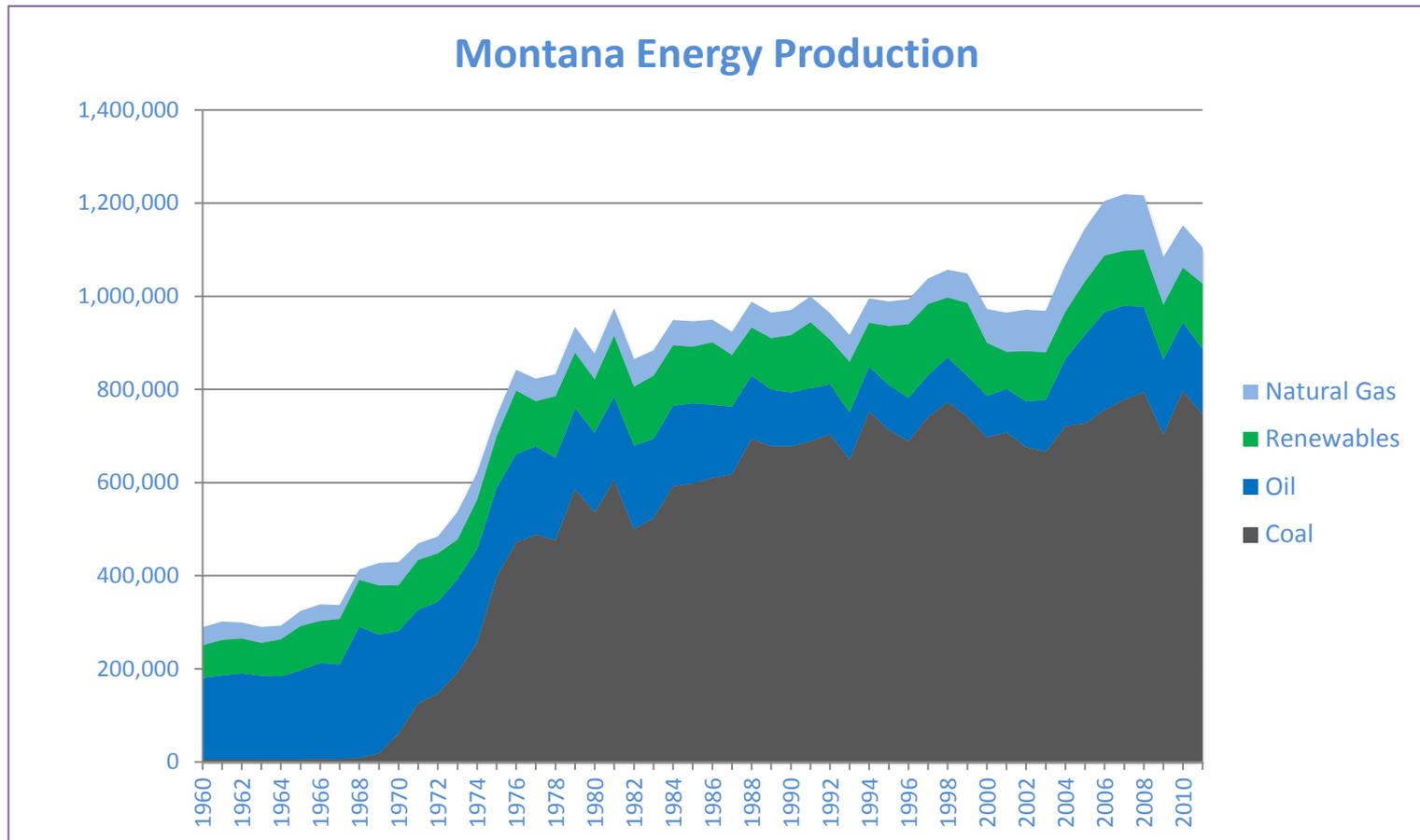
Bakken production is good not great; MT economy is benefiting greatly from ancillary services to the oil boom, oil price decline has all but halted new Montana drilling - only one drilling rig operating in July in Montana

Gas

Production is flat lined due to low prices discouraging new drilling, however NWE has acquired assets to bolster its portfolio. Natural gas is a best fit to pair with the variable generation of renewable energy

