A Brief History and Competitive Analysis of Indonesia's Coal Industry

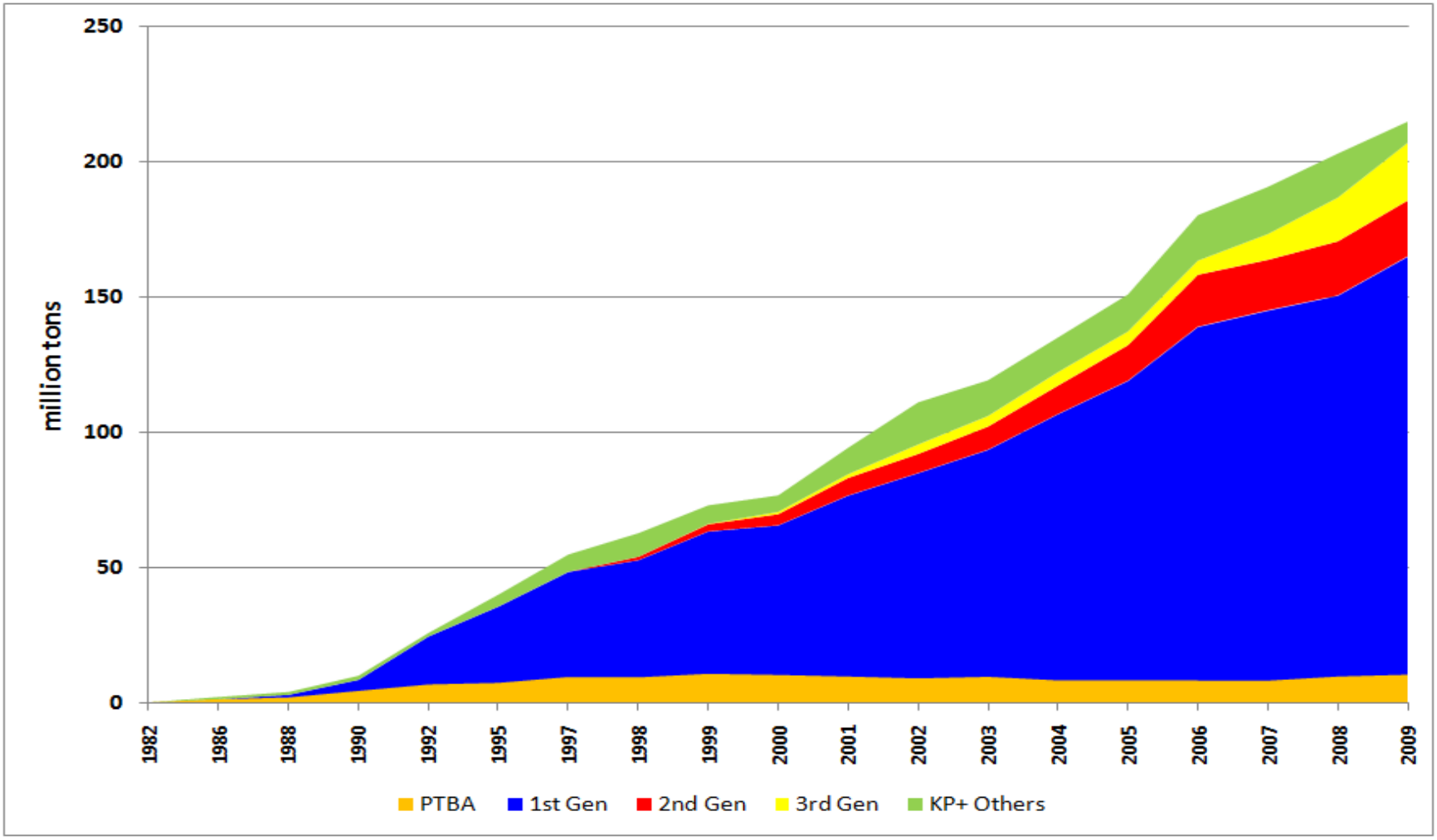
Presentation Topics

- **Short History of Coal Mining in Indonesia**
- **Competitive Strengths & Weaknesses of Indonesia's Steam Coal industry**
- **Major Questions facing Indonesia as the World's #1 Steam Coal Exporter**
  - **Can Indonesia's Coal Industry meet expected growth in the domestic and export sectors?**
  - **How will the shift to low rank coals affect its steam coal exports?**
  - **Are new Australian steam coals from Queensland a threat to Indonesia's steam coal industry?**
  - **Might the regulatory uncertainty surrounding Indonesia's new Mining Law seriously damage Indonesia's reputation as a reliable coal supplier?**

