

2017 U.S.-China Clean Coal Industry Forum

November 30, 2017

Global Coal Markets Update – Opportunities for US Coal Exports



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The Finer Things

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Since 2002, DTC has served the needs of the coal and energy industry. More than 1000 industry leaders from over 200 companies subscribe to our services. We give our clients an edge by providing the following:

- ✓ **Principal Service**
- ✓ **Quarterly Coal Outlook and Price Forecast Report**
- ✓ **Utility and Natural Gas Insights Report**
- ✓ **Boardroom Presentations**
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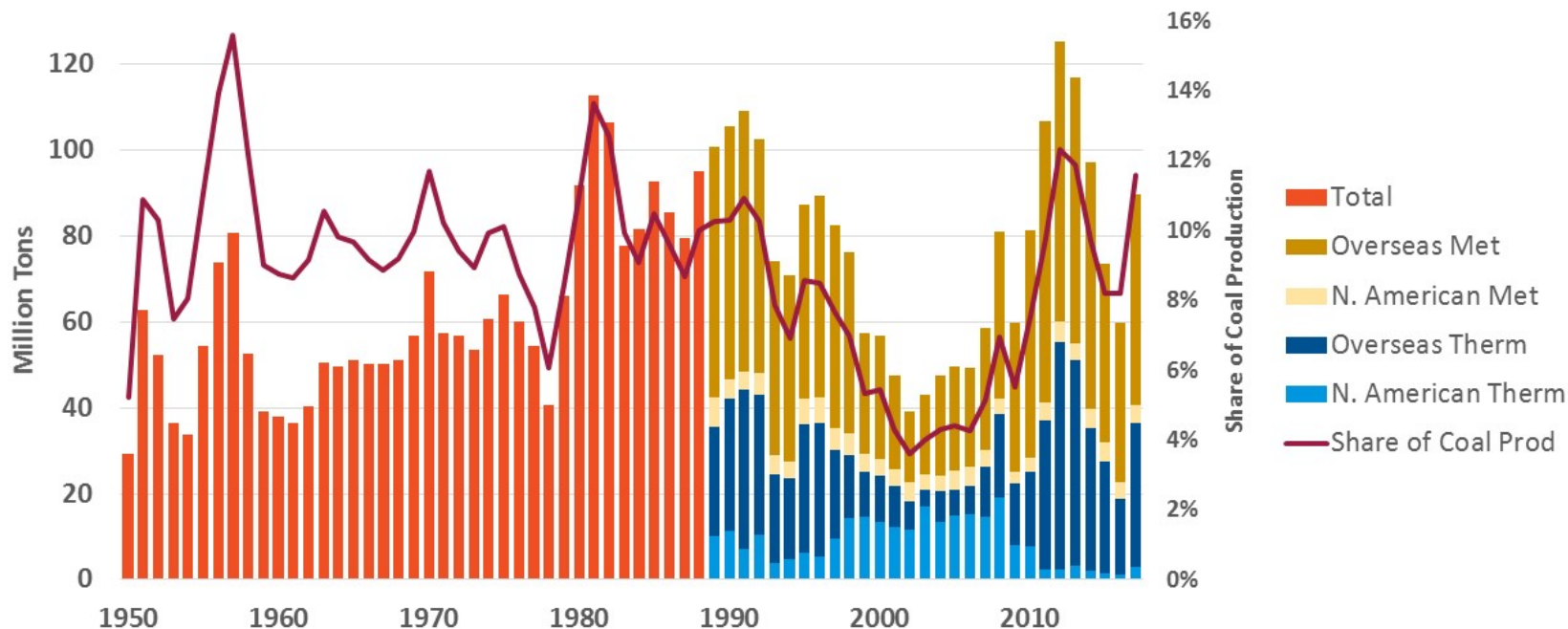
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The Global and US Coal Markets – a 30,000 foot view

- International thermal and coking coal prices currently reasonably strong
 - Thermal coal prices high, but backwardated (API2 & NEWC still above \$80/Mt for 2018)
 - Coking coal prices dependent on non-U.S. factors, pricing remains above \$160/Mt for 2018 but <\$150/Mt and <\$140/Mt for 2019 and 2020, respectively
- US exports heavily influenced by international prices where certain thresholds provide an adequate netback for coal producers and transportation companies
 - Varies by region and coal type
 - US is not a high-cost coal producer but geography produces the greatest challenge
- US exports play increasingly significant role
 - Asia is growth market for both thermal and metallurgical
 - Long haul distance
 - Limited West Coast port access a problem for US thermal
 - Europe is natural partner for US metallurgical
- US demand for power is slowing
 - Annual power growth was as follows:
 - '50s: 9.4%, '60s: 7.4%, '70s: 4.6%, '80s: 2.4%, '90s: 2.2%, '00s: 1.1%, '10s: -0.4%
 - Renewables and natgas taking market share

