U.S. COAL PRODUCTION AND USE DOWN
Production down 212 mtpa from ‘08

U.S. Coal Production (2007-2016) (billion tons)

I Institute for Energy Economics and Financial Analysis
Consumption for Electricity down 200 mtpa since 2008

U.S. Coal Consumed for Electric Generation (2007-2016)

- Actual
- EIA Estimate

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EIA Long Term Expectations

• Overall, through 2030 flat, coal market share declines from today 38% to 32% of electricity market; thermal exports mid 30 mtpa range.

• Illinois Basin gains (gains)

• Powder River Basin (small gains)

• Northern Appalachia (small gains)

• Central Appalachia (significant losses)
Observations

• Pace of coal decline too slow
  – 2015 important year; losses larger
  – Only Peabody selling more coal than last year
• Companies/Industry shrinking little upside
• NatGas/renewables downward price pressure
• Rising costs pressure upward- lax demand
• Looming Debt Problems
• Tight Margins more losses
• Company and market change
  – Combination, diversification
U.S. COAL PRODUCERS WEAK
Large Companies Posting Large Annual Losses

Alpha, Arch, Cloud Peak, Peabody: Net Income/(Loss) 2010-2014

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Leading Stock Prices Collapse

Arch Coal, Inc. - Price Change (%)

- ACI (-94.18%)
- SNL Coal (-63.42%)
- BTU (-82.81%)
- ANR (-97.24%)
- DJIA (+75.61%)
- CLD (-45.50%)
EXPORT POTENTIAL DIMINISHED
Actual Exports Decline, Estimates Following Market

Table VI: U.S. Thermal Coal Exports: Actual vs. Arch, EIA Projections 2011-2030

- Actual
- Coal Industry
- EIA AEO 2012
- EIA AEO 2014
- EIA STEO 2015

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Observations

• Weak Markets Persist; Efforts to Continue
  – Keeps undermining credibility
  – Royalty regulation discussion

• U.S. Coal Producers acknowledging challenge
  – Now see India as bright spot – 800,000 thermal last year
  – Cloud Peak looking 2020 and beyond for growth

• Look for export projects as part of asset/liabilities in company workouts

• Investors should be concerned about losses from stalled/failed export investments.
  – Arch: $50 million liquidated damages; $50 million South Hilight; $5-$6 million annually for Otter Creek and MBT Terminal.
COAL’S RESURGENCE
A Comeback Plan

• Republican control of Congress and Presidency
  – Control of regulatory process

• Manage liquidity until markets turn around
  – Cut costs, no capex, push out costs

• Greater Utilization of remaining fleet
  – Contingent on natural gas prices

• Technology

• Consolidation/Mergers and Acquisition
  – Recapitalize remaining mines, start new ones
  – Natural Gas – CONSOL, Alpha, Murray Energy
Final Observations

• 800 mtpa of coal burn annually is still a market

• Too many producers chasing too little demand
  – Mismanagement of shrinkage

• Market, technological and political disruption creates opportunity:
  – Why permit mines for production 30 years from now?
  – Why permit plant retrofits for unstable coal supply?
  – Why partner with companies & industry that might not be there?
  – Why invest in industry with large downsides?
  – Why permit ports for shipping 30 years from now?