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Sightline Institute's comments on the proposed Tongue River Railroad DEIS are included in the attached pdf file.

**The Tongue River Railroad DEIS:
A market analysis riddled with factual errors**

Comments on the Tongue River Railroad DEIS

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Executive Summary

Appendix C of the Tongue River Railroad Draft Environmental Impact Statement (TRRR DEIS) alleges to analyze national and international coal markets, and how those markets would affect proposed coal mining projects in the Tongue River region. Yet the DEIS analysis is riddled with basic factual errors, and with selective and biased readings of the available evidence. For example:

- **Appendix C inaccurately asserts that Powder River Basin (PRB) coal would be economically competitive in Asian markets.** In today's market, this is simply false. Coal industry financial statements, as well as statements by coal industry executives, unequivocally demonstrate that even the most competitive PRB coal exporters have not earned a profit selling coal to Asia since mid-2013. The DEIS does not explain the evidence, assumptions, or methods it uses to conclude that Tongue River coal exports would earn a profit in seaborne coal markets.
- **Appendix C mischaracterizes international coal prices and price trends.** Contrary to the assertions of the DEIS, international coal prices are now lower than they were at the depths of the global recession in 2009. Furthermore, and again contrary to the claims of the DEIS, a "general global economic slowdown" did not cause a decline in international coal prices from 2011 to 2014. Instead, Pacific Rim coal prices plummeted because international suppliers flooded the seaborne coal market with inexpensive coal, even as China made structural shifts in its economy to increase the supply of low-cost coal while curbing coal demand growth.
- **Appendix C cherry-picks data to make PRB exports look unrealistically viable.** As one example, the DEIS asserts that exchange rate trends from 2003 through mid-2013 favor US coal exports. Yet starting in mid-2013—nearly two years before the DEIS was published—the US dollar strengthened rapidly against both the Australian dollar and the Indonesian rupiah. These currency trends radically undermined the economic viability of US coal exports in the Pacific Rim, yet the DEIS analysis simply ignores them.

These errors should be troubling to anyone who looks to the DEIS for an accurate analysis of global coal market trends. But just as troubling, the DEIS analysis displays persistent biases in language, tone, and assumptions that tend to put the economic and environmental performance of Tongue River coal in the most favorable light possible. Since the DEIS coal market analysis lacks even basic transparency in assumptions and methods, the presence of so many overt biases and inaccuracies suggests that the analysis as a whole is riddled with covert errors and biases. Statements in the DEIS also strongly suggest that the conclusions of the DEIS market analysis are based on circular reasoning, with key conclusions built into the assumptions themselves. Appendix C's current international market assessment should be abandoned in its entirety, and replaced with a more transparent analysis that accurately reflects the dynamics and structure of today's international coal market.

Contrary to the DEIS's claims, Tongue River coal cannot compete in today's Pacific Rim coal market.

On p. C.1-8, the DEIS states:

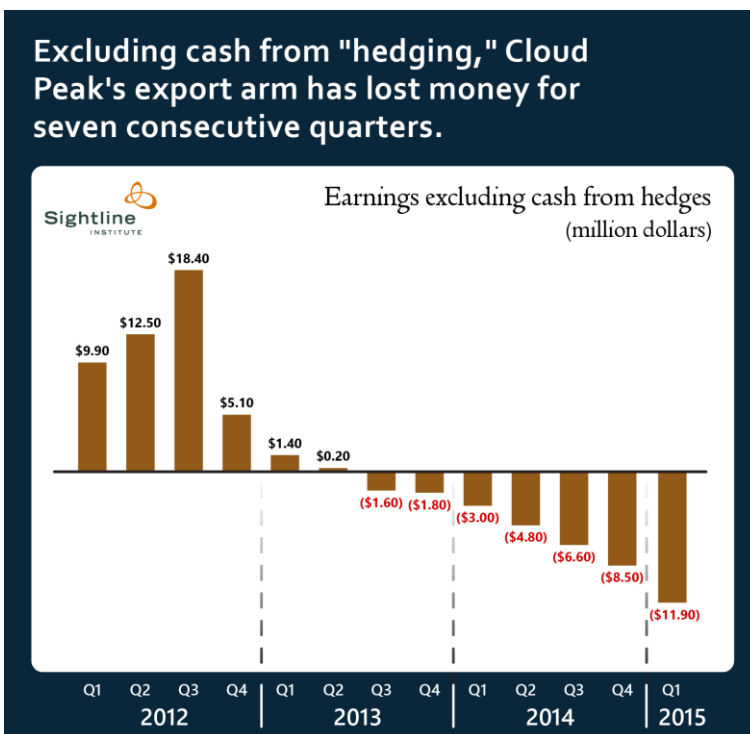
"[T]he expansion of the Pacific Northwest export terminals would allow Tongue River coal to be delivered to the Pacific Basin at competitive prices."