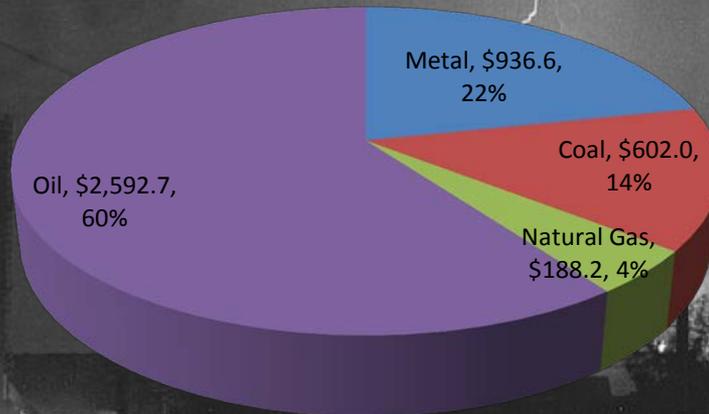


Historic Total Energy in BTU



Total Value of Production in Montana Oil, Natural Gas, Coal, Metals

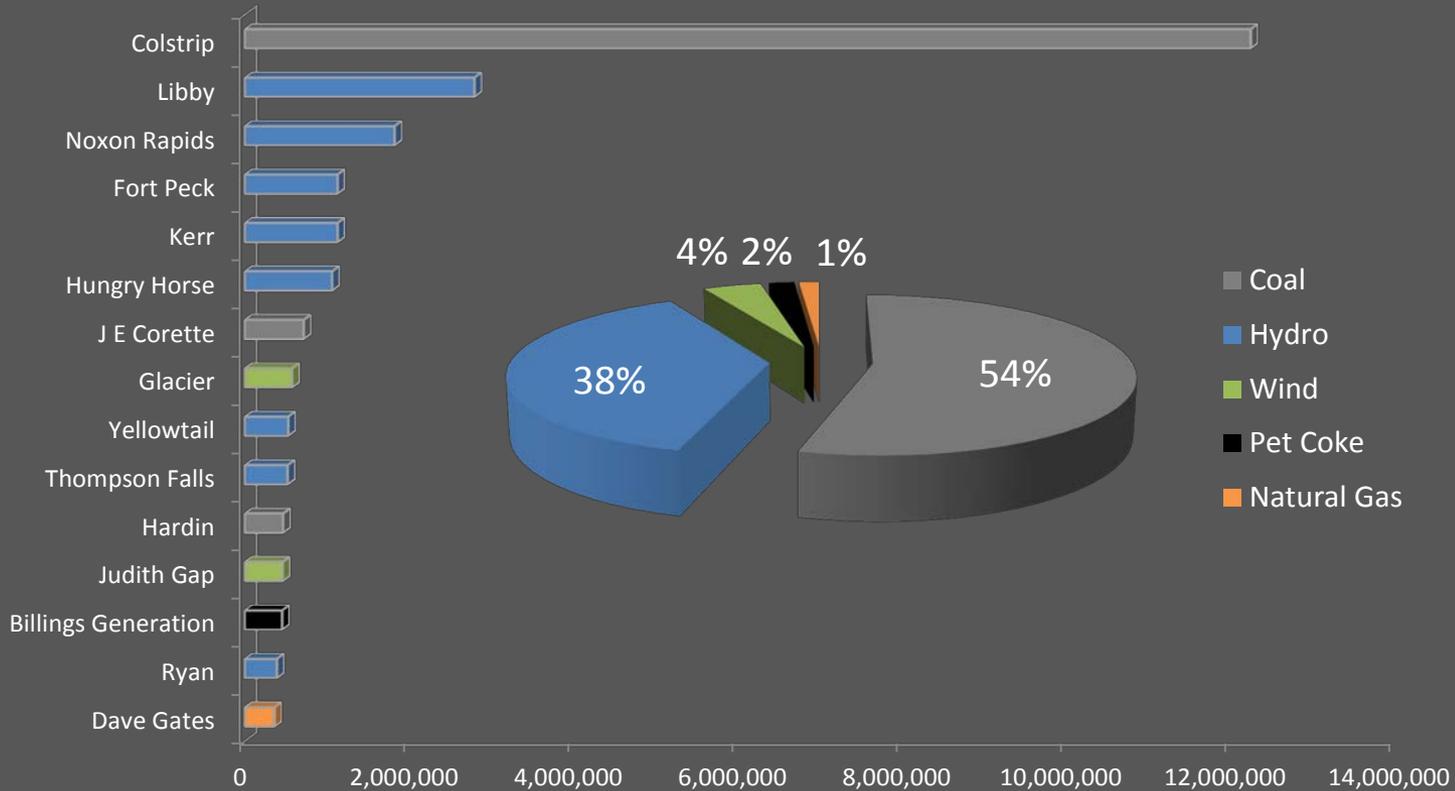
How Big is the Industry? 2013 \$4.3 Billion



