



CLOUD PEAK
ENERGY™

Investor Presentation

September 2010



Cloud Peak Energy Inc. Financial Data

Cloud Peak Energy Inc. is the sole managing member and majority owner of Cloud Peak Energy Resources LLC. Unless expressly stated otherwise in this presentation, all financial data included herein is consolidated financial data of Cloud Peak Energy Inc.

Cautionary Note Regarding Forward-Looking Statements

This presentation contains “forward-looking statements” within the meaning of the safe harbor provisions of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements are not statements of historical facts, and often contain words such as “may,” “will,” “expect,” “believe,” “anticipate,” “plan,” “estimate,” “seek,” “could,” “should,” “intend,” “potential,” or words of similar meaning. Forward-looking statements are based on management’s current expectations or beliefs, as well as assumptions and estimates regarding our company, industry, economic conditions, government regulations and other factors. These statements are subject to significant risks, uncertainties and assumptions that are difficult to predict and could cause actual results to differ materially from those expressed or implied in the forward-looking statements. For a description of some of the risks and uncertainties that may adversely affect our future results, refer to the risk factors described from time to time in the reports and registration statements we file with the Securities and Exchange Commission, including those in Item 1A “Risk Factors” of our most recent Form 10-K and any updates thereto in our Forms 10-Q. There may be other risks and uncertainties that are not currently known to us or that we currently believe are not material. We make forward-looking statements based on currently available information, and we assume no obligation to, and expressly disclaim any obligation to, update or revise publicly any forward-looking statements made in our presentation, whether as a result of new information, future events or otherwise, except as required by law.

Non-GAAP Financial Measures

This presentation includes the non-GAAP financial measure of EBITDA. EBITDA, a performance measure used by management, is defined as income (loss) from continuing operations plus: (1) interest expense (net of interest income), (2) income tax provision, (3) depreciation and depletion, (4) amortization, and (5) accretion. EBITDA is not defined under generally accepted accounting principles in the U.S., or GAAP, and does not purport to be an alternative to net income or other GAAP financial measures as a measure of operating performance. Because not all companies use identical calculations, our presentation of EBITDA may not be comparable to other similarly titled measures of other companies. Our presentation of EBITDA may be different than EBITDA as defined in our debt financing agreements. We believe that EBITDA is useful to investors and other external users of our consolidated financial statements as an additional tool to evaluate and compare our operating performance, because EBITDA is widely used by investors to measure a company’s operating performance without regard to items such as interest expense, taxes, depreciation and depletion, amortization and accretion, which can vary substantially from company to company depending upon accounting methods and book value of assets, capital structure and the method by which assets were acquired. However, using EBITDA as a performance measure has material limitations as compared to net income, or other financial measures as defined under GAAP, as it excludes certain recurring items which may be meaningful to investors. EBITDA is also used as a performance measure in our compensation program for our executives. A quantitative reconciliation of EBITDA to income from continuing operations is found in the tables accompanying this presentation.

Overview



Background

- **Cloud Peak Energy Inc. – IPO November 2009**
- **Rio Tinto Energy America formed through acquisitions 1993 – 1998**
- **2008 Rio Tinto decided to divest to reduce Alcan purchase debt**
- **2008 Colowyo mine retained by Rio Tinto
2009 Jacobs Ranch Mine sold to Arch Coal**

Who we are today

- **Traded on NYSE – ticker symbol “CLD”**
- **Headquartered in Gillette, WY**
- **Producers of low-sulfur, high-quality, subbituminous coal**
- **Only pure-play, Powder River Basin (PRB) coal company**
- **Operating 3 surface mines, third-largest U.S. coal producer**

Cloud Peak Energy Highlights



Pure-play Powder River Basin

Third-largest U.S. coal producer, operating three large surface mines in the U.S. coal basin with the greatest growth potential

Market outlook

Improving external environment, positive PRB demand dynamics, expanding export opportunity

Growth opportunity

Positive long-term PRB pricing opportunities, production growth and lease acquisition opportunities

Sound financial position

Sufficient financial capacity and capability for planned growth

Key Investment Highlights



Pure-play Powder River Basin

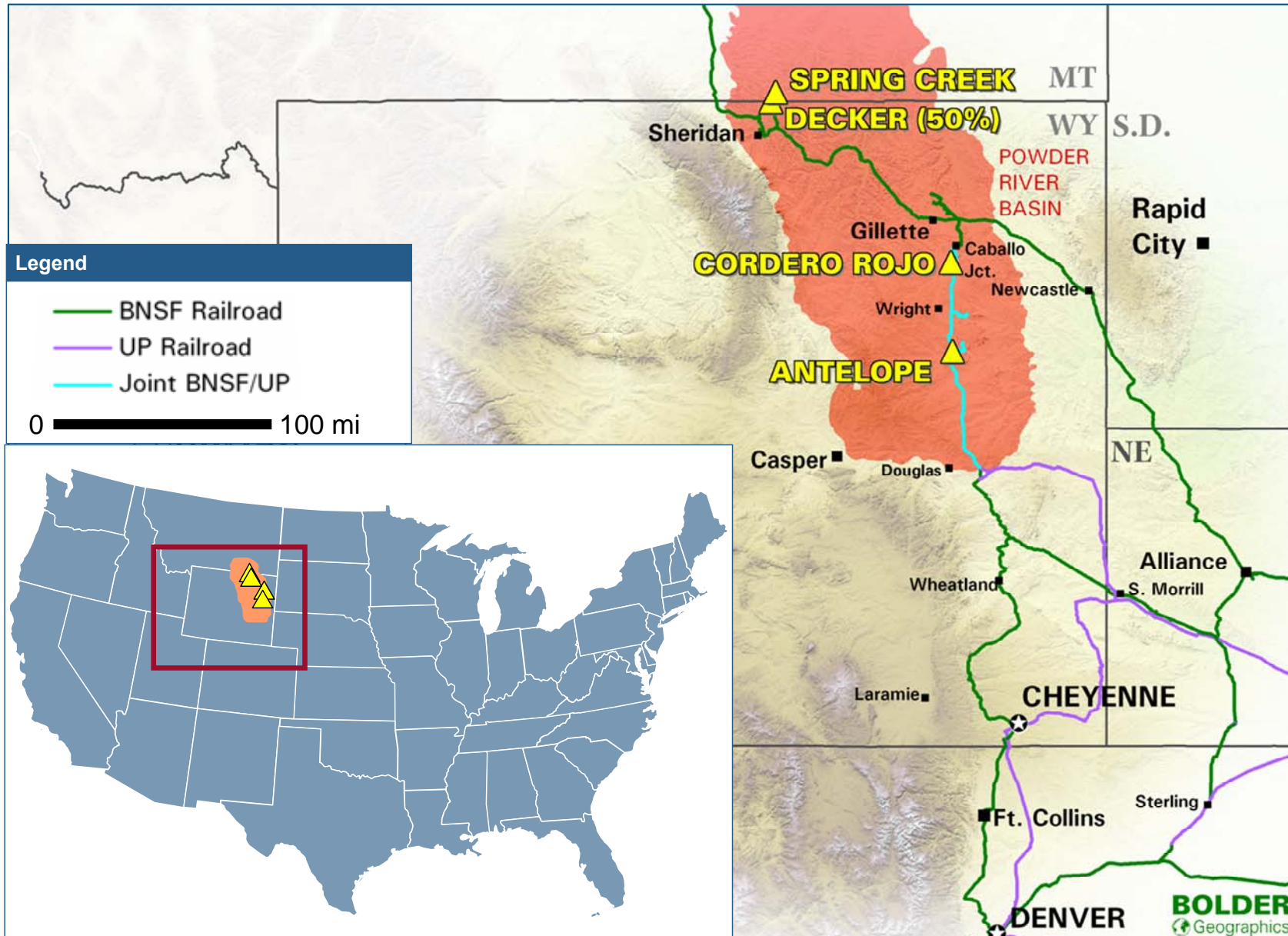
Market outlook

Growth opportunity

Sound financial position

- **Third largest U.S. coal producer**
- **Three large surface mines**
- **Operating in the U.S. coal basin with the greatest growth potential**