The DEIS does not specify the cost and pricing assumptions used to justify this statement. But in today's market, and at all prices currently projected in the international futures market, this statement is flatly wrong. There is no realistic possibility for profitable export of Tongue River coal via existing or proposed Northwest terminals, unless international coal prices stage a substantial and sustained rebound.

Prices are now too low for PRB exports to earn a profit in Asia. According to the World Bank, prices for Australian benchmark coal have fallen 55 percent from their early 2011 peak.¹ The futures market projects that Pacific Rim coal prices will continue to fall, with forward contracts remaining below current prices through at least December 2021.² Prices for Indonesian sub-bituminous coal are even lower than Australian prices; a ton of coal with higher energy content than is produced in most of the Tongue River currently sells for about \$42, with futures markets suggesting that prices will actually decline in the coming years.³ At these low prices, there is simply no way for US coal companies to export Tongue River coal at competitive prices.

One way to see how poorly Tongue River coal would fare in Pacific Rim markets is to look at the record of losses from recent PRB coal exports. Cloud Peak Energy is the only company currently exporting PRB coal to Asia. The company exports coal from its Spring Creek mine, which has two distinct advantages over competing PRB coals: it boasts one of the highest calorie values of any Powder River Basin mine, and it also offers a shorter rail shipping distance to Northwest ports than most potential competitors. Combining mining costs,⁴ transportation costs, and market pricing advantages, Spring Creek offers more favorable export economics than any other PRB coal.

But despite these advantages, Cloud Peak's financial statements show that the company lost \$11.9 million selling coal to Asia in the first quarter of 2015 alone—or more than \$8 per ton of coal exported to Asia. On a per ton basis, those losses deepened in the second quarter of 2015. And a close examination of the company's financial statements shows that the company has reported losses on



export sales since mid-2013.⁵

Cloud Peak executives have publicly admitted that the company's Asian coal sales are awash in red ink. In a February 2015 investor conference call, Cloud Peak CEO Collin Marshall said that the company's export arm would sustain a \$35 million dollar loss for the year, even after accounting for \$21 million in gains from its futures market hedges.⁶ And during Cloud Peak's May 2015 investor call Marshall highlighted the company's success in trimming its export losses by reducing export volumes for the year.⁷

Furthermore, Marshall has admitted that his company requires Newcastle, Australia coal benchmark prices above \$75 per ton in order to earn significant profits from exports.⁸ But futures prices for the Newcastle coal benchmark currently remain below \$55 through the end of 2021⁹—suggesting that international coal market participants expect Cloud Peak's coal exports to remain deeply unprofitable for at least 6 and a half years, and possibly longer.

As further corroboration of the unprofitability of PRB exports, Arch Coal—a competitor of Cloud Peak, and the proposed developer of coal mines that would be served by the Tongue River Railroad—essentially abandoned its coal export plans in early 2014, with the company's CFO admitting that they'd elected to accept \$12.5 million in contractual penalties to rail and port companies to avoid even steeper losses on the export markets.¹⁰

Coal industry analysts agree that the prospects for profitable PRB coal exports look dire. In a recent article, for example, *IHS Energy* chief editor Bob Hodges quotes analyst Mark Levin from BB&T Capital Markets: "The PRB can't seem to catch a break...The export market is nearly dormant with front-quarter Newcastle prices...a good \$15-\$20/mt out of the money." This estimate is broadly consistent with the financial performance of Cloud Peak's export arm, and the statements of the company's executives.

