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Global Coal Markets Update – Opportunities for US Coal Exports



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The Finer Things

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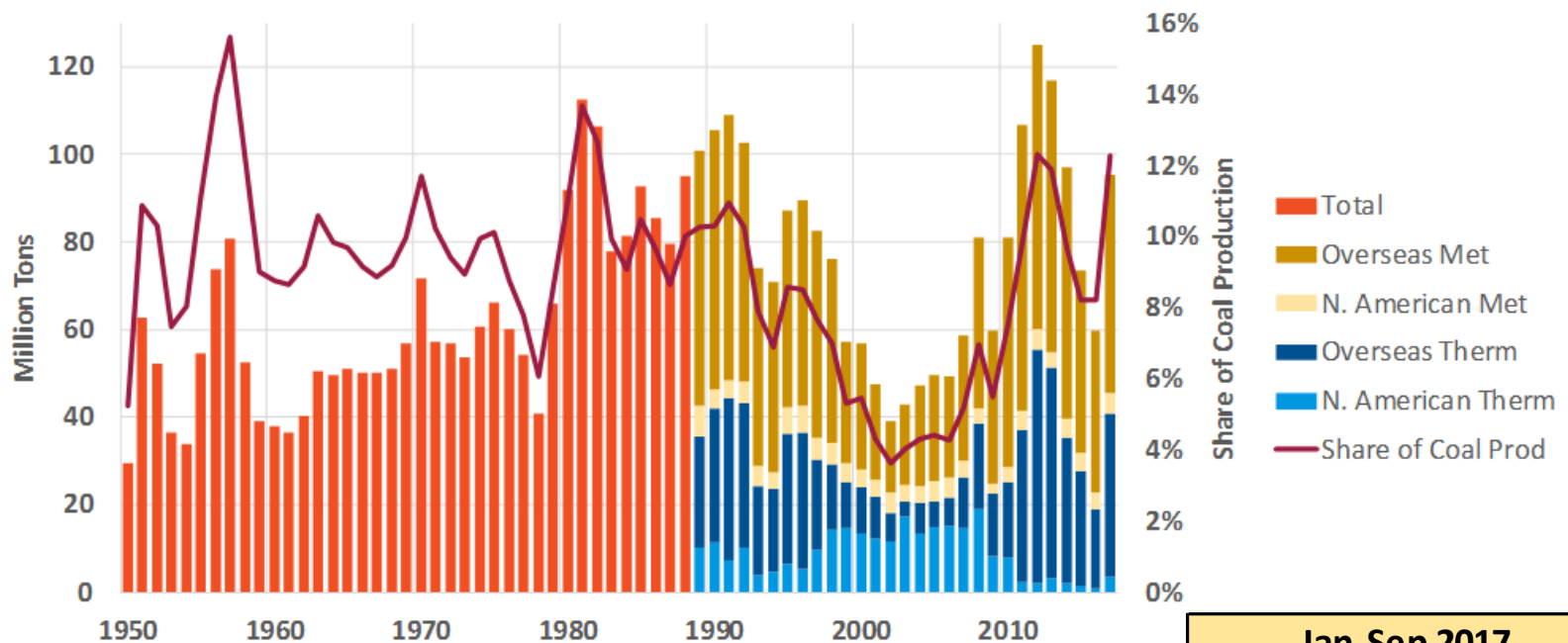
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The Global and US Coal Markets – a 30,000 foot view

- 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: -1.3%
 - Renewables and natgas taking market share
- Price and demand volatility likely once inventories drop
 - Will transportation system be able to handle volatility?
- US exports play increasingly significant role
 - Asia is growth market, but not natural partner for US
 - Long haul distance
 - Coking coal quality does not fit as well as with Europe
 - China dominates supply and demand, but other countries play key roles
 - International prices currently high
- US exports are strong after weak 2016
 - Thermal coal prices very high, but backwardated
 - Coking coal prices very volatile, dependent on outside factors