Mines Have Favorable Rail Access



Operations

Cordero Rojo Mine

Key Operating Statistics

2009 Production⁽¹⁾	39.3M tons
Total Proven & Probable Reserves⁽²⁾	410M tons
Reserve Coal Quality⁽²⁾	8,400 Btu/lb

Antelope Mine

Key Operating Statistics

2009 Production⁽¹⁾	34.0M tons
Total Proven & Probable Reserves⁽²⁾	292M tons
Reserve Coal Quality⁽²⁾	8,850 Btu/lb



(1) Cloud Peak Energy Management.
 (2) Internal estimate as of 12/31/2009.

Operations (cont'd)

Spring Creek Mine

Key Operating Statistics

2009 Production⁽¹⁾	17.6M tons
Total Proven and Probable Reserves⁽²⁾	300M tons
Reserve Coal Quality⁽²⁾	9,350 Btu/lb



Decker Mine (50% non-operating interest)

Key Operating Statistics (50%)

2009 Production⁽¹⁾	2.3M tons
Total Proven and Probable Reserves⁽²⁾	1M tons
Reserve Coal Quality⁽²⁾	9,400 Btu/lb

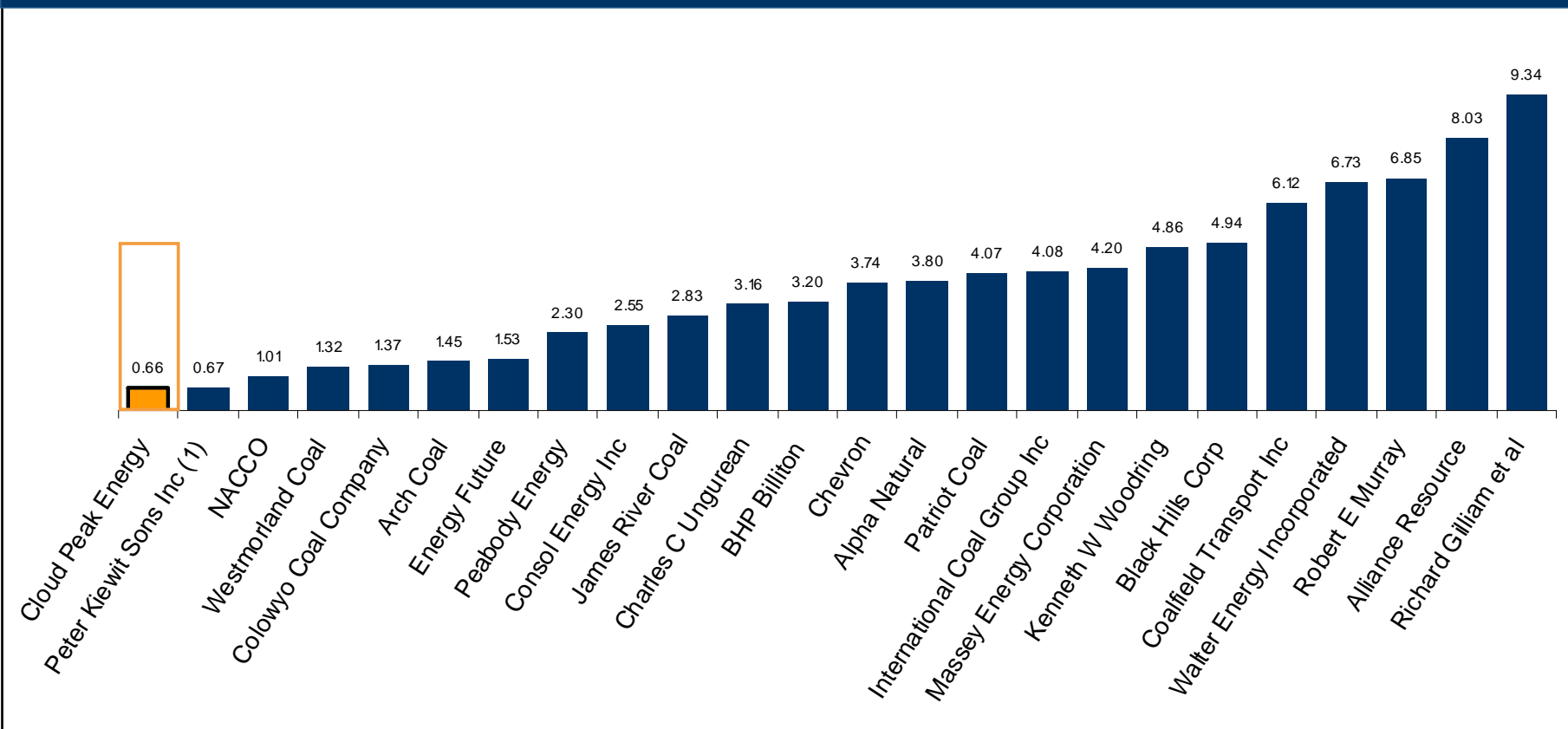


(1) Cloud Peak Energy Management.
 (2) Internal estimate as of 12/31/2009.

Good Safety Record Indicates Well Run Operations



Top 25 Coal Producing Companies - 2009 Preliminary Incident Rates (MSHA)



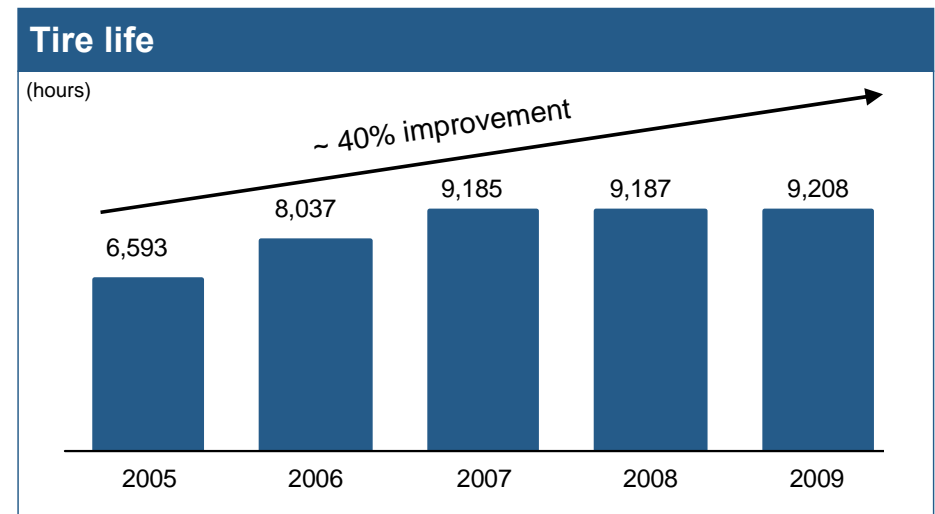
Source: MSHA.