U.S. Coal Exports: A Historical Perspective



- Exports have played an important role for the U.S. coal industry—although that has changed through time
 - That role has become more influential for some regions
 - Export price influences domestic prices more in regions where exports are a larger share of the market
 - Makes life difficult because the variables affecting this market are greater than the domestic market
 - Highlights risks for producers and transporters

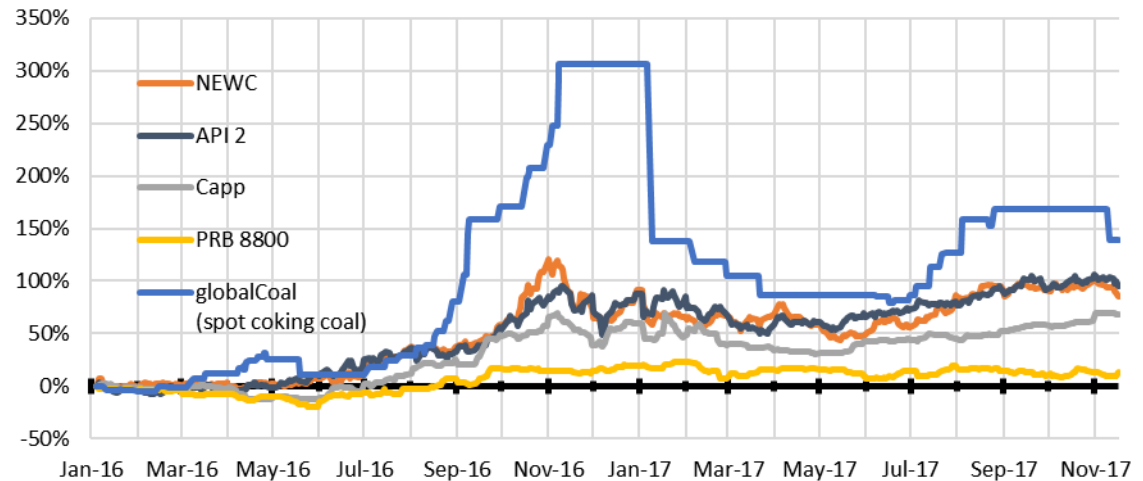
Source: U.S. Census and DTC Research (2017 represents DTC's forecast as of November)

Jan-Sept 2017	
Supply Region	Exports Share of Production
SAPP	86%
CAPP	49%
Rocky Mtns	20%
NAPP	17%
ILB	10%
PRB	2%