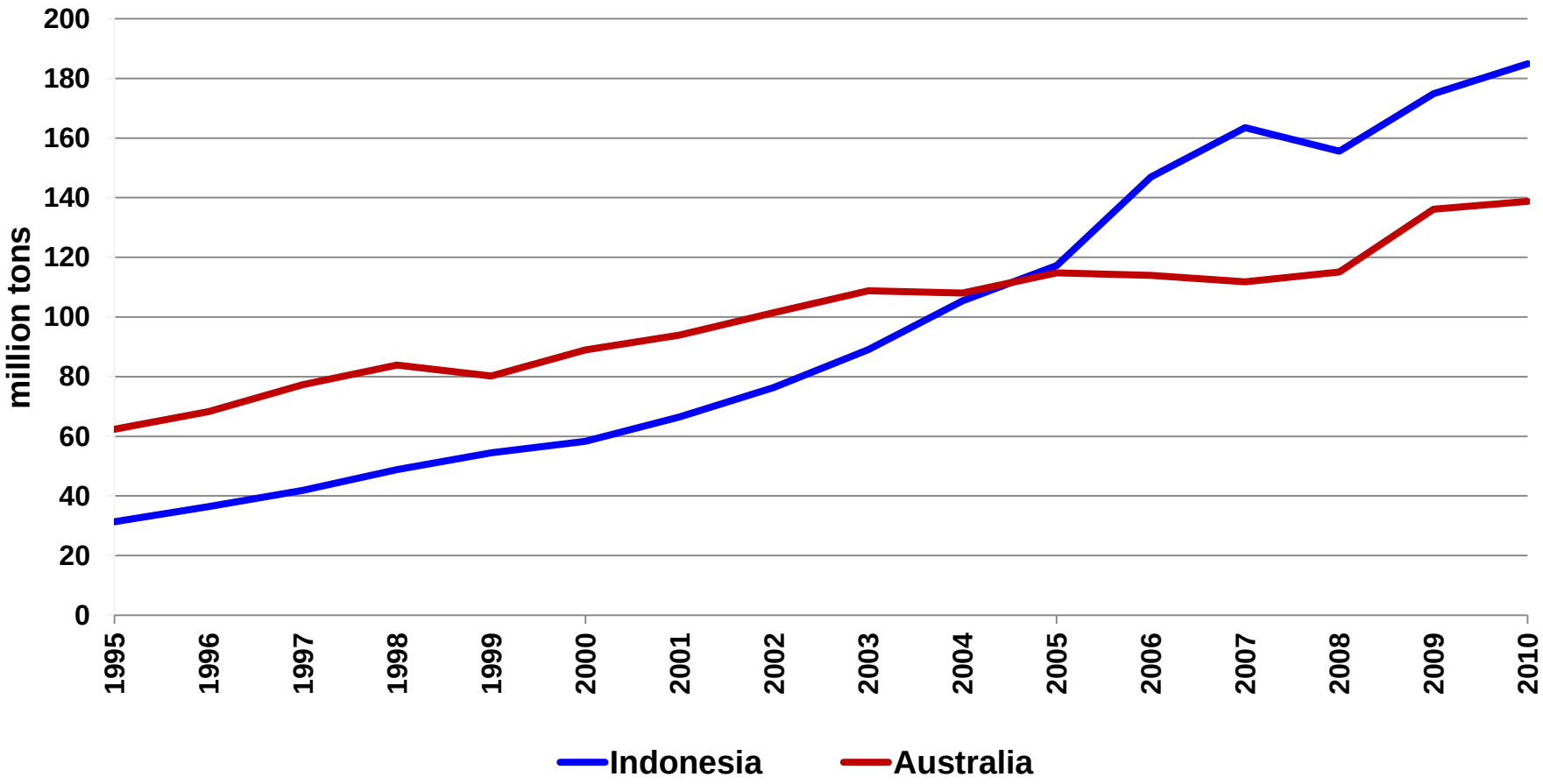
Short History

- **Coal mining at a significant scale did not begin until the late 1980s.**
- **GOI signed contracts known as Coal Contracts of Work with 10 foreign mining companies.**
- **Of these 10 CCOW, eight are still active and the holders of these contracts accounted for around 65% of 2009 production.**
- **The first CCOW are known as 1st Generation (Gen) CCOW.**
- **In 1994, the GOI offered a 2nd Gen CCOW for one year followed in 1997 by a 3rd Gen CCOW, which was discontinued in 2000.**
- **The CCOW will expire beginning with the 1st Gen CCOW between 2019-25 and ending with 3rd Gen CCOW between 2030 and 2035.**
- **With passage of Mining Law of 2009, new government authorizations are in the form of mining licenses known as IUPs**

