





# West Virginia's Metallurgical Coal & Markets



West Virginia 2011 Energy Summit December 6, 2011 Roanoke, West Virginia

We Manage the Process
From the Ground Up





## **Topics for Discussion**

- » Demand for Met Coal Strong Growth
  - Economic Recovery
  - Significant Themes / Events
- » U.S. Met Coal Participation Strong Growth
  - Increased production of U.S. met coal
  - Supply chain challenges
- » U.S. Exports to Asia Sustainable
  - Structural shift in seaborne met trade
  - Wider acceptance / Customer diversification strategy
  - Creative supply chain improvements



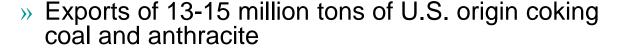
## **Company Profile - Xcoal**

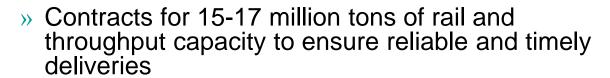


Privately held company specializing in the export of U.S. origin hard coking, PCI, and anthracite coals to integrated steel mills throughout the world

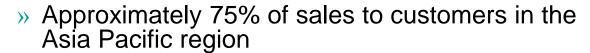
#### FY 2011 Forecast:

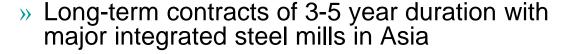










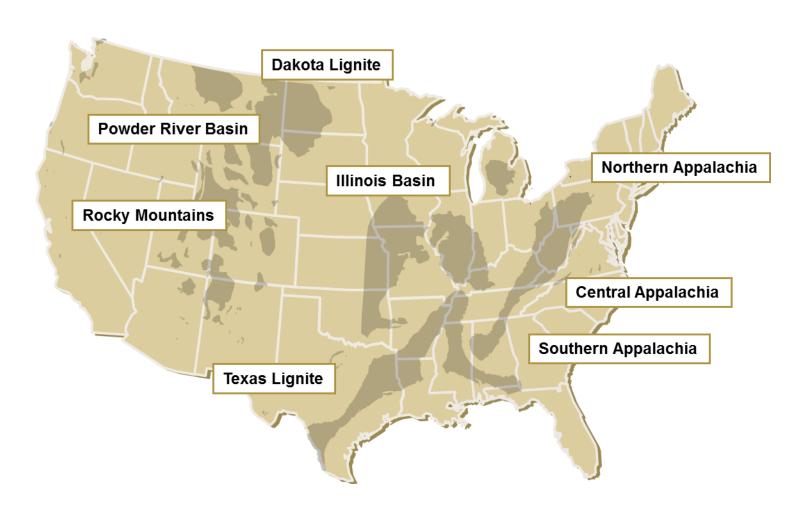






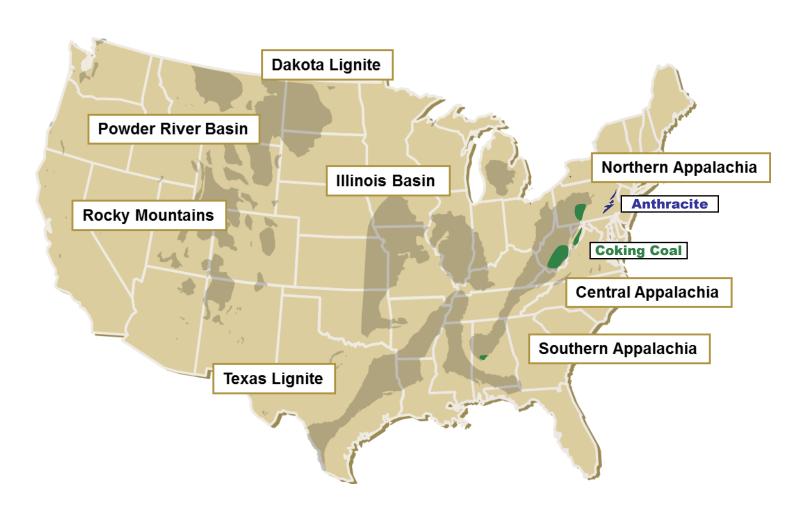


## **U.S. Coal Producing Regions**





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## Metallurgical Coal in West Virginia

