

A Missing Market For US Exports





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10. SUMMARY

Greenpeace is an independent campaigning organization that acts to expose global environmental problems and achieve solutions that are essential to a green and peaceful future.

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THE MYTH OF CHINA'S ENDLESS COAL DEMAND: A MISSING MARKET FOR US EXPORTS

The US coal industry—reeling from sagging domestic demand, plummeting profits, and tanking stock prices—is desperate for a new market for its wares. And it thinks that it has found one in China. The Asian giant consumes more coal than any other nation, and its recent surge in coal imports has captured fully 20 percent of the international coal trade. US coal producers express confidence that China's imports will continue to grow—and that the struggling US coal industry can fight off both Chinese coal producers and international competitors to capture a significant share of the Chinese coal market.

But can China really provide the stable, reliable import market that the US coal industry seeks? There are strong signs that it cannot. This analysis summarizes the facts of coal supply and demand in the Chinese market, Chinese government policy, social conditions in China, and other key factors, all of which indicate that the US coal industry, as well as some policymakers and investors, are making a massive bet based on a flawed set of beliefs about Chinese coal demand. Those beliefs, stoked by an industry which desperately wants them to be true, do not reflect the reality of China's energy economy.

Dan Nan wind farm in Nan'ao.

Guangdong Province has one of the best wind resources in China and is already home to several industrial scale wind farms. Massive investment in Wind power will help China overcome its reliance on climate destroying fossil fuel power and solve its energy supply problem.

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Coal pileups at Qinhuangdao port (Qinhuangdao, Hebei) transportation facilities are left unused. Qinhuangdao is one of the largest coal storage areas in China; its stockpiles reached a record 9.46 million tons in June 2012. ©Greenpeace/ Liu feiyue

1. A DESPERATE INDUSTRY—NOT SOUND ECONOMICS—IS DRIVING US COAL EXPORT PROPOSALS

Before examining the current assumptions underpinning the idea of endless Chinese coal demand, it's worth noting how and why that notion has been propagated within the US. The US has the world's largest estimated recoverable reserves of coal. The nation produced more than a billion short tons of coal, more than 90% of which was used domestically to generate electricity in 2011. As a result of reduced US electricity demand, low natural gas prices, increased use of renewable energy, and citizen activism against coal-burning power plants, domestic US coal consumption has declined since 2007 (see Fig.1).

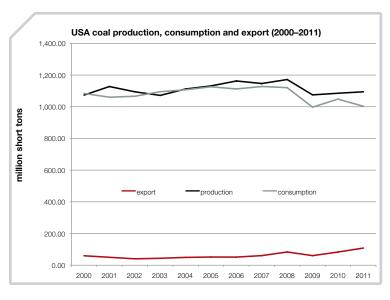


Figure1, USA coal production, consumption and export (2000–2011). Source: EIA

As US coal demand drops, so too do the profit margins previously enjoyed by the industry. Faced with a shrinking domestic market for its product, the coal industry is proposing coal export terminals in the Pacific Northwest to ship low-grade coal from the Powder River Basin (PRB) in Wyoming and Montana to a supposedly stable and profitable Asian market. Industry leaders brim with confidence that Asia is a sure bet for US coal exports; they cite high and stable coal demand, arguing that US coal can successfully displace China's current importers to earn a significant share of that market. And they promise big money for shareholders and communities if projects get approved and financed.

With our superior operating position in the Powder River Basin and Western Bituminous Region, we have the capability to service growing coal demand in Asia, the world's largest and fastest-growing coal market. We believe this first project [Millennium]—along with others in the pipeline—will provide Arch with more exposure to the seaborne thermal market and will further unlock the value inherent in our western coal assets.²

-Steven Leer (Chairman, Arch Coal)

Given the US coal industry's pessimistic outlook for domestic sales, its leaders' optimism is self-serving; if China is not a potential market for US coal, the US industry may have no market for its wares. A clearer-eyed analysis of the Chinese coal economy exposes the large risks that US coal export projects present for investors.