Note: Total Incident Rate = (total number of employee incidents x 200,000) / total man-hours.

(1) Cloud Peak Energy has combined Kiewit and Level III Communications data as reported by MSHA.

Highly Productive, Low Cost Operator

- Highly productive, non-unionized workforce at all company-operated mines
- An industry-leading safety record
- No Surface Mining Control & Reclamation Act environmental violations since October 2002
- Proportionately low, long-term operational liabilities
- Well-maintained, modern equipment fleet
 - Over \$350 million in upgraded plant and equipment since 2006
- Focus on operational excellence
 - Centralized GPS dispatch system to optimize truck & shovel productivity
 - Advanced fuelling and shift change procedures



Note: Average tire cost = \$29,000.

Key Investment Highlights



Pure-play Powder River Basin

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Sound financial position

- Improving external environment
- Positive PRB demand dynamics
- Expanding export opportunity

External Environment Improving



Electricity demand recovering

- **EI estimated U.S. electric generation increased by 4.3% through August 2010 compared to the same period in 2009**
- **EIA is forecasting total 2010 generation will increase by 4.0% compared to 2009**

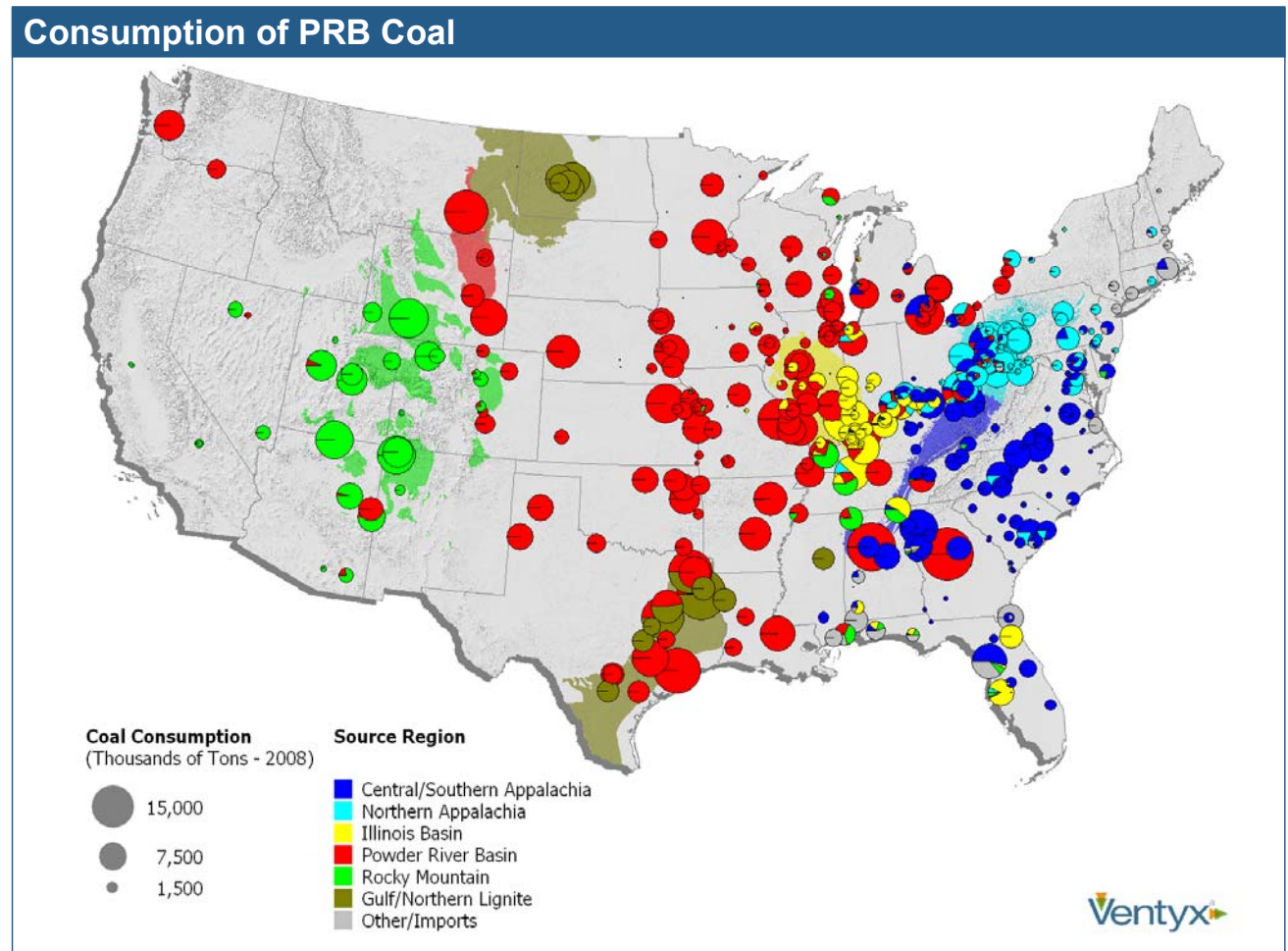
Coal production

- **EIA estimates total U.S. coal production down approximately 1.3% year-to-date through August compared to same period in 2009**
 - **Appalachian coal production down 1.8%**
 - **PRB rail shipments up 2%**

Economic Reach of PRB Coal is Growing

Stockpiles are declining

- EVA estimates that stockpiles of PRB coal have come down to near historic normal levels — approximately 71 million tons
- Eastern utilities exploring options to diversify their coal suppliers and basins