Source: Montana Department of Revenue

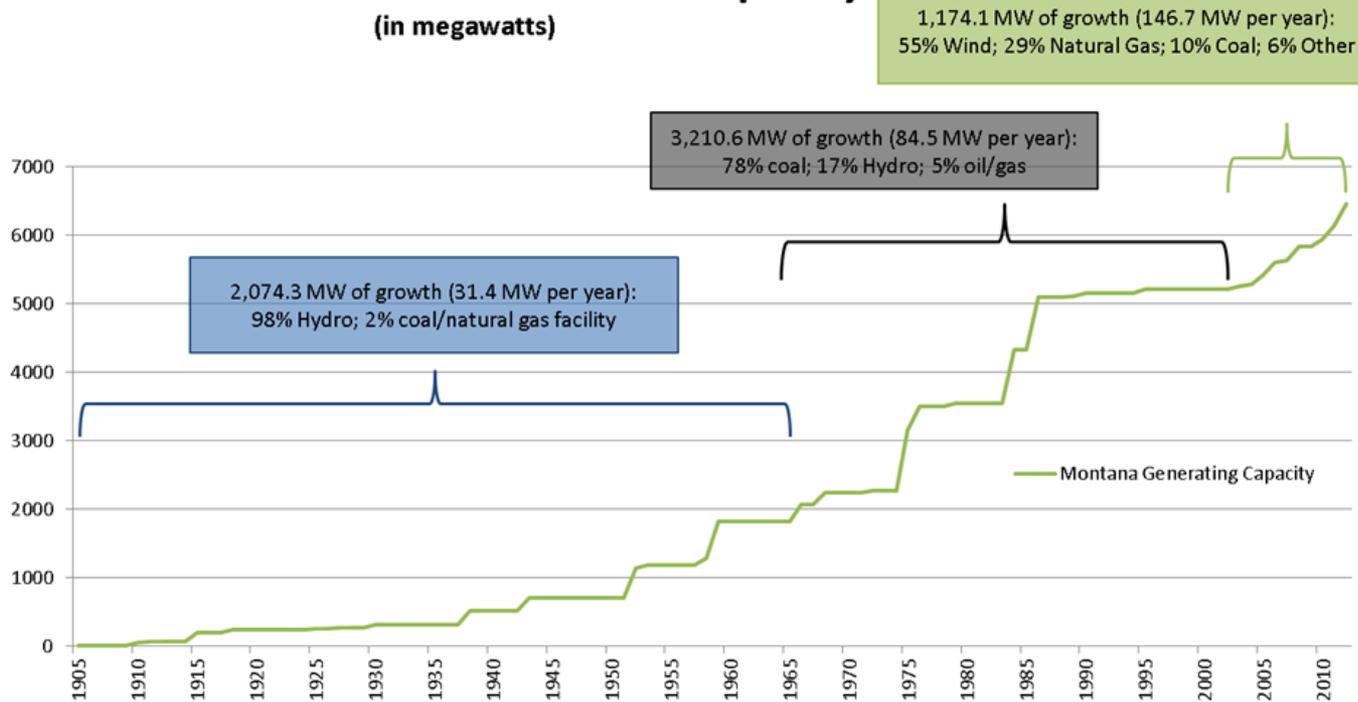
Electric Generation

MT's Top 15 Generators 2012 (MWh)



Electric Generation

Montana Historic Generation Capacity (in megawatts)



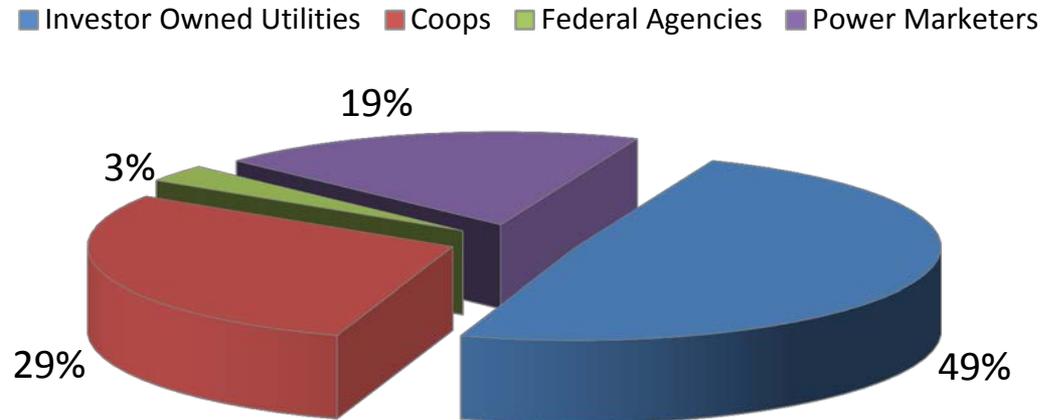
* A small percentage of constructed facilities are currently not in operation
* Source: Montana Departments of Environmental Quality, and Commerce Energy Promotion & Development Division

Service Providers

2 investor-owned utilities
25 rural electric cooperatives
3 federal agencies
1 municipality

*Two additional investor owned utilities and four cooperatives are based in other states but serve a handful of Montanans.