Development of additional terminal capacity in the Pacific Northwest will do nothing to improve international market prices. Indeed, additional US coal export capacity may exacerbate the global oversupply that deflated the seaborne coal prices between 2011 and 2015.

Similarly, additional terminal capacity on the west coast will do little or nothing to improve the profitability of PRB coal exports. The proposed Gateway Pacific Terminal outside Bellingham, Washington will likely offer a nearly identical transportation and handling cost profile as the current Westshore terminal in British Columbia, from which PRB coal exports have already proven unprofitable. And while the proposed Millennium Bulk Terminal outside of Longview, Washington may offer slightly lower rail costs than either the Gateway Pacific or Westshore terminal locations, the terminal's relatively shallow berthage on the Columbia River would eliminate the potential for cost-efficient international shipping in the massive "Capesize" vessels that would be handled at competing ports.

In summary, there is no credible economic basis on which the DEIS can assert that Tongue River coal can be profitably sold in Pacific Rim markets. To regain its credibility, the final EIS must abandon all claims that Tongue River coal will be competitive in Asian markets. Just as importantly, the final DEIS must explicitly state the assumptions about international coal prices, rail costs, port terminal costs, and

international shipping costs that it uses to justify claims about the potential profitability of Tongue River coal in Asia. Only by making all economic assumptions and methods transparent and explicit can the DEIS present a convincing picture of the economic prospects for Tongue River coal exports.

The Tongue River Railroad DEIS mischaracterizes international coal prices.

The TRRR DEIS makes the following statements on page C.1-7:

The price for coal delivered to export markets in the Pacific Basin *increased between 2009 and 2014*...Prices between 2011 and 2014 have generally fallen, but are *still above the 2009 price levels*.

The italicized clauses are misleading at best, and false at worst.

Benchmark coal prices in Newcastle, Australia—the most commonly cited pricing reference for the Pacific Rim coal market—rose sharply from mid-2009 through mid-2011, but fell from 2011 through the middle of 2015. If anything, coal prices were lower in 2014 than in 2009: Newcastle prices averaged \$71.84 per ton in 2009, but just \$70.13 in 2014—a modest decline in current-year dollars, and an even more substantial decline of \$9 per ton after adjusting for inflation. Prices have continued to fall; by March 2015—and before the DEIS was published—Newcastle prices averaged \$60.62, breaching the lowest price of any month in 2009.¹¹

In short, not only was the annual average Newcastle coal price for 2014 lower than for 2009, but by early 2015 prices had fallen below the lowest month of 2009. There is absolutely no reason for the DEIS, published in early 2015, to misstate price trends in 2014, or to ignore price trends for the first months of 2015. Just as with the inaccurate portrayal of Tongue River coal's competitiveness in international markets, the incorrect discussion price trends in the DEIS appears to reflect a bias in favor of the economic prospects for Tongue River coal exports.

The DEIS misstates international coal price trends.

On page C.1-7 the DEIS states:

[T]he decrease in price between 2011 and 2014 *is due to softening demand from a general global economic slowdown*.

The italicized clause is simply false. The decrease in Pacific Rim seaborne coal prices from 2011 through 2014 had very little to do with softening global demand for coal, or to a general global economic slowdown. Quite to the contrary, seaborne coal sales volumes, led by China, grew steadily from 2011 through mid-2014. Moreover, World Bank data shows that the global economy expanded steadily from 2011 through 2014, though it did grow more slowly than in the red-hot years following the 2008 global economic meltdown.¹²

The principal reason that coal prices declined so rapidly between 2011 and 2014 was that suppliers flooded Pacific Rim markets with low-cost coal. Starting in 2009, coal producers in Australia, Indonesia,

and Russia made massive investments in their coal mining and export capacity, quickly boosting both total output and export volumes.¹³ At the same time, China made major investments to modernize its coal mining industry and to eliminate rail transportation bottlenecks that had made it difficult to move coal from inland coal mines to coastal markets.¹⁴ The rapid increase of coal supplies throughout the Pacific Rim brought prices down rapidly from their 2011 highs, even as demand on the seaborne coal volumes grew steadily from 2011 through the middle of 2014.