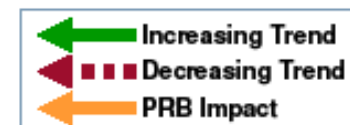
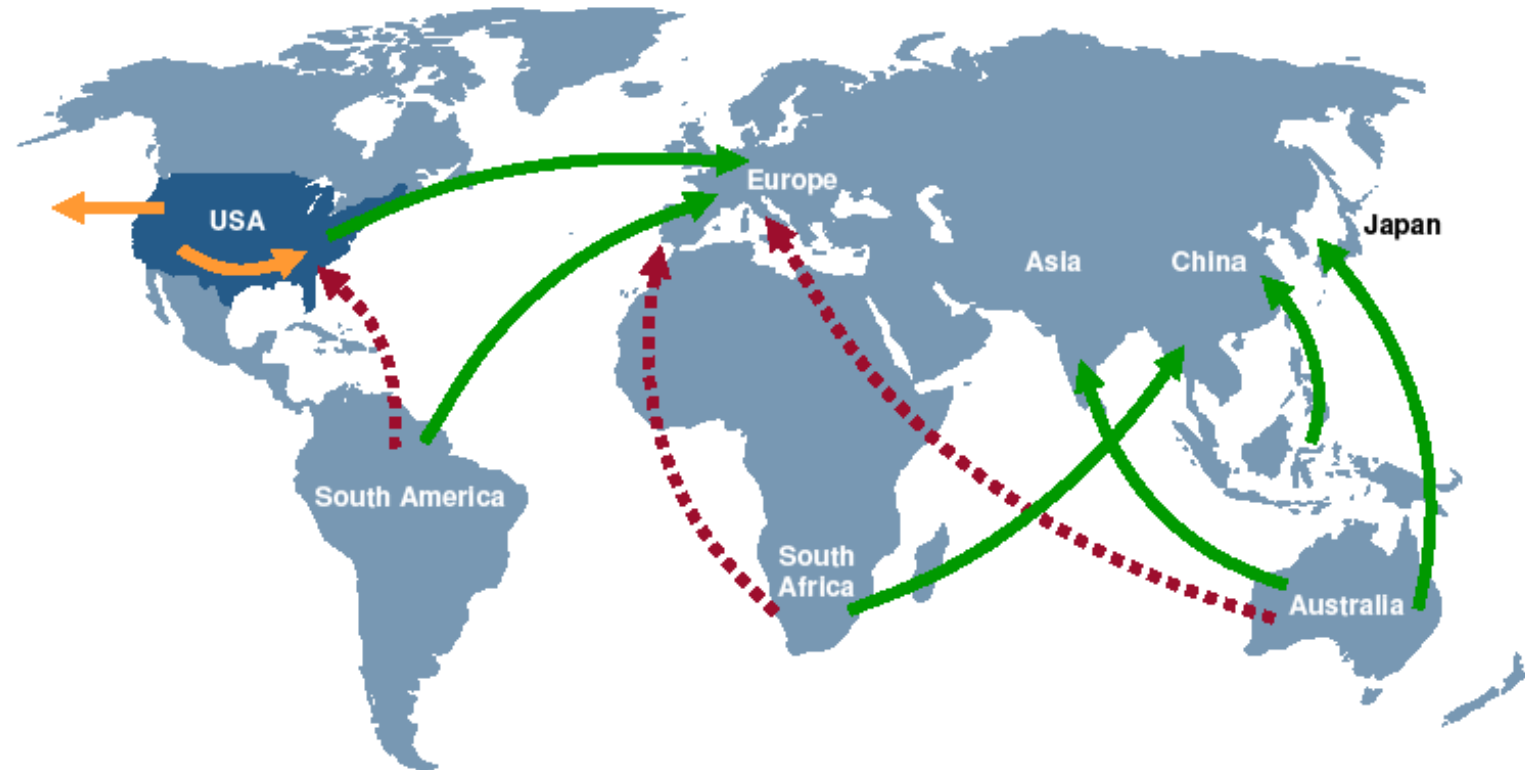


Source: Ventyx, Velocity Suite

Source:
EVA – Energy Venture Analysis, Inc.

Increasing Long-Term International Demand Supports Powder River Basin Pricing

- U.S. exports through June 2010 up nearly 50% (26M tons 2009 to 40M tons 2010)
- PIRA & DTC estimates total 2010 exports between 75 and 80M tons – a 30% increase over 2009
- CPE expecting 2010 exports of over 3.0M tons up from 1.6M in 2009



Source: Cloud Peak Energy Management.

Sources:
PIRA – PIRA Energy Group
DTC – Doyle Trading Consultants
CPE – Cloud Peak Energy

Key Investment Highlights

Pure-play Powder River Basin

Market outlook

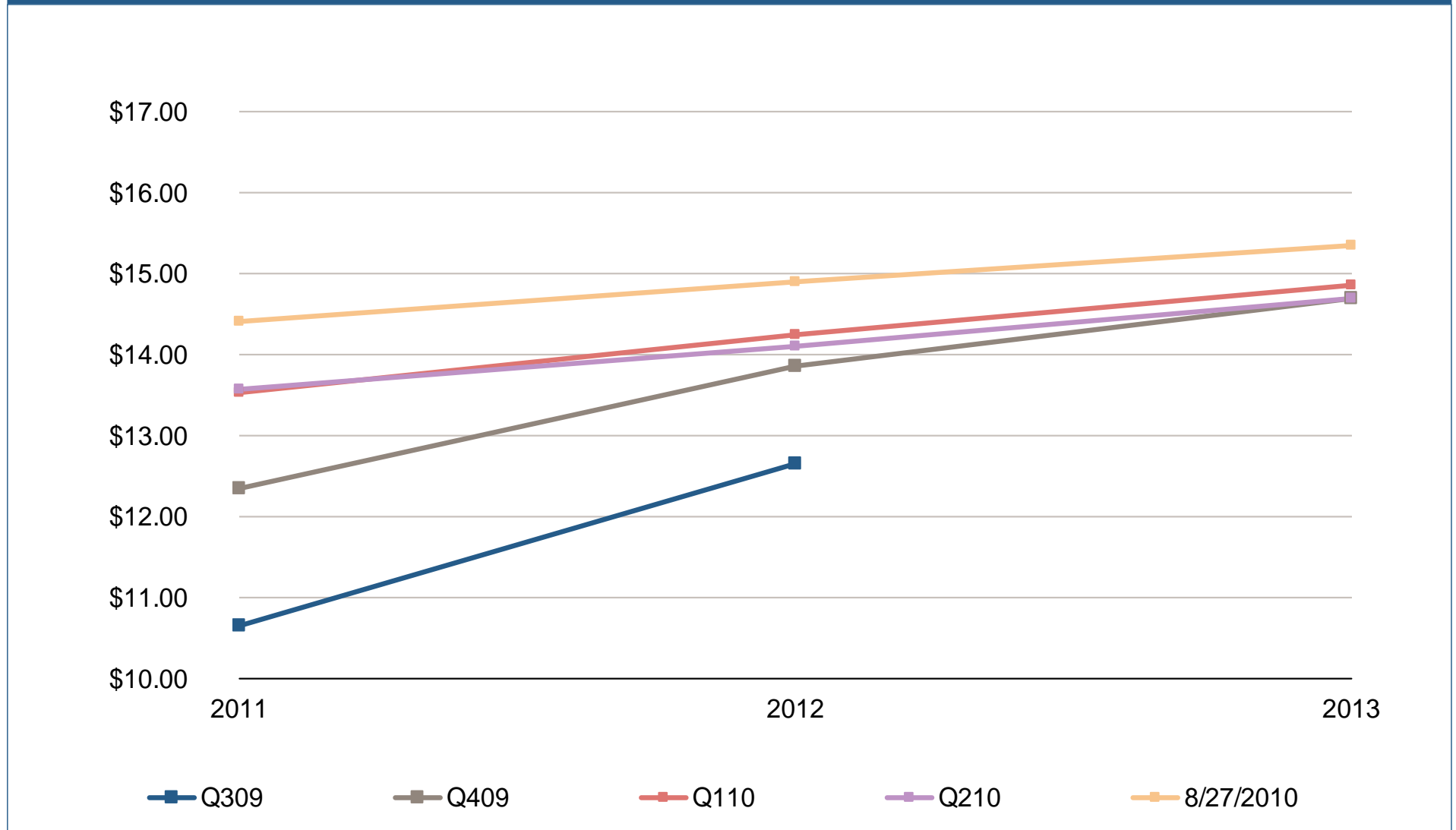
Growth opportunities

Sound financial position

- **Positive long-term PRB pricing opportunities**
- **Production growth opportunities**
- **Lease acquisition opportunities**