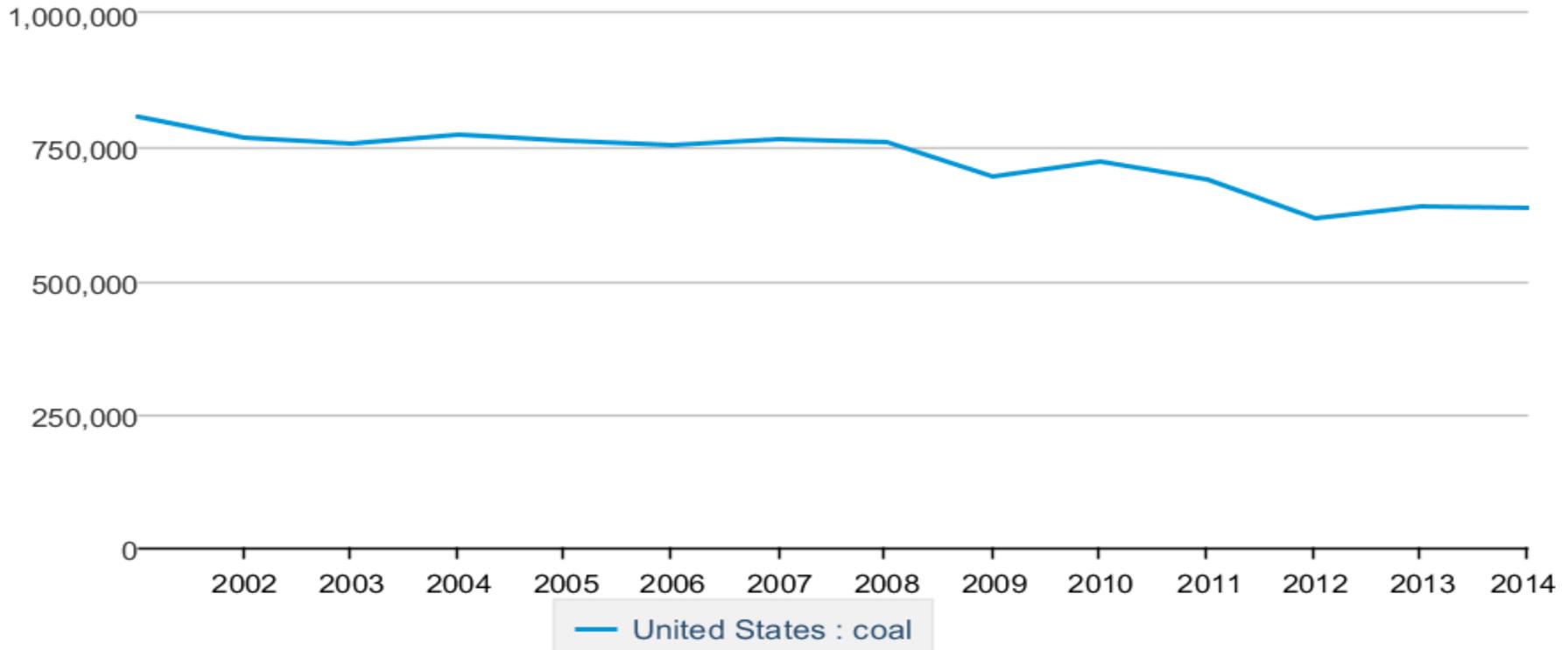
Electricity Sales 2011



US Coal Consumption

Consumption for electricity generation for electric utility, annual

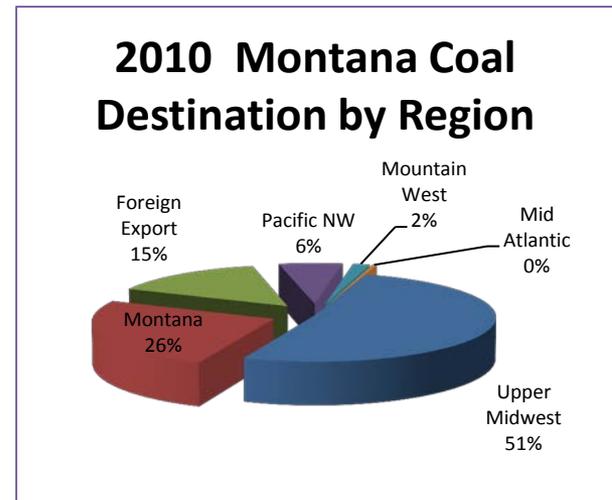
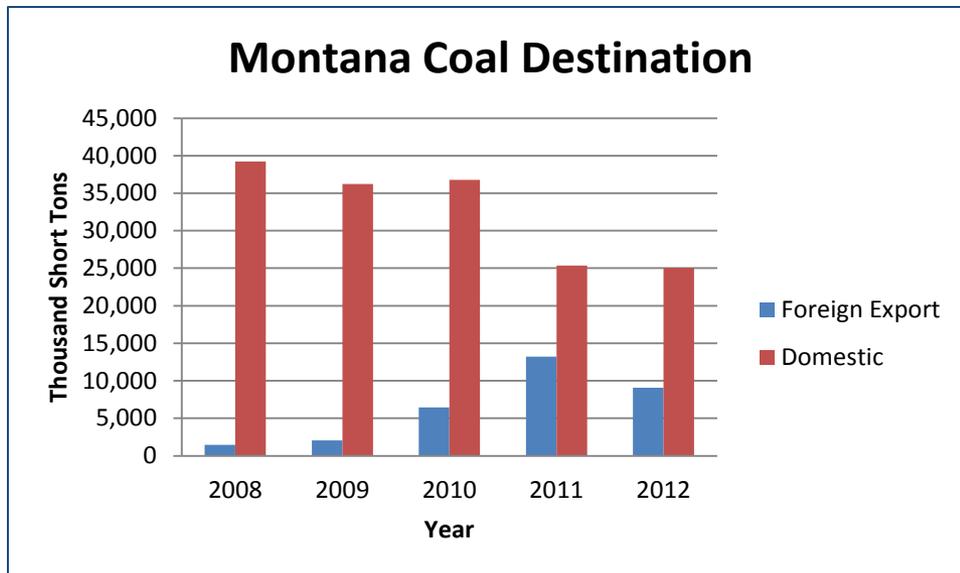
thousand tons