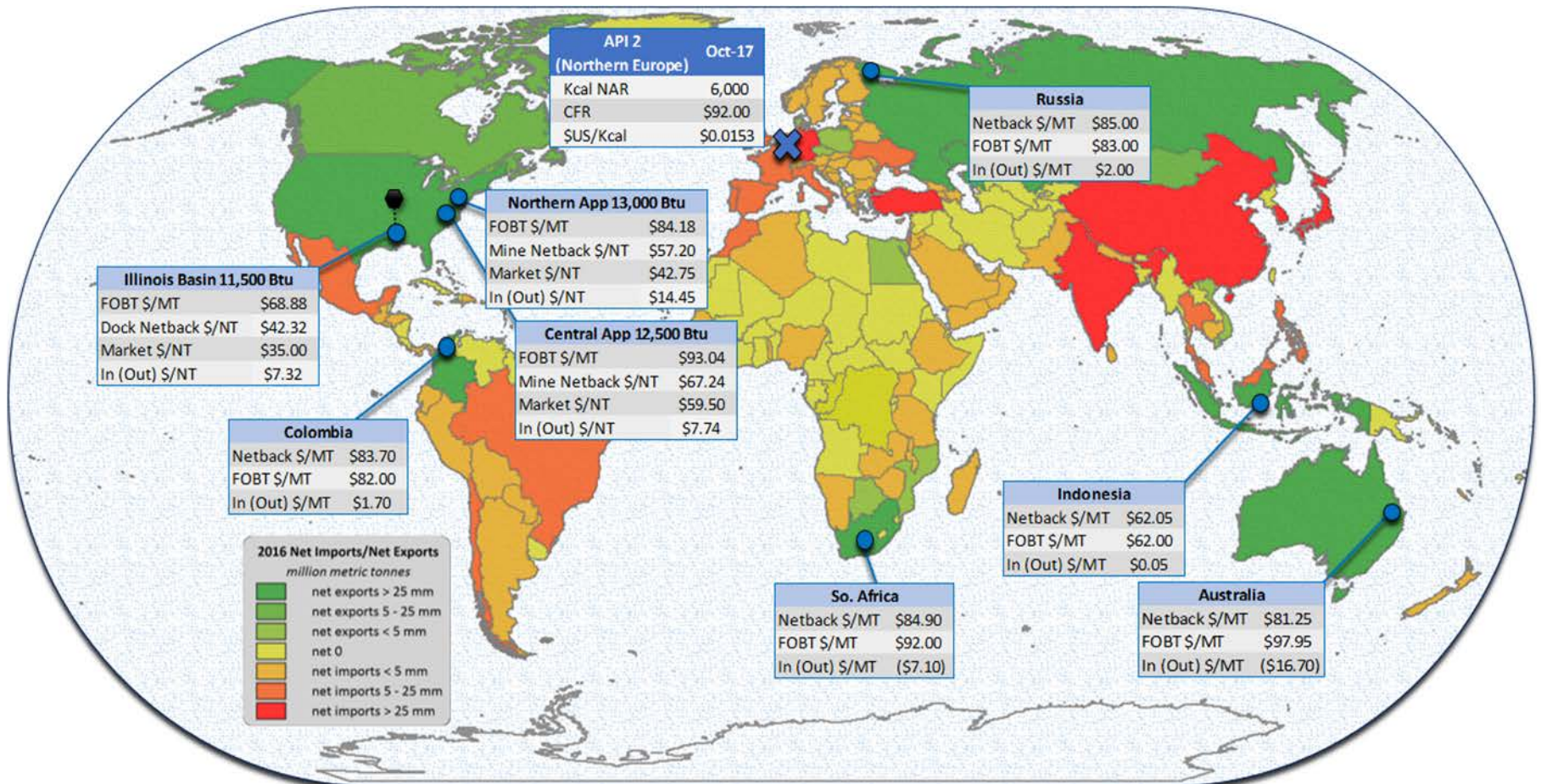
Thermal Coal Price Rally Versus Coking Coal Rally

- Despite being in shadow of coking coal, thermal coal prices have had a nice run
- Prompt month prices are as follows:
 - API2 (coal delivered into Northern Europe) - \$90.05/MT
 - NEWC - \$92.35/MT
 - Capp - \$64.15/ton
 - PRB 8800 - \$11.55/ton
- NEWC at \$80/MT still is profitable for exports
- Atlantic prices supported by supply challenges in Asia and South Africa, and Colombian coal increasingly moving to Asia
- Pacific prices supported by Chinese utility restocking demand paired with increased safety and environmental checks at Chinese mines