Powder River Basin Forward Coal Prices

U.S. PRB 8800 Coal Price



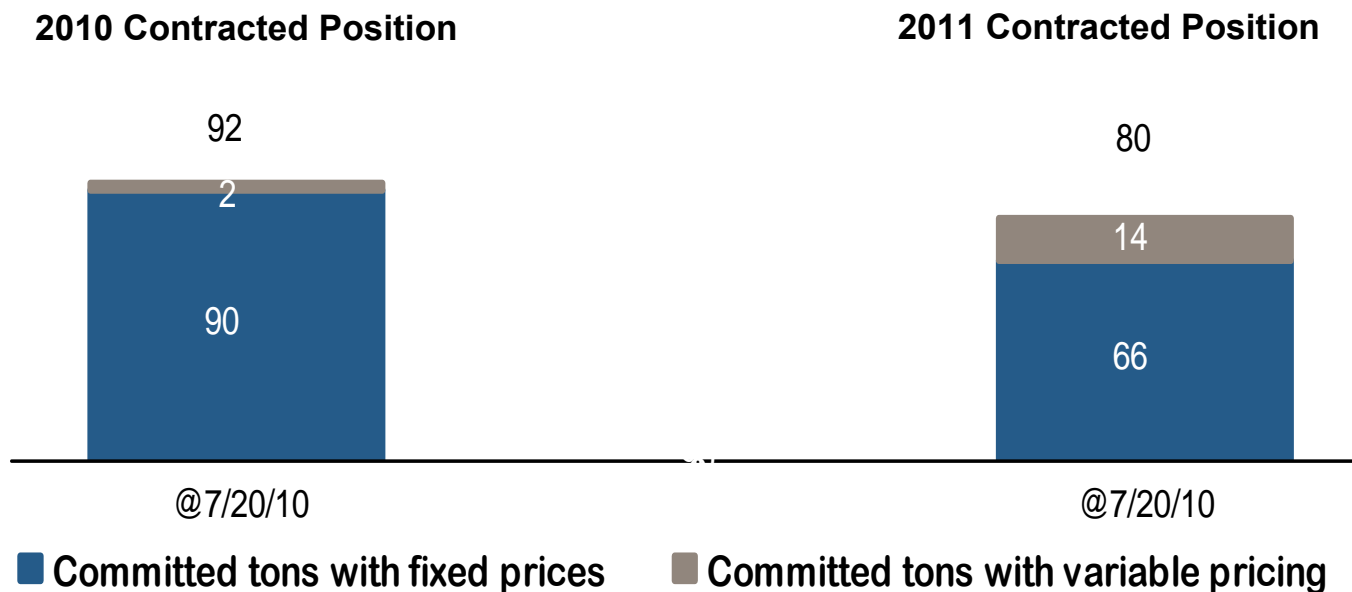
Source: ICAP plc

Strong Contracted Position with Upside Potential



Contracted Coal - Total Committed Tons⁽¹⁾

(tons in millions)



2010 average realized price per ton is estimated to be between \$12.30 - \$12.45

2011 average realized price per ton is estimated to be approximately \$12.80
 (assuming \$13.50/ton 8800 Btu and \$11.00/ton 8400 Btu for prompt year for uncommitted and unpriced tons)

(1) Excludes contracted coal sales from Decker.

Future U.S. Coal Demand Met by Powder River Basin

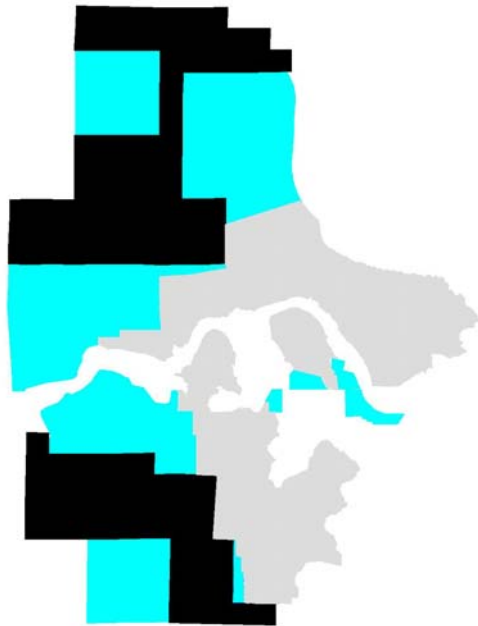


- Low-cost coal supply
- Surface mining
- More supportive local environment for coal mining
- Low sulfur content
- Ample rail capacity

Cloud Peak Energy Lease Acquisition Strategy



Antelope Mine



Cordero Rojo Mine



Spring Creek Mine



■ LBA / LBM

■ Leased Coal

■ Mined Area

Mine	LBA/BLM	Expected Bid Date	Tonnage Estimates
Antelope	West Antelope II ⁽¹⁾ (BLM Alternative 2)	2011	377M ⁽²⁾ Recoverable tons
Cordero Rojo	Maysdorf II (Tract as applied for)	2011 – 2013	434M ⁽³⁾ Recoverable tons
Spring Creek	Modification Approved	2010	51M ⁽⁴⁾ In place tons

Source: Cloud Peak Energy management.

Note: Acquired tonnage is not classified as reserve until verified with sufficient technical and economic analysis. Maps not to scale.