Global demand for coal has softened since mid-2014, led primarily by a decline in Chinese demand for seaborne coal. Although China's economy continues to grow quickly by global standards, the pace of Chinese GDP growth has moderated.¹⁵ At the same time, a shift away from manufacturing and towards services has improved the energy intensity of the Chinese economy as a whole.¹⁶ But perhaps most importantly, China enacted a series of policies designed to improve air quality while protecting the country's domestic coal industry. Those policies included a tariff on imported coal,¹⁷ a ban on low-quality coal imports,¹⁸ and limits on the consumption of coal in coastal provinces. These policy steps have been extremely effective: year-over-year, Chinese coal imports fell by 25 percent in the second half of 2014, and by 38 percent in the first half of 2015.¹⁹ There are no signs that China's coal policies will reverse course; to the contrary, the nation has pledged a cap on total coal consumption by 2020.²⁰ As international coal markets have internalized the signs of a long-term decline in China's demand for coal, coal futures prices have fallen—contributing to collapsing economic prospects for PRB coal exports.

By misstating the reasons for the decline in international coal price trends, the DEIS reveals both a limited and flawed understanding of international coal market dynamics, and an ignorance of the political and structural shifts taking place on both the supply side and demand side of the seaborne coal markets. Moreover, the DEIS's selective reading of coal market economics reveals yet another example of a pervasive bias in favor of the questionable economics of Tongue River coal exports.

The DEIS makes selective and biased use of currency exchange rate data.

International currency exchange rates will have a substantial impact on the competitiveness of US coal in seaborne markets: a strong dollar puts US exports at a disadvantage, while a weak dollar can work to the benefit of US coal exporters.

The DEIS suggests that exchange rate trends generally favor US exporters:

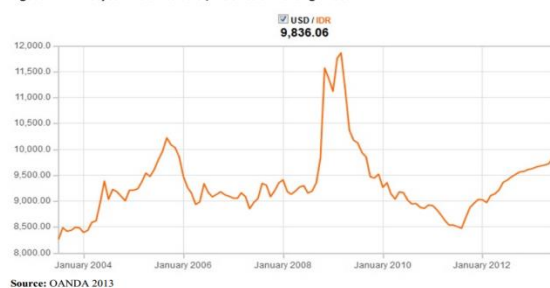
Overall, the 10-year historical trend favors increased competitiveness for Powder River Basin coal, because declining exchange rates make competing coals relatively more expensive. If this trend continues in the future, the U.S. cost advantage would grow relative to China and Australia, and would decline modestly for Indonesia.

The DEIS goes on to present exchange rate charts that purport to support the claim that exchange rates favor US exports.

But those charts, and the analysis they underpin, provide an incomplete and biased view of international currency trends. The charts show a 10-year period beginning in mid-2003 and ending in mid-2013. But

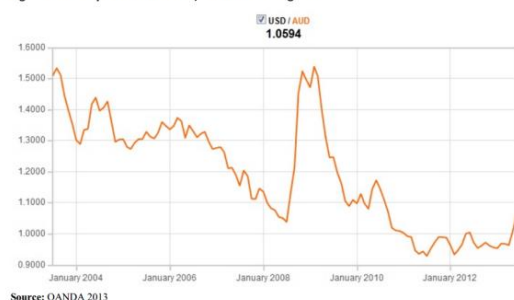
starting almost immediately after these charts end, the US dollar strengthened dramatically against the currencies of our major coal export competitors, undermining the competitiveness of US exports.

Figure 2-11. 10-year Historical U.S./Indonesia Exchange Rate



The chart to the upper left, copied directly from the DEIS, shows the movement of the US dollar against the Indonesian rupiah from 2003 through the middle of 2013. The chart to the upper right shows that the dollar dramatically strengthened against the Indonesian rupiah almost immediately after the DEIS chart ends. Australian exchange rate data shows a similar trend, with a rapid (though less striking) strengthening of the US dollar almost immediately after the DEIS truncates its analysis.

Figure 2-10. 10-year Historical U.S./Australia Exchange Rate



Simply put, currency trends from mid-2013 through the publication date of the DEIS provide strong evidence for the deteriorating economic viability of Tongue River coal exports. But the DEIS simply ignores this evidence, truncates its analysis at mid-2013, and suggest that exchange rate trends point to the improving viability of Tongue River coal exports.