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

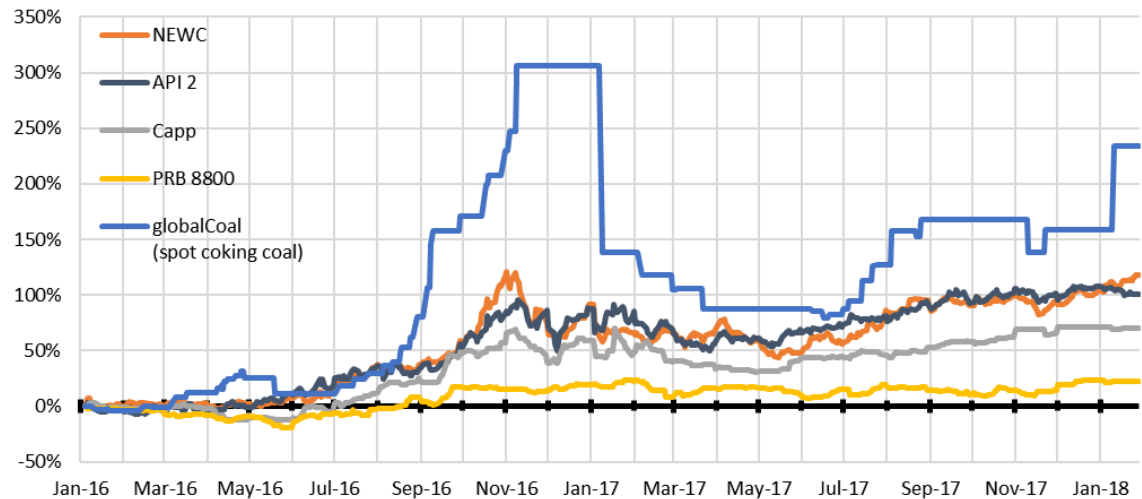
Source: U.S. Census and DTC Research

Jan-Sep 2017	
Supply Region	Export Share of Production
SAPP	83%
CAPP	50%
Napp	17%
Rocky Mts	11%
ILB	10%
PRB	2%

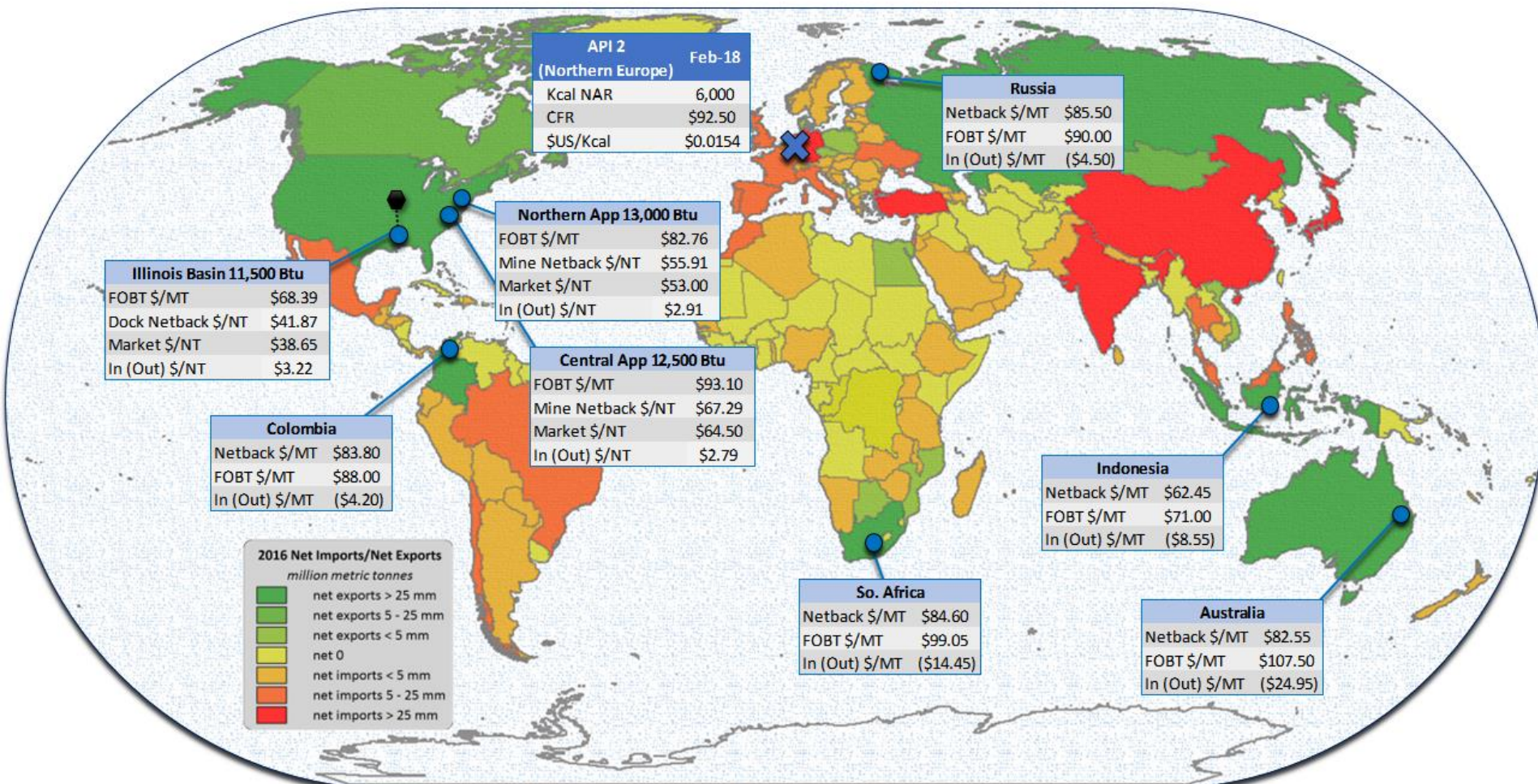
Thermal Coal Price Rally Versus Coking Coal Rally