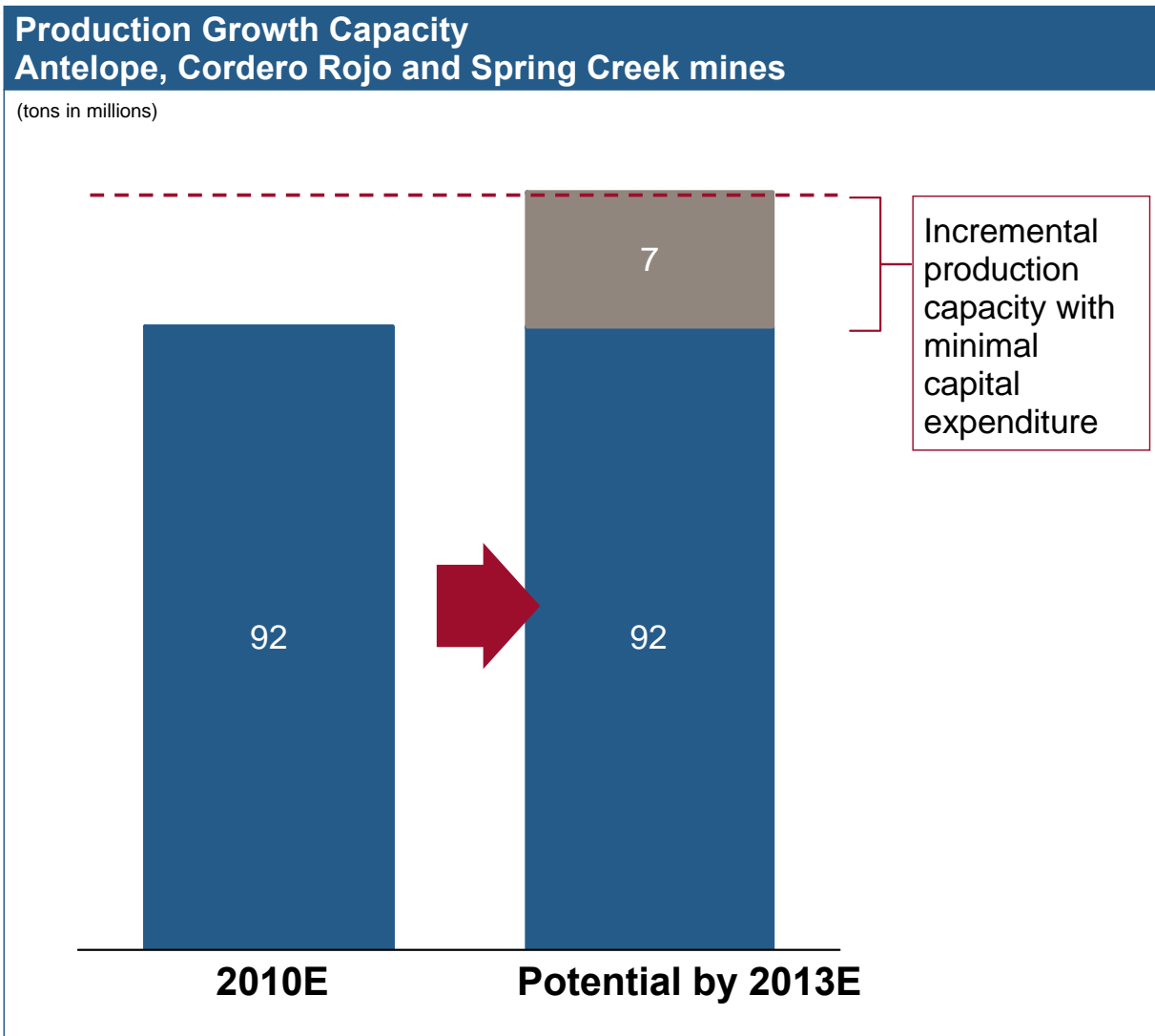
(1) Subject to pending legal challenges filed in 2010 against the BLM and the Secretary of the Interior by certain environmental groups.

(2) Based on BLM Record of Decision. BLM estimate adjusted for mining recovery. Allows access to additional 80 million tons of non-reserve coal deposits controlled by Antelope.

(3) Estimated tonnage for Maysdorf II as applied for. Final tract delineation and tonnage subject to possible significant reduction pending BLM review and determination of surface owner status.

(4) Based on BLM Decision Record. CPE is currently evaluating tonnage that it believes can be economically mined from this tract.

Production Growth Opportunity



- 92 million ton 2010E production
- Disciplined production increases, if market conditions are favorable
- 7 million tons additional capacity by 2013 with minimal capital expenditure to satisfy:
 - Incremental domestic demand
 - Incremental demand from export markets
- Production increase may be accelerated if supported by market conditions

Key Investment Highlights



Pure-play Powder River Basin

Market Outlook

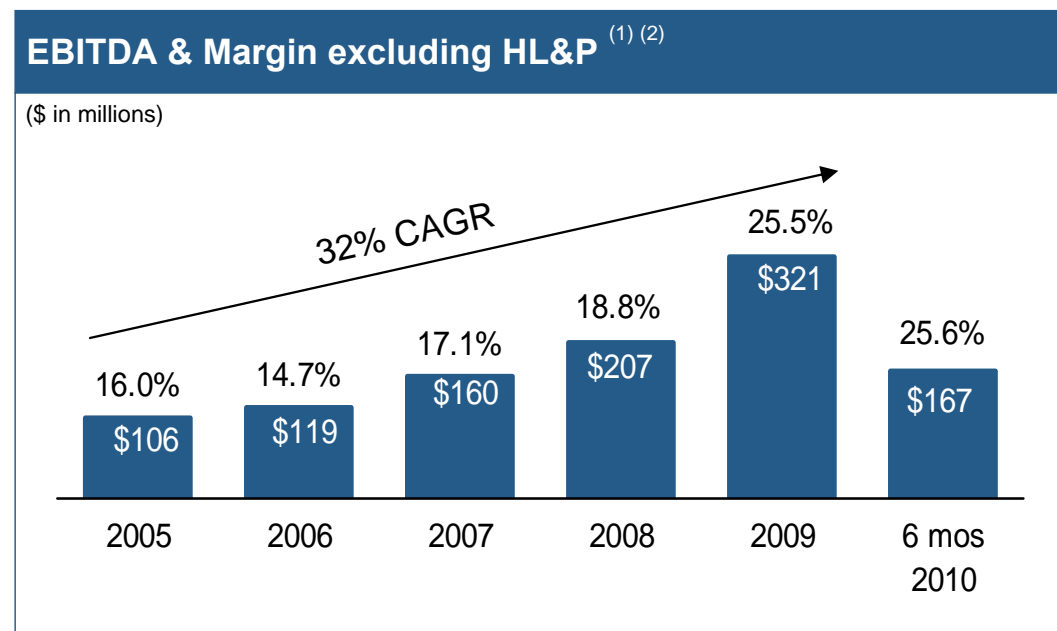
Growth opportunity

Sound financial position

- **Sufficient financial capacity**
- **Capability for planned growth**

Sound Financial Position

- Low cost operations
- Strong liquidity for growth
- Significant cash generation
- Disciplined capital deployment
- Proportionally low, long-term liabilities



Source: Cloud Peak Energy Management

(1) EBITDA is defined above. Reconciliation tables are included at the end of these presentation slides.

(2) Excludes contribution from the broker sales contract with Houston Light & Power ("HL&P") which expired in March 2010.

First Half 2010 Highlights

- **Operations ran well without any significant issues**
- **PRB prices rising strongly to over \$15/ton 8800 Btu (OTC prices)
– up 25% YTD**
- **Increased exports to Asian utilities**
- **Cost guidance improved**
- **Continued excellent safety record**
 - **All Injury Frequency Rate (AIFR) of 0.62 first six months 2010,
0.66 last year**
- **Continued commitment to environmental stewardship**
 - **Received reclamation award from Wyoming Department of
Environmental Quality**

Cloud Peak Energy Highlights



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Third-largest U.S. coal producer operating three large surface mines in the U.S. coal basin with the greatest growth potential

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Appendices

(Cloud Peak Energy Inc.)