There is simply no conceivable justification for the DEIS to ignore exchange rate trends from mid-2013 through the document's publication date in early 2015. Reliable and continuously updated exchange rate data is readily available from numerous online sources. The authors of the DEIS easily could have included up-to-the-minute trends on currency exchange rates, and updated their charts and analyses at any time prior to publication of the DEIS.

It is hard to believe that the DEIS's selective use exchange rate data is mere coincidence, or the result of innocent incompetence. Instead, the selective use of exchange rate smacks of an intentionally deceptive use of data in order to put the financial viability of PRB exports in the most positive light possible.

The DEIS makes inappropriate assertions about the climate impacts of Tongue River coal development.

Selective use of exchange rate data is just one of many systematic biases in the DEIS that put both the economic prospects and environmental consequences of Tongue River coal development in the most favorable possible light. As another example, the TRRR DEIS repeatedly describes potential impacts of the TRRR as “small” in comparison with regional, national, or global totals:

p. C.1-2: “Tongue River coal production and associated rail traffic would be most likely to increase under high production and high terminal capacity growth scenarios. However, this increase represents a relatively small increase over the No-Action Alternative, and incrementally small increases over current coal production in the nation and in the world.”

p. C.1-13: “The increase of up to 8.8 million tons per year would be small in comparison to total U.S. and world coal consumption.”

p. C.1-13: “Both of these [coal production] increases would be small relative to total U.S. coal production levels.

p. C.1-14: “the quantities involved would be small compared to the size of the U.S. coal market, and any impact on total incremental demand for coal would be small.”

p. C.1-15: “OEA found that the net changes in Pacific Basin mercury emissions related to consumption of Tongue River coal would be small compared to total Pacific Basin mercury emissions”

p. C.10-24 “OEA found that the net changes in U.S. SO₂ emissions related to consumption of Tongue River coal would be small compared to total U.S. SO₂ emissions”

It is not the place of the DEIS authors to decide whether millions of tons of coal, or millions of tons of CO₂ emissions, count as “small” impacts. Draft guidance issued in December 2014 by the White House Council on Environmental Quality clearly state that it is flatly inappropriate to make such judgments when describing the greenhouse gas impacts of a project in an Environmental Impact Statement.

[T]he statement that emissions from a government action or approval represent only a small fraction of global emissions is more a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether to consider climate impacts under NEPA. Moreover, ***these comparisons are not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations.*** [Emphasis added.]²¹

The DEIS economic model appears to rely on false assumptions and circular reasoning.

On page C.1-14, the DEIS states:

OEA's conclusions on exports are based on the 21 scenarios, and assume uncertainties that cannot be fully captured in a modeling framework. For example, *the forecasts assume competitive economics and certainty within each scenario*. [Emphasis added.]

The DEIS goes on to assert:

[A]ll scenarios show that the export terminals would be fully used to export other Powder River Basin coal.

As discussed above, the conclusion that export terminals would be fully used to export PRB coal is demonstrably false, both in today's market conditions and at all export prices currently forecasted by the futures markets. At foreseeable prices, export of PRB coal through Northwest coal terminals would result in massive and unsustainable financial losses.

Because the DEIS modeling methods are not fully disclosed to the public, it is impossible to determine why, exactly, the DEIS reached such deeply flawed conclusions about the economic viability of PRB exports. The DEIS itself only offers hints of the specific assumptions and methods that feed that model. But based on the passages cited above, it appears likely that the DEIS modeling exercise suffers from at least two fundamental and irremediable flaws.

First, the DEIS model relies on the false assumptions that PRB exports would be both competitive and certain. Reliance on false assumptions renders any model conclusions unreliable, and potentially irrelevant to real-world market dynamics.

Second, and more important, it appears that the DEIS model results are based on circular reasoning. In short, the model assumes what it purports to prove. In particular, the DEIS itself states that each market scenario takes "competitive economics" as a given. The market analysis then goes on to conclude, without caveat, that PRB exports would be economically competitive in all scenarios—without mentioning that economic competitiveness was simply an input into the model.