- 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) - \$84.00/MT
 - NEWC (fob Newcastle, Australia) - \$100.60/MT
 - Capp - \$64.75/ton
 - PRB 8800 - \$12.50/ton
 - HCC FOB Australia - \$220/MT
- 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’

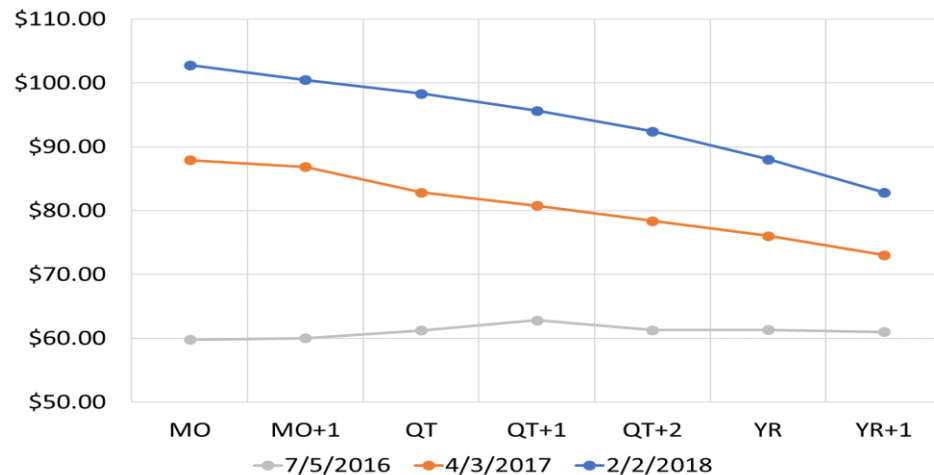


Sources: DTC Research, Evolution Markets, FIS, CME, GlobalCoal, IHS, Lloyd's List, Tullett Prebon, Coaldesk, AxsMarine, SSY, China Coal Resource

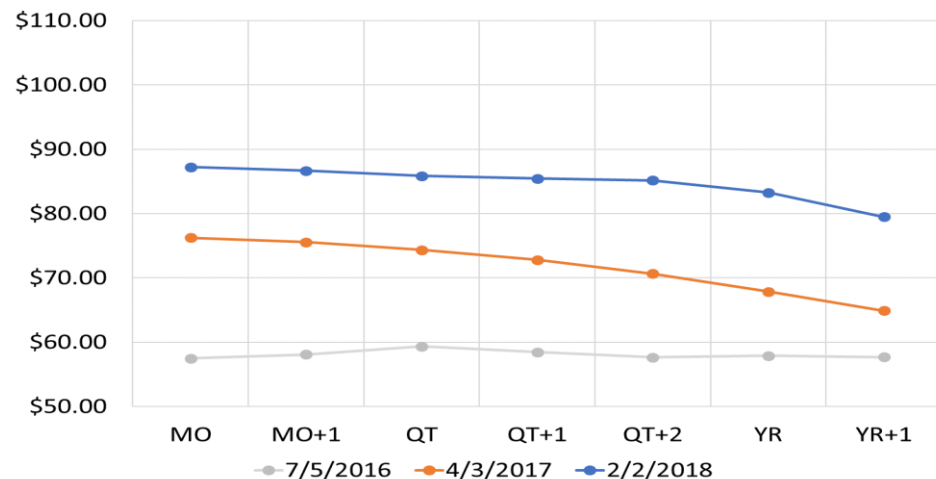
Forward Prices Heavily Backwarddated

- API2 and Newcastle curves backwardated for last 18 months
- Spread for Newcastle was \$15/MT in April 2017, but has steadily increased to ~\$20/MT
- Backwardated strip is good news for coal producers who otherwise would overproduce and destroy price rally
 - Capital is kept at bay
- NEWC at \$80/MT still is profitable for exports