Updated Guidance – 2010 Estimates and 2009 Actuals



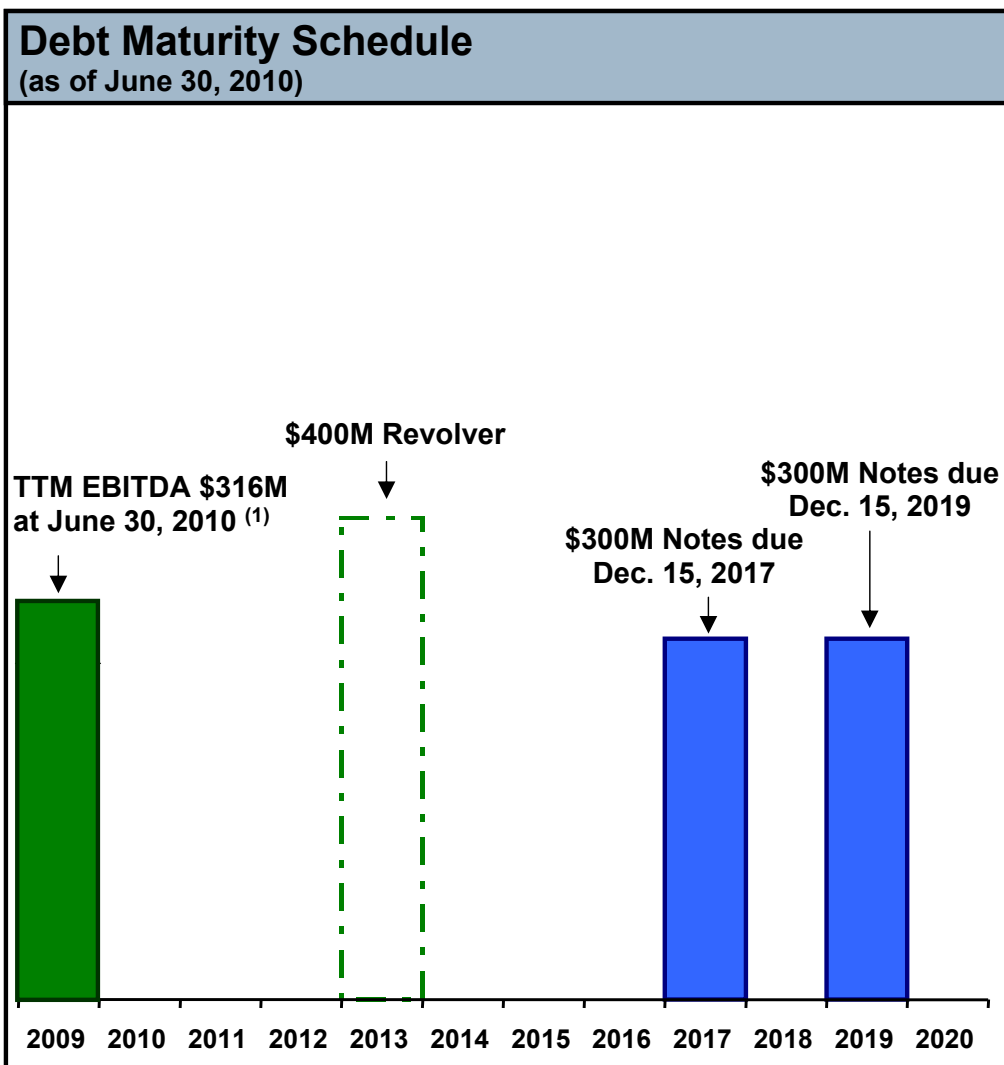
	2010 (estimated)	2009 (actual)
Coal production from Cloud Peak Energy's three operated mines (million tons)	91 - 93	91
Committed sales of estimated 2010 production with fixed prices	98%	
Anticipated realized price of produced coal (per ton)	\$12.30 - \$12.45	\$11.85
Average cost of produced coal (per ton) ⁽¹⁾	\$8.45 - \$9.00	\$7.95
Additional operating income (\$ million) ⁽²⁾	\$25 – \$35	
Selling, general & administrative expenses (\$ million)	\$60 - \$70	\$70
Interest expense (\$ million)	\$50 - \$60	n/m
Depreciation, depletion, amortization and accretion (\$ million)	\$110 – \$125	\$139
Effective income tax rate ⁽³⁾	16% - 20%	n/m
Capital expenditures – excludes federal coal leases (\$ million)	\$50 - \$70	\$95
Committed federal coal lease cash payments (\$ million)	\$64	\$93

(1) Represents average Cost of Product Sold for produced coal for our three operated mines.

(2) Does not include \$8.3 million contribution for first quarter 2010 from one significant broker sales contract.

(3) The company's effective income tax rate is expected to be lower than the federal statutory rate of 35 percent primarily because Cloud Peak Energy Inc., the publicly traded parent company, provides for tax only on its controlling 51.7 percent share of income from Cloud Peak Energy Resources LLC.

Well-Positioned Liquidity



Liquidity and Obligations
(as of June 30, 2010)

(\$ in millions)

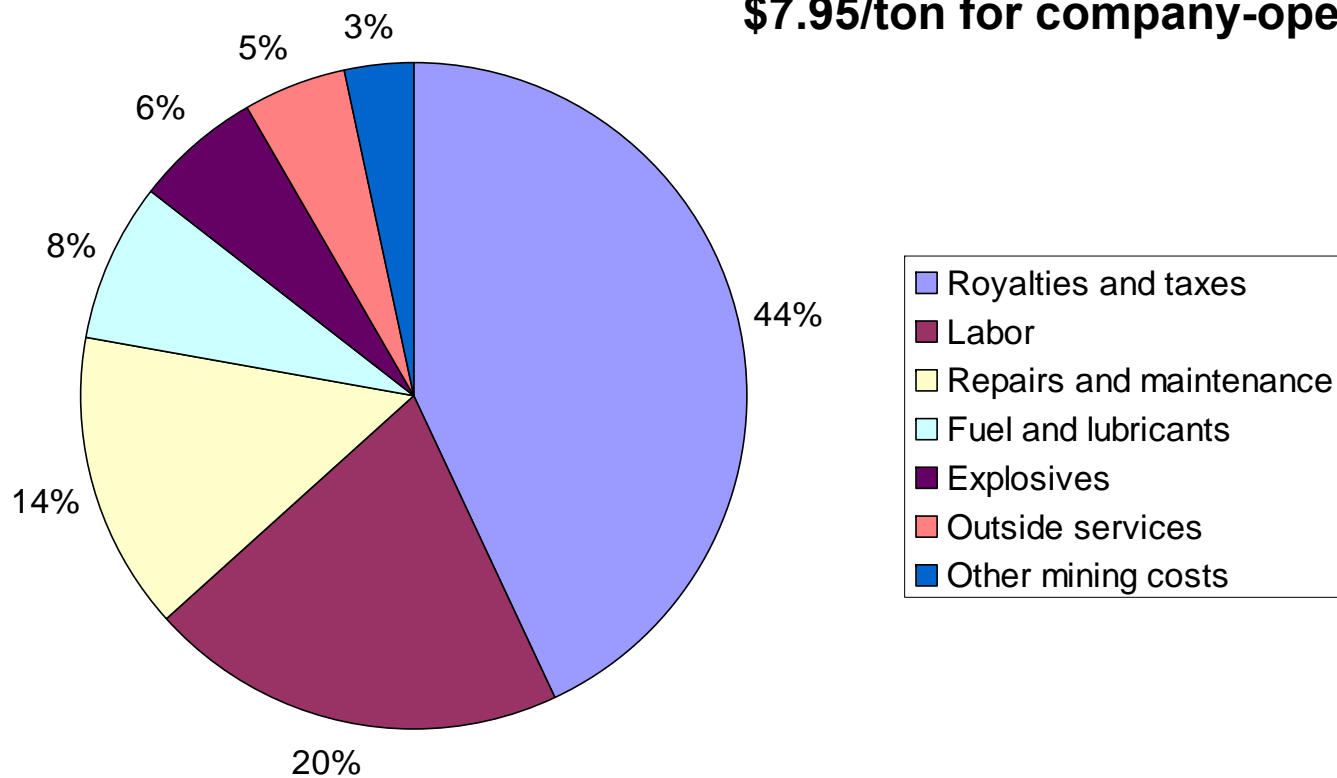
Unrestricted Cash	\$250
Revolver, net of Letters of Credit	<u>\$390</u>
Total Available Liquidity	\$640
Restricted Cash	\$218
\$400M Revolver (Baa3- Rating)	\$ 0
8¼% Senior Notes due 2017 (B1 Rating)	\$300
8½% Senior Notes due 2019 (B1 Rating)	<u>\$300</u>
Total Borrowed Debt	\$600
Total Borrowed Debt / EBITDA	1.9x
Total Net Borrowed Debt / EBITDA ⁽²⁾	1.1x