- » Southern West Virginia
  - Boone County
  - Fayette County
  - Greenbrier County
  - Kanawha County
  - Logan County
  - McDowell County
  - Mingo County
  - Raleigh County
  - Wyoming County

- » Northern West Virginia:
  - Barbour County
  - Grant County
  - Mineral County
  - Nicholas County
  - Preston County
  - Randolph County
  - Tucker County
  - Upshur County
  - Webster County



## West Virginia Metallurgical Coal

- » Estimated production in 2011 approximately 55 million tons of metallurgical coal
- » Sales of metallurgical coal contribute approximately US\$8.25 billion of revenues to producers of metallurgical coal in West Virginia
- » Additional economic and employment benefits associated with rail transport, truck transport, parts, supplies, and other ancillary industries which are required to support this level of metallurgical coal production



## **Economic Recovery – Two Speeds**

- » Emerging Economies:
  - Rapid and steady economic growth
  - Moderate and manageable debt levels
  - Inflation concerns
  - Overheating risk

- » Advanced Economies:
  - Slow to moderate economic growth
  - High debt levels and credit risk
  - Low to moderate inflation
  - Stagnation risk



## Significant Themes / Events

- » 2011 looking like 2010 around the same time last year, a global economic slowdown seemed likely but did not occur
  - Far too early to draw any negative conclusions
- » Economic data indicates that we will not experience a double dip recession
  - The global economic expansion appears strong enough to withstand the major known uncertainties
- » Signs of Recovery
  - Global met coal trade
  - Steel & iron production-expected to increase 5.4% in 2012
- » Rains in Queensland had a significant impact in 2010 & 2011
  - Highlighted exposure to Australian supply (Japan, India, etc.)
- » Higher levels of U.S. seaborne met tonnage needed to balance the market
  - US export levels returned to levels not achieved since the 1990's



## Significant Themes / Events (cont.)

- » Long term structural weakness in the \$USD should help drive exports and drive U.S. recovery & global rebalancing
  - Since 2008:
    - > AUD appreciated 50% against \$USD
    - CAD appreciated 25% against \$USD
- » Consolidation in U.S. met space continues met reserves still affordable
  - Alpha / Massey
  - Arch / ICG
  - James River / L&K
- » In this environment, commodity prices will trend higher – however with potential continued volatility



# What are the Factors that attract U.S. Coal to the Seaborne Market?



When asked by a reporter - "Why do you rob banks?"

Willie Sutton replied-"Because that's where the money is"

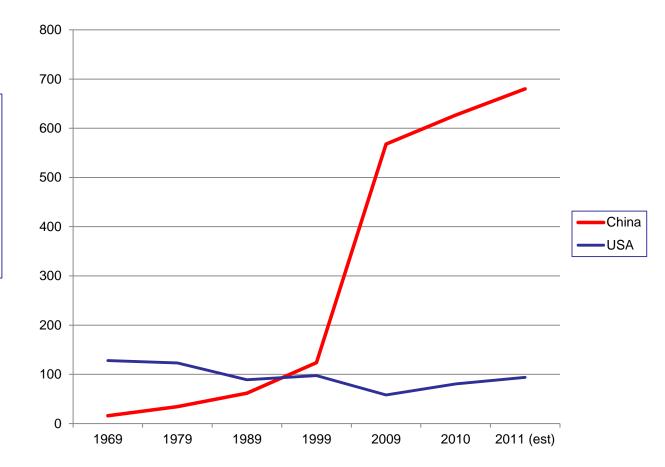
> Willie Sutton 1901 – 1980 Bank Robber - USA



### **Crude Steel Production-China & USA**

(1969 thru 2011)



