

# Steam Coal Price Trends & Outlook through 2020

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# Topics

- Price Trends for all Australian Steam Coals and one Indonesian Steam Coal
  - Australian Steam Coal (1980 to August 2014 and then 2004 through November 2014)
  - Indonesian Steam Coal (McCloskey 4900 NAR Price Index; 2009 – November 2014)
- Reasons for Past Price Movements and Impacts on Supply and Demand
- Outlook to 2020
- Final Thoughts on Data Accuracy and our ability to forecast Asian coal exports requirements more than 1 year ahead

## When comparing steam coal prices, it is important to understand what we mean by “*the price of coal*”

Unlike oil and gas prices, there are many “coal prices”, with significant differences in the type of price being quoted and its basis:

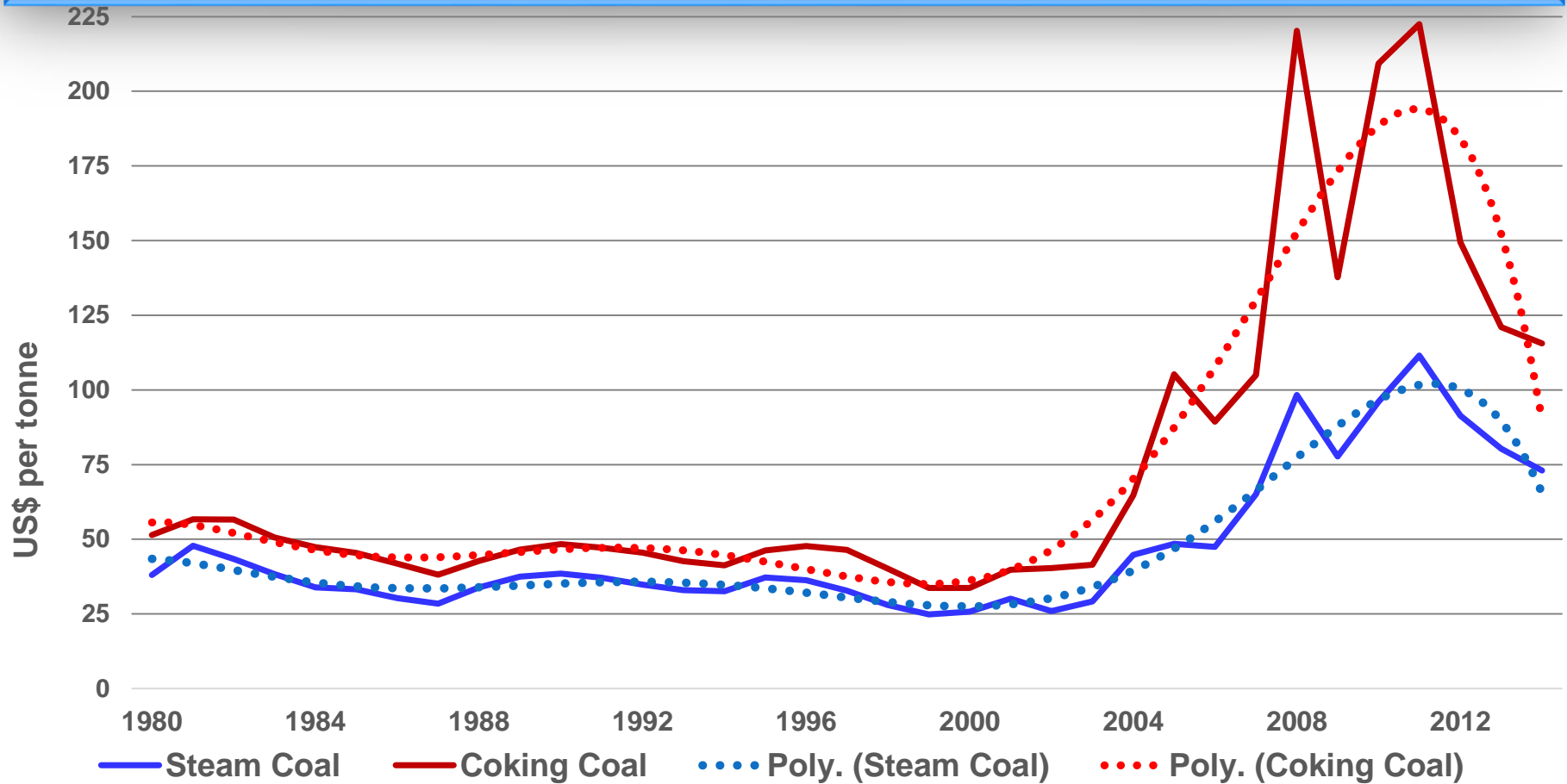
- Price Discovery Method (surveys, customs data, actual transactions)
- Coal Quality (specifically is CV reported GAR, GAD or NAR?)
- Delivery Terms (FOB, CIF, CFR, DAT; days after price “discovered” for transaction to occur)
- Contract Duration (spot vs term)

**Australian and Indonesian  
Steam  
Coal Price Trends**

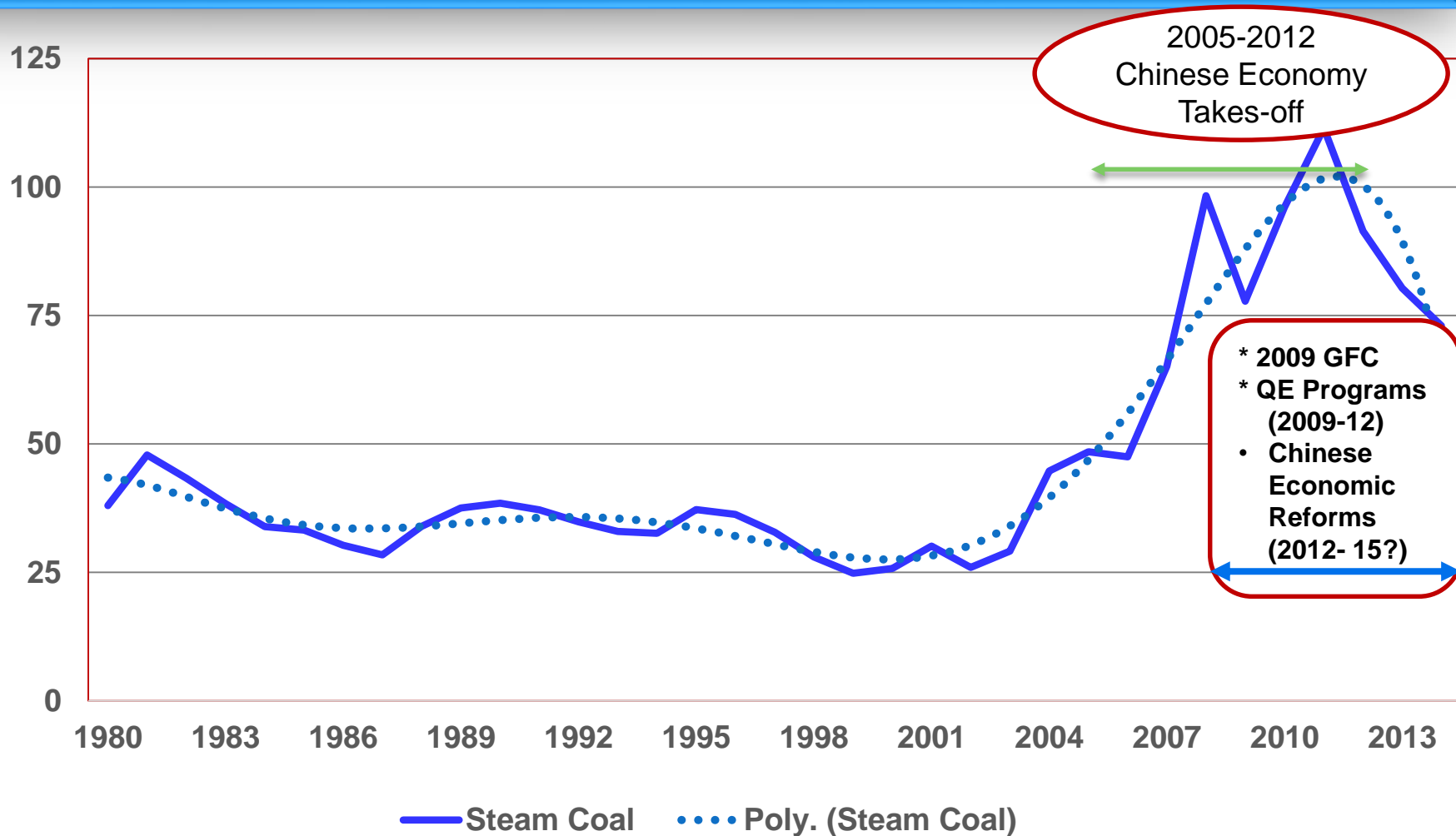
## Australian FOB coal price slides:

- **Primary Data Source:** Australian Bureau of Statistics; data compiled from reports filed by coal exporters with the Australian Customs and Border Protection Service.
- **Published Source:** Australia's Bureau of Resource and Energy Economics (BREE) two publications:
  1. "Resource and Energy Statistics" (Annual)
  2. "Quarterly Report on Energy and Resources"
- **Prices** = weighted average of export prices for coal shipments made under spot and term contracts.
- **Currency:** Price are reported by BREE in A\$ per tonne and converted into US\$ per tonne prices using BREE supplied US\$:A\$ exchange rate (annual average)
- **CV Basis:** *None and no values provided for TM, TS and ash.*
- **Delivery:** During the year covered by the BREE report.

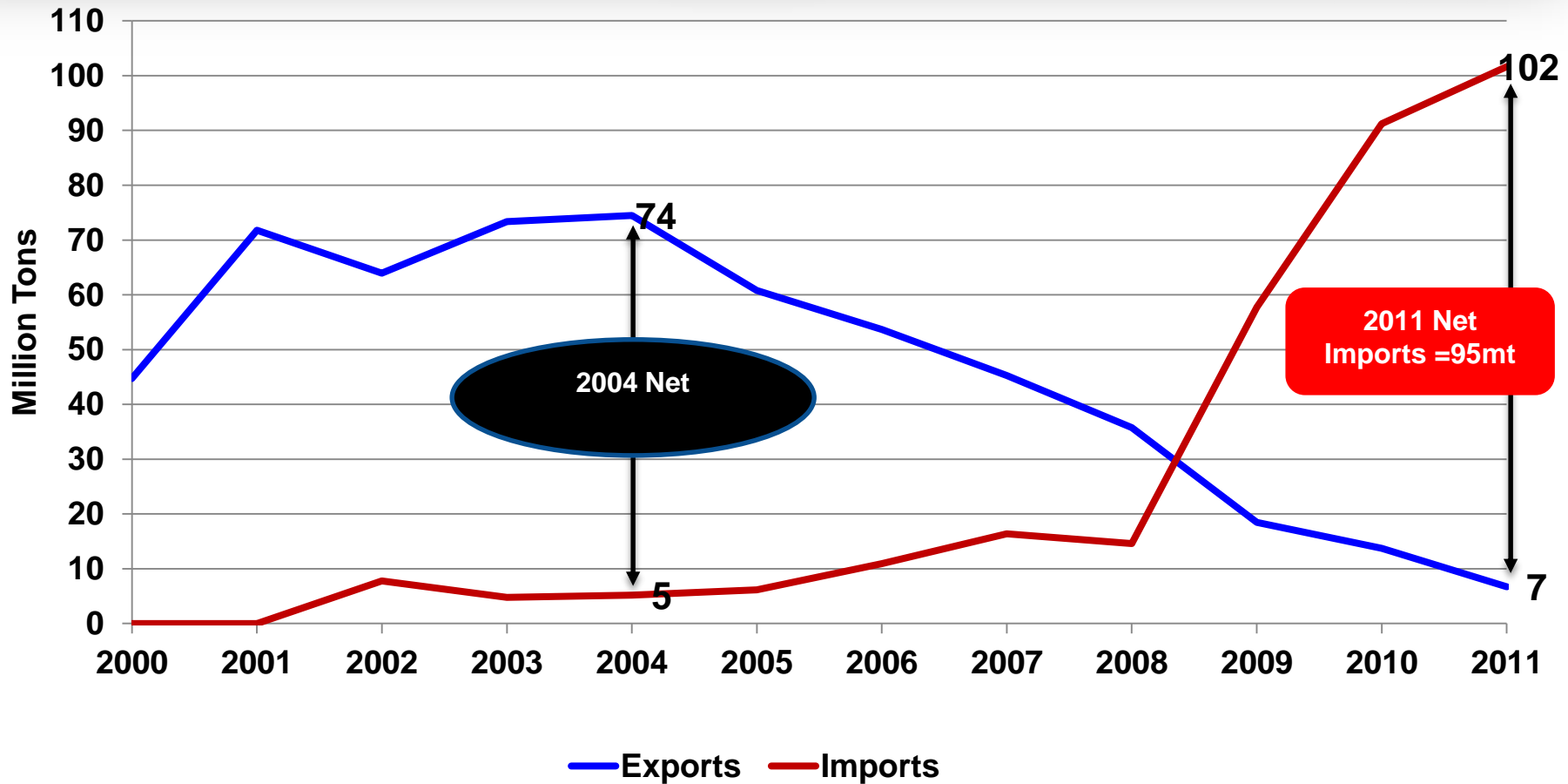
- \* Between 1980 and 2006, FOB Prices for Australian Steam Coals were stable and mostly ranged from \$25/t to \$50/t.
- \* It was only after 2006 that steam coal prices became highly volatile and broke above the \$50 per tonne ceiling.



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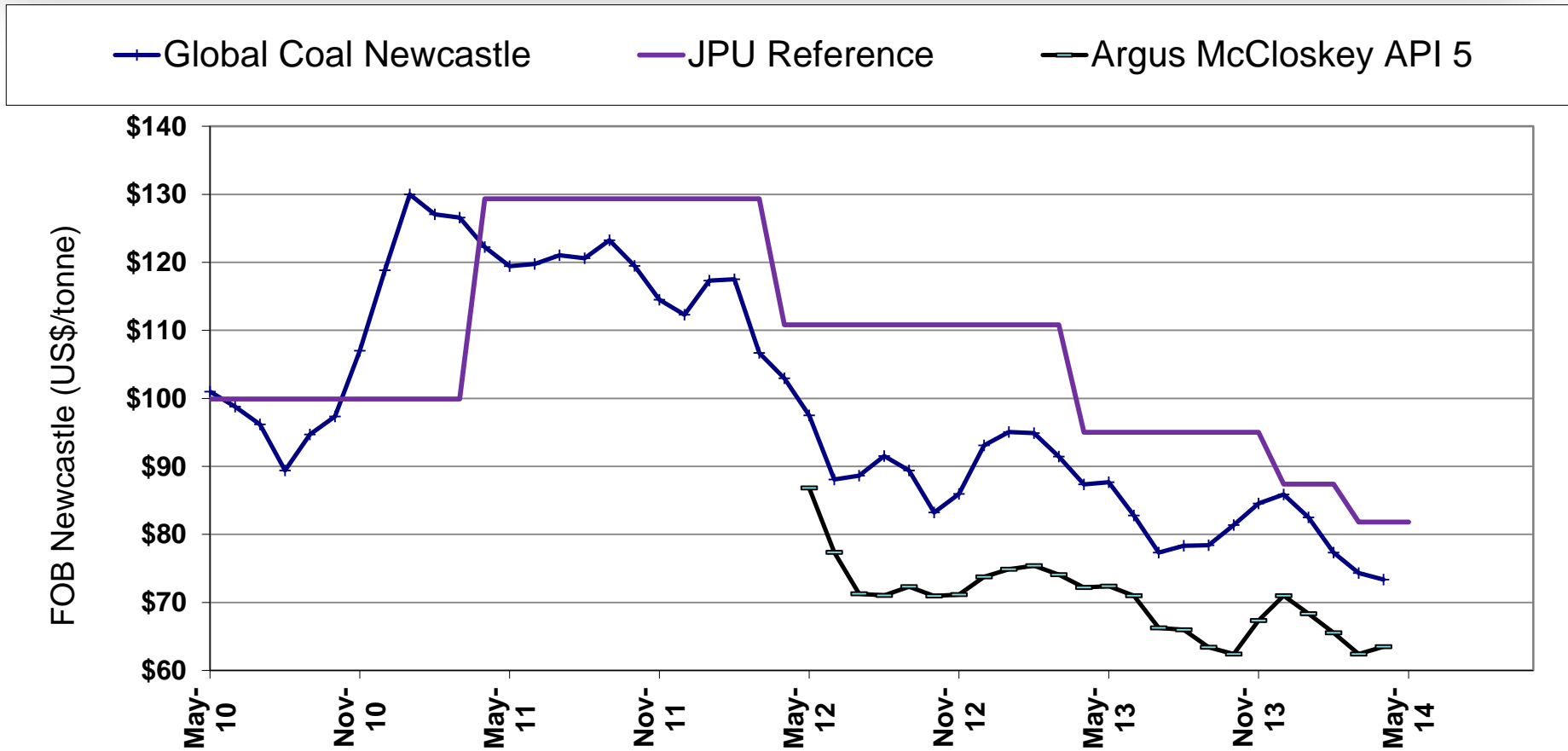


Prior to 2009, the main China factor driving prices was the cutback in Chinese exports of steam coal by 66 mtpa from 74 mt in 2004 to 18 mt by 2009.



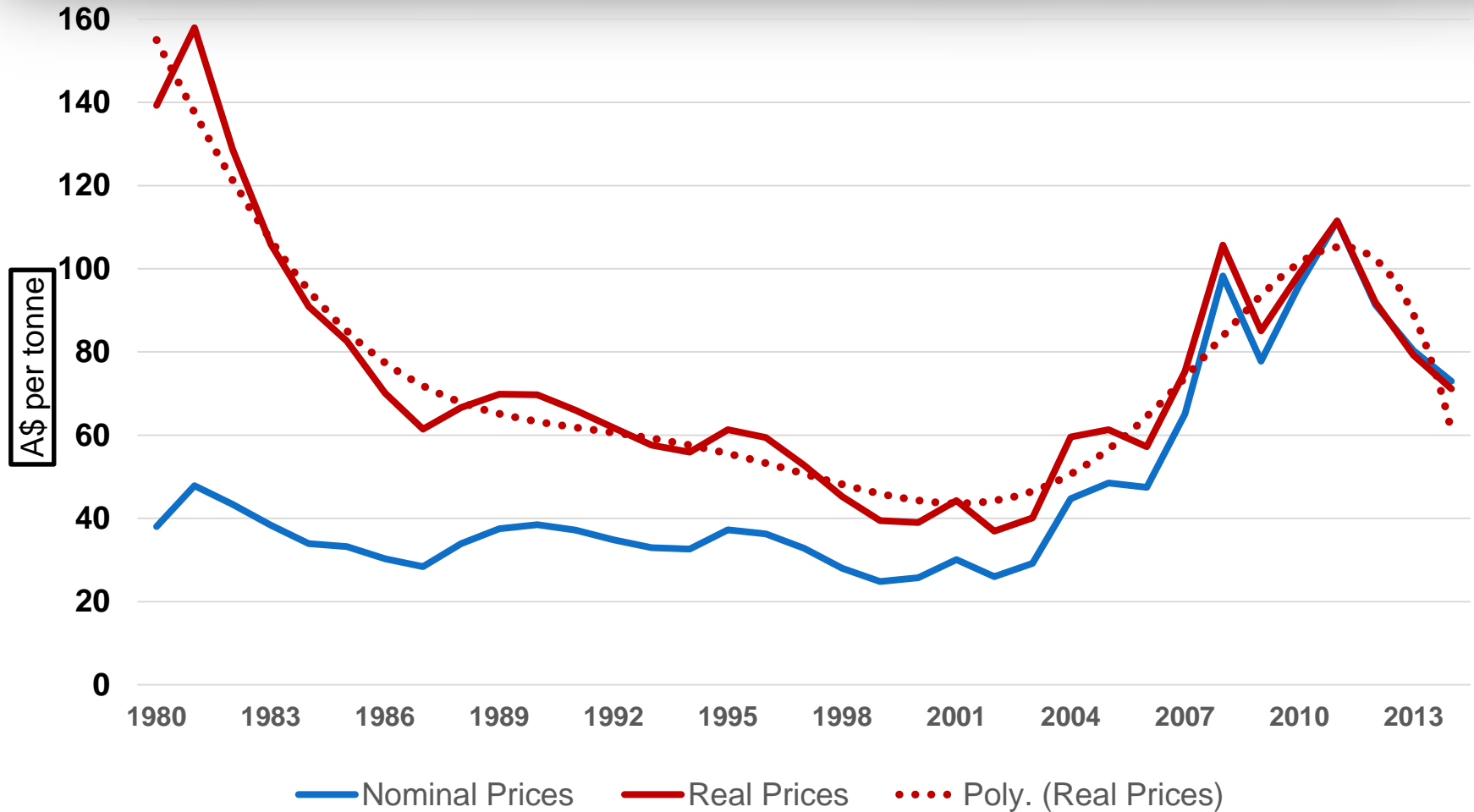


**Between 2010 and May 2014, the decline in the price of Australian thermal coal into China may be explained partly by the substitution of API 5 type coal for premium Newcastle coal**



## Real Coal Prices (2013 US\$) vs. Nominal Coal Prices

Since 2004, any increases in Steam Coal Prices have recovered only a small portion of the real prices prevailing in the early 1980s

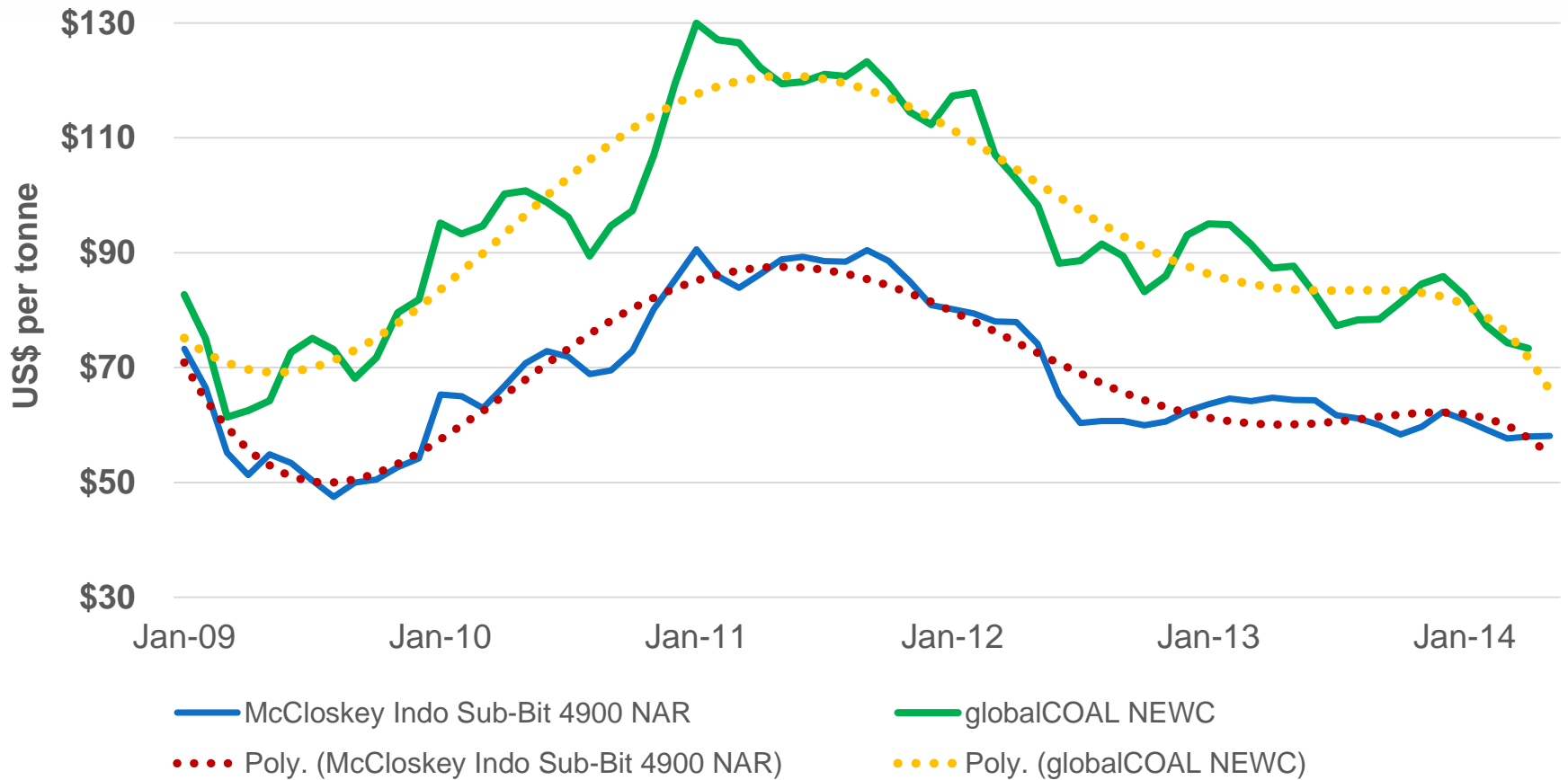


# Indonesian Coal Prices

The number of Indonesian Coal Price indices has “exploded” from 2006 onwards with new private sector indices being added every few months.

Indonesian Coal Index	Start Year	CV	TM (ar)	S	Ash	VM	Latest Shipment Date	Minimum Cargo Size
		Price Basis	Maximum	Maximum	Maximum	Min-Max	Days after Index Published	Tonnes
<b>Platts "90 Day Forward Indonesia Price Assessments"</b>								
* Kal 5900	2006	5900 (gar)	n/a	1.0% (?)	15% (?)	n/a	90	25,000
* Kal 5000	2006	5000 (gar)	n/a	0.8% (?)	8% (?)	n/a	90	25,000
<b>Platts "Daily FOB Kalimantan 4200 GAR"</b>	Jul-12	4200 (gar)	35%	1.0% (ar)	7% (ar)	n/a	45	50,000
<b>"McCloskey Indonesian Sub-Bit 4900 NAR"</b>	Jul-10	4900 (nar)	28%	1.0% (ad)	10% (ad)	40% typ. (ad)	90	50,000
<b>Argus-Coalindo</b>								
* ICI 1 (6500 GAR)	2006	6500 (gar)	12%	1.0% (ar)	12% (ar)	n/a	90	Panamax
* ICI 2 (5800 GAR)	2006	5800 (gar)	18%	0.8% (ar)	10% (ar)	n/a	90	Panamax
* ICI 3 (5000 GAR)	2006	5000 (gar)	30%	0.6% (ar)	8% (ar)	n/a	90	Panamax
* ICI 4 (4200 GAR)	Jul-08	4200 (gar)	40%	0.4% (ar)	6% (ar)	n/a	90	Mother Vessel
* ICI 5 (3400 GAR)	Dec -11	3400 (gar)	50%	0.2% (ar)	4% (ar)	n/a	90	Mother Vessel

# Except for the period between Sept 2008 and January 2009, gcNEWC and McCloskey Sub-bit prices were largely aligned. Could movement after March 2014 signal market change?



## Outlook through 2020

### Suppliers remain hopeful but need to be prepared for the unexpected

#### Why suppliers believe we will eventually see a coal price recovery

##### Demand

- China: Economic recovery
- India: Continued growth in coal imports.

##### Supply

- Significant production cutbacks will eventually occur as marginal coal suppliers exit the coal industry.

#### ... but unexpected events may keep lid on coal prices longer than expected

##### Demand

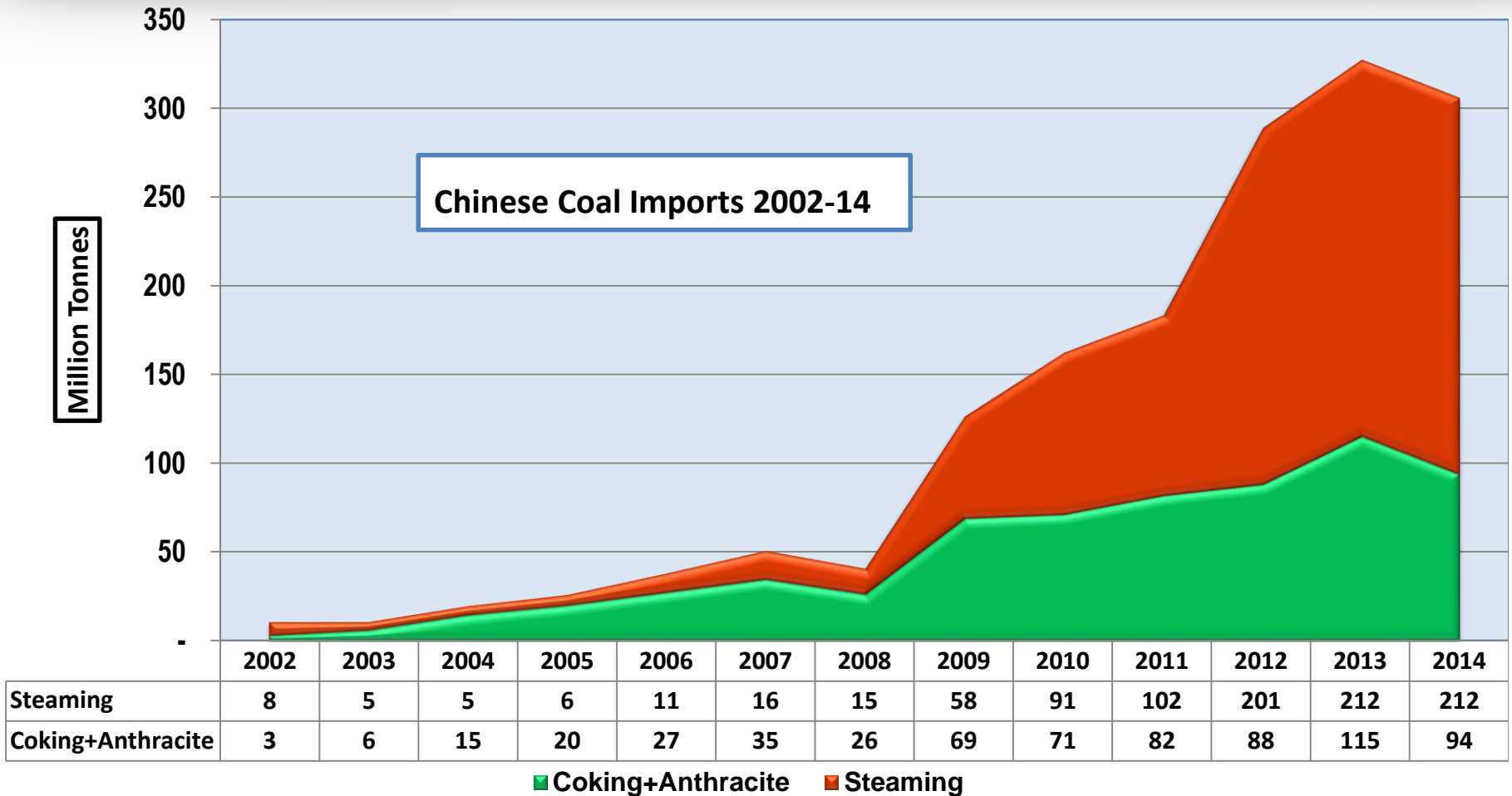
- China's economy expands at only 5%/yr.
- India's imports of coal increase but not fast enough to make a price difference.
- GHG Reduction Programs aggressively implemented in China and N. Asia.
- Oil prices stay low/ LNG prices plummet

##### Supply

- Advanced technology lowers production costs. Service providers get squeezed
- Asset transfers at depressed prices
- Currency movements support lower prices

**and now for a quick word about China**

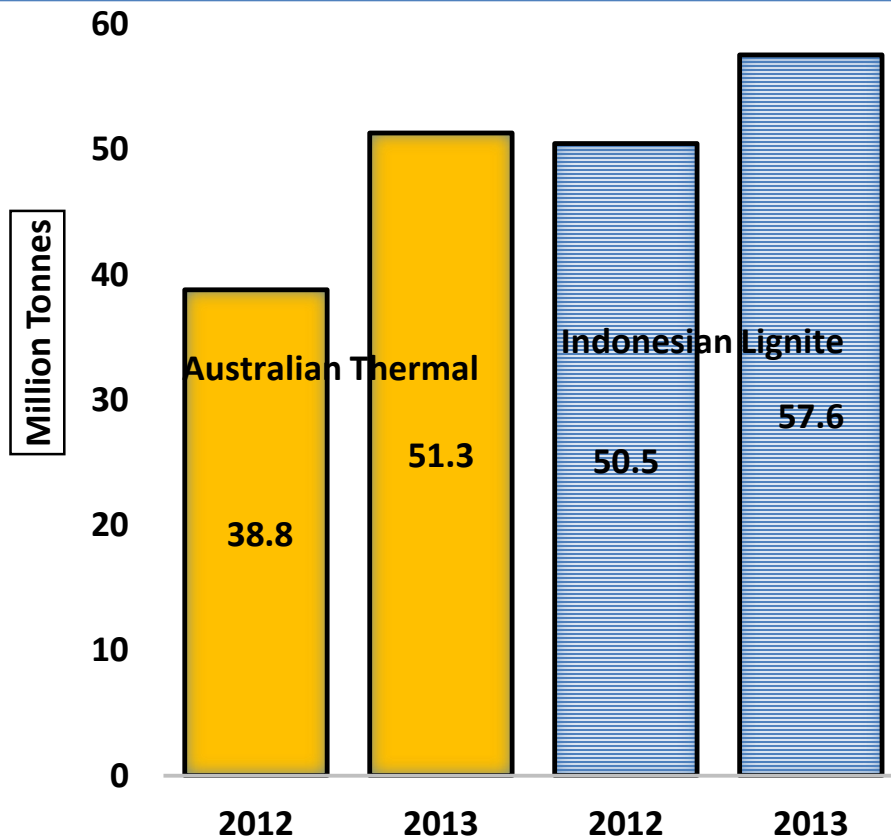
>Since 2012, coal market analysts talked incessantly about “the effect of the slowdown in the Chinese economy” on steam coal export prices. But after examining Chinese Customs data, one must ask:  
*“What slowdown and what will happen to Indonesia’s coal industry when a slowdown in Chinese imports of steam coal finally occurs?”*



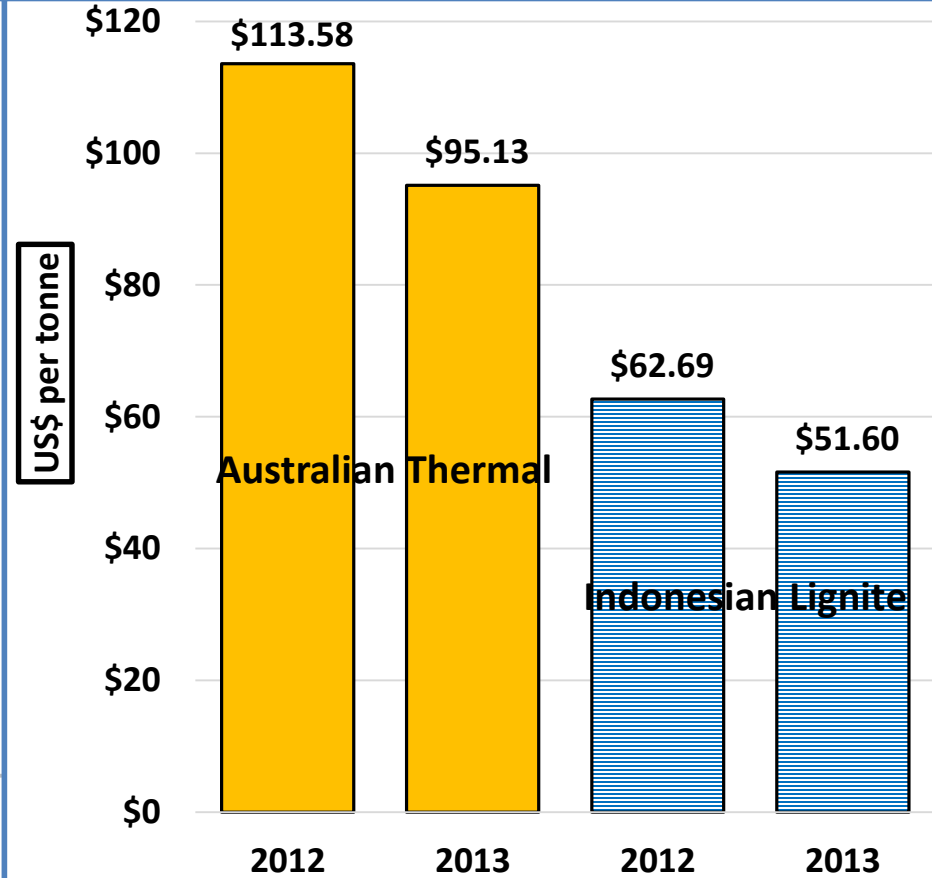


**Between 2012 and 2013, China's imports of steam coal from Indonesia and Australia increased 20% Y-o-Y while the weighted average price per tonne of steam coal declined 17%.**

**Chinese Coal Imports 2012 vs 2013**

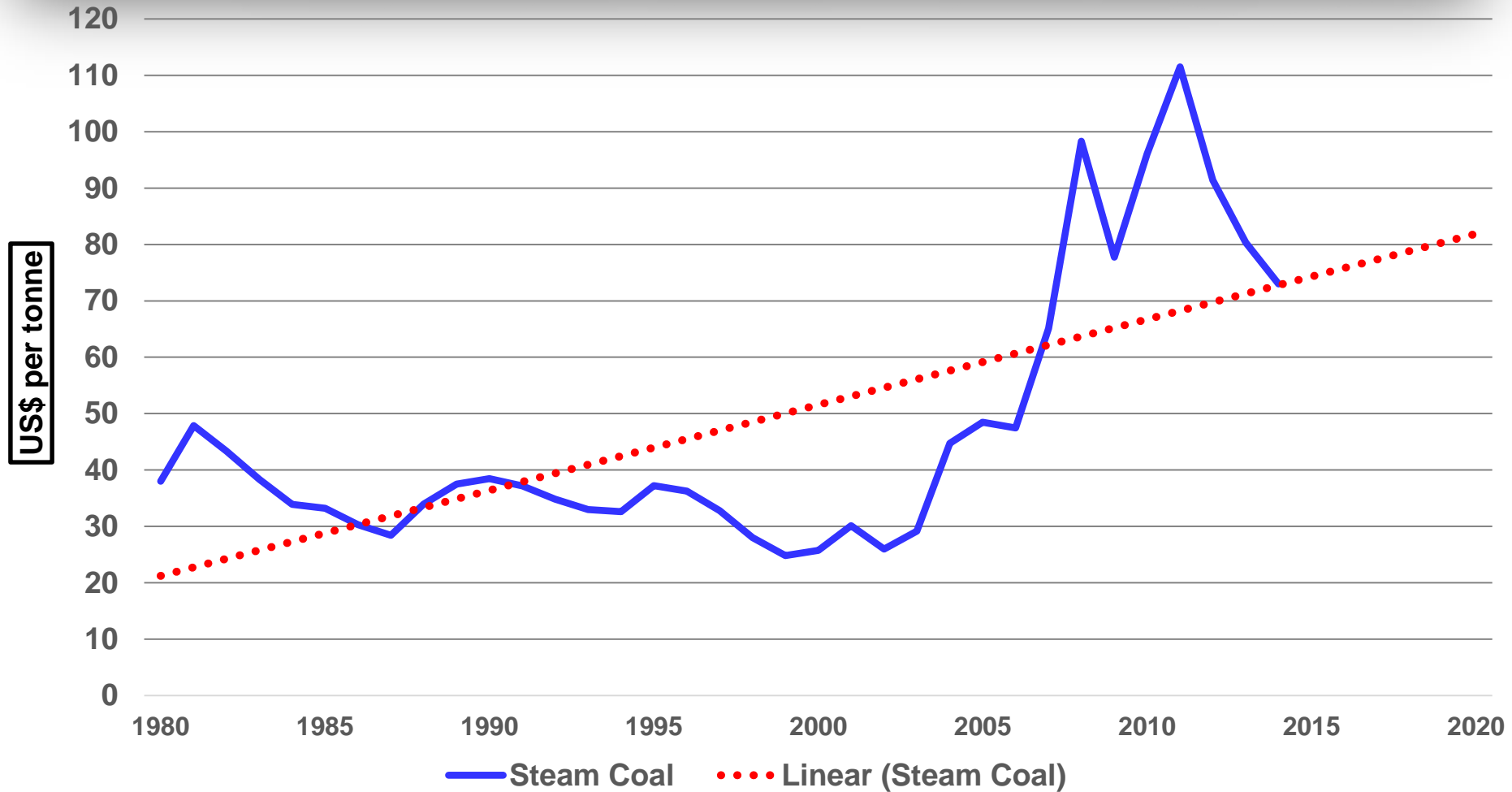


**Chinese Customs Prices (average 2012-13)**

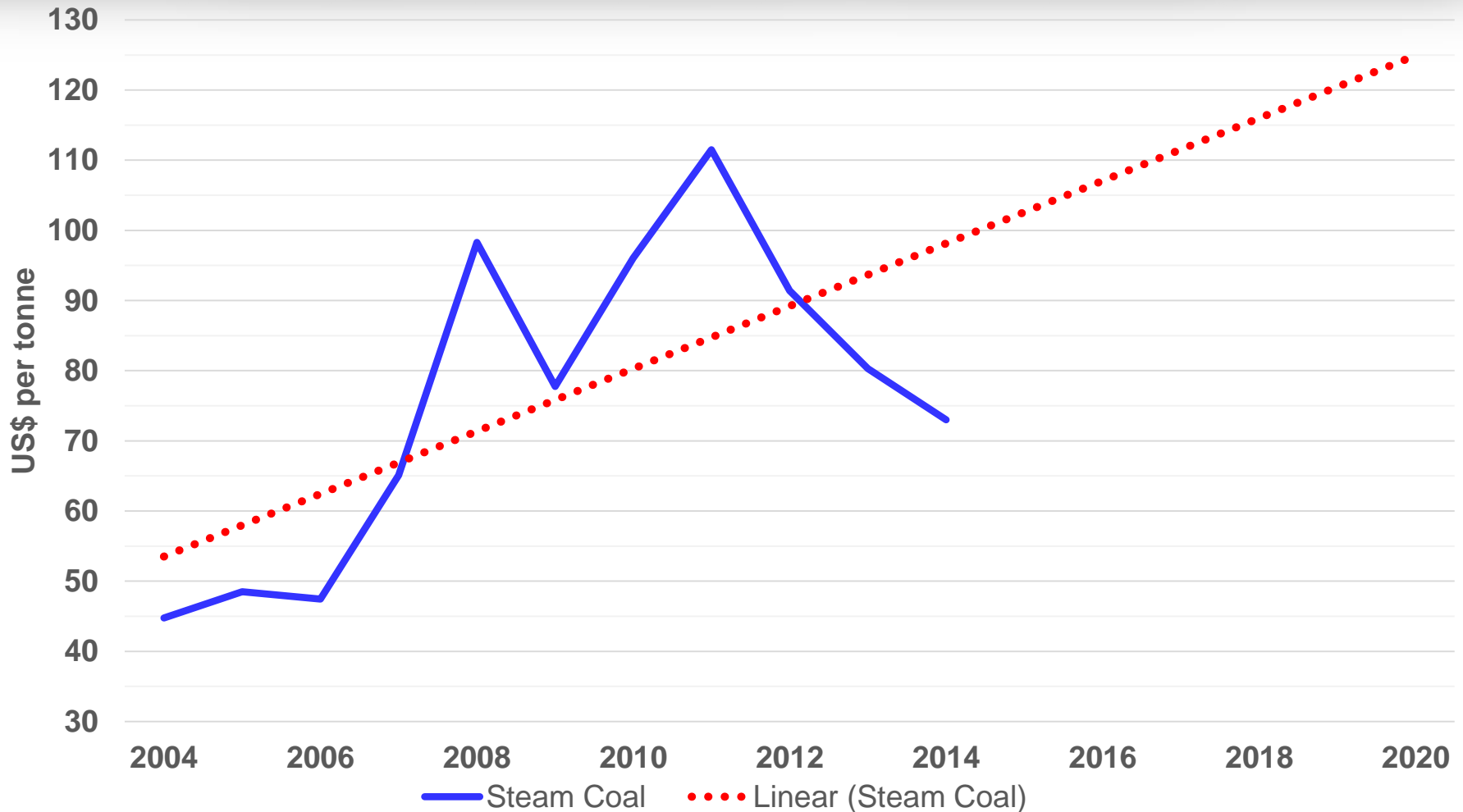


## Price Outlook to 2020

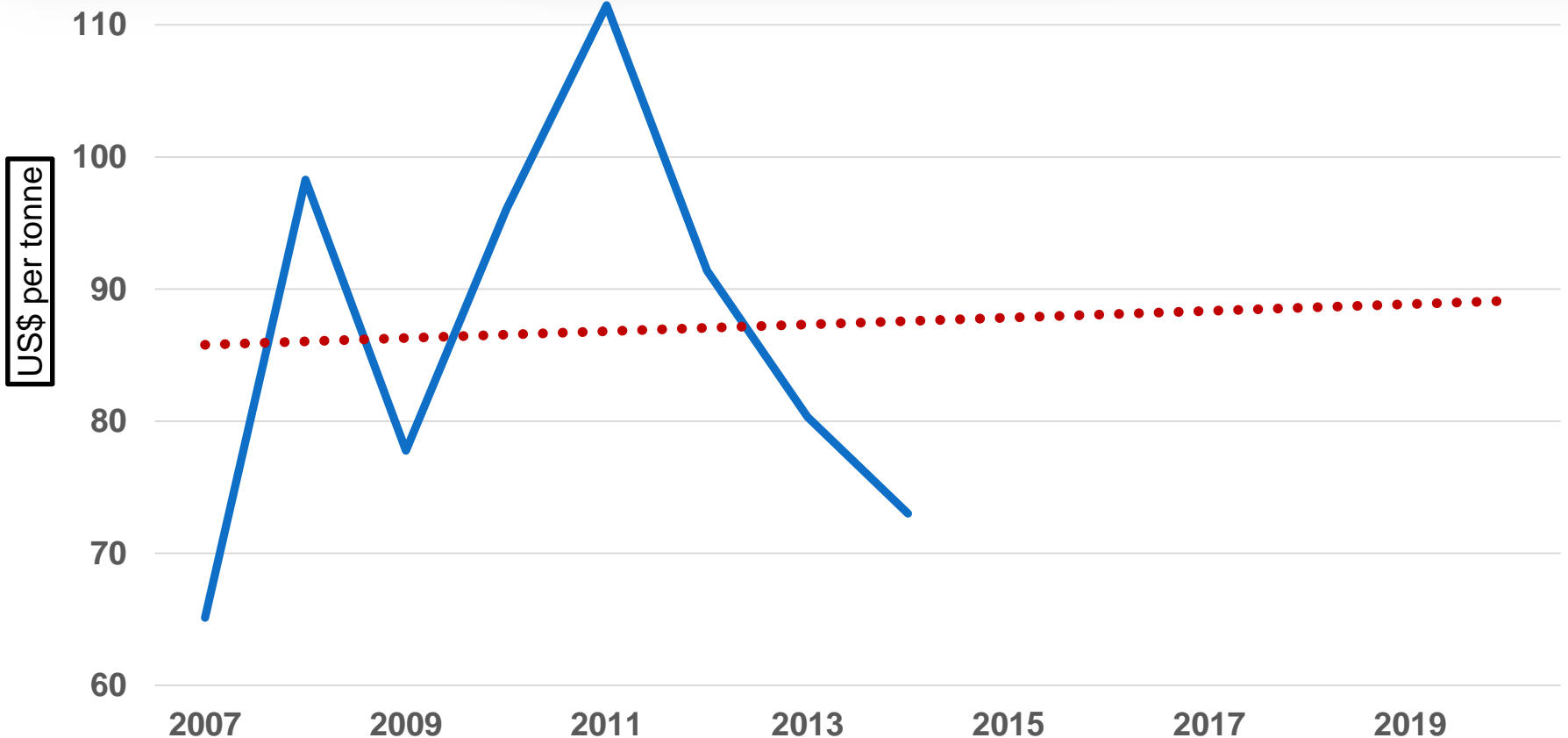
# Extrapolating the 1980-2014 linear price trend to 2020 results in Australian steam coal price of~ \$80 per tonne.



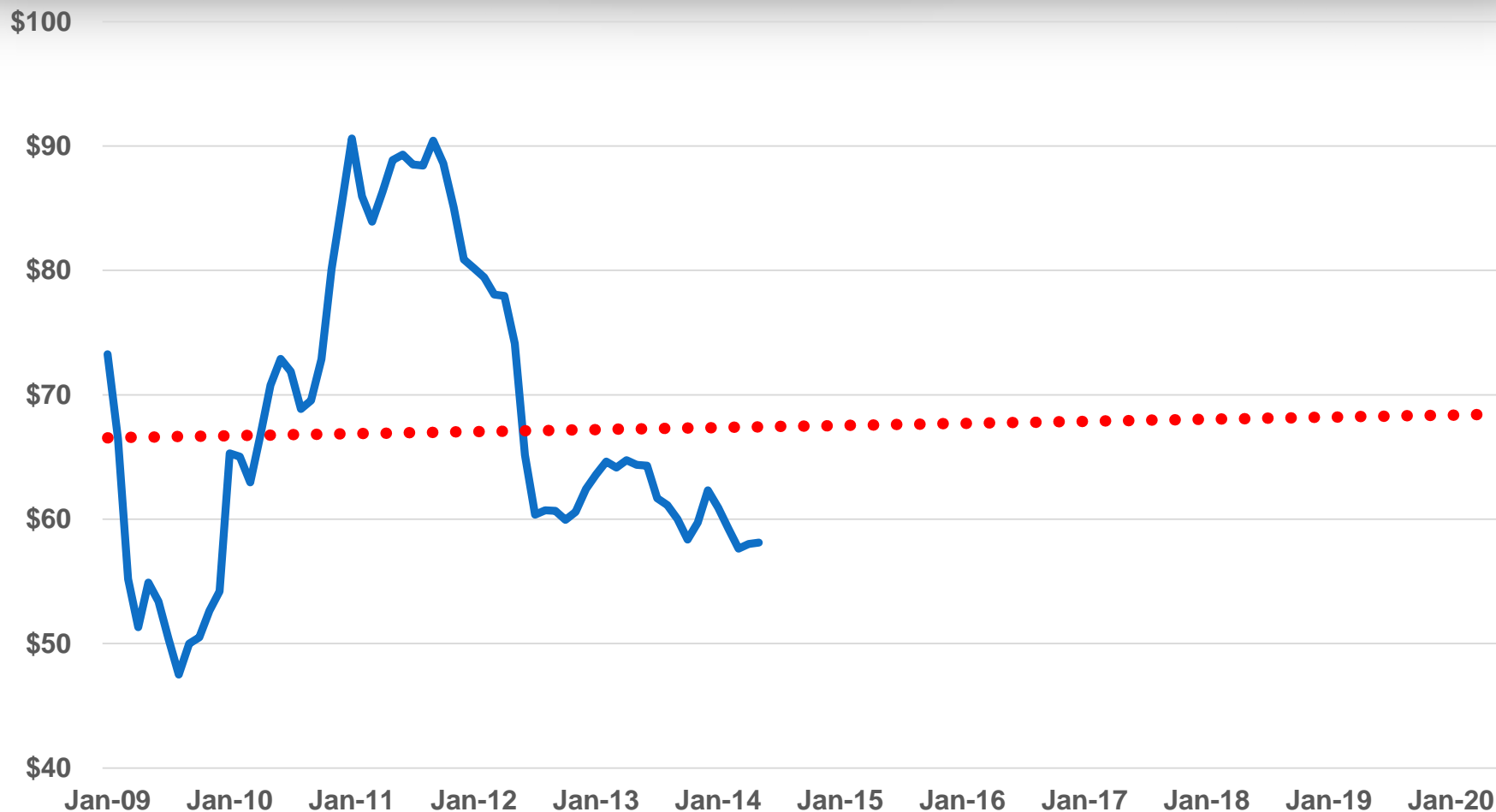
However, one can always find a time frame that will result in high prices  
(For example: Linear trend analysis for period 2004-14 results in a 2020  
Australian steam coal price of ~\$125 per tonne)



Using a more relevant time period (2007-2014), one finds, based on past price trends, that the price of Australian steam coal is likely to trade no higher than \$90 per tonne.



**Indonesian Sub-bit (McCloskey 4900 NAR) had a huge price decline between Jan –July 2009 but linear trend line suggests price of ~\$70 per tonne by 2020**



# Final Thoughts

- Steam Coal Prices in the region remain depressed due to continued oversupply out of Indonesia & Australia and stagnant (slightly declining?) Chinese demand.
- Costs of production are trending down due to cost cutting and continued application of improved mining and transport technologies. Organizational slack is slowly being taken out of the system.
- Cash cost as a predictor of supply response is irrelevant. Producers are playing a game of “last man standing”, which is contributing to the over supply in the region. Game Theory is a better predictor of producer behavior than rational economic man responding to cash costs.
- Unexpected events are likely to determine the direction of coal prices over the next 5 years and may cause today’s depressed prices to continue for the next 3 years, similar to our experience with the dry bulk shipping industry.
- China’s need to import coal import will remain but the days of huge import increases are largely over. India, being India, will not prove to be the demand factor that leads to price recovery.
- My view: Steam coal prices may recover over next 5 years but price increases will be moderate. However, there is an equally strong possibility that steam coal prices will remain slightly above today’s depressed levels through 2020.

## Appendix A Bonus Slides

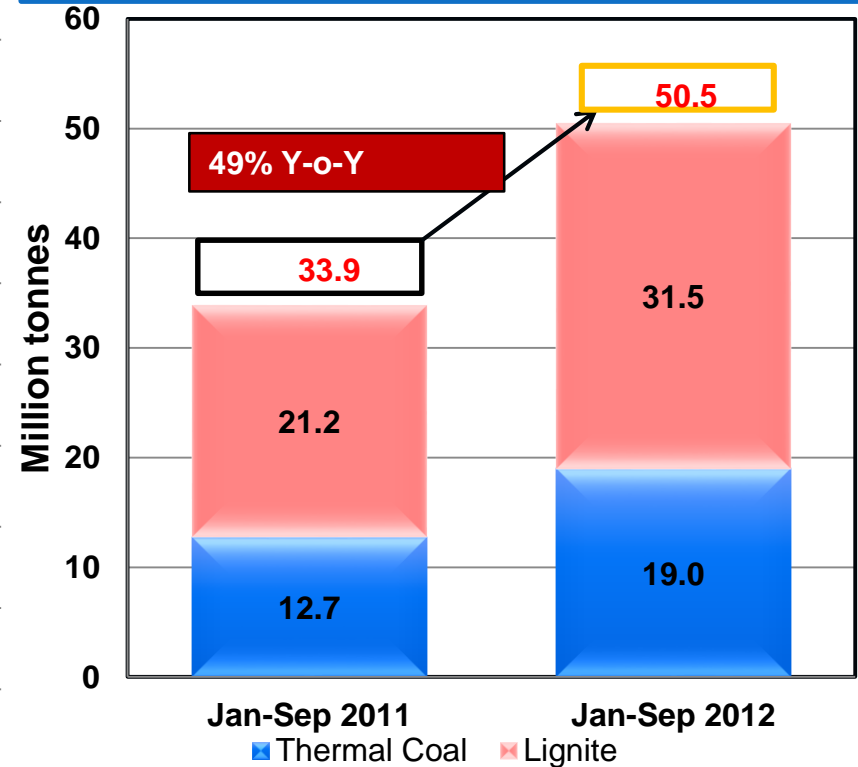
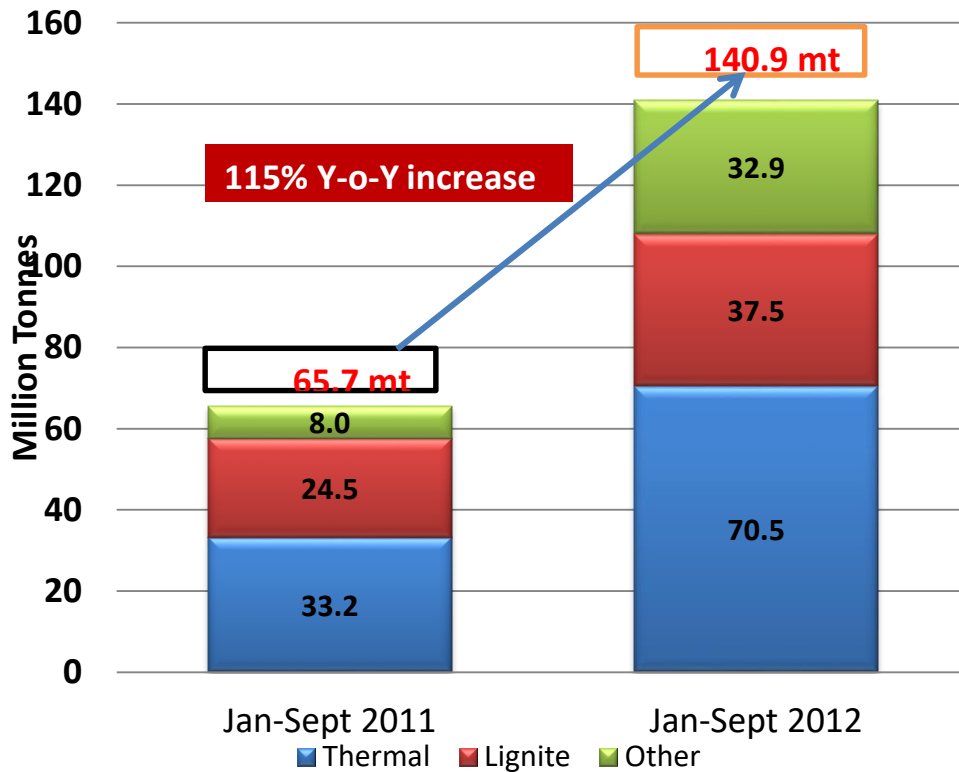


\* During 2012, coal market analysts talked incessantly about “the effect of the slowdown in the hinese economy” on export prices for steam coal. But after examining Chinese Customs data, I had to ask:

*“What slowdown and what will happen to Indonesia’s coal industry when a slowdown finally occurs?”*

**China’s imports of thermal, lignite and other coals grew by 115% between 2011 and 2012**

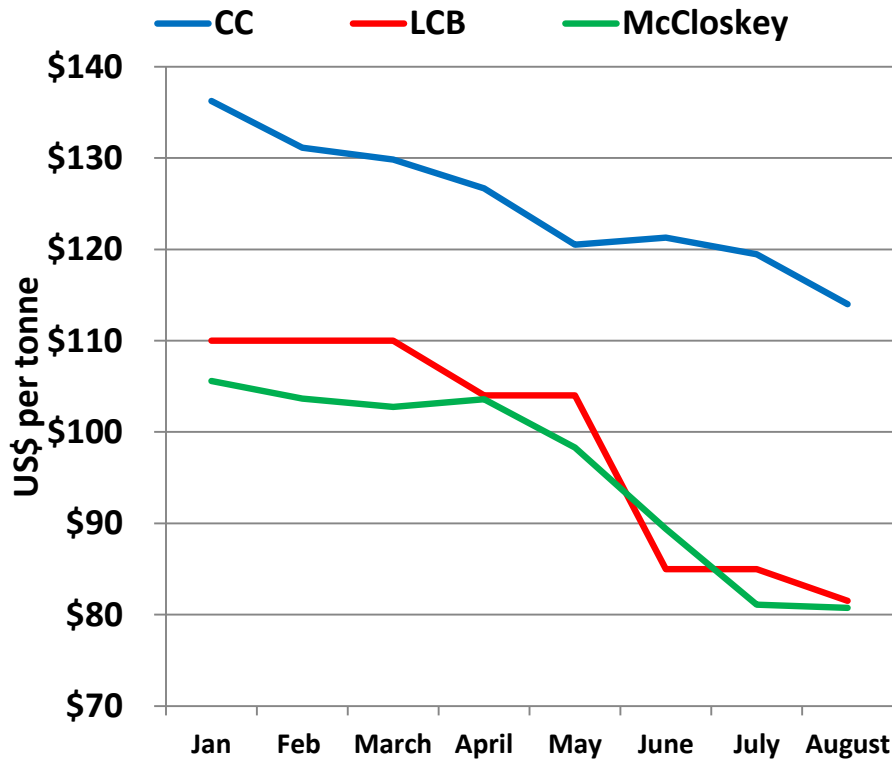
**Indonesia’s coal exports to China grew by 49% between Jan-Sep 2011 and Jan-Sep 2012**



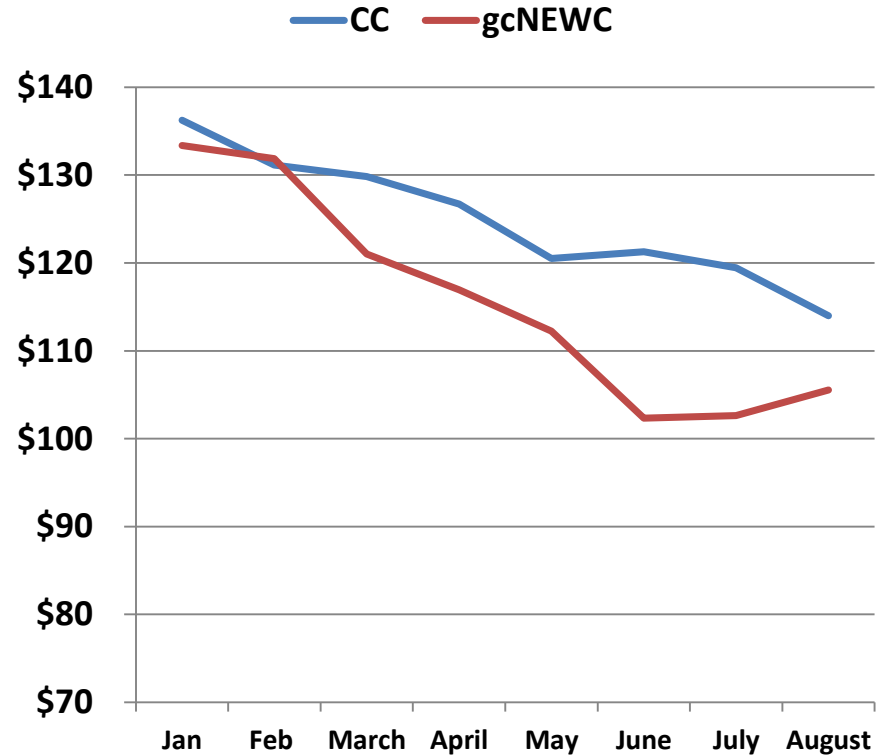
Despite the many true stories in 2012 about Chinese buyers defaulting on their coal contracts, Chinese buyers for the first 8 months of 2012 appear to have seriously overpaid for their steam coal imports:

- \$15 - \$25 per tonne more if one compares Chinese Customs [CC] CfR price data for Aus SC against CfR prices for Aus Coal @ 5500 NAR (LHS)
- \$5 - \$17 if one compares the CC CFR price against the gcNEWC (RHS) + \$14 freight

CC CFR So China prices for 2012 Aussie steam coal imports vs. LCB & McCloskey 5500 NAR prices (CFR So China)

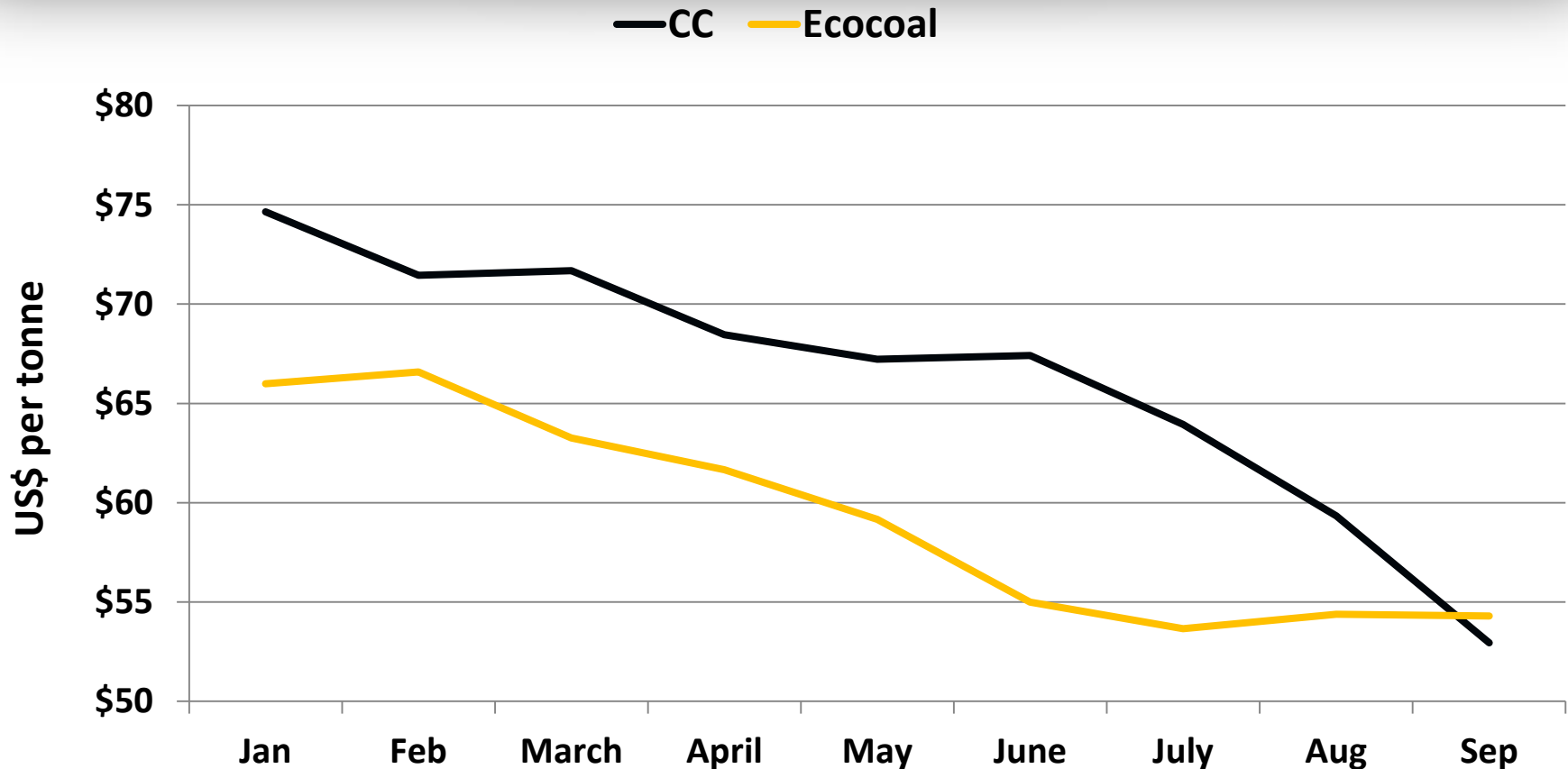


CC CFR So China prices for 2012 Aussie Steam coal imports vs. gcNEWC (6000 NAR) + \$14 freight

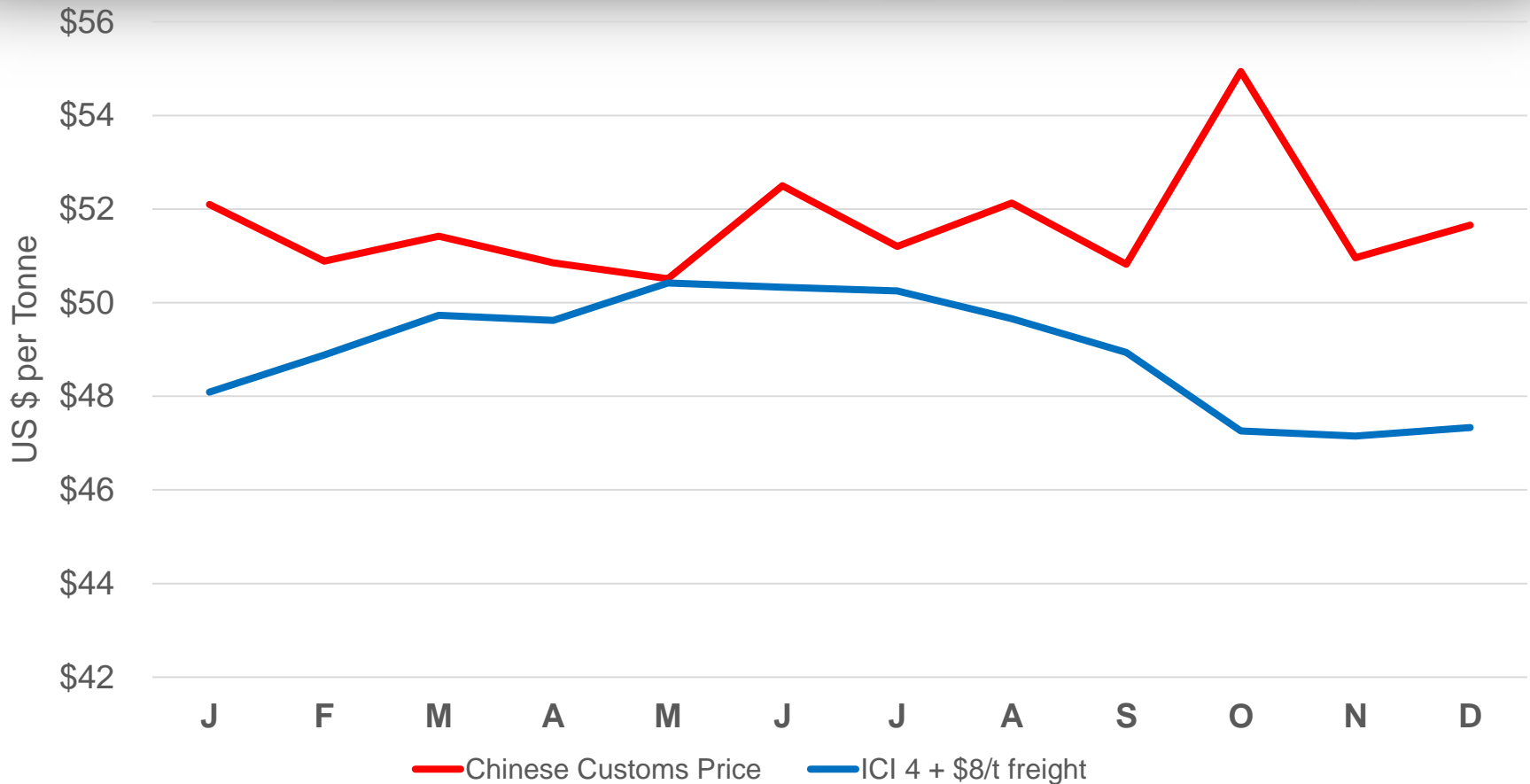


## Similar story for China's imports of Indonesian lignite

Chinese buyers in 2012 may have paid \$5 -\$12 per tonne more for Indonesian lignite (CC CfR price @ 3800 NAR vs. ESDM Ecocoal HPB price + an \$8/t freight adder [PMX vessel])



# In 2013, CCP reported price premium was on average only \$2.70 /t



However the 2013 price premium paid for Australian Thermal Coals was still quite high at \$11.65 per tonne.