2. CHINA PRODUCES NEARLY ALL OF THE COAL IT CONSUMES

Historically, China has supplied virtually all of its coal demand from domestic sources. According to estimates from the Chinese Ministry of Land and Resource (MoLR), China's 170 billion tons of coal reserves account for 19% of the global total, placing China second behind only the United States for coal reserves. China stands as the world's largest coal producer, with 4 billion short tons of coal mined in 2012, up from 3.8 billion tons in 2011 (see Fig. 2).

Until recently—and despite rapid long-term growth in domestic demand—China exported more coal than it imported. But in 2009 China became a net coal importer; by 2011 the nation had surpassed Japan as the world's leading coal importer; and in 2012, China imported over 300 million short tons of coal (see Fig. 3). However, even after that rapid growth, China's imported coal remains a small fraction of what it burns, accounting for only 5% of China's total coal consumption in 2011.

So despite the massive quantities of coal China currently burns, it is still a 95% self-dependent country for its current use of coal. This means that increases in Chinese coal production or transportation infrastructure could quickly reduce the country's current demand for imports. The only scenario in which it would need to increase its imports to a degree that makes US coal exports viable is if its coal demand continues to increase at the eye-popping growth rates experienced over the past decade.

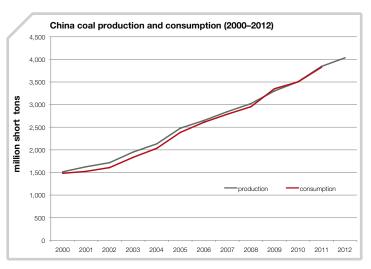


Figure 2, China coal production and consumption (2000-2012). Source: EIA, China National Coal Association

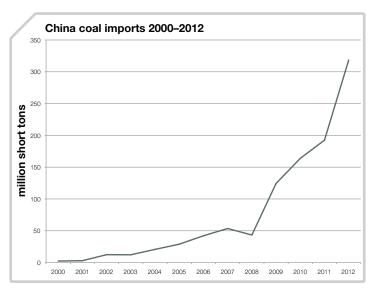


Figure 3, China coal imports (2000-2012). Source: EIA, China National Coal Association

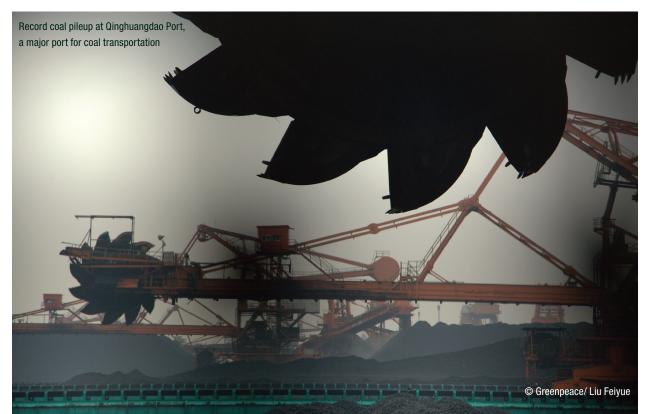
3. CHINA'S ECONOMIC GROWTH IS SLOWING

The main force behind China's sustained growth in coal combustion in the past decade has been its growing economy, which has driven electricity demand in tandem. China has the 2nd largest and most rapidly growing economy in the world; its real gross domestic product (GDP) grew at 9.2% in 2011. With the global financial recession, however, China's economic growth declined to 7.8% in 2012, according to the National Bureau of Statistics.