Newcastle Forward Curves



API 2 (Northern Europe) Forward Curves



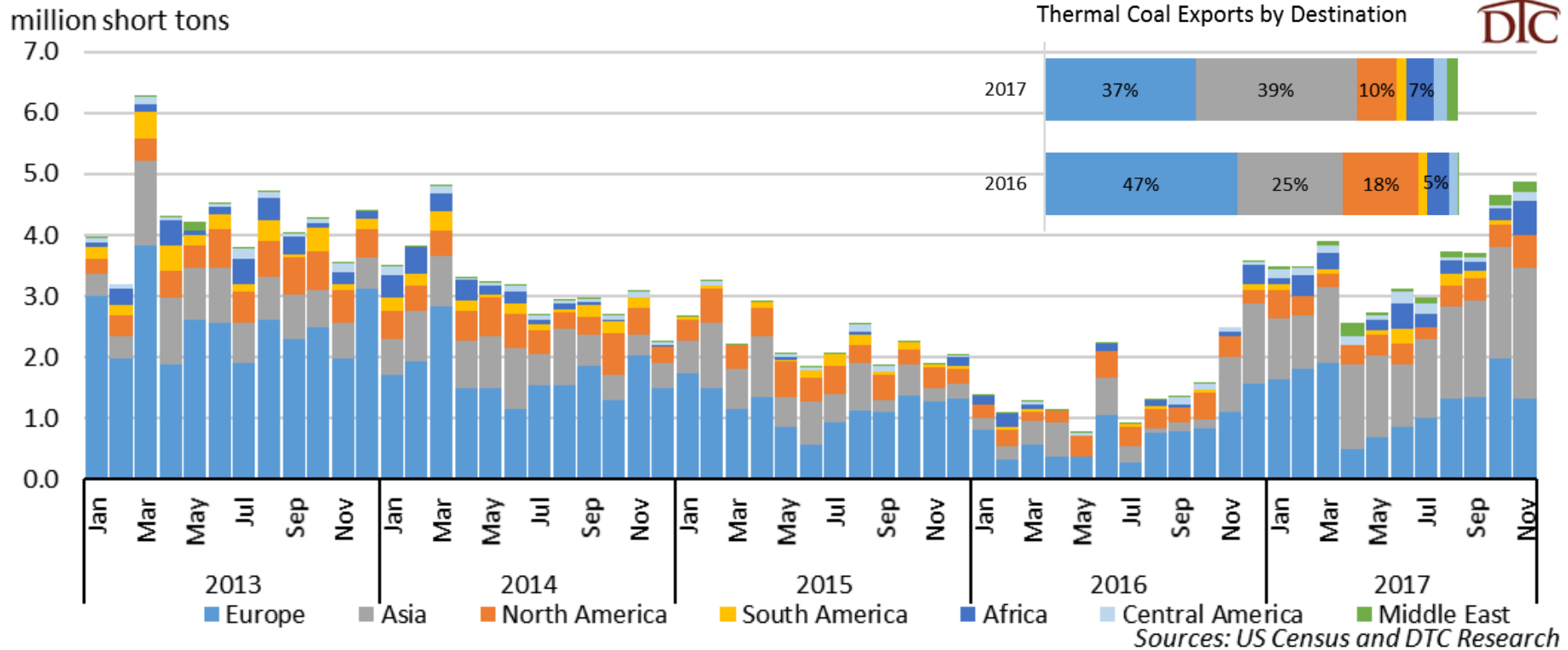
US Coal Supply and Demand

- US utility demand expected to decline
- Exports are primary growth driver for US coal demand
 - Coking coal exports expected to rise 14 mm tons to 55 mm tons in 2017, fall to 54 mm tons in 2018
 - Thermal exports expected to rise 23 mm tons to 42 mm tons in 2017, flat in 2018