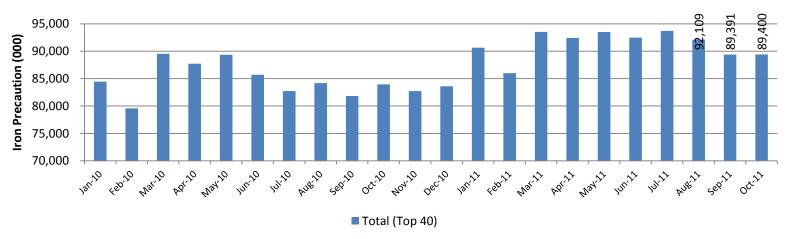


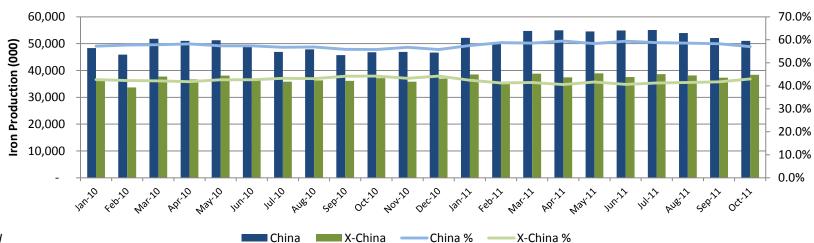
Source: IISI



### **World Iron Production – Top 40 Countries**

(January 2010 through October 2011)





Source: IISI



# Global Seaborne Coal 2011 (estimate)

	Metric Tons (millions)
Metallurgical Coal	262
Thermal Coal	741
Total Seaborne Trade	1,003

U.S. origin metallurgical coal represents ~22% of the global seaborne metallurgical coal trade



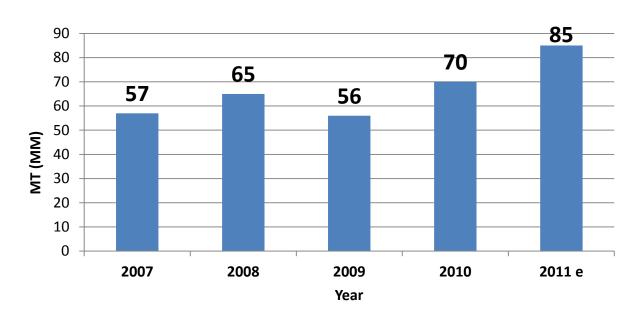
## **U.S. Coking Coal Update**

- » Despite regulatory, financial, and regulatory restrictions, the U.S. mining industry was able to expand coking coal production
  - U.S. mining industry is currently focused on coking coal investments / expansion
  - » Infrastructure tested
    - Met coal is no longer the only player in town
      - Steam exports YTD represents 35% seaborne exports
    - Port demand stretching capacity limits
    - RR capacity overloaded
- » Creative supply chain improvements necessary to ensure stable supply



## U.S. Coking Coal Mine Capacity Levels

(2007 through 2011)



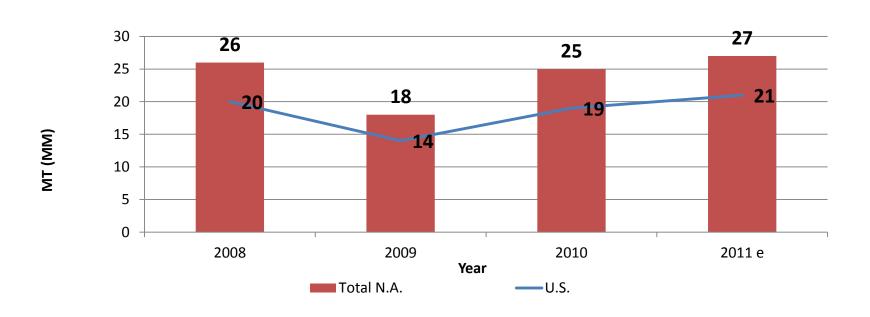
- » Includes "crossover" tons
- » Definition of coking coal has changed
- » NAPP now a major contributor

Northern Appalachia contribution expanding. 2011 is expected to contribute 20 million MT of which 16 million metric tons exported



### **U.S. / North American Coking Coal Demand**

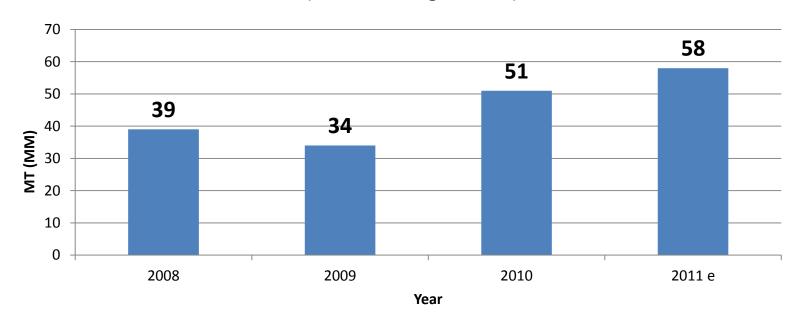
(2008 through 2011)





## **U.S. Coking Coal Exports**

(2008 through 2011)

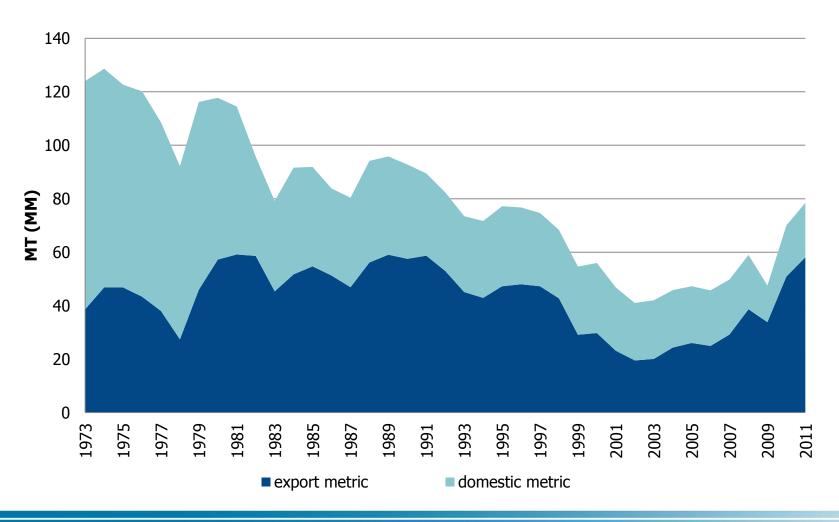


50% increase in coking coal exports from the U.S. in CY2010 and another ~15% in CY2011 (Xcoal estimate)



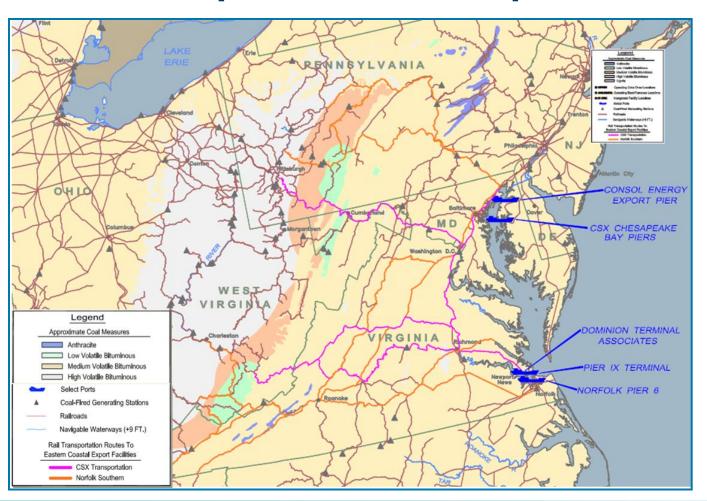
## **U.S. Coking Coal – Export vs. Domestic**

(1973 through 2011)





## U.S. Primary Rail Transport and Bulk Terminal Operations for Export Coal





## Nominal vs. Actual Coal Terminal Capacity

(U.S. million short tons)

Terminal	Storage	Rated Capacity	Actual Capacity
Lamberts Point*	0.5	40.0	38.0
DTA	1.1	22.0	19.0
KM Pier IX	0.8	14.0	12.0
Chesapeake Bay	0.4	10.0	7.5
CNX Marine (Consol)	1.2	18.0	13.0
Mobile – 3 berths**	1.5	20.0	10.0
IMT	1.3	8.0	6.0
United	4.0	20.0	17.0
IC Rail Marine	1.0	4.0	3.5
Total			126.0
Coastwise (Subtracted)			(13.0)
Total (M short tons)	11.8	156.0	113.0

<sup>\*</sup> Lamberts storage in railcars

<sup>\*\*</sup> Mobile 1 dedicated export; 2 import (cap. 10m & 10m)



## **U.S. Terminal Expansions & Improvements**

#### » Existing Terminal Improvements

- 3-6 month time horizon
- Track reconfigurations
- Operational efficiencies
- Ground storage manipulation

#### » New Terminal & Rail Projects

- 3-5 year time horizon
- Capital intensive
- "If you build it, will they come?"
  - Fairless Hills, PA
  - > Charleston, SC
  - Tampa, FL
  - Others...