Those top-line figures begin to foreshadow the slowdown of China's economy, and some prominent corporate executives and western economists cite evidence which shows that the real economy could be slowing even faster, as local officials have falsified the economic data to boost the appearance of growth.^{3,4} The incoming Chinese Premier Li Keqiang uses three key indicators to measure economic growth: electricity consumption, railway freight volume, and bank lending. Figures from the National Bureau of Statistics show that the volume of railway freight decreased by 0.2% in the first eight months of 2012 compared to the same period in 2011.⁵ National Bureau of Energy figures show total electricity consumption growth to be 2.9% in September 2012, which is the lowest growth rate in the past forty months.⁶

In the first eight months of 2012, the growth rates of coal production and consumption, and rail and port transportation in China all declined compared to the same period in 2011.⁷ According to the China Electricity Council, investment in the coal power sector has dropped by over half from 227.1 billion RMB (\$36.4 billion USD) in 2005 to 105.4 billion (\$16.9 billion USD) in 2011, and the trend is continuing in 2012.⁸ In the first eight months of 2012, profits of 90 coal companies dropped by 14.5% compared to the same period in 2011.⁹

In the short term, the Chinese economic growth rate will keep fluctuating between 7 and 8%, with leaders drafting plans to set the growth rate target at 7.5% in 2013.10 In the long term, however, China's economy is poised to continue to slow down: analysts have pointed out that the Chinese government is expected to deliberately control the growth rate to prevent unsustainable booms,11 which means the double-digit rates of GDP growth of past decades will not continue. That economic slowing will in turn decrease energy demand growth in China. China's National Development and Reform Commission (NDRC)—the government body responsible for overseeing China's economy-expects China's energy demand to grow more slowly, at 4.7% annually from 2011 to 2015 (compared to a 6.7% average from 2006 to 2011), according to its latest version of the China Energy Outlook from November, 2012.12



4. COAL USE IN CHINA IS FLATTENING OUT

China's slowing economy is now hitting the domestic coal consumption sector. The thermal power generation growth rate was -0.4% in the first ten months of 2012 compared to the same period in 2011.¹³ One reason for the decline is overall weak total electricity consumption due to the economic slowdown. Another reason is China's growing adoption of hydroelectric power, which increased 27.1% in the same period.

In addition, industrial activity is slowing, decreasing demand for metallurgical (met) coal. As China's manufacturing Purchasing Managers Index (PMI)¹⁴ has decreased in the last three years (see Fig. 4), met coal demand has gone down as well (see Fig.5). The iron and steel industries are also slowing down, with growth rates of 2.9% for iron production and 2.1% for steel production respectively in the first ten months of 2012 compared to 2011. According to the China Iron and Steel Association, 34 of 80 steelmakers recorded losses through the first eight months of 2012, with losses totaling 21.5 billion RMB (\$3.4 billion USD). This slow growth is likely to continue, since the industry's capacity utilization is currently only 80%.

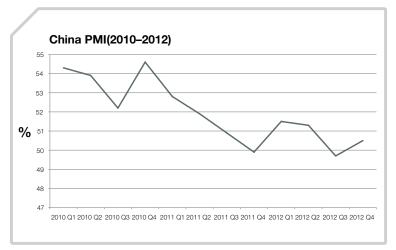


Figure 4, China Manufacturing PMI (2010–2012). Source: Bloomberg

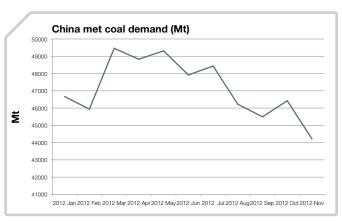


Figure 5: China met coal demand 2012. Source: Bloomberg

The weak demand from coal consumption sectors means that China's coal is piling up, unused, at record levels at domestic power plants and ports. By the end of September 2012, the total domestic coal stock in China was 373 million tons, a 37% increase compared to the same period in 2011.¹⁷ The coal stock in the warehouses of national key power plants climbed up to 93.75 million tons in October, a quantity of coal that would take 31 days for those plants to burn through.¹⁸ The coal pileup in the major storage port Qinhuangdao reached a record 9.46 million tons in June 2012,¹⁹ and still remained high at over 5.8 million tons in October of that year. These figures show that coal demand is weakening, even if the production and supply sides of the coal economy have not yet hit the brakes accordingly.

