Discussion Overview

1. ALLETE/BNI Overview
2. Role of coal in global & national energy supply
3. How lignite industry is unique
4. Challenges facing the US coal industry
5. Future of coal
has a compelling business mix

Regulated

- Minnesota Power
  - $2.7B rate base
- SW&L
  - 15,000 electric customers
  - 12,000 natural gas customers
  - 10,000 water customers
- ATC
  - 8% equity ownership

Energy Infrastructure & Related Services

- Complementary
  - Energy/water nexus
  - Earnings & cash flow with long-term growth
- Allelectric
  - Develop, acquire, manage clean and renewable energy projects
- U.S. Water
  - Provides integrated water management for industry
- BNI Energy
  - Contracted revenue
footprint provides growth opportunities

COMPLEMENTARY EARNINGS GROWTH

FOUNDATION for consistent earnings and cash flow
Our Vision

“To be a trusted partner recognized as experts in delivering energy solutions, while being environmentally responsible, community-minded and financially strong.”

This means:

- Take care of our customers
- Do it responsibly
- Look to grow by leveraging BNI’s existing operations and expertise
BNI History

- Noonan Lignite formed in 1928 and began mining in northwest ND near Noonan
- 3rd largest coal producer in ND by 1933
Center Mine

- Opened in 1969 to supply Milton R. Young Station Unit I
- Expanded in 1977 to supply Milton R. Young Station Unit II
- Minnesota Power and Light purchased Baukol Noonan Inc. in 1989
- Signed coal supply contract extensions in 2014
BNI Coal Operations

- Center Mine Produces 4.5 million tons per year with reserves of over 600 million tons
- 125 hourly and 45 staff personnel
- Consistent low cost/million Btu producer
BNI ENERGY

Who We Are!

Mission and Values
Global Energy Outlook

Figure 1. World energy consumption, 1990-2040 (quadrillion Btu)
Global Energy Consumption Outlook

Source: EIA, International Energy Outlook 2013
World coal consumption by region, 1980-2010

billion short tons

Europe 1.4
Former Soviet Union 0.8
Asia 1.0
North America 0.7
Central & South America 0.0
Africa 0.1
Oceania 0.1

1980
U.S. Energy Outlook

Energy Consumption by fuel type

Different Regions of the Country Use Different Fuel Mixes to Generate Electricity

This has evolved over time based on the economics of fuel availability.
Unique characteristics of the Lignite Industry

1. Coal **Quality** – lower heating content driven by higher moisture and ash content than other coal types

2. Generally consumed in close **proximity** to the mine in what’s called mine-mouth operations (power plant and mine are adjacent)

3. Contracted under **long-term supply agreements** between mine and power producer

4. Close **strategic alignment** between coal suppliers and coal users
Why close alignment between lignite producers and users?

- The only way for the mines to make more money is to optimize the power plants performance and cost structure so that the power company can sell more electricity.

- Mines and power plants are incentivized to operate responsibly to serve electric customers:
  - Mine land reclamation
  - Environmental stewardship
  - Community engagement
  - World class safety programs, performance, and track record
Lignite Challenges

- Regulatory
- Market
- Energy Policy
- Public perception
Environmental regulatory timeline for coal units

- **Ozone**
  - Beginning CAIR Phase I Seasonal NOx Cap
  - Revised Ozone NAAQS
  - CAIR Vacated
  - NO2 Primary NAAQS
  - CO2 Regulation
  - Proposed CAIR Replacement Rule Expected
  - Final CAIR Replacement Rule Expected
  - Effluent Guidelines proposed rule expected
  - 316(b) final rule expected
  - 316(b) Compliance 3-4 yrs after final rule

- **SO2/NO2**
  - SO2 Primary NAAQS
  - Final Rule for CCBs Mgmt
  - Next PM-2.5 NAAQS Revision
  - Final EPA Nonattainment Designations
  - HAPS MACT final rule expected
  - HAPS MACT proposed rule
  - 316(b) proposed rule expected

- **CAIR**
  - CAIR Remanded
  - Effluent Guidelines Final rule expected
  - Next Ozone NAAQS Revision
  - Beginning CAIR Phase II Annual SO2 & NOx Caps

- **Water**
  - Effluent Guidelines Compliance 3-5 yrs after final rule
  - Beginning CAIR Phase II Seasonal NOx Cap

- **PM2.5**
  - PM-2.5 SIPs due ('97)
  - Begin CAIR Phase I Annual NOx Cap
  - Final Rule for CCBs Mgmt
  - Proposed Rule for CCBs Management
  - 316(b) proposed rule expected

- **Ash**
  - Ash Management
  - Final EPA Nonattainment Designations
  - HAPS MACT final rule expected

- **Hg/HAPS**
  - HAPS MACT replacement rule
  - Compliance with CAIR Replacement Rule
  - HAPS MACT Compliance 3 yrs after final rule

- **CO2**
  - CO2 Regulation
  - Reconsidered Ozone NAAQS
  - New PM-2.5 NAAQS Designations
  - Beginning CAIR Phase II Annual SO2 & NOx Caps

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Adapted from Wegman (EPA 2003)
Market Challenges

- 2009 recession reduced demand for electricity
- Many states have adopted renewable portfolio standards
- Federal wind production tax credit incentivizes wind operations at negative power prices
- Emergence of fracking and the resultant shale gas boom
Energy Policy

Security, Comfort, Quality of Life

- Climate Change
- Distributed Generation
- Grid Security
- Renewable Standards
- Grid Reliability
- Endangered Species
- Water Quality
- Air Quality
- Affordable Reliable Energy
Public Perception
Future of Energy

- The world needs all energy resources including coal to meet its rapidly growing energy needs and feed its population.

- The developed countries lead by Europe and North America expect a transition to cleaner forms of energy.

- The undeveloped countries expect access to energy to improve their standards of living and feed their populations.

- If the developed countries want the undeveloped countries to transition to cleaner forms of energy, reduce CO2 emissions, and address climate change, they must develop and provide the technologies to meet these objectives.

- North Dakota is uniquely positioned to lead energy transformation.
Thank You
Appendix
Coal continues to account for the largest share of energy-related carbon dioxide emissions throughout the projection.

Man-made CO2 emissions = 6%
45% man-made CO2 emissions from coal = 3%
Developed countries consume 25% of total coal = 0.8%
Reduce to NGCC equivalent ~ 20% = < 0.16% reduction in global CO2 emissions

Source: EIA, International Energy Outlook 2013
Figure 9-1. OECD and non-OECD energy-related carbon dioxide emissions, 1990–2040

billion metric tons
Figure 9-4. OECD and non-OECD energy-related carbon dioxide emissions by fuel type, 1990–2040

billion metric tons

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Figure 9-6. U.S. electricity generation by primary fuel in the AEO2015 Reference case, 1990–2040, and incremental energy savings in the AEO2015 Base Policy case, 1990–2040

trillion kilowatthours