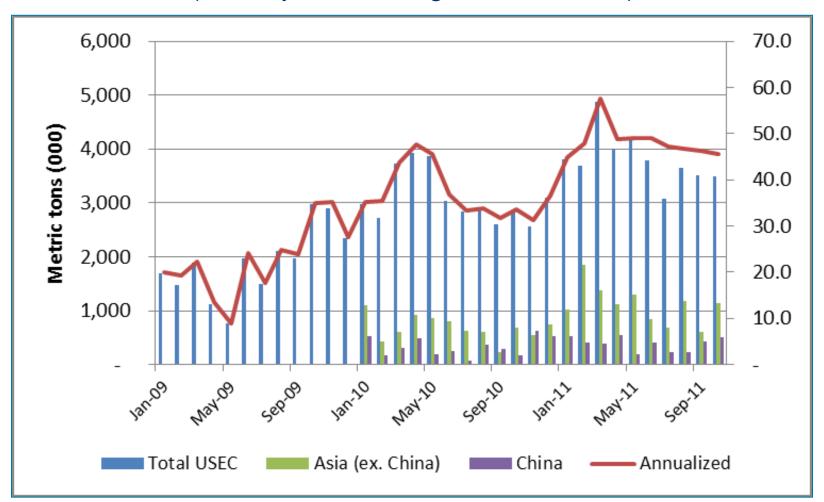






## **U.S. East Coast – Coking Coal Exports**

(January 2009 through October 2011)





## **U.S. East Coast – Coking Coal Exports**

(Asia Focus)

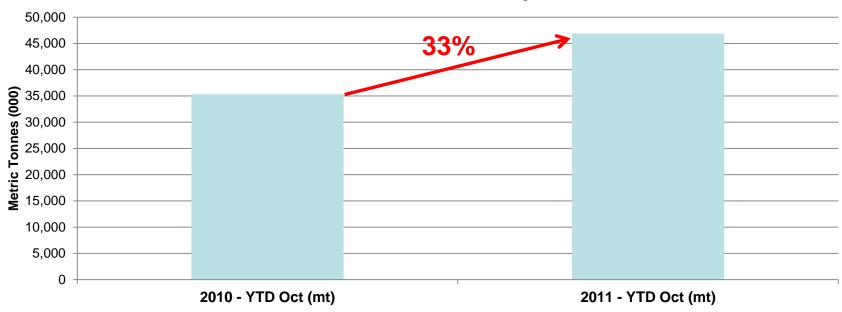




## U.S. East Coast - Coal Export Tonnage

(YTD October 2010 vs. YTD October 2011)

#### **Total US East Coast Exports**

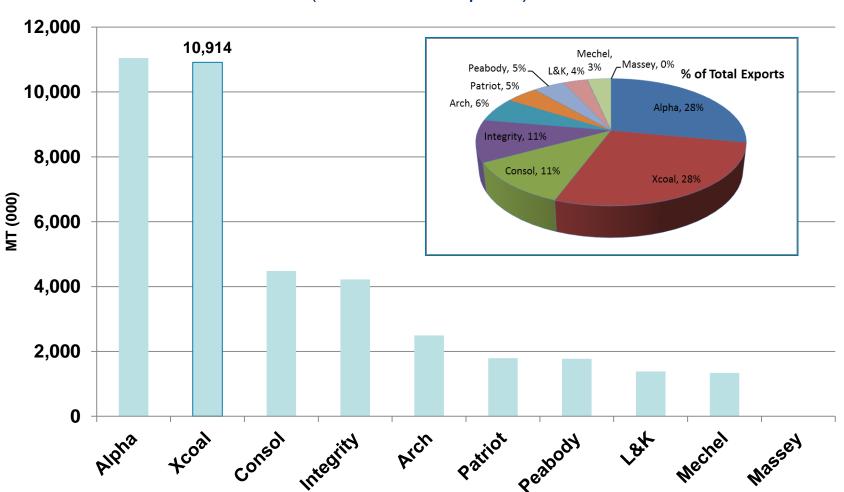


All segments of the supply chain, i.e. mines, railways, barge lines, and terminals, are responding to the significant increase in demand