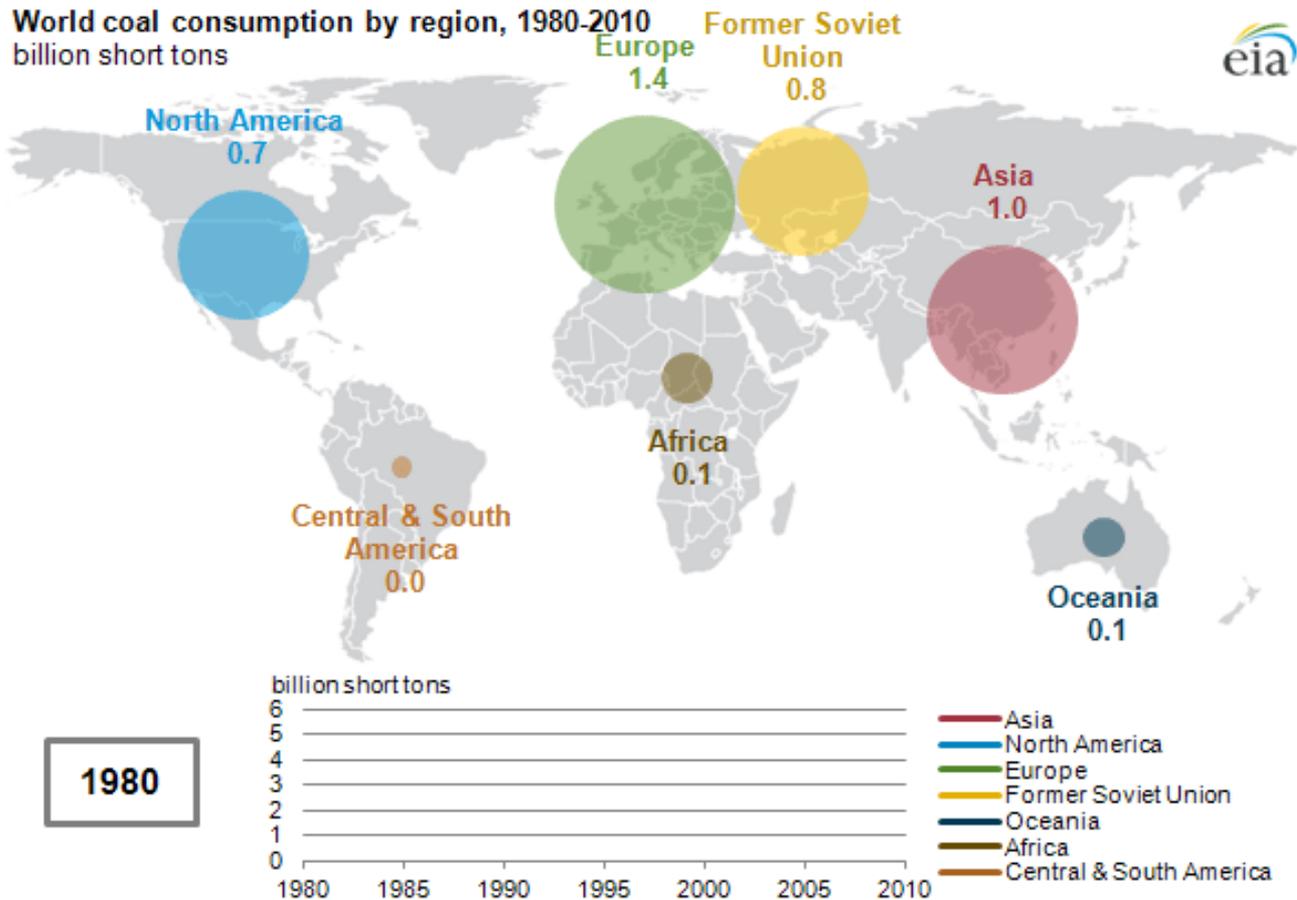
Source: U.S. Energy Information Administration

Coal

- 120 billion tons
- 28% of US reserves
- 8% of the world



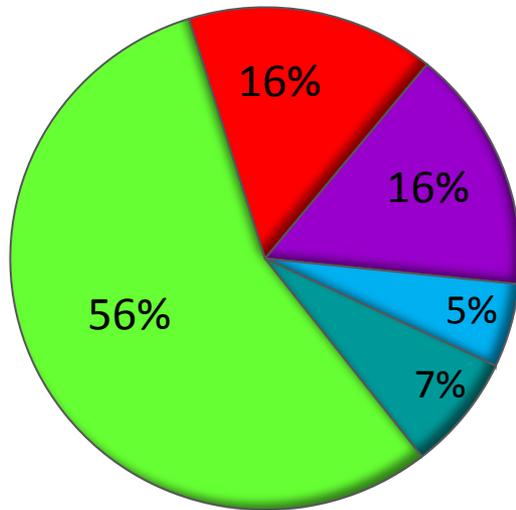
Increasing Asian Demand for Coal



Source: U.S. Energy Information Administration, International Energy Statistics

Oil and Gas

Top Producing Counties of the MT Williston Basin (crude oil)