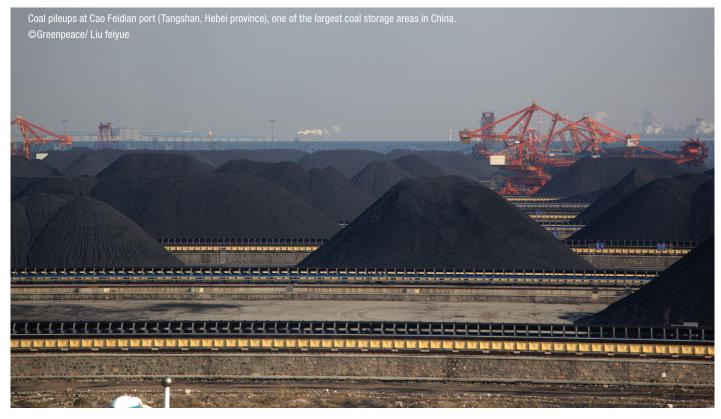


5. CHINESE POLICY CAPS ON COAL PRODUCTION AND CONSUMPTION WILL DECOUPLE ECONOMIC GROWTH FROM COAL

China plans to slow growth in coal production and consumption by the end of 2015 to conserve resources and protect the environment, according to its 12th five-year plan for coal industry development issued by the NDRC in March 2012.²⁰ The government has set the target for overall production capacity at 4.1 billion tons, and caps coal domestic production and consumption at 3.9 billion tons by 2015. The latest China Energy Outlook also estimated that coal production will not exceed 3.8 billion tons by the end of 2015, accounting for 63% of total energy consumption.²¹ To control coal production, the central government is asking major production provinces to keep growth below 4% in order to keep total coal output under 3.65mt in 2012.²²

In late October, 2012, Guangzhou (in Guangdong province), China's third largest city with a population of over 10 million, will limit its coal use to the 2010 level of 29 million tons to meet new air quality standards, ²³ following its announcement that it will no longer approve new coal power capacity within the city. ²⁴ Guangzhou, which consumed over 29 million tons of coal every year and is among the most polluted cities in China, is now on the path to cap coal use. Other big eastern cities like Tianjin, Shanghai Wuxi, Changzhou and Ningbo, have also put forth absolute targets to limit the increase of coal consumption. ²⁵





SPOTLIGHT: RENEWABLE ENERGY IS SURGING IN CHINA

China has set ambitious targets for non-fossil fuel energy production, aiming for 11.4% of its primary energy consumption and 30% of installed electricity generation capacity by 2015. China now gets close to 10% of its primary energy from non-fossil fuel sources, so it is on track to meet its targets and potentially overshoot them. For its 12th five year plan (2011–2015), China has a wind installation target of 100 GW and an electricity generation target of 190 TWh. China has a solar installation target of 21 GW and electricity generation of 25 TWh. By the end of 2012, China had approximately 63 GW of wind generation and 7 GW of solar installation. China has already passed the US in becoming the world's number one wind power market in 2010. The country will maintain the current growth rate in the foreseeable future.

China has a comprehensive and substantial policy scheme to support wind and solar development. For power developers, the country has a quota system requiring a certain percentage of electrical power generation to be from renewable energy sources. China also has a Feed-in Tariff (FiT) mechanism for both utility-scale wind and solar power. It is very likely that the country will further develop a FiT for decentralized solar power in 2013. This will further unlock the huge potential of household, rooftop solar development in China. Chinese energy regulators have increasingly realized the importance of tapping into the domestic renewable energy market. Along with the economic restructuring, it is becoming clear that China will benefit from its powerful renewable energy manufacturing capacity. It is poised to become not just the largest producer of renewable energy equipment, but also the largest market for it.

What are the implications of China's surging adoption of renewable energy to the country's coal use? If government plans succeed, both wind and solar power will be scaling up quickly, and could challenge coal as the dominant new-build capacity in the Chinese electricity markets before 2020. Industry estimates for 2020 show that solar and wind could be producing 500–600 TWh a year, equal to around 13–16% of total electricity from coal in 2011. The growing renewable energy revolution in China is on pace to undercut the aggressive Chinese coal demand projections upon which U.S. export hopefuls are counting.