A credible modeling exercise must not treat its assumptions as if they were discoveries of facts about the world. But by assuming what it purports to prove, the DEIS modeling exercise appears to be largely an exercise in circular reasoning and confirmation bias. Because the model's design appears to suffer from the severe logical flaw of circular reasoning, the public should place no confidence in the conclusions of the DEIS export economic model as a whole. Only a thorough and transparent accounting of all assumptions and methods, coupled with clear and explicit safeguards against circular reasoning, can restore confidence in the Tongue River Railroad's models of international coal market dynamics.

Conclusion

The analysis of international coal markets contained in Appendix C of the Tongue River Railroad DEIS is marred by blatant errors of fact, selective and misleading use of data, and preposterously inaccurate assessments of the viability of PRB exports in today's markets. The errors in the DEIS do not seem random or accidental. Instead, they present a systematic pattern of bias designed to put the economic viability of PRB coal exports in the most favorable light possible.

The overt errors in the DEIS economic analysis should radically undermine public confidence in the conclusions of the DEIS's global coal modeling effort. But they also raise the troubling possibility that the analysis contains even more severe errors that are hidden from sight.

Take, for example, Appendix C's assertion that most of the coal that might be produced in the Tongue River region would simply displace coal that would be mined in other parts of the PRB, or other parts of the world. This represents a critical assertion, since it affects any estimate of the climate impacts of developing Tongue River coal mines. Yet Appendix C simply does not disclose the specific economic data, assumptions, and modeling methods that the DEIS authors use to reach this conclusion. In particular, the DEIS does not reveal the international coal market supply or demand curves that imply near-perfect elasticity in global seaborne coal supply, and near-perfect inelasticity in global seaborne coal demand—conditions that must hold in order for the development of a major new coal mining region to have such a small effect on global coal consumption. Without a transparent accounting of coal supply and demand dynamics, the public has literally no information with which to judge the veracity of the DEIS's claims about the effects of new mine and port infrastructure on climate-warming emissions.

The public can know with certainty, however, that the economic models used in the Tongue River Railroad DEIS have reached demonstrably incorrect conclusions about the economic viability of PRB coal exports in today's market. This profound failure suggests deep flaws in the data, assumptions, and methodology that inform the DEIS modeling effort. Further, they suggest that other conclusions of the DEIS modeling effort may be similarly meritless. Yet a lack of basic transparency makes it impossible to identify what specific errors may be in play, and what other modeled results those errors may call into question.

Fixing Appendix C's assessment of international coal markets will require much more than modest error corrections. Instead, it will require a major increase in transparency, as well as a recognition that the initial DEIS economic modeling effort yielded significant errors. In the final EIS, all assumptions, data, and methods used in the economic models should be spelled out and clearly available for public inspection. And in order to represent the inherent uncertainty in how global coal markets and climate policy will develop over time, the models should for assessment of alternative paths for global coal supply, demand, and pricing—rather than a static set of favorable market assumptions, or “competitive economics and certainty,” assumed in the initial DEIS. Without transparency and accountability, the public remain uncertain of whether the conclusions reached by the DEIS coal market models have any reasonable relationship to reality.

Endnotes:

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² eSignal.com, "Stock Market Quotes and Charts: Newcastle Coal Futures," <http://quotes.esignal.com/esignalprod/quote.action?symbol=NCF-ICE>, accessed August 23, 2015.

³ eSignal.com, "Stock Market Quotes and Charts: Coal McCloskey Sub-Bituminous," <http://quotes.esignal.com/esignalprod/quote.action?s=mcc>, accessed August 23, 2015.

⁴ John T. Boyd Company, September 2011, "Powder River Basin Coal Resource and Cost Study," www.xcelenergy.com/staticfiles/xcel/Regulatory/Regulatory%20PDFs/PSCo-ERP-2011/8-Roberts-Exhibit-No-MWR-1.pdf, accessed August 23, 2015.

⁵ Cloud Peak Energy, "SEC Filings," <http://investor.cloudpeakenergy.com/sec-filings>; all data taken from forms 10-Q and 10-K. For more information, see Sightline Institute, May 5, 2015, "Cloud Peak Posts its Biggest Export Loss Ever," <http://daily.sightline.org/2015/05/05/cloud-peak-posts-its-biggest-coal-export-loss-ever/>.