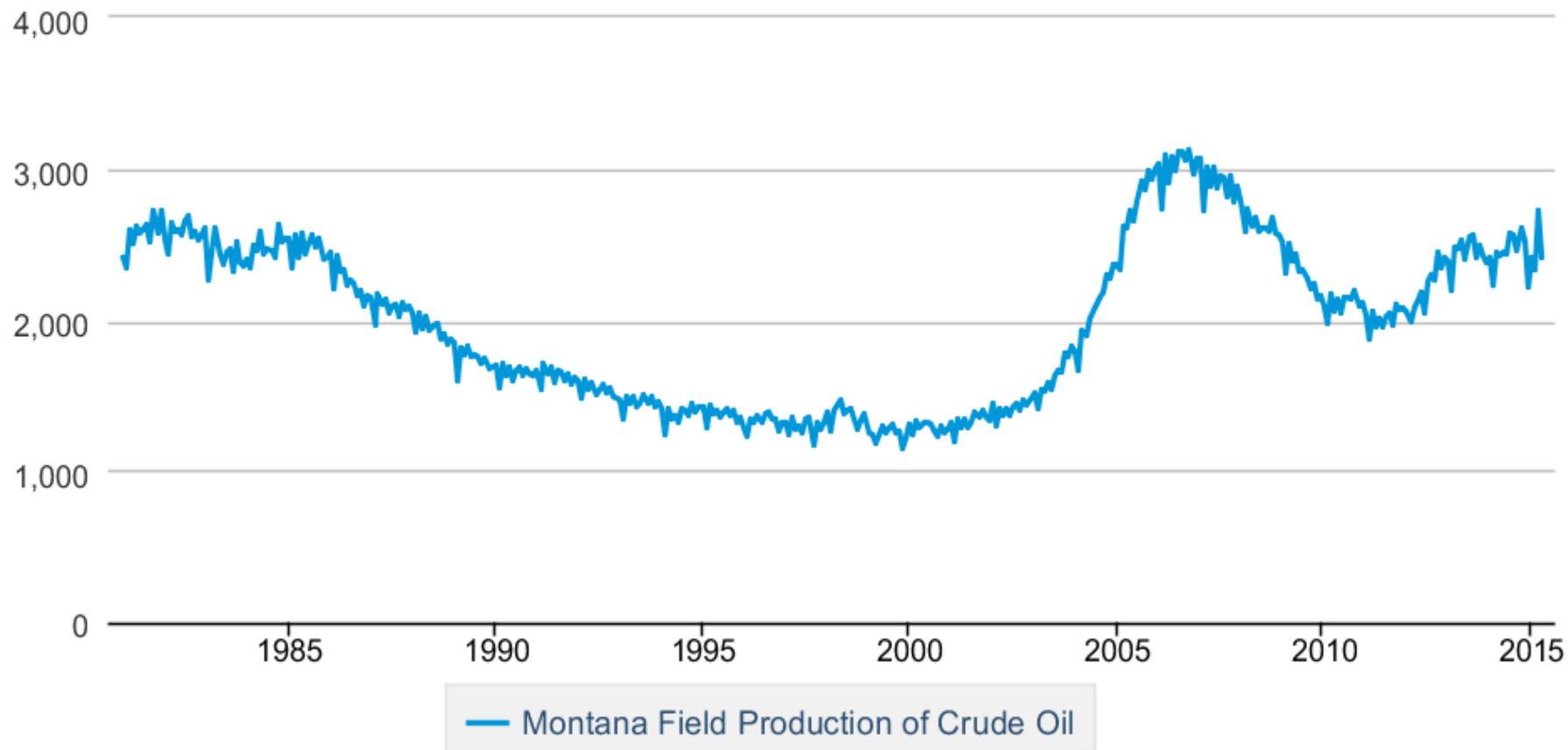


- Richland
- Roosevelt
- Fallon
- Sheridan
- Other



Montana Field Production of Crude Oil

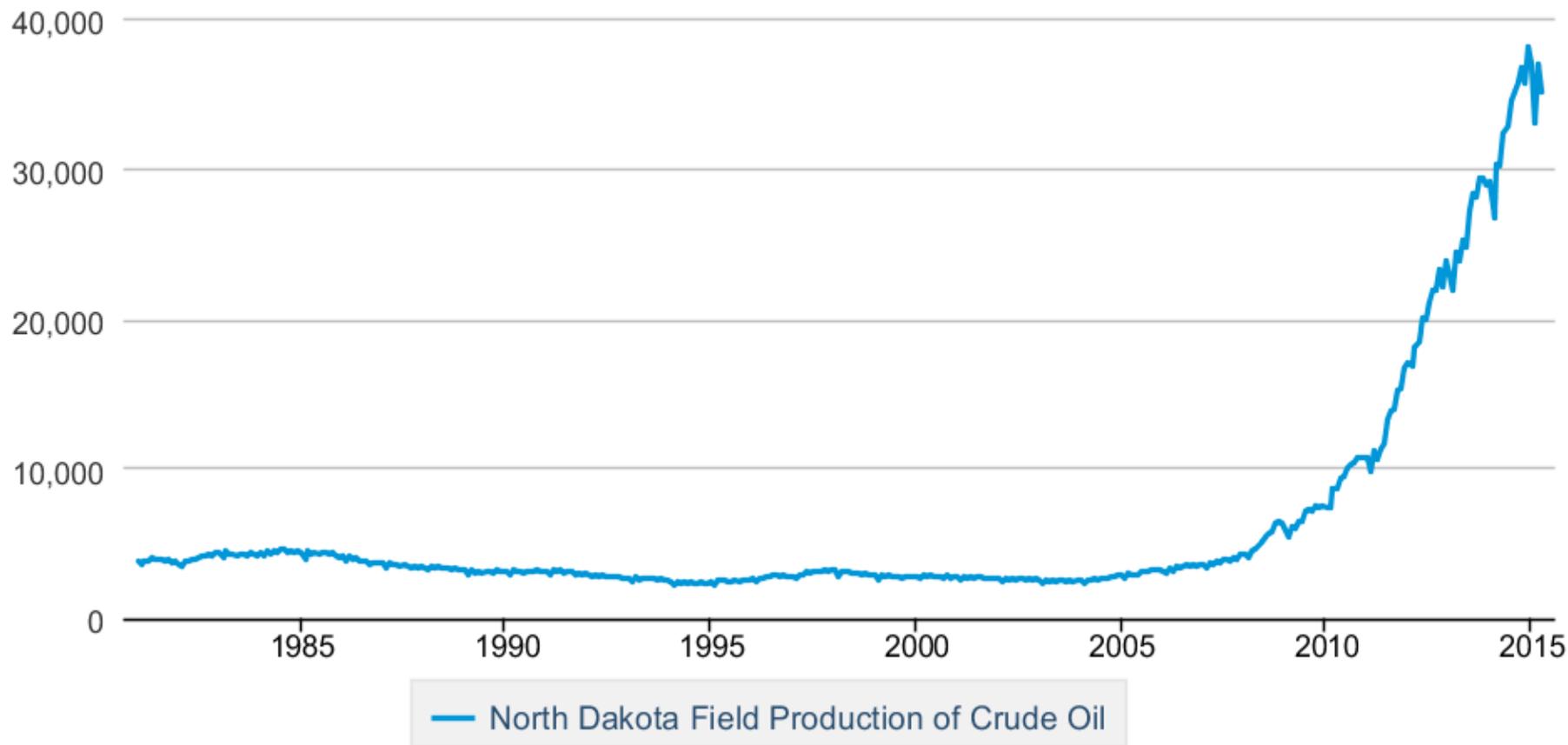
Thousand Barrels



Source: U.S. Energy Information Administration

North Dakota Field Production of Crude Oil

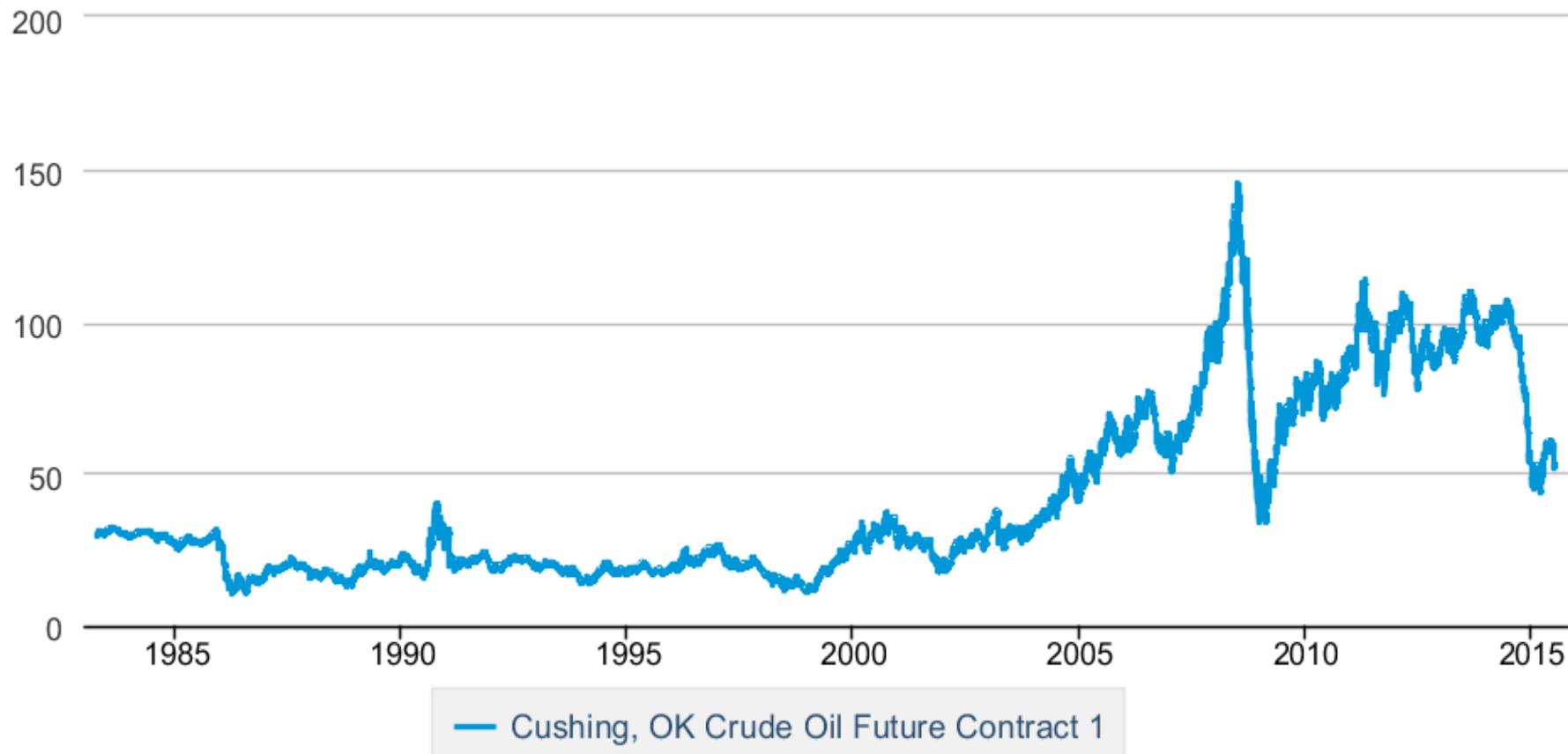
Thousand Barrels



Source: U.S. Energy Information Administration

Cushing, OK Crude Oil Future Contract 1

Dollars per Barrel

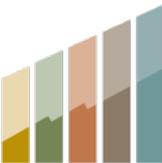


Source: U.S. Energy Information Administration

Petroleum Price Effects - EIA July 2015

- 857 - US June drilling rig count - 54% below the same point a year ago and the lowest level in nearly six years.
- BLS data showing declines in national oil and natural gas production jobs between October 2014 and May 2015 represent a contraction of about 6.5% of the industry workforce.
- In North Dakota, the unemployment rate slightly increased from 2.8% in October 2014 to 3.1% in May 2015
- Declines in oil and gas production and support jobs tend to lag oil price declines – so expect job declines to continue
- 1 – Montana July rig count

Industry Outlook: Oil



Industry Innovation



Utilizing more of the resource:
**Mobile Flare Gas Capture
& Refining**



Increasing efficiency and profitability:
**99.9% efficient frac water heater with multiple
fuel source capability**



Industry Innovation



Better waste management:

EMI's ENVIRO DRY® and Class C Fly Ash are the best quality solidification and stabilization products in the industry.



Turning waste products into co-products:

Cleaning produced water through technology developed at Los Alamos National Lab for use in agriculture, livestock, and community water supplies.



Industry Innovation



Better frac information:

Precise, real-time imaging enabling companies to harvest every molecule of oil for the least amount of money.



Studying EOR in Elm Coulee:

3rd year of a 5 year study on CO₂ and natural gas injection EOR



Industry Outlook: Coal

Uncertainty

- *Domestic plant closures**
- *International demand & access uncertain**
- *Federal royalty rates**
- *Environmental regulations**
- *Cheap alternatives (gas and renewables)**



5 Pillars of the Main Street Montana Project

1. Train and Educate Tomorrow's Workforce Today
2. Create a Climate that Attracts, Retains and Grows Businesses
3. Build upon Montana's Economic Foundation
4. Market Montana
5. Nurture Emerging Industries and Encourage Innovation

Montana Main Street Program Energy & Utilities Key Industry Network (KIN)

CoChairs

Bob	Rowe	Northwestern Energy
Niles	Hushka	KLJ

Steering Committee

Dan	Berube	Retired CEO - Montana Power Co.
Carl	Borgquist	Absaroka Energy
Jason	Brothen	Lower Yellowstone Rural Electric Association Inc.
Henry	Dykema	Sundance Solar Systems, LLC
Corey	Goulet	Transcanada
Kathy	Hadley	National Center for Appropriate Technology
Bob	Harris	Western Area Power Administration
Mark	Johnson	Flathead Electric
John	Kappes	Mountain Water - Missoula
Nicole	Kivisto	Montana Dakota Utilities
Brian	Lipscomb	Energy Keepers, Inc.
Elliot	Mainzer	Bonneville Power Administration
Chris	McCall	Compass Wind
Robert	McFarlane	Enbridge
Joe	Micheletti	Westmoreland Coal Company
Alan	Olson	Sanjel
Ben	Reed	Winpower West
Phil	Rykhoek	Denbury Resources
Jose Maria	Sanchez Seara	Naturener
Craig	Wilkins	ViZn Energy

Energy and Utilities KIN Top 5 Issues:

1. Workforce development
2. Access to capital
3. Federal Clean Power Plan for existing coal fired power plants
4. Review existing state regulations
5. Market Montana energy

MAIN STREET MONTANA PROJECT

A BUSINESS PLAN

For Montana by Montanans

Energy and Utilities

Key Industry Network

Tom Kaiserski

State Liaison