## Top 10 U.S. Exporters – YTD October 2011

(East Coast Exports)





#### **Asia - Demand**

- » Korea integrated steel mills operating at 90%-100% capacity
  - Despite the potential for financial contagion from the Eurozone, demand within Asia remains stable
- » Japan despite the economic consequences of the earthquake and tsunami, the Japanese steel industry is forecasted to produce 105-110 million tons of steel in 2011
  - Some impact on auto production due to the flooding in Thailand
- » Chinese Steel Production
  - 2010 627 million tons
  - 2011 ~680 million tons based on current daily operating rates
  - As a comparison, the U.S. production:
    - Approximately 80.5 million tons of steel in 2010
    - Producing at an annualized rate of 94 million tons in 2011



#### U.S. Origin Coking Coal to Customers in Asia

(FY 2011 / 2012 Forecast)

Destination	Metric Tons (rounded)
Japan	7,800,000
China	4,000,000
Korea	3,500,000
India	3,500,000
Taiwan	300,000
Total Demand	19,100,000

The total demand represents an increase of approximately 70% from CY2010 levels



## **U.S. East Coast - Coal Export Tonnage**

(YTD October 2011 metric tonnes)

Rank	Country	2011 - YTD Oct	2010 - YTD Oct	% Change -
2011	Country	(mt)	(mt)	YTD
1	NETHERLANDS	5,901,434	4,199,609	41%
2	BRAZIL	4,865,508	4,460,395	9%
3	JAPAN	4,474,979	2,214,615	102%
4	KOREA	4,268,966	2,084,261	105%
5	ITALY	3,974,852	2,148,225	85%
6	CHINA	3,699,749	2,609,495	<b>42</b> %
7	UKRAINE	2,477,718	1,879,007	32%
8	FRANCE	2,316,113	1,984,502	17%
9	INDIA	2,269,220	1,981,121	15%
10	UNITED KINGDOM	1,648,788	2,135,123	-23%



## **U.S. East Coast - Coal Export Tonnage**

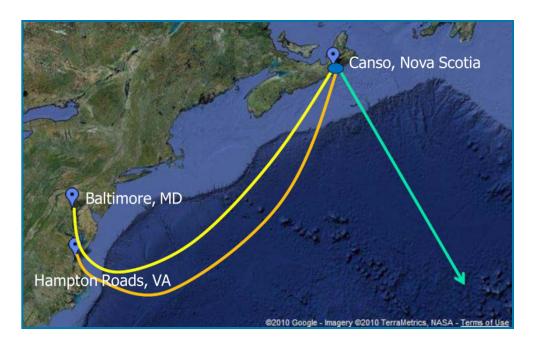
(YTD October 2010 vs. YTD October 2011)

Rank	2010 - YTD Oct (mt)	$\Rightarrow \Rightarrow \Rightarrow$	Rank	2011 - YTD Oct (mt)
1	BRAZIL		1	NETHERLANDS
2	NETHERLANDS	_	2	BRAZIL
3	CHINA	>	3	JAPAN
4	JAPAN	7	4	KOREA
5	ITALY		5	ITALY
6	UNITED KINGDOM	7	6	CHINA
7	KOREA		7	UKRAINE
8	FRANCE	_	8	FRANCE
9	INDIA	>	9	INDIA
10	UKRAINE		10	UNITED KINGDOM