(1) Excludes \$47 million contribution from the broker sales contract with Houston Light & Power (“HL&P”) that expired in March 2010.

(2) Net borrowed debt includes \$218 million of restricted cash which can be replaced by letters of credit for surety bonds.

2009 Average Cost of Produced Coal (1)

\$7.95/ton for company-operated mines



(1) Represents average Cost of Product Sold for produced coal for our three company-operated mines.

Statement of Operations Data

(in thousands, except per share amounts)



Six Months Ended June 30,

2010

2009

Revenues	\$ 652,596	\$ 704,045
Operating income	106,132	133,671
Income from continuing operations	67,932	94,778
Income (loss) from discontinued operations	—	22,447
Income attributable to controlling interest	27,455	117,225

Earnings per share – basic

Income from continuing operations	\$0.90	\$1.58
Income from discontinued operations	—	.37
Net income	\$0.90	\$1.95

Earnings per share attributed to controlling interest – diluted

Income from continuing operations	\$0.89	\$1.58
Income from discontinued operations	—	.37
Net income	\$0.89	\$1.95

Reconciliation of Non-GAAP Measures

(in thousands)



	Six Months Ended June 30,	
	2010	2009
EBITDA	\$ 166,965	\$ 200,258
Depreciation and depletion	(49,215)	(44,336)
Amortization ⁽¹⁾	(3,197)	(16,251)
Accretion	(6,566)	(5,457)
Interest income	227	142
Interest expense	(24,782)	(946)
Income tax provision	(15,500)	(38,632)
Income from continuing operations	\$ 67,932	\$ 94,778

(1) Related to HL&P contract which expired in the first quarter of 2010.

Other Data

(in millions)



Six Months Ended June 30,

2010

2009

Tons sold – company owned and operated mines

45.3

44.0

Tons sold – Decker mine (50% share)

0.7

1.0

Tons sold from production

46.0

45.0

Tons purchased and resold

0.6

5.3

Total tons sold

46.6

50.3

Statement of Operations Data

(in thousands, except per share amounts)



	Year Ended December 31,				
	2009	2008	2007	2006	2005
Revenues	\$1,398,200	\$1,239,711	\$1,053,168	\$ 942,841	\$ 783,929
Operating income	255,003	124,936	102,731	88,868	77,294
Income from continuing operations	182,472	88,340	53,789	40,537	39,995
Income (loss) from discontinued operations	211,078	(25,215)	(21,482)	(2,599)	336
Net income	393,550	63,125	32,307	37,938	40,331
Amounts attributable to controlling interest:					
Income from continuing operations	170,623	88,340	53,789	40,537	39,995
Income (loss) from discontinued operations	211,078	(25,215)	(21,482)	(2,599)	336
Net income	381,701	63,125	32,307	37,938	40,331
<i>Earnings per share – basic</i>					
Income from continuing operations	\$ 3.01	\$ 1.47	\$ 0.90	\$ 0.68	\$ 0.67
Income (loss) from discontinued operations(4)	\$ 3.73	\$ (0.42)	\$ (0.36)	\$ (0.05)	\$ —
Net income	\$ 6.74	\$ 1.05	\$ 0.54	\$ 0.63	\$ 0.67
<i>Earnings per share attributed to controlling interest – diluted</i>					
Income from continuing operations	\$ 2.97	\$ 1.47	\$ 0.90	\$ 0.68	\$ 0.67
Income (loss) from discontinued operations	\$ 3.52	\$ (0.42)	\$ (0.36)	\$ (0.05)	\$ —
Net income	\$ 6.49	\$ 1.05	\$ 0.54	\$ 0.63	\$ 0.67

Reconciliation of Non-GAAP Measures

(in thousands)



	Twelve Months Ended June 30,	Year Ended December 31,				
	2010	2009	2008	2007	2006	2005
EBITDA	\$ 363,000	\$ 395,568	\$ 278,872	\$ 232,324	\$ 191,832	\$ 173,433
Depreciation and depletion	(102,748)	(97,869)	(88,972)	(80,133)	(59,352)	(50,130)
Amortization	(15,665)	(28,719)	(45,989)	(34,512)	(34,957)	(35,645)
Accretion	(13,696)	(12,587)	(12,742)	(12,212)	(10,088)	(8,391)
Interest expense	(29,828)	(5,992)	(20,376)	(40,930)	(38,785)	(26,771)
Interest income	405	320	2,865	7,302	3,604	1,493
Income tax provision	(45,369)	(68,249)	(25,318)	(18,050)	(11,717)	(13,994)
Income from continuing operations	\$ 156,099	\$ 182,472	\$ 88,340	\$ 53,789	\$ 40,537	\$ 39,995

Other Data

(in millions)



	Year Ended December 31,				
	2009	2008	2007	2006	2005
Tons sold – company owned and operated mines	90.9	93.7	90.7	88.2	80.8
Tons sold – Decker mine (50% share)	2.3	3.3	3.5	3.6	3.5
Tons sold from production	93.2	97.0	94.2	91.8	84.3
Tons purchased and resold	10.1	8.1	8.1	8.1	6.7
Total tons sold	103.3	105.1	102.3	99.9	91.0

Balance Sheet Data

(in thousands)



	June 30,	December 31,				
	2010	2009	2008	2007	2006	2005
Cash and cash equivalents	\$ 249,562	\$ 268,316	\$ 15,935	\$ 23,616	\$ 19,585	\$ 11,355
Restricted cash	218,345	80,180	—	—	—	—
Property, plant and equipment, net	957,711	987,143	927,910	719,743	703,726	616,411
Total assets	1,753,809	1,677,596	1,785,191	1,781,201	1,723,335	1,694,208
Senior notes, net of unamortized discount	595,500	595,321	—	—	—	—
Other long-term debt	171,469	178,367	209,526	571,559	665,735	601,450
Total liabilities	1,236,389	1,232,118	800,025	1,446,240	1,433,480	1,411,898
Controlling interest equity	284,326	252,905	985,166	334,961	289,855	282,310
Noncontrolling interest equity	233,094	192,573	—	—	—	—