⁶ Cloud Peak Energy, February 17, 2015, "CEO Colin Marshall on Q4 2014 Results - Earnings Call Transcript," transcription provided by Seeking Alpha, <http://seekingalpha.com/article/2924696-cloud-peak-energys-cld-ceo-colin-marshall-on-q4-2014-results-earnings-call-transcript>.

⁷ Cloud Peak Energy, May 2, 2015, "CEO Colin Marshall on Q1 2015 Results - Earnings Call Transcript," transcription provided by Seeking Alpha, <http://seekingalpha.com/article/3130716-cloud-peak-energys-cld-ceo-colin-marshall-on-q1-2015-results-earnings-call-transcript>.

⁸ Ibid. Note also that in the company's April 29, 2014 conference call, when both oil and bulk shipping rental costs were higher than they were in Q1 2015, Marshall stated that the company needed to see Newcastle prices between \$80 and \$90 to realize a profit from exports; see Cloud Peak Energy, April 30, 2014, "Cloud Peak Energy's CEO Discusses Q1 2014 Results - Earnings Call Transcript," transcription provided by Seeking Alpha, <http://seekingalpha.com/article/2175763-cloud-peak-energys-ceo-discusses-q1-2014-results-earnings-call-transcript>.

⁹ eSignal.com, "Stock Market Quotes and Charts: Newcastle Coal Futures," <http://quotes.esignal.com/esignalprod/quote.action?symbol=NCF-ICE>, accessed August 23, 2015.

¹⁰ Sightline Institute, "Arch Coal's Export Disappointment," May 2, 2014, <http://daily.sightline.org/2014/05/02/arch-coals-export-disappointment/>.

¹¹ World Bank, "Overview of Commodity Markets: Prices (Pink Sheets), Historical Data," <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:21574907~menuPK:476908~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html>, accessed August 23, 2015.

¹² World Bank, "GDP (current US\$)," <http://data.worldbank.org/indicator/NY.GDP.MKTP.CD?display=graph>, accessed August 23, 2015.

¹³ World Coal Association, "Coal Statistics," <http://www.worldcoal.org/resources/coal-statistics/>, accessed August 23, 2015.

¹⁴ Carbon Tracker, September 22, 2014, "'King Coal' disappoints investors: recent financial trends in global coal mining," <http://www.carbontracker.org/wp-content/uploads/2014/09/Coal-Financial-Trends-ETA.pdf>, <http://en.sxcoal.com/86601/NewsShow.html>.

¹⁵ World Bank, "GDP growth (annual %)", <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>, accessed August 23, 2015.

¹⁶ Reuters, January 19, 2015, "China cuts energy intensity by 4.8 pct in 2014", <http://www.reuters.com/article/2015/01/20/china-energy-idUSL4N0UZ1QJ20150120>.

¹⁷ Chuin-Wei Yap, *The Wall Street Journal*, October 9, 2014, "China Reviving Tariffs on Coal Imports: Move Seen Intended to Help Domestic Coal Sector," <http://www.wsj.com/articles/china-reviving-tariffs-on-coal-imports-1412867896>.

¹⁸ Lucy Hornby, Jamie Smyth, and Neil Hume, *The Financial Times*, September 16, 2014, "China ban on low-grade coal set to hit global miners," <http://www.ft.com/intl/cms/s/0/7b025356-3d3d-11e4-a2ab-00144feabdc0.html>

¹⁹ Import reductions for first half of 2015 from General Administration of Customs, People's Republic of China, July 13, 2015, "June 15 national key commodity import table," <http://www.customs.gov.cn/publish/portal0/tab49666/info762375.htm>; translation by Google Translate. Import reductions for second half of 2014 from General Administration of Customs, People's Republic of China, "National key commodity import table" by month for 2014, <http://www.customs.gov.cn/publish/portal0/tab49666/>.

²⁰ Edward Wong, *The New York Times*, November 201, 2014, "In Step to Lower Carbon Emissions, China Will Place a Limit on Coal Use in 2020," <http://www.nytimes.com/2014/11/21/business/energy-environment/china-to-place-limit-on-coal-use-in-2020.html>.

²¹ The White House Council on Environmental Quality, December 2014, "NEPA revised Draft GHG Guidance," https://www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf.