



## Xcoal Introduction & International Coal Markets

“Coal’s Role in Making America Great Again”

The Coal Institute  
47<sup>th</sup> Annual Summer Trade Seminar  
July 16, 2018

We Manage the Process  
From the Ground Up



# Agenda

- Xcoal introduction
- Drivers behind U.S. coal export boom
  - Coking coal
  - Thermal coal
- Expectations for balance 2018 and beyond
- Wrap up

# Xcoal Energy & Resources overview

- » Privately owned and operated coal marketing company headquartered in Latrobe, Pennsylvania U.S.
- » A team of 80 professionals is actively engaged in the business. The team is led by Ernie Thrasher, Chief Executive Officer & Chief Marketing Officer, and Jack Porco, President & Chief Commercial Officer
- » Major exporter of metallurgical and high sulfur thermal coals from the U.S. with multi-year offtake agreements and dedicated port capacity
- » Actively pursuing investment and acquisition opportunities for mines and infrastructure in the global coal supply chain
- » Creative & competitive transport and logistics company
  - Complete supply chain ownership
- » Dedicated to supplying diversified energy resources to our customers via our newly announced XLNG venture and Xnergy & Resources Pte Ltd.

# Global Marketing Team

» Key office locations to support global growth initiatives with high customer service standards:

- United States of America



- › Latrobe, PA (Headquarters), Pittsburgh, PA, Baltimore, MD, Norfolk, VA, New York, NY & San Antonio, TX

- Asia & India locations



- › Tokyo, Seoul, Beijing, Shanghai, Singapore, Brisbane, & Mumbai

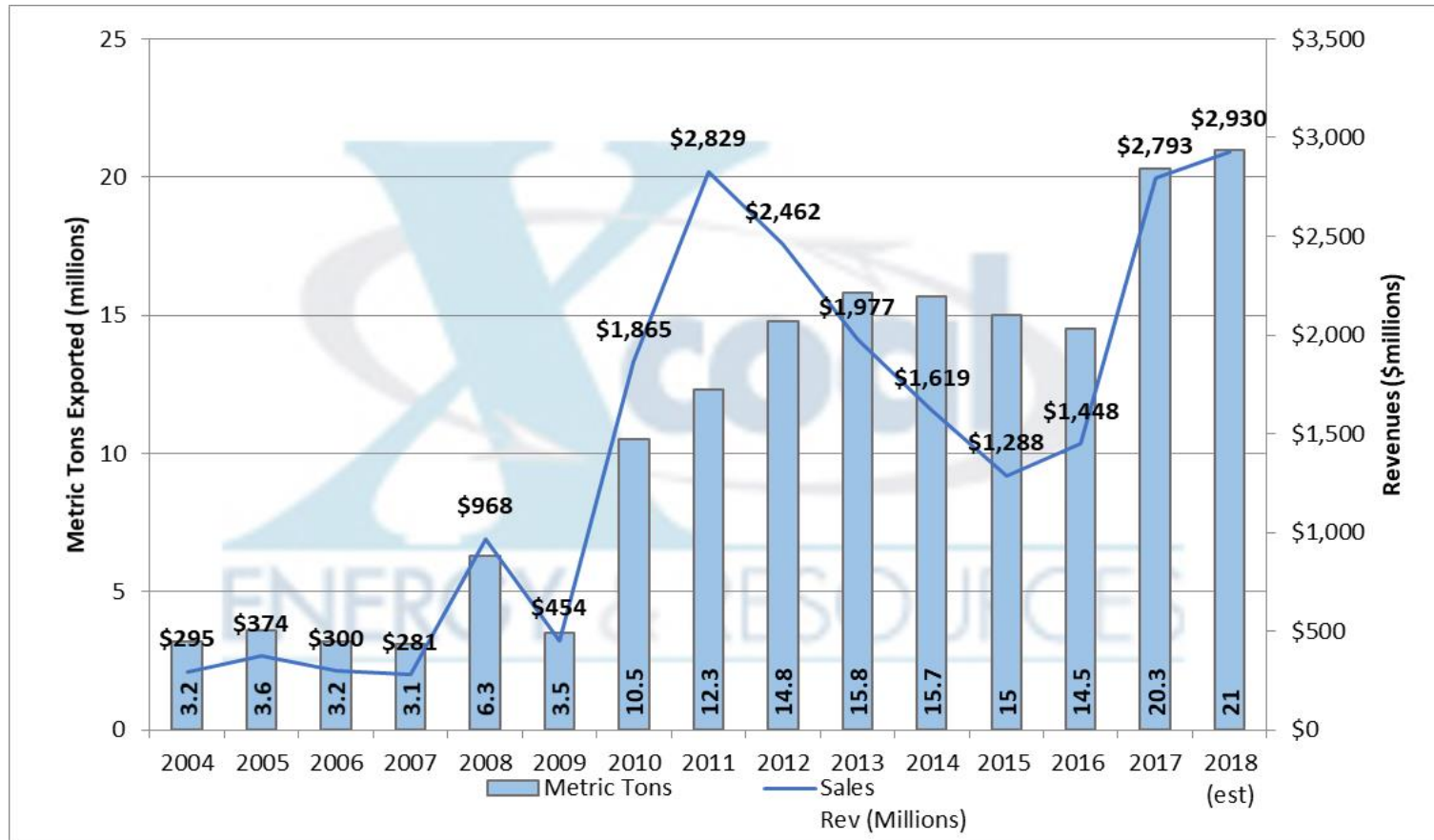
- European locations



- › Zug, Switzerland, & Brussels

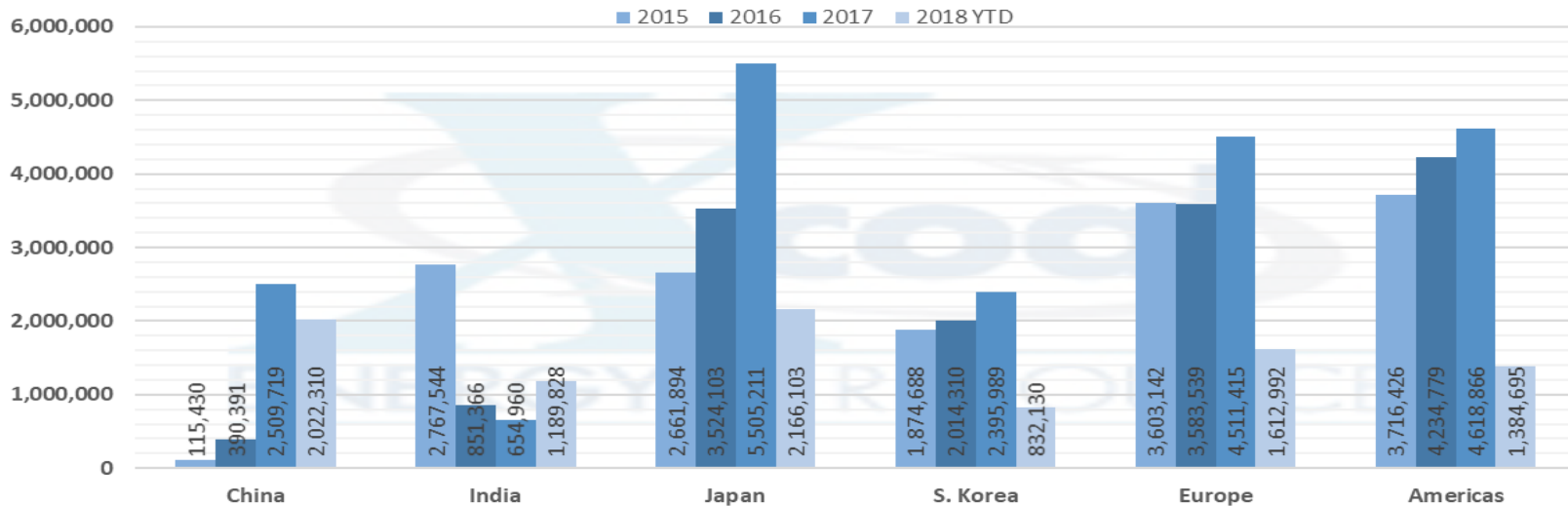


# Sales & Volume Forecast:



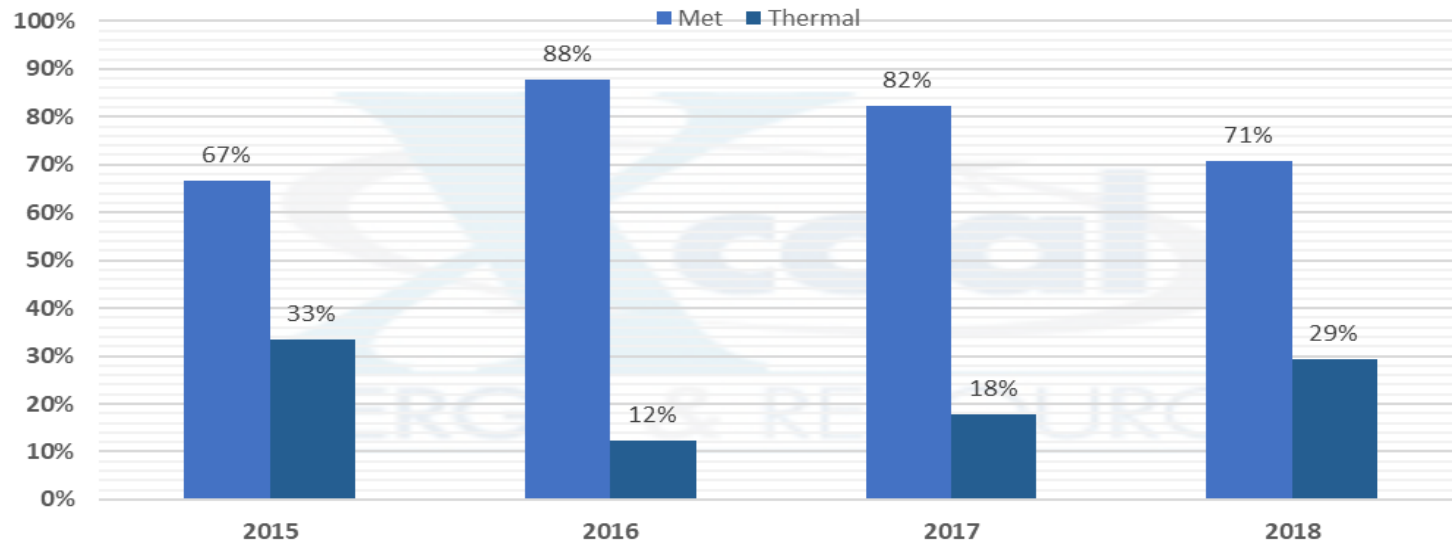
# Geographic Customer Diversification.....

Geographic Divesification (metric tons)



## *Product mix: coking vs thermal*

Product Diversification - Met vs Thermal



## Seaborne Coal Markets

Approx. 1.35 billion MT / year

Thermal Coal:

- Approx. 1.02 billion MT / year seaborne market
- USA accounts for approx. 5% of global supply, down from recent peak of 6% in 2011

Coking Coal:

- Approx. 330 million MT / year seaborne market
- USA accounts for approx. 17% of global supply, down from recent peak of 25% in 2011

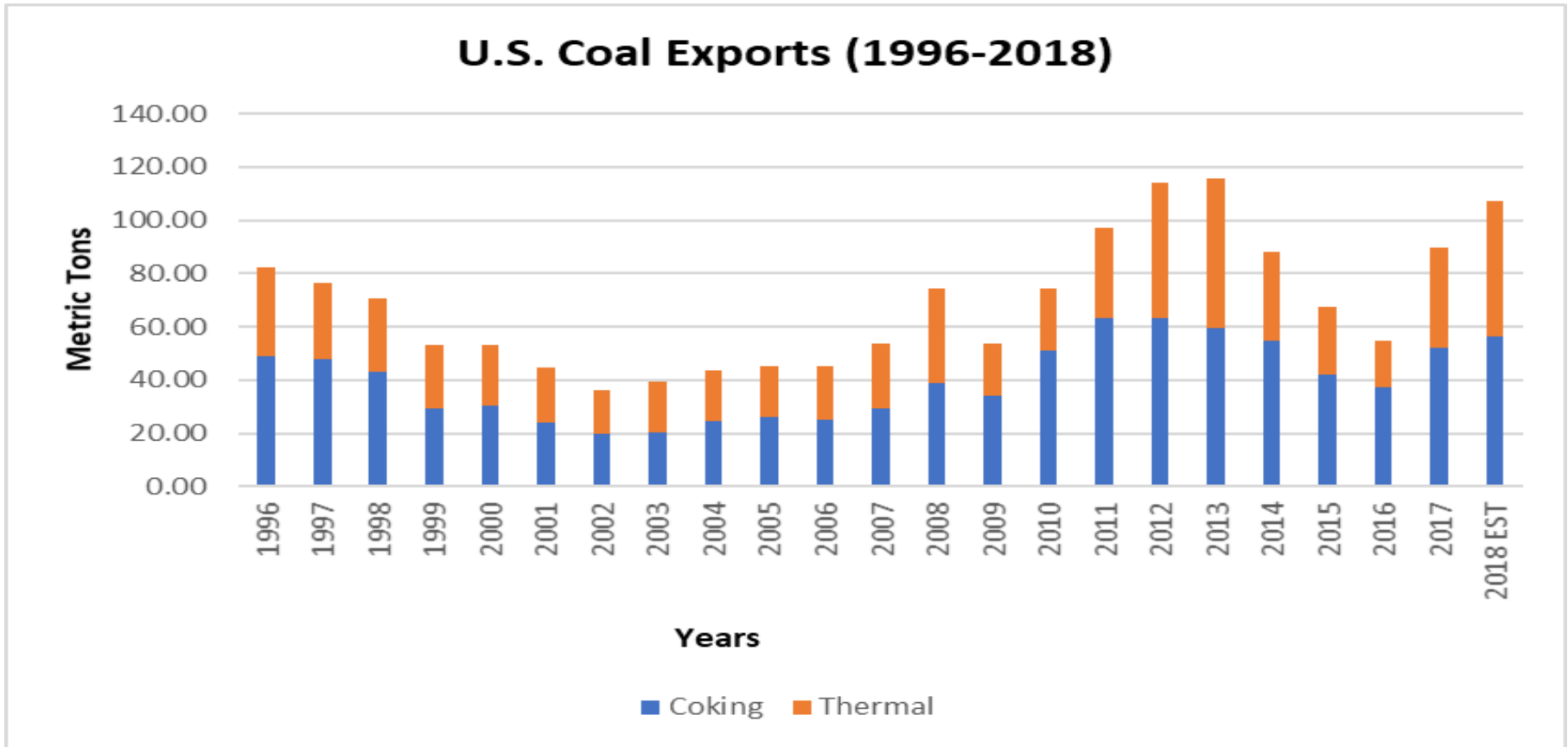


## What has changed over last 12 months

- » Seaborne coal markets continue to lead the coal space
- » 2018 U.S. coal exports, as a percentage of total U.S. production, likely will reach a level not seen during my career and maybe my life time
- » Seaborne coal prices well above same period 2017
- » Remember by mid 2017 prices had retreated to pre-cyclone Debbie levels - particularly for coking coal
- » Seaborne coal prices continue to be volatile, but trending upward

- » After almost 50 years of stable pricing system the Benchmark system is “almost dead” in favor of index pricing
- » Quarterly pricing the norm, although over the last 12 months we’ve seen some movement toward longer term business:
  - In the case of coking coal, 12 month Contracts more common, based on index pricing
  - In the case of thermal coal, 12 month Contracts also more common, based on both index and fixed pricing. Flattening forward curve
- » “Feels like 2012 / 2013 all over again”
- » Freight rates rising to 2012 / 2013 levels
- » What hasn’t changed is the competitive environment, including amongst U.S. companies. U.S. producers haven’t recognized the full benefits of increasing seaborne prices

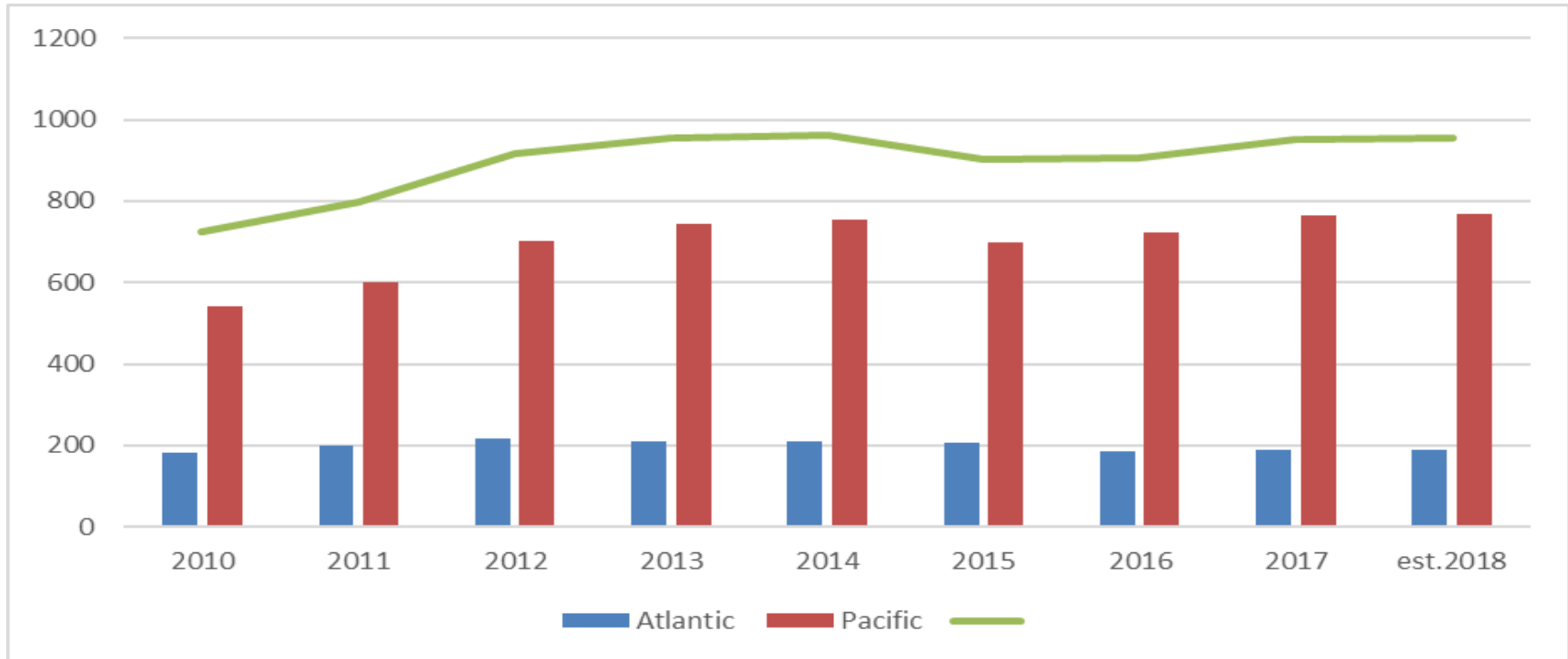
## U.S. Role in Global Coal Markets



2018 U.S. Coal Exports expected to reach 107 million metric tons, the third highest level since 1996, and about 16% of total U.S. coal production, while in 2012 it represented about 12%

# Macro View Thermal Seaborne Market

## Global Thermal Demand (MMT)



After two down years in 2015 and 2016, first time this millennium, total thermal coal demand recovered in 2017 and another growth year is expected in 2018. Demand in the Pacific market is expected to be up 80 million metric tons from 2015 levels

Index	01/03/17	06/29/17	06/29/18	12 month Period $\Delta$	Recent Period % $\Delta$	YTD $\Delta$	YTD % $\Delta$
API2 CIF ARA 6000 NAR	\$82.50	\$79.00	\$96.00	17.00	21.52%	13.50	16.36%
API4 FOB RB 6000 NAR	\$84.15	\$77.80	\$104.30	26.50	34.06%	20.15	23.95%
NEWCASTLE	\$91.21	\$82.51	\$117.26	34.75	42.12%	26.05	28.56%

## Thermal Index Pricing (2017 – YTD 2018)



Despite reduced thermal demand in Europe, the API2 index has increased. API2 no longer leads indexes but is relegated to follow the Newcastle price, as Asia demand increases and tons shift to Asia.

With non-U.S. tons shifting to Asia, coupled with improved pricing, allows U.S. producers to participate

## Thermal coal forward curve incentivizing U.S. export growth

Despite claims of weak demand, European thermal coal prices continue to climb, leaving U.S. thermal exports “in the money”

Coal availability limits Capp participation, while Napp and ILB fight over the sulfur discount

Nearly flat forward curve allowing term business to be booked

Efforts by Trump to support coal fired power plants in U.S. could create competition for thermal coal

Global market strength driven by Asian demand, with the U.S. at a geographic disadvantage

API 2 (Northern Europe) Forward Curve June 29, 2018 US\$/MT	
Q3 2018	\$97.60
Q4 2018	\$95.90
Cal 2019	\$89.40
Cal 2020	\$84.75
Cal 2021	\$80.05



## Rest of world struggles to add meaningful btus

Seaborne thermal indexes back at multi-year highs amid growing demand in Asia

Muted global supply response, with U.S. and Russia supplying only meaningful new tonnage of high heat content coal

60% of Indonesia's YTD supply growth is lignite

Quality degradation continues in South Africa and Colombia

Limited large scale development taking place

YTD Thermal Coal Exports (MMT)			
	Jan – May Exports	Change (MMT)	%
Indonesia*	105.24	12.42	13.38%
Australia	81.36	0.49	0.61%
Colombia	34.02	(2.38)	-6.55%
South Africa	33.21	(0.03)	-0.09%
Russia^	53.72	7.38	15.91%
United States	19.53	5.65	40.69%
Total	327.08	23.52	7.75%
Source: McCloskey			

# New demand for high CV U.S. coal

Positive backdrop for increased demand for high CV, high sulfur coal into Turkey, India, Egypt, Ukraine, Poland and China

Regulatory shift in Turkey could create up to 8 MMT/yr of demand in future, but 5% import tariff a challenge

Uncertainty over petcoke regulation in India will sustain interest as total coal demand grows

U.S. govt efforts to narrow trade deficit with China could benefit U.S. coal

IMMEDIATE NOTIFICATION UNDER ARTICLE 12.5 OF THE AGREEMENT  
ON SAFEGUARDS TO THE COUNCIL FOR TRADE IN GOODS OF  
PROPOSED SUSPENSION OF CONCESSIONS AND OTHER  
OBLIGATIONS REFERRED TO IN PARAGRAPH 2  
OF ARTICLE 8 OF THE AGREEMENT  
ON SAFEGUARDS

Turkey

The following communication, dated 21 May 2018, is being circulated at the request of the Delegation of Turkey.

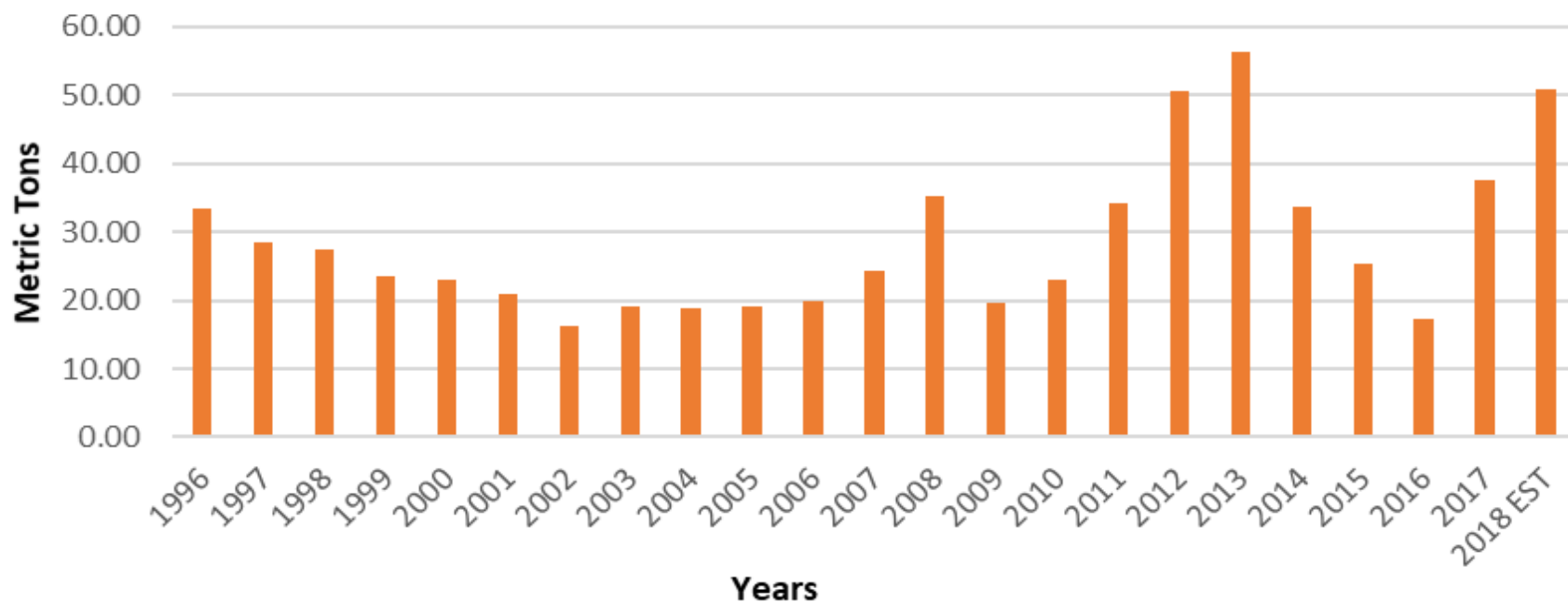
ANNEX I

The products covered are determined, within the Annex, by HS codes.

HS CODES	ARTICLE DESCRIPTION	ADDITIONAL DUTY
1 0802	Other nuts, fresh or dried, whether or not shelled or peeled	5%
2 1006	Rice	20%
3 210690	Food preparations, n.e.s.	10%
4 2208	Undenatured ethyl alcohol of an alcoholic strength of < 80%; spirits, liqueurs and other spirituous beverages	40%
5 2401	Unmanufactured tobacco; tobacco refuse	25%
6 2701	Coal; briquettes, ovoids and similar solid fuels manufactured from coal	10%
7 270400	Coke and semi-coke of coal, of lignite or of peat, whether or not agglomerated; retort carbon	10%
8 271311	Petroleum coke, non-calcined	5%
9 3304	Beauty or make-up preparations and preparations for the care of the skin, incl. sunscreen or suntan preparations (excl. medicaments); manicure or pedicure preparations	30%
10 390410	Poly(vinyl chloride), in primary forms, not mixed with any other substances	32%
11 390810	Polyamides-6, -11, -12, -6,6, -6,9, -6,10 or -6,12, in primary forms	10%
12 3926	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s.	30%
13 4401	Fuel wood, in logs, billets, twigs, faggots or similar forms; wood in chips or particles; sawdust and wood waste and scrap, whether or not agglomerated in logs, briquettes, pellets or similar forms	15%
14 4802	Uncoated paper and paperboard, of a kind used for writing, printing or other graphic purposes, and non-perforated punchcards and punch-tape paper, in rolls or in square or rectangular sheets, of any size, and handmade paper and paperboard	10%
15 4804	Uncoated kraft paper and paperboard	10%
16 4811	Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, covered, surface-coloured, surface-decorated or printed, in rolls or in square or rectangular sheets, of any size (excl. goods of heading 4803, 4809 and 4810)	25%
17 550210	Artificial filament tow of cellulose acetate	30%
18 730890	Structures and parts of structures, of iron or steel, n.e.s. (excl. bridges and bridge-sections, towers and lattice masts, doors and windows and their frames, thresholds for doors, props and similar equipment for scaffolding, shuttering, propping or pit-propping)	30%
19 841370	Centrifugal pumps	10%
20 847989	Machines and mechanical appliances, n.e.s.	10%
21 8703	Motor cars and other motor vehicles principally designed for the transport of persons, incl. station wagons and racing cars	35%
22 902219	Apparatus based on the use of x-rays (other than for medical, surgical, dental or veterinary uses)	5%



## U.S. Thermal Coal Exports (1996-2018)



2018 U.S. thermal coal exports expected to reach more than 50 million metric tons, or the second highest level since peaking in 2013. Almost triple the 2016 level

# U.S. a small piece of seaborne thermal supply

- U.S. a small piece of seaborne thermal market amid plentiful supply from export-reliant countries
- High quality coal allows US to compete in Atlantic and Pacific Basins
- Low cost longwalls underpin competitiveness
- U.S. coals a key component of overseas blends

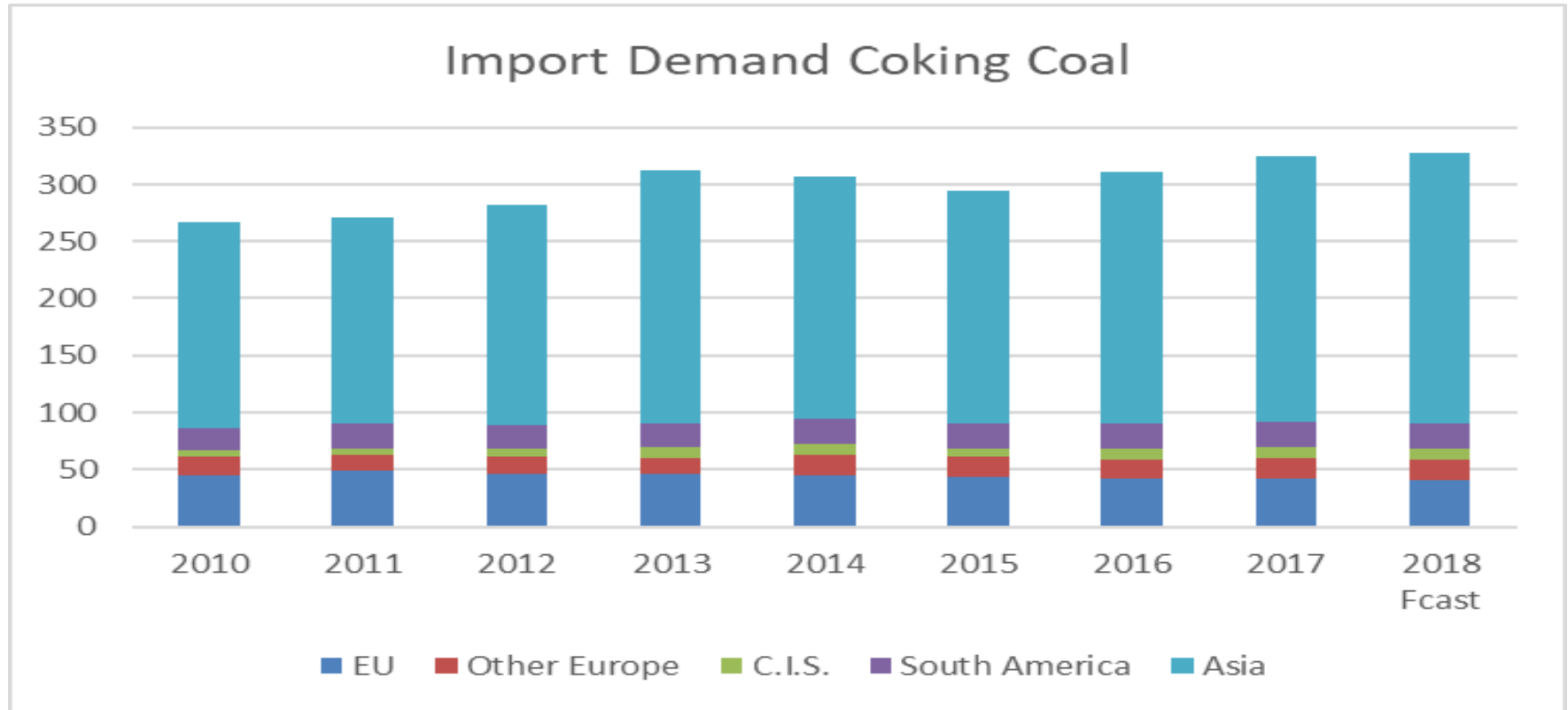
U.S. Share of Seaborne Supply	
	Thermal Coal
2012	5.53%
2013	4.77%
2014	3.44%
2015	2.75%
2016	1.92%
2017	3.72%
2018f	4.78%

# Exports a key outlet for U.S. producers

- Thermal exports account for small piece of U.S. supply, but an important outlet amid fluctuations in domestic utility demand
- Economics not always favorable, but allow producers to optimize operations
- 2017 and 2018 years of “pull” versus prior years of “push”
- Very different from other countries with limited domestic demand (Australia and Colombia)

Exports as Share of U.S. Production	
	Thermal Coal
2012	5.78%
2013	5.41%
2014	3.79%
2015	3.16%
2016	2.67%
2017	5.78%
2018f	8.04%

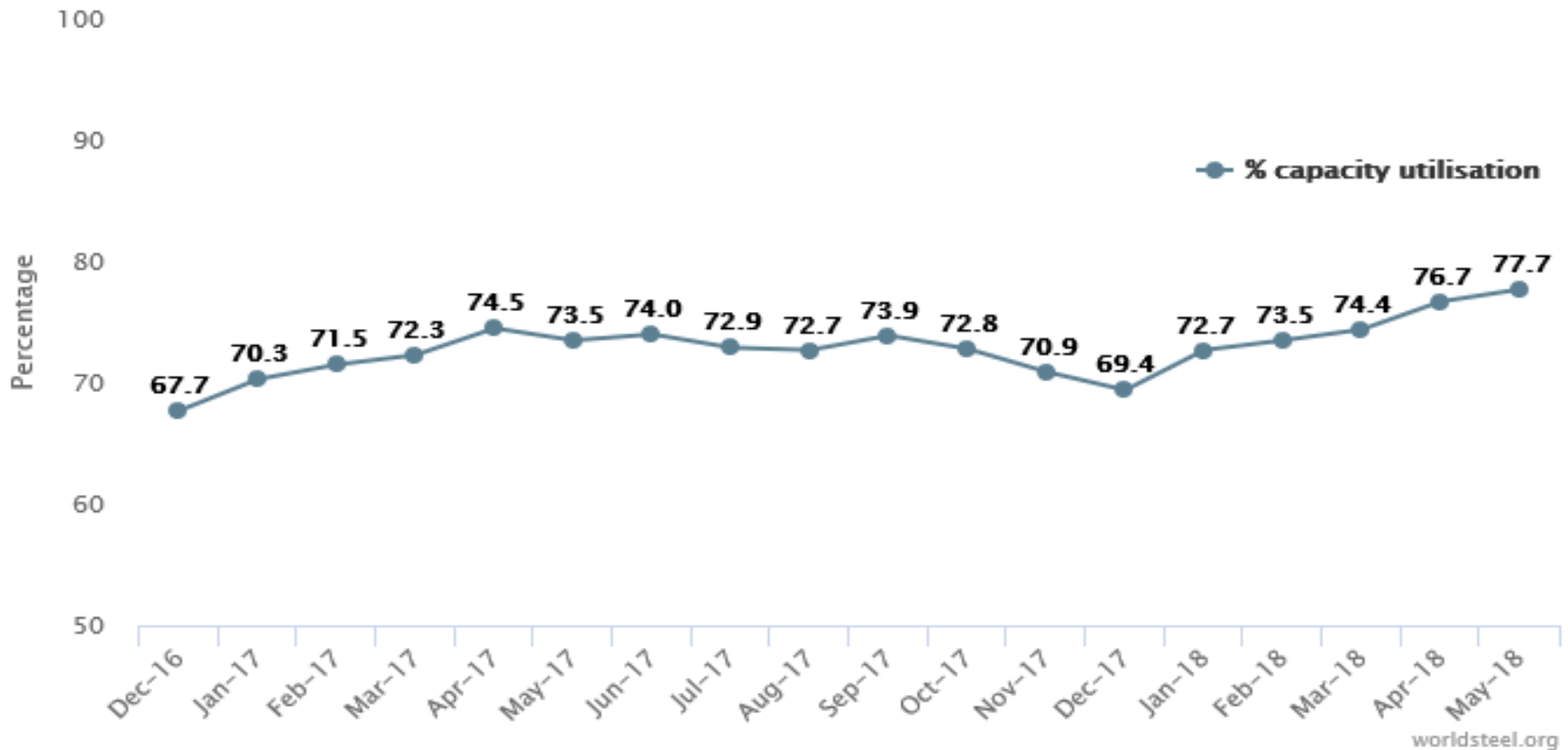
# Macro View coking Seaborne Market



After two consecutive years of decline, seaborne demand for coking coal is estimated to increase by 35 million metric tons between 2016 and 2018

# Steel Production Looking Strong

World steel capacity utilisation





## Coking coal supply unable to keep up with strong pig iron production growth

Economic growth driving strong pig iron production in most countries reliant on coking coal imports

China (approx. 60% of global output) a notable outlier and down 0.6% YoY, but most of coking coal is sourced from domestic mines

Total pig iron output grew 30 MMT from '15 to '17, but coking coal supply from four largest exporters (Australia, US, Canada, Russia - 91% of market) flat over same time period

Jan – May Pig Iron Output Growth	
	YoY % Change
European Union	+2.7%
South America	-0.8%
Asia	+0.1%
World ex-China	+2.3%
Total	+0.6%

## Limited global supply response – 2017

2017 Coking Coal Exports (million MT)				
	Jan - Dec '17	YoY	Change	%
US	50.13	37.13	13.00	35.00%
Australia	172.00	188.19	(16.19)	-8.60%
Canada	28.41	27.96	0.45	1.59%
Mozambique	7.18	4.91	2.27	46.28%
Russia	22.76	21.74	1.01	4.66%
Total	280.46	279.93	0.53	0.19%

Source: McCloskey

# Supply response in 2018 slower than expected, despite impressive YTD comps

Australia posting strong YoY growth vs. Cyclone Debbie in 2017, but Jan – May '18 monthly export average of 14.2 MMT down from 15.2 MMT in Jul – Dec '17

U.S. exports annualize to 57.4 MMT, up from 50.1 MMT in 2017, but QoQ growth is stagnating

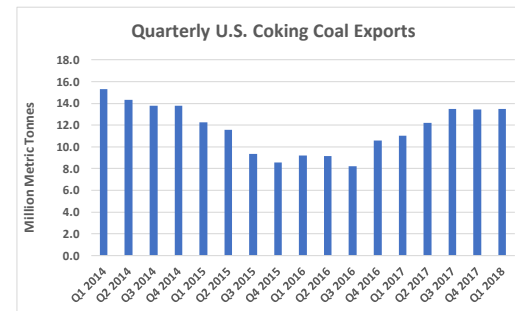
Canada posting moderate growth, but limited expansion from current levels

No major greenfield or brownfield projects expected to deliver meaningful supply in near term

YTD Coking Coal Exports (MMT)			
	Jan - May Exports	Change (MMT)	%
US	23.93	4.57	23.58%
Australia	70.96	5.72	8.76%
Canada	11.61	0.67	6.08%
Mozambique*	1.43	(0.11)	-6.83%
Russia^	7.24	0.65	9.81%
<b>Total</b>	<b>115.17</b>	<b>11.49</b>	<b>11.08%</b>

\*cover Jan – Mar exports; ^covers Jan – Apr exports

Source: McCloskey



# Australian rail dispute has potential to disrupt ~10% of Queensland's coking coal exports

Dispute between Aurizon (rail operator) and Queensland Competition Authority has potential to eliminate 20 MMT/yr of coal exports (70% coking coal)

QCA asked Aurizon to reduce maintenance spending, since that drives below-rail tariff costs

Aurizon / QCA disagree on acceptable weighted average cost and return on capital

Supreme Court of Queensland conducting judicial review

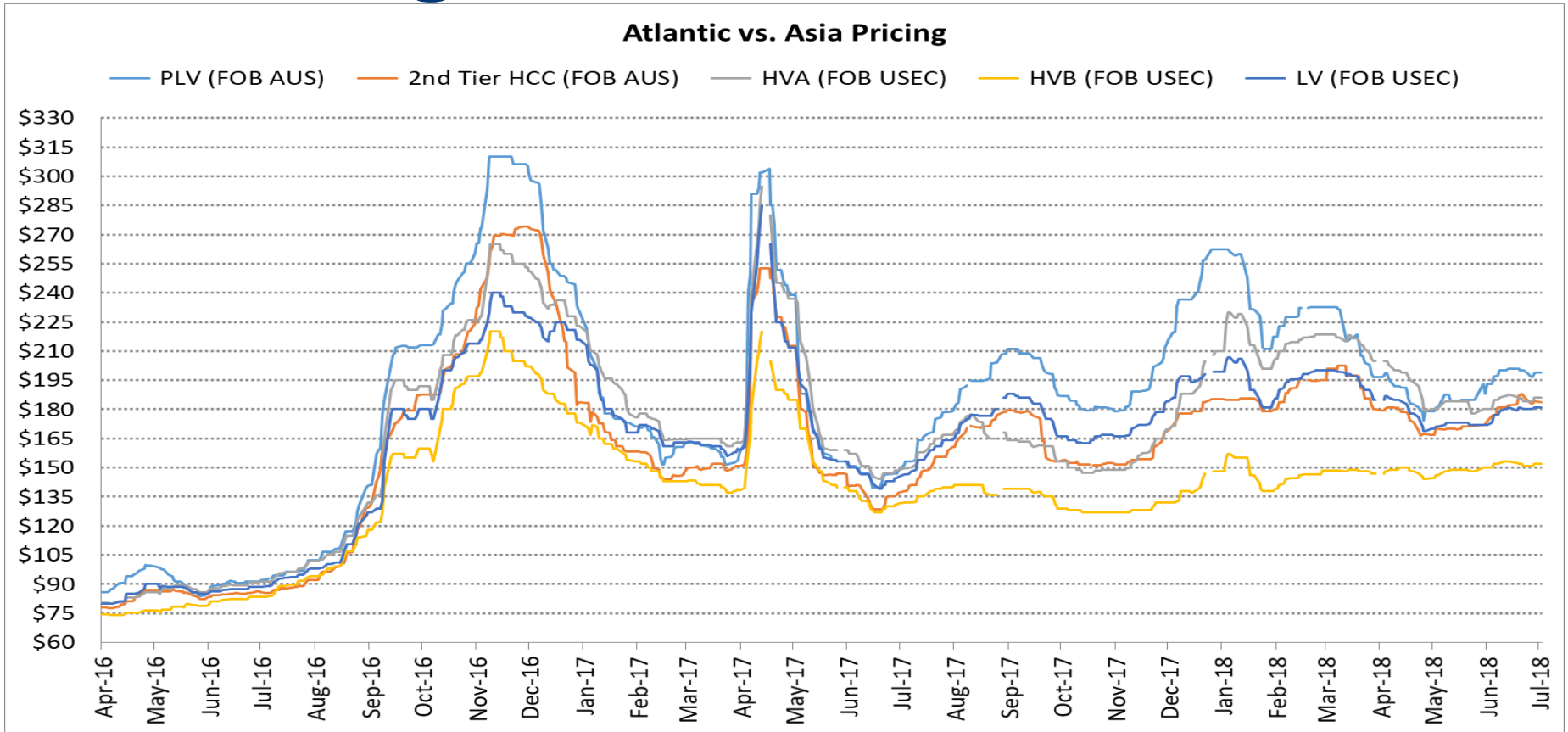
We expect eventual resolution, but uncertainty in interim

Central Queensland Coal Network (CQCEN)



Index	01/01/18	07/02/17	07/02/18	Recent Period Δ	Recent Period %Δ	YOY Δ	YOY %Δ
Platts Prem LV CFR CHINA	231.00	159.50	211.00	51.50	32.3%	-20.00	-8.7%
Platts Prem LV FOB AUS	262.25	148.50	199.00	50.50	34.0%	-63.25	-24.1%
Platts HCC FOB AUS	185.30	137.05	183.90	46.85	34.2%	-1.40	-0.8%
Platts LV PCI FOB AUS	147.05	103.30	134.90	31.60	30.6%	-12.15	-8.3%
Platts Mid-Tier PCI FOB AUS	145.80	101.55	133.90	32.35	31.9%	-11.90	-8.2%
Platts SSCC FOB AUS	126.30	92.80	131.90	39.10	42.1%	5.60	4.4%
-----							
TSI Prem HCC FOB EC AUS	260.10	149.80	196.20	46.40	31.0%	-63.90	-24.6%
TSI HCC FOB EC AUS	178.20	135.40	183.90	48.50	35.8%	5.70	3.2%
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ARGUS PLV HCC FOB AUS	260.50	147.30	198.40	51.10	34.7%	-62.10	-23.8%
ARGUS HCC FOB AUS	185.00	136.65	183.00	46.35	33.9%	-2.00	-1.1%
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Metal Bulletin Prem HCC FOB AUS	259.88	146.08	188.73	42.65	29.2%	-71.15	-27.4%
Metal Bulletin HCC FOB AUS	183.72	134.97	173.60	38.63	28.6%	-10.12	-5.5%
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Platts LV FOB USEC	199.50	145.50	181.00	35.50	24.4%	-18.50	-9.3%
Platts HV A FOB USEC	210.00	149.00	186.00	37.00	24.8%	-24.00	-11.4%
Platts HV B FOB USEC	148.00	131.50	152.00	20.50	15.6%	4.00	2.7%

## Coking Coal Price Overview



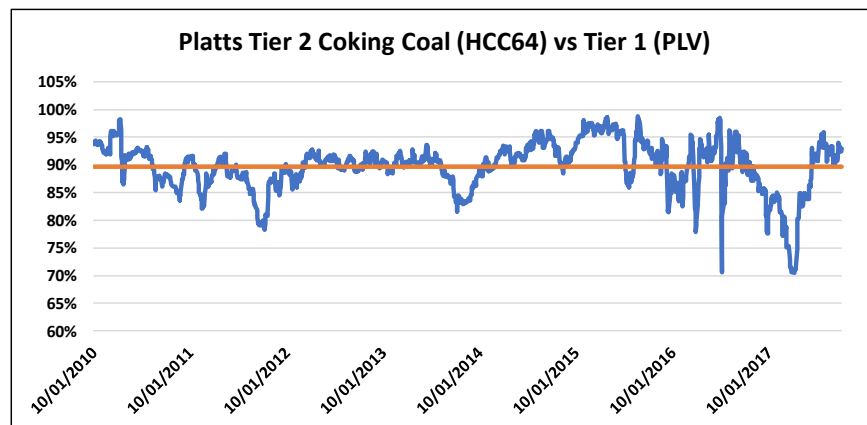
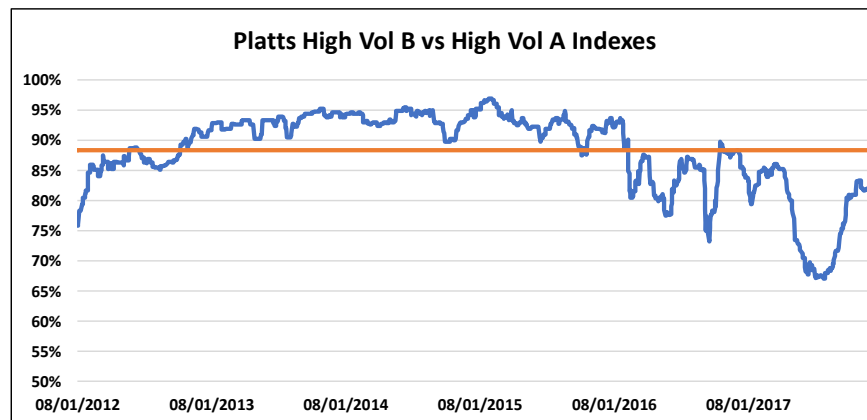
Last two years witnessed extreme volatility. Prices certainly support US met coal export participation

## Spreads between premium and lower grades of coking coal are narrowing

Price relationship between tier 1 and tier 2 coking coals “blew out” amid price volatility in Q4 '17 / Q1 '18

Despite prices remaining at elevated levels, the spreads are reverting back toward long term averages

Supply tightness initially concentrated in premium grades of coking coal, but now evident in lower grades as well

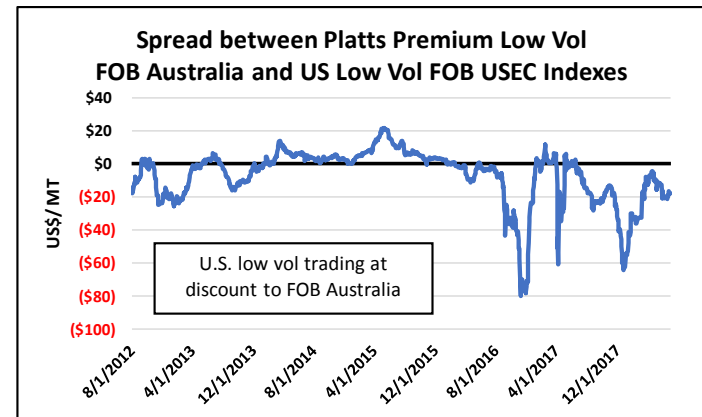
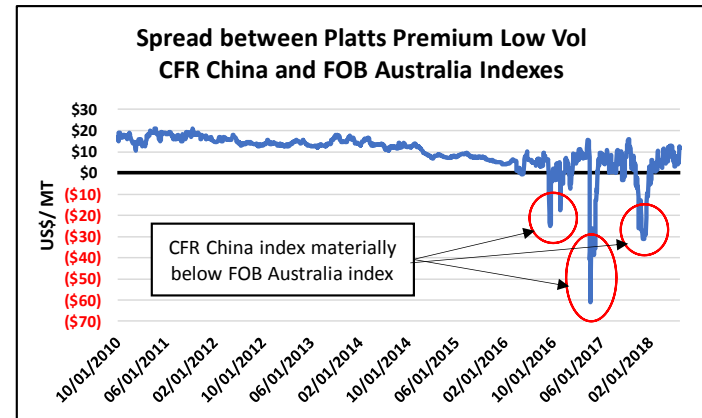


# Normalizing basis differentials between primary price points

Price relationship between FOB Australia and CFR indexes is back to normal

Discount for low vol FOB USEC and FOB Queensland is back to normal

Lack of obvious price arb opportunities or extreme basis differentials suggests volatility may be easing and market will stabilize





## Coking coal forward curve above \$165/MT through 2021

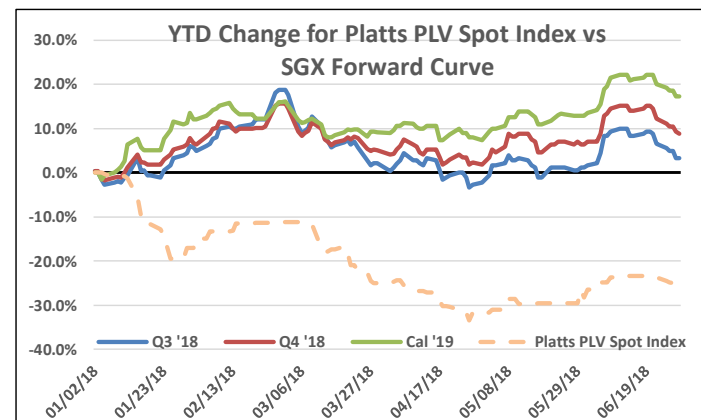
Extreme volatility in spot indexes influencing entire curve, but futures market posting very strong YTD gains (albeit with limited liquidity)

Platts PLV index down 24.21% YTD, but forward curve posting strong gains

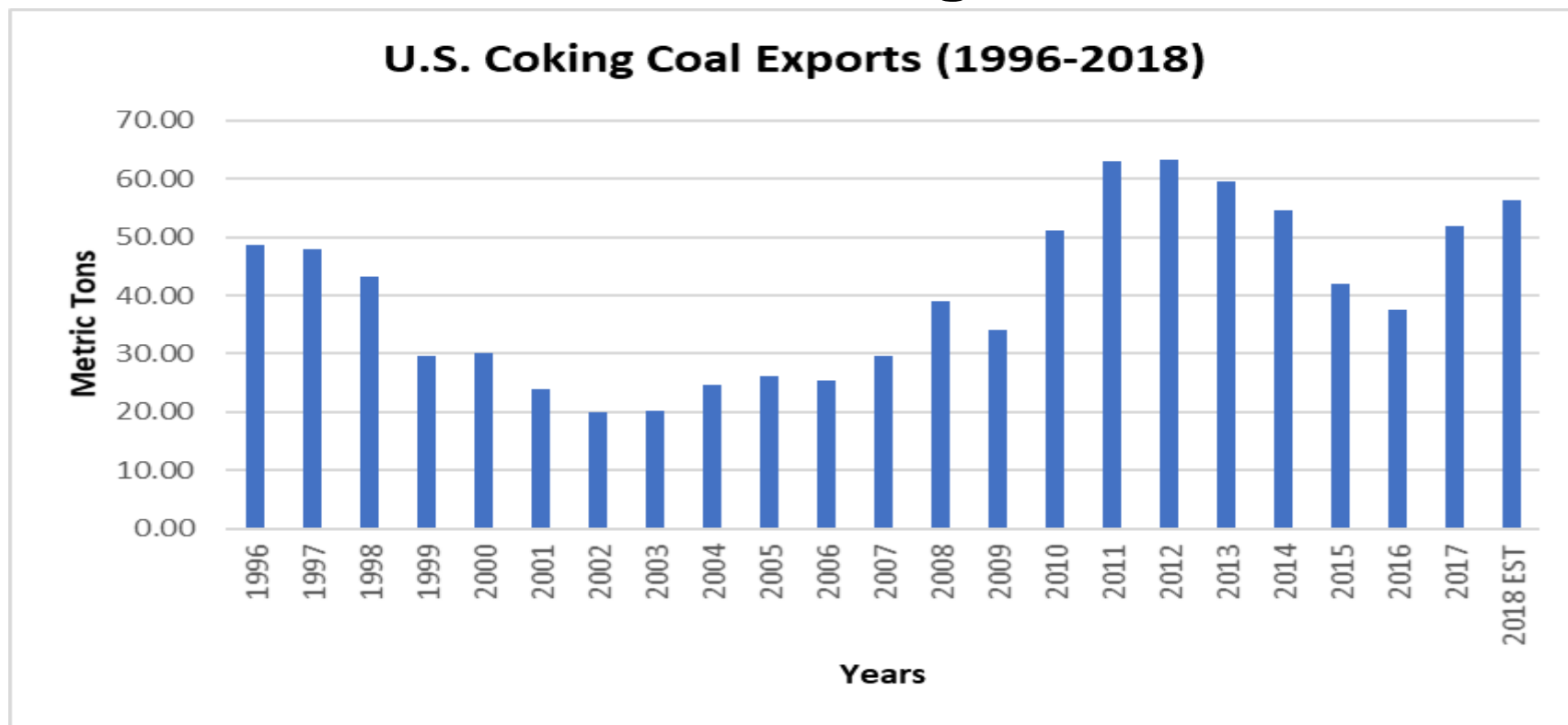
Backwardation in curve is shrinking: is the futures market indicating this is the “new normal” coking coal price environment?

Difference between marginal cost support and incentive pricing

SGX Forward Curve Platts Premium Low Vol (US\$/MT) FOB Queensland June 29, 2018		
	Price	YTD Change
Q3 2018	\$186	+2.20%
Q4 2018	\$184	+6.98%
Cal 2019	\$180	+15.38%



## U.S. Role in Global Coking Coal Markets



U.S. Coking Coal exports expected to up more than 8% or 4.35 million metric tons in 2018 and up 50% compared to 2016 levels

# U.S. is second largest coking coal exporter

- U.S. is the second largest seaborne supplier of coking coal
- Geographic importance serving Atlantic Basin mills
- Premium qualities needed in Pacific Basin mills
- Established supply chain unmatched when evaluating other supply growth options (Mongolia, Mozambique, Russia)

U.S. Share of Seaborne Supply	
	Coking Coal
2012	24.10%
2013	20.07%
2014	17.82%
2015	14.80%
2016	13.34%
2017	16.40%
2018f	17.02%

# U.S. coking coal production driven primarily by export demand

- Stable demand from U.S. coke batteries means excess coking coal production must be exported
- Majority of exports are priced on spot or indexed basis, with little long term, fixed price business
- Export boom welcome by all, but inability to lock in long term fixed priced contracts is a risk to reopening mines or increasing supply
- High quality and competitive cost position needed to survive

Exports as Share of U.S. Production	
	Coking Coal
2012	77.10%
2013	75.37%
2014	73.83%
2015	70.16%
2016	71.49%
2017	76.53%
2018f	76.54%

- » Both Seaborne thermal and coking coal demand expected to grow
- » Importance of U.S.A. as key (swing) supplier reinforced
- » Index pricing widely accepted for both thermal and coking coals
- » Benchmark system has ended due to extreme volatility
- » Seaborne demand for U.S. coking and thermal coals should remain strong and tonnage is available as long as the seaborne prices remain supportive
- » Better balance sheets allow U.S. producers to participate in seaborne markets

# Rising vessel rates hurt U.S. netbacks

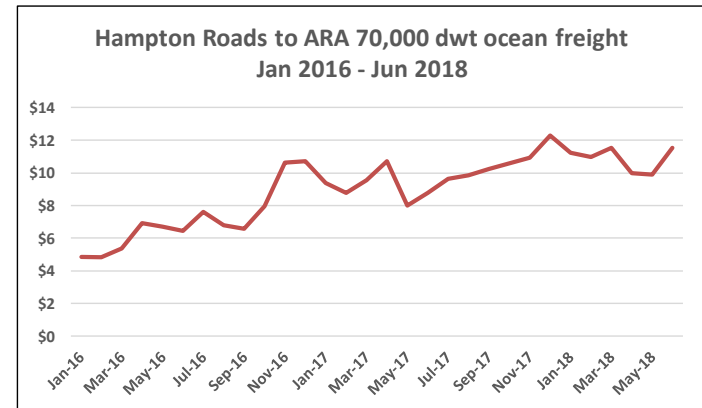
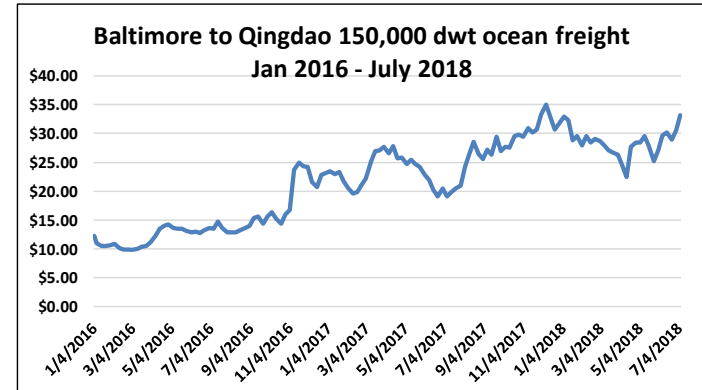
Ocean freight continues to rise as global commodity demand remains robust

All supply basins impacted, but most problematic for long haul shipments (ie U.S. into the Pacific Basin)

Higher demurrage costs and vessel queues hurt export economics, as experienced from poor rail service in Q1 / Q2

Rates are rising, but still well below 2010 levels so have room to run

Contributing in rise of CFR indexes (including API 2)



## Outlook is strong, but plenty of uncertainty on horizon...

Seasonality?

Foreign exchange rates?

Freight rates?

Chinese policy?

Trade war?

Economic momentum?

U.S. foreign policy?



Trump?

“Unknown unknowns”?

Tightening monetary policy?

## What has Trump done for coal?

- ✓ Rolled back onerous regulations that hindered the competitiveness of coal fired power generation
- ✓ Removed legislation that complicated coal mining
- ✓ Created global awareness that U.S.A. coal industry is open for business
- ✓ Used coal as a negotiating point in international trade talks
- ✓ Given the coal industry a chance to fight until another administration
- ✓ Taken credit for any “Pro-coal” developments in the U.S.A., regardless of whether he had any impact
- ✓ Threatened U.S. coal exports by invoking retaliatory tariffs (or potential of those tariffs) from coal importers (Turkey and China)



## What hasn't Trump done for coal?

- ✓ Incentivized regulated or merchant power generators to build new coal fired power plants, or operate existing coal fired power plants at higher utilization rates
- ✓ Directly subsidized coal fired generation
- ✓ Reversed prior coal plant closures
- ✓ Given confidence to our global trading partners in dealing with U.S. companies
- ✓ Slowed development of shale gas
  - Trump was keynote speaker at 'Shale Insight' conference while campaigning in Pennsylvania in 2016



## Conclusion

Seaborne coal markets are well supported by supply/demand balance, but concerns (driven by China) cannot be ignored

Seaborne coal supply to remain tight for 6 - 12 months, but current price environment will eventually incentivize new supply to market

U.S. buyers face stiff competition for coal from a strong seaborne market (and higher netback prices)

Quality degradation and reserve depletion to push cost curve higher and keep highest grades of coals in tight supply globally

Growing list of geopolitical uncertainties, and their threat to trade and pricing, a concerning backdrop