Supply (mm short tons)	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Est.	2018 Est.	2019 Est.
Central App	127.1	116.4	90.0	66.7	79	78	73
Colorado/Utah	41.2	41.9	33.3	26.4	29	31	27
Illinois Basin	132.2	137.2	123.8	98.4	103	109	106
Northern App	122.5	133.0	115.8	101.9	107	111	108
Powder River (WY, MT)	430.2	440.2	417.6	329.8	352	351	355
Other Regions	131.6	131.3	116.4	105.0	104	97	96
Total U.S. Production	984.8	1000.0	897.0	728.2	774	777	765
Waste Coal	11.3	12.1	9.9	9.2	9	8	8
Imports	8.9	11.3	11.3	9.9	8	8	8
Total Supply	1005.0	1023.5	918.2	747.3	791	793	781
Demand (mm short tons)	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Est.	2018 Est.	2019 Est.
Utilities	858.0	851.6	738.4	677.3	668	666	655
Coking Coal-Domestic	21.5	21.3	19.7	16.5	18	19	19
Industrial	43.1	42.9	38.5	34.6	34	33	31
Residential/Comm.	2.0	1.9	1.5	1.2	1	1	1
Exports-Coking Coal	65.7	60.1	46.3	41.3	55	54	46
Exports-Thermal	52.0	37.2	28.0	18.9	42	42	35
Total Exports	117.7	97.3	74.3	60.3	97	96	81
Total Demand	1042.1	1015.0	872.4	789.8	818	815	787

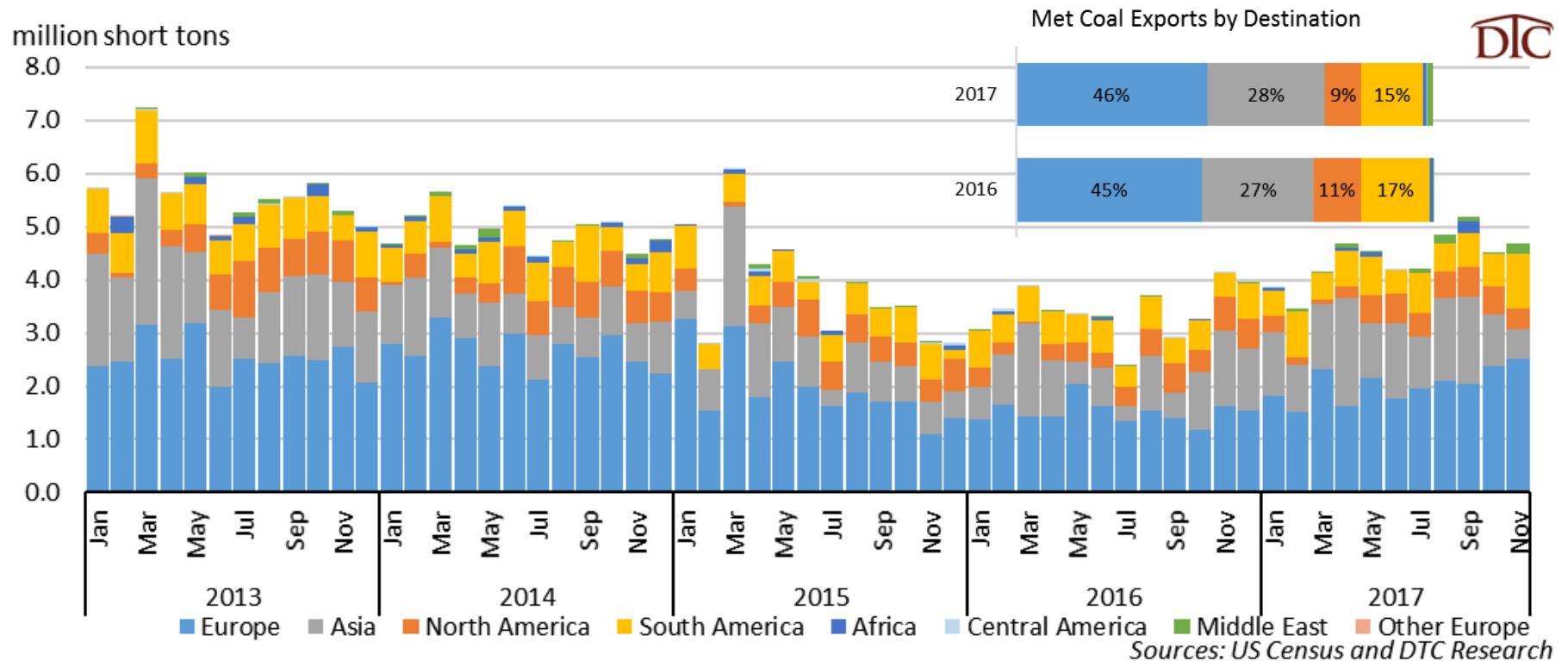
Source: DTC Monthly Update

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

US Met Coal Exports by Destination



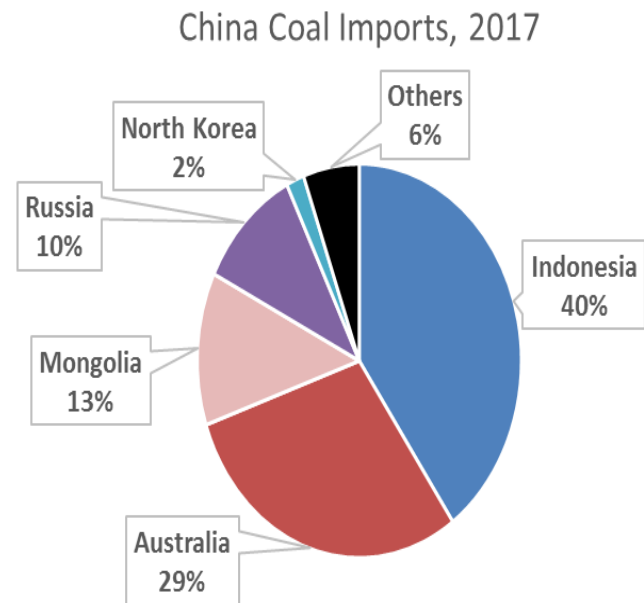
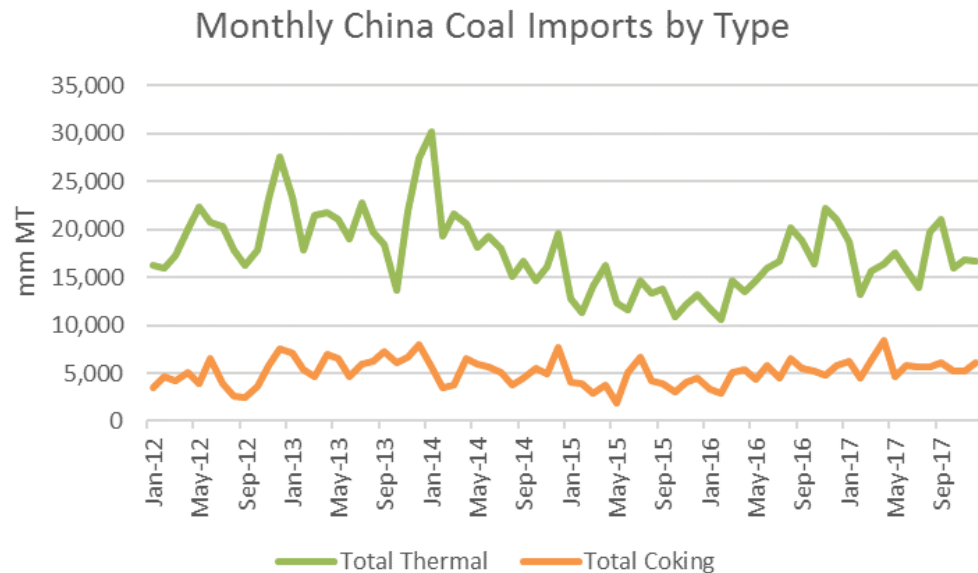
- Natural market: Europe
 - Transportation advantage
 - Quality fit with blast furnaces
 - Stable to declining market with few growth prospects
- Growth market: Asia

Europe



- Key importer of US coal
- Weak growth forecast
- EU stockpiles at normal levels
- 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 coking coal currently imported from Russia
- Long-standing relationships between US and Europe
- High-vol coal in demand in Europe
- Australia making inroads into Europe

China

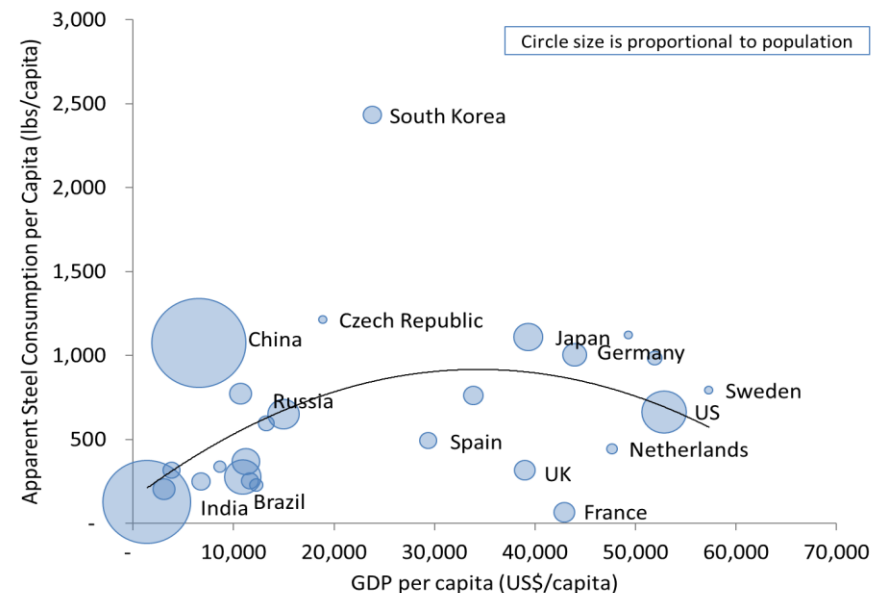


Source: China Coal Daily

- China imported over 271 mm MT during '17 (of which approximately 196 mm 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 produced 384 mm MT (Apr-Dec '17, first nine months of current financial year), 6% below plan, likely to miss 600 mm MT production goal by > 50 mm MT
- Power station stocks averaged nine days of burn in December – up from six days in the year prior
- Thermal coal imports down 6% to 137 mm MT for 2017
 - 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 coking coal 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 was 477 mm MT
 - Heavy rains all year
 - Despite weather, production grew 1.5% YoY to 462 mm MT in 2017
- 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
 - 365 mm MT estimated as exported in 2017
 - 160 mm MT forecasted to export in 2024

Targeted vs Actual Indonesian Coal Production (mm MT)						
	2012	2013	2014	2015	2016	2017
Target	407	431	421	425	419	477
Actual	412	474	458	461	455	462
Export	345	402	382	375	366	365
Domestic	67	72	76	86	89	97

2017 revised production target, original target was 413 mm MT

Actual and domestic figures for 2017 provided by *Platts*, DTC estimate for exports

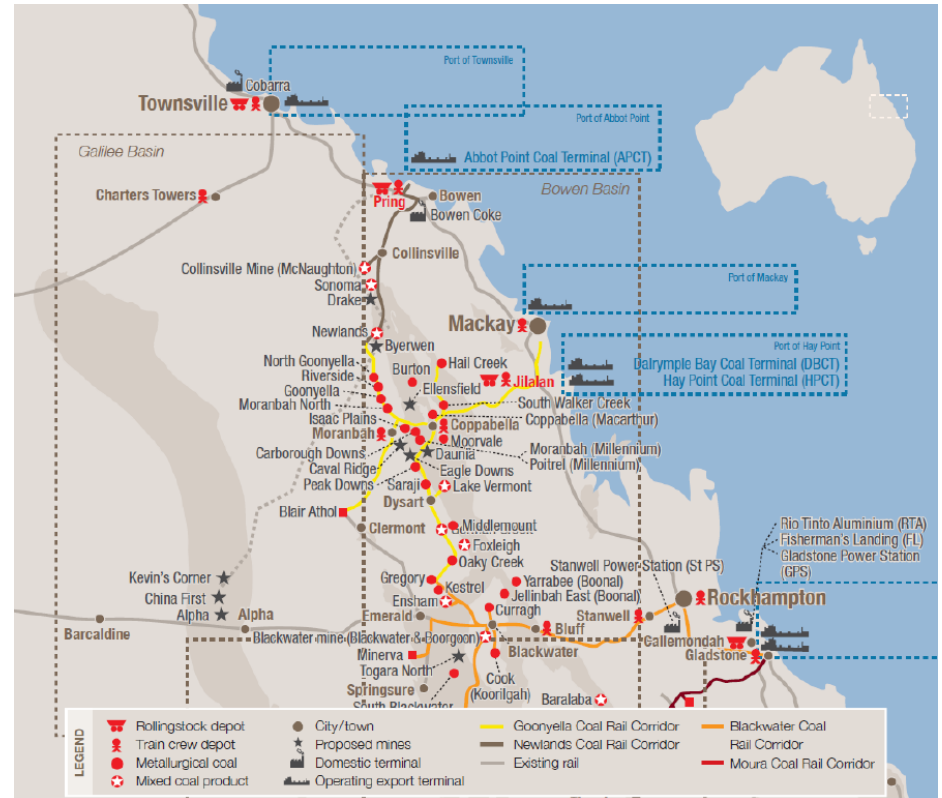
Colombia

- 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 in '17 hampered output
- Mines are dealing with lower-grade seams



Australia

- Supplied 372 mm MT of seaborne coal exports in 2017, down 5% YoY
- Exports were 46% coking, 54% thermal
 - ~ 65% annual world seaborne coking coal trade
- Coal export infrastructure fragile, Cyclone Debbie knocked out ~13.3 mm tons of production along Aurizon rail network
- Labor issues continue to emerge
- Strong AUS dollar hurts producers

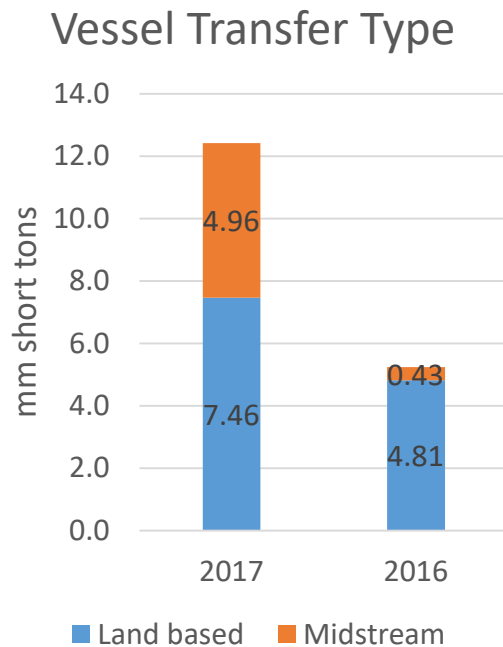


U.S. Gulf Coast & East Coast Coal Exports

- Thermal exports increased sharply in 2017 due to relative competitiveness of high heat, high sulfur coals via Baltimore and New Orleans
- Conditions on Ohio and Mississippi Rivers challenged coal export movements in 2017
- Met export growth in 2017 favored rail-served loadports

Product / Loadport (mm short tons)	2017	2016	YoY Δ
Thermal			
Baltimore	12.63	6.92	82.6%
New Orleans	12.42	5.24	137.0%
Hampton Roads	7.63	2.32	229.0%
Houston	0.54	0.05	914.0%
Mobile	0.01	0.96	-99.0%
Thermal Subtotal	33.23	15.33	116.8%
Metallurgical			
Hampton Roads	27.28	19.66	38.8%
Mobile	9.52	6.14	55.0%
Baltimore	7.95	7.62	4.4%
New Orleans	0.19	0.57	-66.8%
Metallurgical Subtotal	44.94	34.00	32.2%
Total	78.17	49.32	58.5%

Thermal Coal Exports via New Orleans



- Midstreaming provided 2017 flex capacity
- Spain, India and North Africa diversified thermal trade out of New Orleans

Destination	2017 (mm short tons)	2017 (Share)	2016 (mm short tons)	2016 (Share)
Netherlands	4.5	36.0%	3.4	65.5%
United Kingdom	1.3	10.3%	0.1	2.3%
Germany	1.2	9.4%	0.8	15.9%
India	1.0	8.3%	0.0	0.0%
Spain	1.0	8.3%	0.2	3.5%
Morocco	0.8	6.4%	0.0	0.0%
Mexico	0.4	3.6%	0.1	2.5%
Egypt	0.4	3.3%	0.0	0.0%
Poland	0.3	2.0%	0.0	0.0%
Jamaica	0.2	1.4%	0.0	0.7%
Subtotal	11.1	89.2%	4.7	90.4%
Rest of World	1.3	10.8%	0.5	9.6%
Total	12.4	100.0%	5.2	100.0%

New Orleans Thermal Exports in 2018

- Supply
 - U.S. producers have publicly made clear importance of exports in production plans for 2018
 - Potential strike in Colombia at Cerrejon (last strike in Feb. '13 lasted 32 days)
- Demand
 - Turkey may raise sulfur cap on imports opening market to ILB coal
 - India pet coke restrictions may result in greater opportunities for ILB coal
- International Pricing
 - Pricing supports exports in first half, will have to see about second half of 2018

Summary

- Strong international demand, but weak domestic demand for coking coal 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
- Backwardated price curve
- Increased volume volatility will be difficult for production/transportation chain to absorb

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