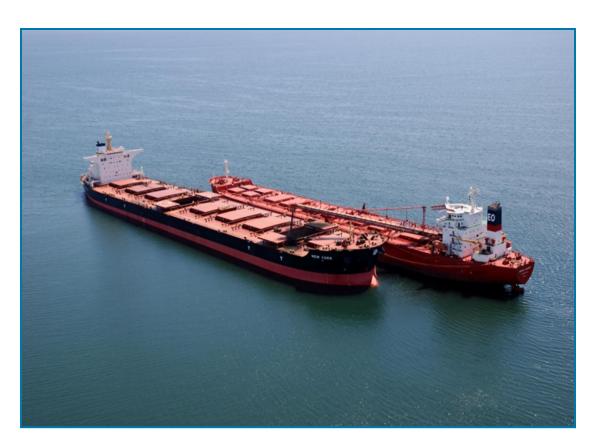
## **Supply Chain Improvements**

- » The challenge for U.S. origin coal is to ensure a sustainable, efficient, and competitive supply chain to customers in Asia
- » In response to that challenge, Xcoal implemented the following "top-off" procedure
  - Load 180K 200K DWT capesize vessel to ~125K
  - Load 55K 75K DWT belted self-unloading vessel
  - The two vessels "meet" at a protected anchorage where the belted self-unloader transfers its cargo to the capesize vessel



- The customers realize the benefit of lower cost ocean freight which reduces the delivered cost of the coal
- » The loading terminal realizes the efficiency improvements and increased capacity resulting from the use of larger vessels







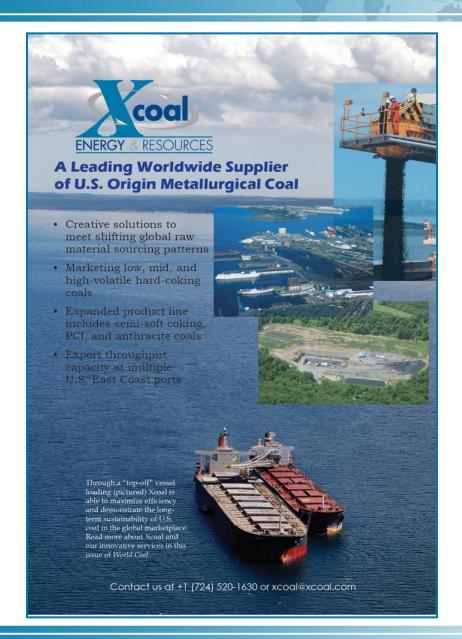


## **Creative Logistic Solutions**

Xcoal's "top off" operation was recently recognized by World Coal magazine in its Annual Review of major coal projects

#### World Review 2011

World Coal compiles its annual review of some of the major coal-related projects, in various stages of completion, across the globe.





## **Market Volatility**

- » 2010 move to quarterly pricing from annual pricing
  - Australian HCC prices range from US\$225-\$200/MT FOBT
- » Q4 2010 through Q1 2011 flooding affects Australian coking coal production for the second consecutive year
- » 2011 attempt to shift to spot pricing from quarterly pricing
  - Australian HCC prices range from US\$330-\$235/MT FOBT

Time Period	Price (US\$/MT)
Q4 2010	\$209
Q1 2011	\$225
Q2 2011	\$330
Q3 2011	\$315
Q4 2011	\$285
Q1 2012	\$235



## Summary (1)

- » Return of U.S. origin coking coal as a long term, sustainable supply source for the international market
  - U.S. companies with potential to increase coking coal production have responded
- » Fundamentally, the global coking coal market appears tight
- » Higher levels of U.S. seaborne met tonnage needed to balance the market
- » Disruption in coal supply from Australia in late 2010 early 2011 highlight how exposed the met market is to Australian supply
- » Expect met coal exports from the U.S. will remain strong over the year but see potential for some moderation as Australian supply recovers



## Summary (2)

- » Met coal consumers worldwide implementing diversification strategy
- » China's and India's move to significant importers "structurally" changes the seaborne coking coal market
- » Although met coal demand expected to grow in ROW, majority of growth expected to come from India & China
- » Renewed merger activity and investments at home and abroad
- » Subject to the regulatory environment, there are tremendous opportunities for sustainable operation, and new development, of metallurgical coal mines in West Virginia



#### **Credits**

- » American Iron & Steel Institute
- » CRU Analysis
- » International Iron and Steel Institute
- » John T. Boyd Company
- » Macquarie Research
- » McCloskey Group
- » T. Parker Host
- » World Steel Association
- » World Steel Dynamics



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