Dafeng Power Station is Chinas largest solar photovoltaic-wind hybrid power station, with 220MW of grid-connected capacity, of which 20 MW is solar PV. Located in Yancheng, Jiangsu province, it came into operation on December 31, 2010 and has 1,100 annual utilization hours.

Every year it can generate 23 million KW-h of electricity, allowing it to save 7,000 tons of coal and 18,600 tons of carbon dioxide emissions.





The Xuzhou Solar Photovoltaic Power Station was connected to the grid on December 30, 2009. With an installed capacity of 20MW, it has 1,300 annual utilization hours and can generate about 26 million Kw-h of electricity each year equivalent to savings of 7,900 tons of coal and 21,000 tons of carbon dioxide emissions.

6. RENEWABLE ENERGY IS ON THE RISE

In addition to curbing coal, the Chinese government is also seeking to boost renewable energy development. China's Information Office of the State Council released its 2012 white paper on energy policy²⁶ in October 2012, which said that China will actively develop hydropower, solar and wind power generation as well as other types of renewable energy. China plans to increase the share of non-fossil fuels to 11.4% of primary energy consumption and 30% of installed electricity generating capacity by the end of 2015.

Those numbers may seem ambitious, but the Chinese government has a proven track record of effectively supporting renewable energy: its pro-renewable policies are working and the sector is booming. China was the world's biggest producer of hydroelectric power in 2012, when installed hydroelectric generating capacity reached 249 GW. China is the largest wind producer as well, with 62 GW of installed wind capacity in 2011 (see Fig.6). In addition, solar power capacity increased to 7 GW in 2012 (see Fig.7).²⁷

China aims to increase the share of non-fossil fuels in primary energy consumption to 15% by the end of 2020, and has issued policies to boost renewable energy development so that it achieves that goal. In the new 2012 edition of China's energy policy white paper,³⁰ China aims to increase wind power capacity to 100 GW and solar by an astounding seven-fold to 21 GW by the end of 2015, and plans to add 10GW of new installed solar power capacity in 2013.³¹ China reached 7GW of installed solar by the end of 2012, which means the target may be exceeded or adjusted to a higher one.

In October 2012, the State Grid Corporation of China stated that solar PV installations of less than 6 MW will get grid access in China, paving the way for rooftop solar to become a sizable and growing part of China's renewable energy portfolio.³²

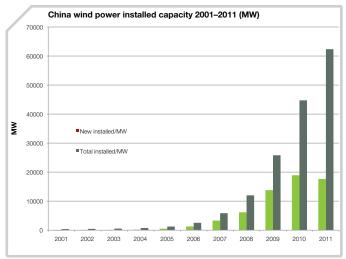


Figure 6, China wind power installed capacity 2001–2011 (MW). Source: CWEA 28

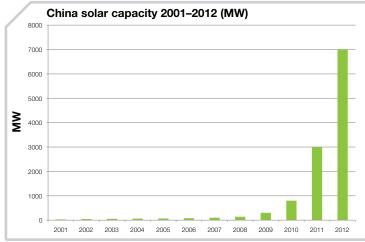


Figure 7, China solar capacity 2001–2012 (MW). Source: BP²⁹, China National Energy Administration

7. CHINESE SOCIETY IS RESISTING COAL AND BECOMING MORE AWARE OF ITS IMPACTS ON HEALTH AND WATER

The rising public concern for coal's environmental and health impacts is starting to play a large role in restricting coal demand in China, and the air pollution crisis in Beijing in early 2013 indicates that these concerns are likely to increase. According to the US Embassy, Beijing's readings for PM2.5 pollution (dangerous particles that cause heart and lung damage) surged to 886 µg/m³ on January 12,³³ more than double the US EPA's highest grading of "hazardous". Burning coal is a leading cause of fine particulate pollution (PM2.5), and the Chinese public is becoming increasingly vocal in its demand for solutions.