Percent change in value since Jan 2016

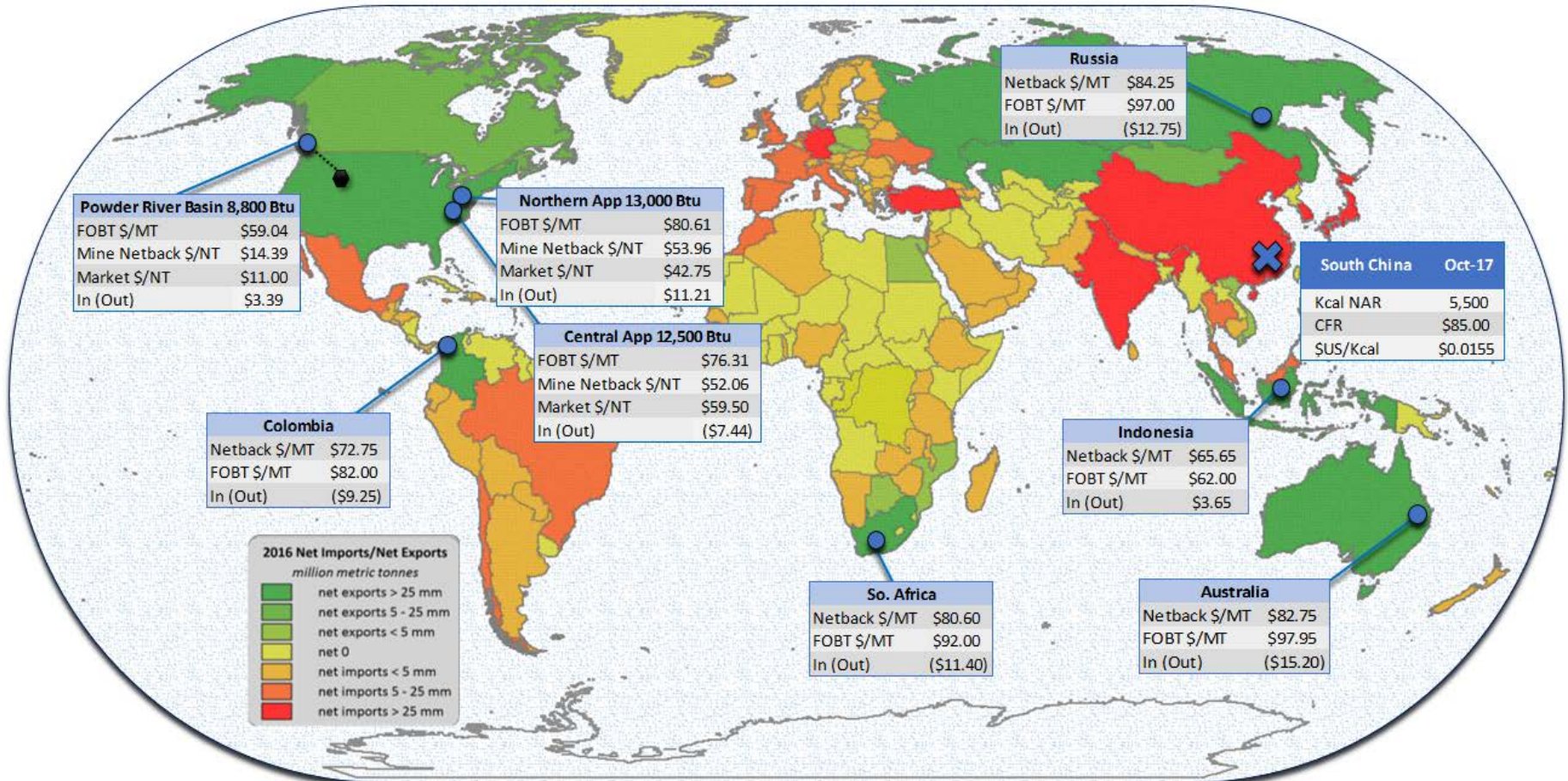


Atlantic Basin Netbacks – U.S. ‘In the Money’



Sources: DTC Research, Evolution Markets, FIS, CME, GlobalCoal, IHS, Lloyd's List, Tullett Prebon, CoalDesk, AxsMarine, SSI, China Coal Resource

Pacific Basin Netbacks – U.S. ‘In the Money’



Sources: DTC Research, Evolution Markets, FIS, CME, GlobalCoal, IHS, Lloyd's List, Tullett Prebon, Coaldesk, AxsMarine, SSI, China Coal Resource

US Coal Supply and Demand

- US utility demand expected to decline
- Exports are primary growth driver for US coal demand
 - CC exports expected to rise 11 mm tons to 52 mm tons in 2017
 - Thermal exports expected to rise 20 mm tons to 39 mm tons in 2017
 - Thermal exports do not include Signal Peak