China's Ministry of Environmental Protection released new national air pollution standards for thermal power plants that took effect in 2012.34 This new standard will bring Chinese power plant regulations in line with developed world standards, and according to a comparison by the World Resources Institute,35 some are even stricter than US or EU standards. Additionally, steady public outcry has forced several provincial governments to monitor and release data known as PM2.5 about particulate matter that causes smog and public health crises. 36,37,38,39 Those governments are following a requirement from the Ministry of Environmental Protection's new national air pollution standards.⁴⁰ In addition to the new air quality standard approved in February 2012, the State Council released a 12th five year plan related to air quality in October to cut harmful air particles, especially PM2.5 in the air.41 The regional plan focuses on eastern coastal provinces in China which are major users and importers of coal, and will put significant pressure on coal use in these areas.

Water scarcity is worsening due to global climate change in China, where about half of coal reserves are located in water-scarce regions. Research from the Institute of Geographical Sciences and Natural Resources under the Chinese Academy of Sciences shows at least 10 billion cubic meters of water—equivalent to about one sixth of the annual total water volume of the Yellow River—will be consumed by 16 new power plants in China in 2015, triggering severe water crises in the country's arid Northwest. Water shortages will cause parts of China to choose between water for drinking and agriculture or coal-fired power plants, and will be another reason for Chinese officials to reduce the country's reliance on coal and shift investments to renewable energy.

Another important factor is that Chinese residents are becoming increasingly vocal about environmental problems. Protests and local unrest against industry pollution are becoming pervasive around the country, with many cases related to coal-fired power plants. Over one thousand residents of Yinggehai on China's Hainan Island protested for several days in October, 2012 against the construction of a coal-fired power plant in the local town.43 Police suppressed those demonstrations, but similar ones in December 2011 in Guangdong province resulted in the suspension of a coal-fired power plant expansion project.44 Increased public resistance and protests against polluters has forced the Chinese State Council (equivalent to the US Cabinet) to order that all major industrial projects must pass a "social risk assessment" before beginning, as announced in November 2012 by the Environment Minister during the 18th party congress, the once-per-decade meeting of power transition in the Chinese leadership.⁴⁵ The Environment Minister also said that there will be increased transparency and public involvement in decisions regarding large projects with high potential environmental impact.



Burning coal contributes to heavily polluted air in Beijing.

People wear masks during bad air quality days.

SPOTLIGHT: PUBLIC OUTRAGE OVER AIR POLLUTION CURTAILS COAL USE IN EASTERN CHINA

One of the most visible effects of coal use in China is the air pollution, especially the PM2.5 pollution (fine particles with a diameter of 2.5 microns or less), which creates the infamous haze days in eastern Chinese industrial cities. Coal use in these biggest eastern cities, which still are the main coal users in the country, contributes up to 40% of PM2.5 pollution. Typical pollution levels in Chinese cities are up to 4 times higher than World Health Organization targets; at their worst they can be 5–10 times worse than US city pollution episodes. Research shows that every year thousands of Chinese are dying prematurely in these cities due to PM2.5 pollution. Those revelations have sowed anger in a Chinese culture that traditionally holds great value on long life, and the ability to enjoy active old ages with grandchildren and friends.



But industrialization has brought more than pollution to the most populous cities in China. Now, a relatively wealthy and growing Chinese urban middle-class is increasingly becoming interested in quality of life issues, including their families' health and a healthy environment for spending their leisure time. According to the U.S. Embassy, Beijing's readings for PM2.5 pollution (dangerous particles that cause heart and lung damage) surged to 886 µg/m³ on January 12, more than double the US EPA's highest grading of "hazardous". Burning coal is a leading cause of PM2.5 pollution, discussion and demand for solutions on the massive Chinese online social network Weibo erupted to a level where even the Chinese government was forced to react. In February 2012, the Chinese government agreed to introduce relatively strict targets for reducing PM2.5 pollution in the major cities by 40-50% by 2016. Since then, cities like Beijing have been disclosing PM2.5 levels, and more cities are setting a limit to their coal use. Guangzhou recently decided to cap its coal use to 2010 levels until 2016. But it is difficult for cities to succeed without larger regional cooperation. In November, 2012, the central government introduced a first-ever 12th five year plan for air quality in China, setting targets for neighboring regions ranging from 5 to 15% reduction of overall PM2.5 levels. Those targets will have the effect of capping coal use regionally as well. And, from the first day of 2013, 74 cities of China started disclosing PM2.5 levels, with the data accessibe to the public.

What do these new PM2.5 changes mean for coal use in China? PM2.5 is costly, difficult to remove from the coal combustion process, and travels long distances, up to hundreds of miles. This means that pollution levels are difficult to control by technical means of filtering or by moving coal-fired power plants outside of big cities. The Chinese government therefore faces a difficult choice: It can either introduce overall limits on coal use, as it recently outlined in its 12th five year plan for major Eastern industrial bases; or it can face increasing dissatisfaction from the emerging and educated middle class, as it starts to see air pollution and related coal use as an obstacle to quality of life improvements in China. The introduction of pilot carbon trading, set mostly for climate reasons, indicates that the government sees controlling coal use as the way to go. More stringent controls on coal use and public interest in decreasing air pollution will be major constraints on the growth of coal use in eastern provinces. Since these provinces are major importers of coal, this will have a capping effect on coal imports as well.

Severe air pollution in Huolin Gol city, Inner Mongolia, a region heavily impacted by the coal industry.



8. UNSTABLE ASIAN DEMAND HAS SUNK US COAL EXPORT PROPOSALS IN THE PAST

The idea of exporting coal from the US West Coast is not a new one, and its history is littered with failures that prove that Asian markets present institutional challenges for importing US coal. In the early 1980s, the Port of Portland and investors spent \$25 million building a coal export terminal. Two years into construction, the project failed when the Asian market proved unstable and its demand for coal turned out to be far weaker than investors assumed. Then, in the early 1990s, coal giant Peabody—one of the companies leading the current push for Pacific Northwest export projects—led a group of investors proposing a new coal export terminal for the Port of Los Angeles.

When coal dust caused two fires, the facility closed six years after it opened, also citing the weaker than expected Asian market for coal.⁴⁶

In both those cases, the US coal industry claimed with confidence that China would be a stable and profitable market for US PRB coal exports, and the industry is making those claims just as boldly today about the proposed Pacific Northwest export terminals.

More recently, fickle Chinese demand of metallurgical coal cost US coal producers who staked their operations on the Chinese market.⁴⁷ As the Wall Street Journal reported in September 2012, "Slowing growth in China is taking a brutal toll on Appalachian coal mines and coal towns." The Journal continues:

"When someone had coal to move, China was your big box store," said Ernie Thrasher, chief executive of XCoal Energy & Resources, a major US marketer of such coal to Asia. This year, "the switch went off."

While many have blamed the downturn in the US coal industry on cheap natural gas supplanting coal and tougher environmental regulations, the slide in metallurgical coal demand has been equally devastating. Coal companies were caught flat-footed after ramping up production last year with the expectation that steep prices would cover their rising costs, despite coal's past cyclicality. Instead, demand in China began to falter just as Australian metallurgical coal production—interrupted by floods last year—surged back into the market.⁴⁸

Chinese demand for met coal to make steel has slowed, and US coal operations in Appalachia are now paying the price for their risky bet on continued Chinese demand.



9. INTERNATIONAL COMPETITORS RECOGNIZE FLAGGING CHINESE DEMAND

While short-, mid-, and long-term trends signal a much weaker Chinese coal import market than the one described by US export hopefuls, the country will likely continue to import coal to a degree. However, other countries are better suited to continue to capture that existing market than the US. The top exporters of coal to China are Indonesia, Australia, Mongolia and Russia; together they accounted for 75% of total imports in 2012 (see Fig.8). China imported 9.32 million tons from the US in 2012 for only 3.2% of its total imports. Compared to other pre-positioned coal exporters, the US is the newcomer to China's thermal coal market, with most of its competitors owning a distinct geographical advantage.