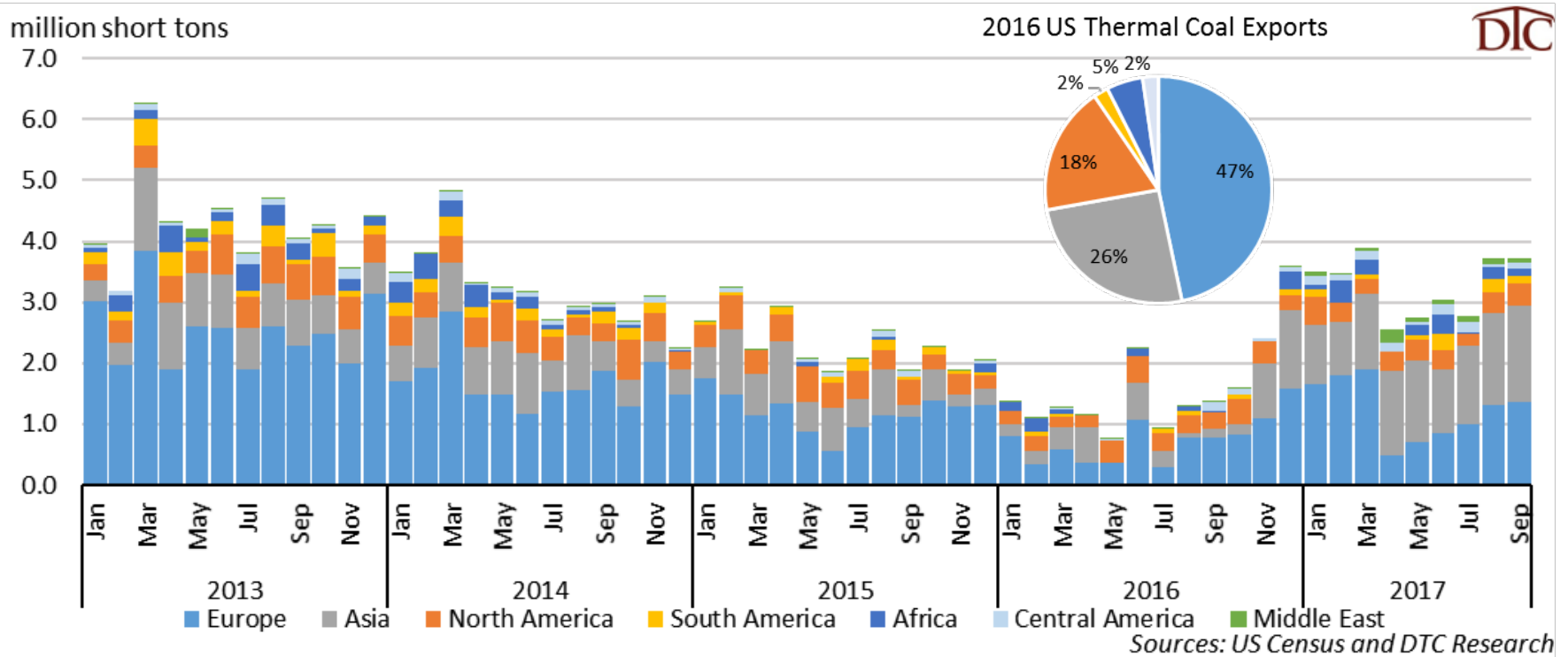
Supply (million short tons)	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017	2018	2019
Central App	127.1	116.4	90.0	66.7	78	76	73
Colorado/Utah	41.2	41.9	33.3	26.4	30	29	27
Illinois Basin	132.2	137.2	123.8	98.4	106	104	106
Northern App	122.5	133.0	115.8	101.9	109	109	108
Powder River (WY, MT)	430.2	440.2	417.6	329.8	354	356	355
Other Regions	131.6	131.3	116.4	105.0	102	98	97
Total US Production	984.8	1,000.0	897.0	728.2	779	772	766
Waste Coal	11.3	12.1	9.9	8.7	9	8	8
Imports	8.9	11.3	11.3	9.8	8	8	8
Total Supply	1,005.0	1,023.5	918.2	746.7	796	788	782

Demand (million short tons)	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017	2018	2019
Utilities	858.0	851.6	738.4	677.3	674.0	671.0	660.0
Coking Coal-Domestic	21.5	21.3	19.7	16.5	18.0	19.0	19.0
Industrial	43.1	42.9	38.5	34.6	34.0	33.0	31.0
Residential/Comm.	2.0	1.9	1.5	1.2	1.0	1.0	1.0
Exports/CC	65.7	60.1	46.4	40.8	52.0	48.0	46.0
Exports/Steam	52.0	37.2	27.6	19.0	39.0	37.0	29.0
Total Exports	117.7	97.3	74.0	59.8	91.0	85.0	75.0
Total Demand	1,042.1	1,015.0	872.1	789.3	818.0	809.0	786.0

Source: DTC Monthly Update

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US Thermal Coal Exports by Destination



- Exports to Europe have always been reliable due to geography and quality
 - Nearly half of US thermal exports were to Europe
- Exports to Asia are important for western thermal (PRB and Rocky Mountain coal) and met
 - West Coast exports, important for thermal, is limited by port access

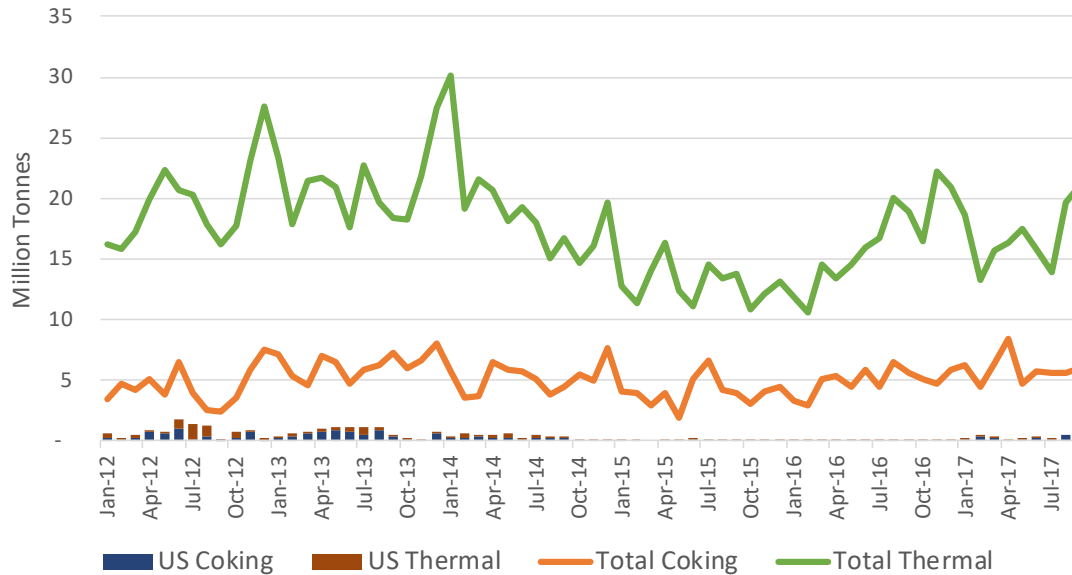
Europe



- Key importer of US coal
- Weak growth forecast
- EU stocking up ahead of winter season
- SCoTA (Standard Coal Trading Agreement) favors higher CV coal
 - Opportunity for ILB coal, but high sulfur must be blended to meet standards
 - Blending can be done at export terminal, receiving terminal or at plant
 - Approx. 2 tons of low sulfur Russian coal blended with 1 ton of ILB yields product that works in European boilers
 - High sulfur ILB coal faces penalty of approx. \$15-\$20/ton compared to API2 price
- Ukraine production down 9% to 23.6 mm MT in 2017
 - 0.7 mm MT will be imported from US
 - 99% of thermal and 80% of cc currently imported from Russia
- Long-standing relationships between US and Europe
- High-vol coal in demand in Europe
- Australia making inroads into Europe

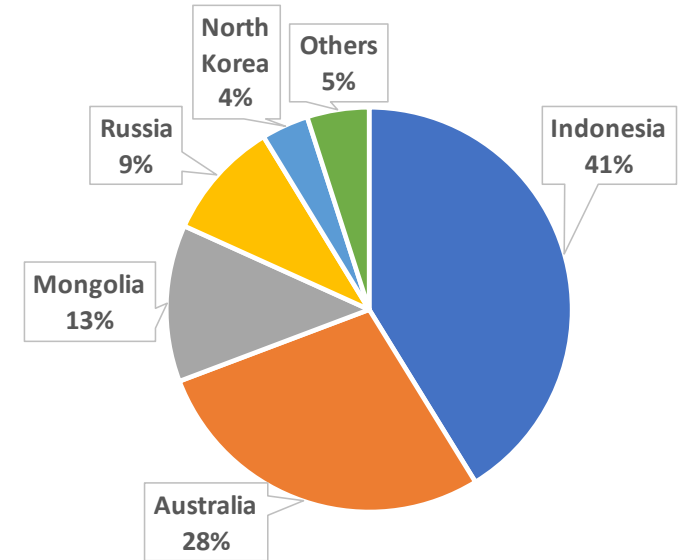
China

Monthly China Coal Imports by Type



China Coal Imports

12 Months Ending September 2017

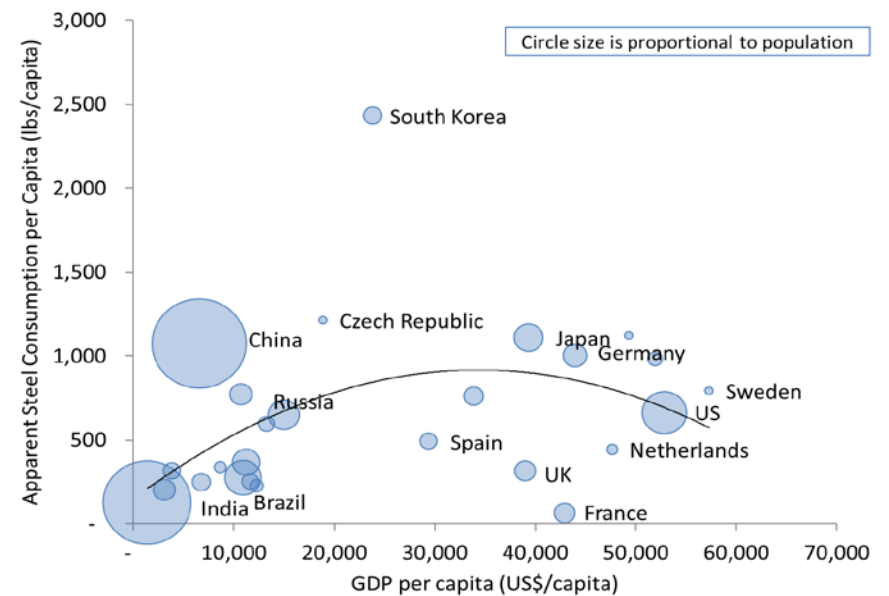


Source: China Coal Daily

- China imported over 280 Mt during the past 12 months (of which approximately 195 Mt was seaborne thermal)
 - Largest supply of seaborne thermal originates in Indonesia followed by Australia and Russia
- Imports make up gap between domestic production and consumption
 - Imports make up <10% of Chinese demand, but account for roughly 20% of global trade
- China is not a major buyer of US coal but the secondary effect it has on global trade is critical

India

- Coal India Limited (CIL) production down 6% YTD
- Power station stocks average seven days of burn – lowest level in 3 years
- Thermal coal imports down 11% to 111 mm MT through October
 - Monsoon and high prices kept foreign coal out
 - Private generators awaiting drop in price due to fixed tariffs on power purchase agreements
 - Gov't-owned plants told to not take imports
- Top 3 CC importer
- Domestic transportation constraints
- Approaching rapid steel growth phase
- 60% of steel production with EAF



Indonesia

- Largest supplier of thermal coal
 - Mostly to China and India
- Official target is 413 mm MT
 - Heavy rains all year
 - 1H17 production annualizes to 420 mm MT
 - Second consecutive year of declining production looming
- Domestic Market Obligation (DMO)
 - 121 mm MT in 2017
 - 240 mm MT in 2024
- 35 GW of new capacity coming online
- Rising domestic coal demand will reduce coal available for export
 - 366 mm MT exported in 2016
 - 160 mm MT forecasted to export in 2024

	2012	2013	2014	2015	2016
Target	407	431	421	425	419
Actual	412	474	458	461	455
Export	345	402	382	375	366
Domestic	67	72	76	86	89

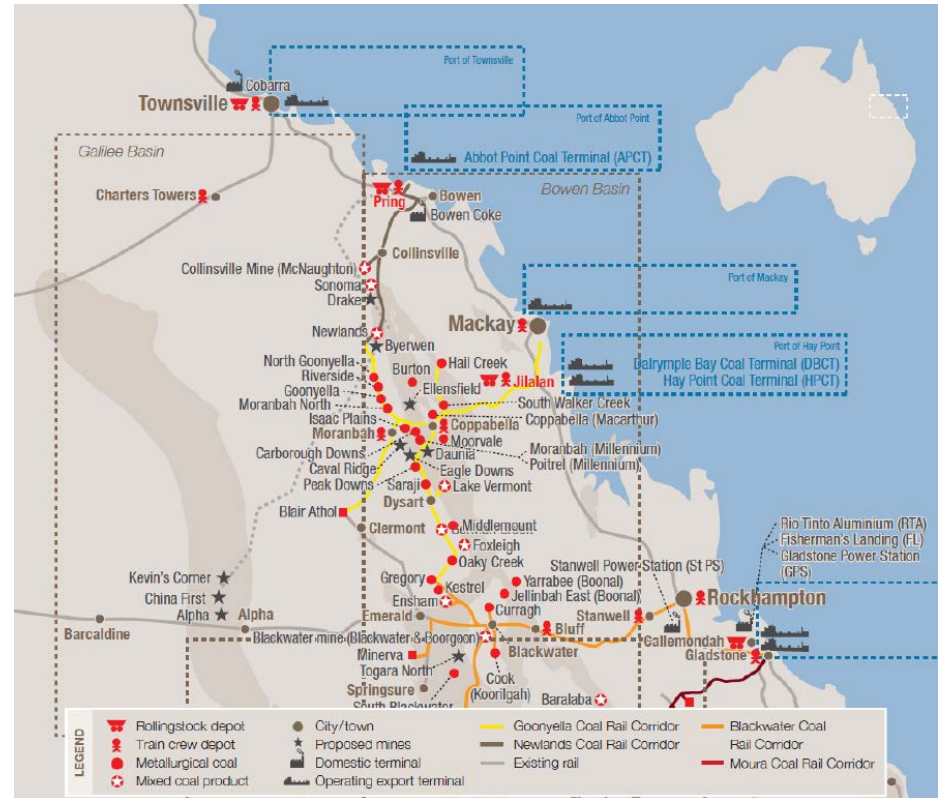
Colombia

- Repositioning of Sales
 - Western Europe viewed as a declining market
 - Diverting SCoTA - quality shipments away from Europe
 - Turkey is the largest importer of Colombian coal followed by Mexico
 - US imports coal from Colombia – primarily in the Southern Company system
 - Exports to Asia increasing especially into S. Korea
- Heavy rains earlier this year hampered output
- Mines are dealing with lower-grade seams



Australia

- Responsible for 189 mm MT of seaborne cc exports
 - 65% of world seaborne cc trade
- Cyclone Debbie knocked out ~13.3 mm tons of production along Aurizon rail network
 - Queensland is closing Debbie losses at rate of ~1.3 mm MT/month
- Labor issues continue to emerge
- Strong AUS dollar hurts producers

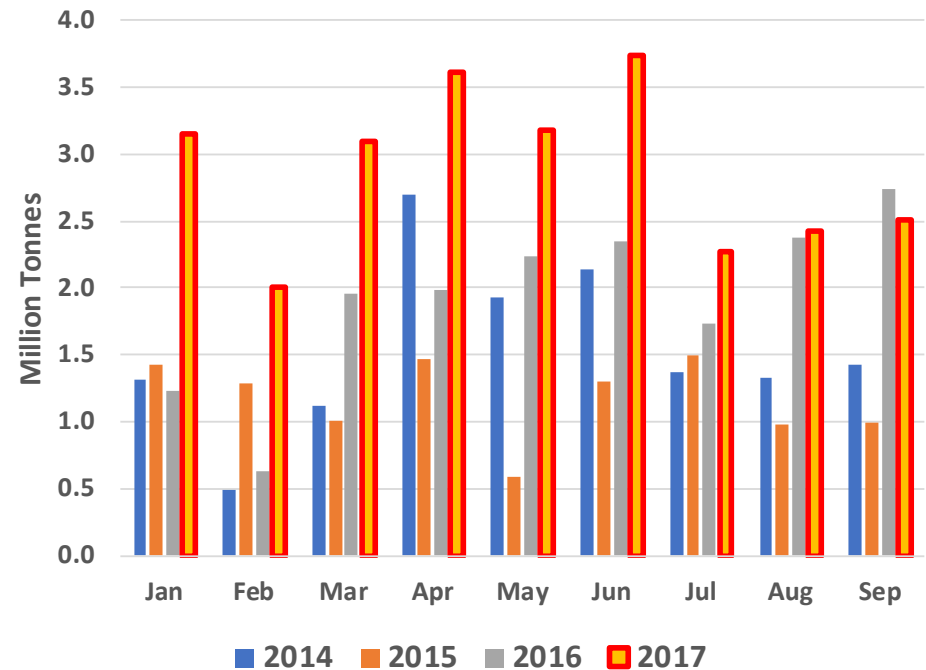


Mongolia

- Significantly ramped up production this year
- CC exports on track to exceed 26 Mt in 2017
- Traffic jams of coal trucks waiting to deliver coal to China
 - 120-150 km-long traffic jams at the border



Mongolia Coal Exports to China



Source: China Coal Daily

Summary

- Strong international demand, but weak US domestic demand for cc and thermal
 - Asia continues to show demand strength with declining exports from key producers
 - Lack of western US terminal capacity hurts western producers
 - European demand is relatively weak, but is natural consumer for US coal
 - High sulfur blended with low sulfur
- Weak capital investment in new production
 - Wall St favors US dividends and buybacks, but does not reward growth
 - Reduced CAPEX – equipment, high grading, maintenance, labor
 - New mine development – limited at this time
 - Current ownership more focused on returns and providing value to shareholders
- Backwarddated price curve – market sentiment is clear
- Increased volume volatility will be difficult for production/transportation chain to absorb

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