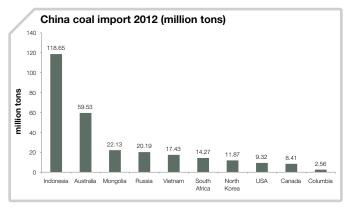


Figure 8, China coal import 2012. Source: Bloomberg

Indonesia is the world's largest thermal coal exporter, providing about 41% of China's coal imports. Indonesia has boosted its coal production rapidly, with coal production in 2011 having quintupled to 437 million short tons since 2000. In 2010, Indonesia exported over 85% of its coal (see Fig. 9). In what could be a cautionary tale to US export hopefuls, the slowdown in China's economic growth has hit Indonesia's coal sector hard, forcing producers to reduce output and slash costs: coal exports to China slumped 16% from 2011 in July 2012.

Australia is the world's most prolific exporter of coal overall, and the 2nd largest exporter to China following Indonesia. Australia produced over 463 million short tons of coal in 2010, an increase of 37% compared to 2000, and in 2010 Australia exported over 328 million short tons that accounted for 71% of its production (see Fig.10). With such a reliance on exports, Australian economists have warned that weakening Chinese demand is leaving shareholders exposed. ⁵⁰ Growing numbers of policymakers and inves-

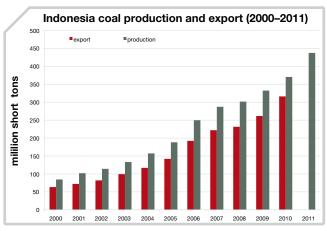


Figure 9, Indonesia coal production and export (2000–2011). Source: EIA

tors in Australia are realizing that the Chinese market for coal is drying up, and decreasing demand from China is bringing the mining boom to an end.⁵¹

Both Indonesia and Australia have been hit by China's weakened coal demand, and see that coal exports to China are a poor long-term investment. US investors and policymakers would be wise to join them in recognizing that Chinese coal demand is fickle, and large capital investments in coal export projects are a potential boondoggle.

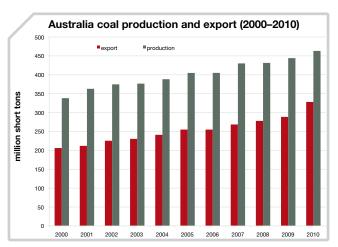


Figure 10, Australia coal production and export (2000–2010). Source: EIA

10. SUMMARY

Investors and policymakers considering supporting coal export projects should proceed with great caution given the sluggish projections for China's economic growth and coal consumption.

Chinese economic growth is not as promising as it was in past decades, and China has not been immune to the effects of the global economic recession. There is no doubt that China will continue to rely on coal for its energy needs in the short term, even amid more sluggish economic growth. But the long-term trend in China's energy economy is also quite clear: The country is deliberately, and quite effectively, decoupling its economic growth from coal such that future economic growth may not manifest in increased coal consumption. The results of this decoupling are already present: A rapid expansion in hydroelectricity, wind, and solar has pushed down coal's share of energy production from 85% to 73%,52 and this trend will continue. In its "China power"53 report, HSBC expects China to need less new generation capacity by 2015 than planned because of its maturing economy and more efficient use of existing capacity.

International pressure on China to address climate change and domestic concerns about air pollution and the environmental and safety record of coal are joining to push China to continue boosting renewable energy development, which it is already proving it can do successfully.

These challenges join the hurdles—including powerful local resistance in the Pacific Northwest—that the US coal industry has already encountered in its attempt to export coal to China. Assuming Chinese coal demand continues to weaken and that it sticks to its policies to curb coal use and increase renewable investment, the Chinese market for US coal exports may dry up before major new US coal shipments ever reach its ports.

Hopeful exporters of Powder River Basin thermal coal—as well as their investors and the communities considering controversial terminal projects—are on a path to learn the same painful lessons as those who failed in earlier coal export schemes.

While the US coal industry declares China a safe haven from an unfriendly US coal market, the facts show that the same factors that are causing coal to be phased out of the US market—sluggish economic growth, a rapidly developing renewable energy sector, government policies and social opposition to coal—are conspiring to make coal imports economically unviable in the Chinese market as well. US investors and policymakers would do well to examine those market conditions with a wary eye, rather than buying into the false optimism being peddled by a desperate US coal industry.



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