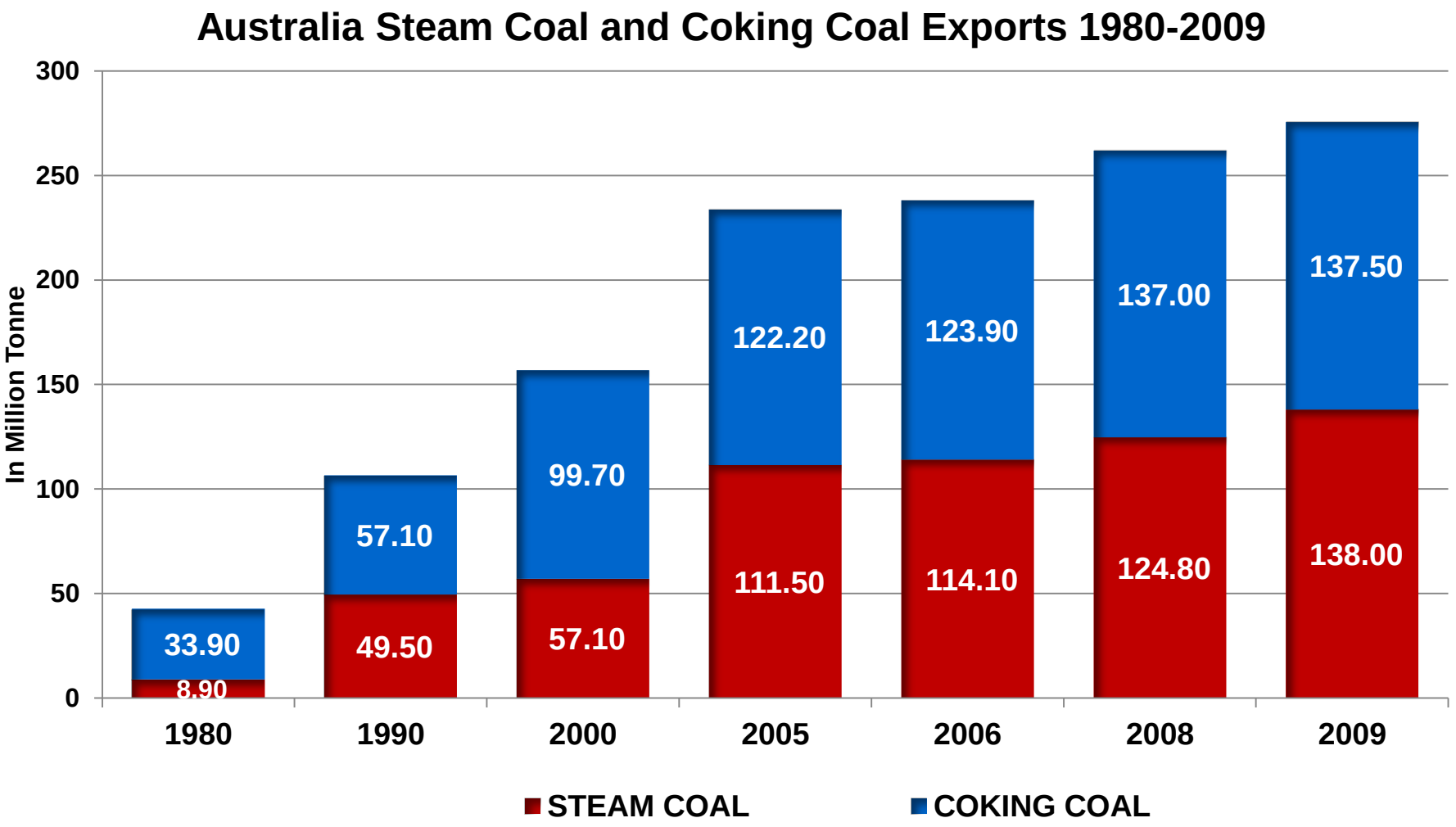
To this day, 1st Gen CCOW holders account for most of Indonesia's coal production. Since 2001, together with 2nd and 3rd Gen CCOW holders, they have accounted for 85% - 90% of annual coal output.



Indonesia only started exporting steam coal in 1990 but by 2006 had become the World's largest steam coal exporter in raw tons.



Australia, however, exports a higher CV steam coal than Indonesia does and also exports coking coal, making it the largest exporter of “black coal” in the World



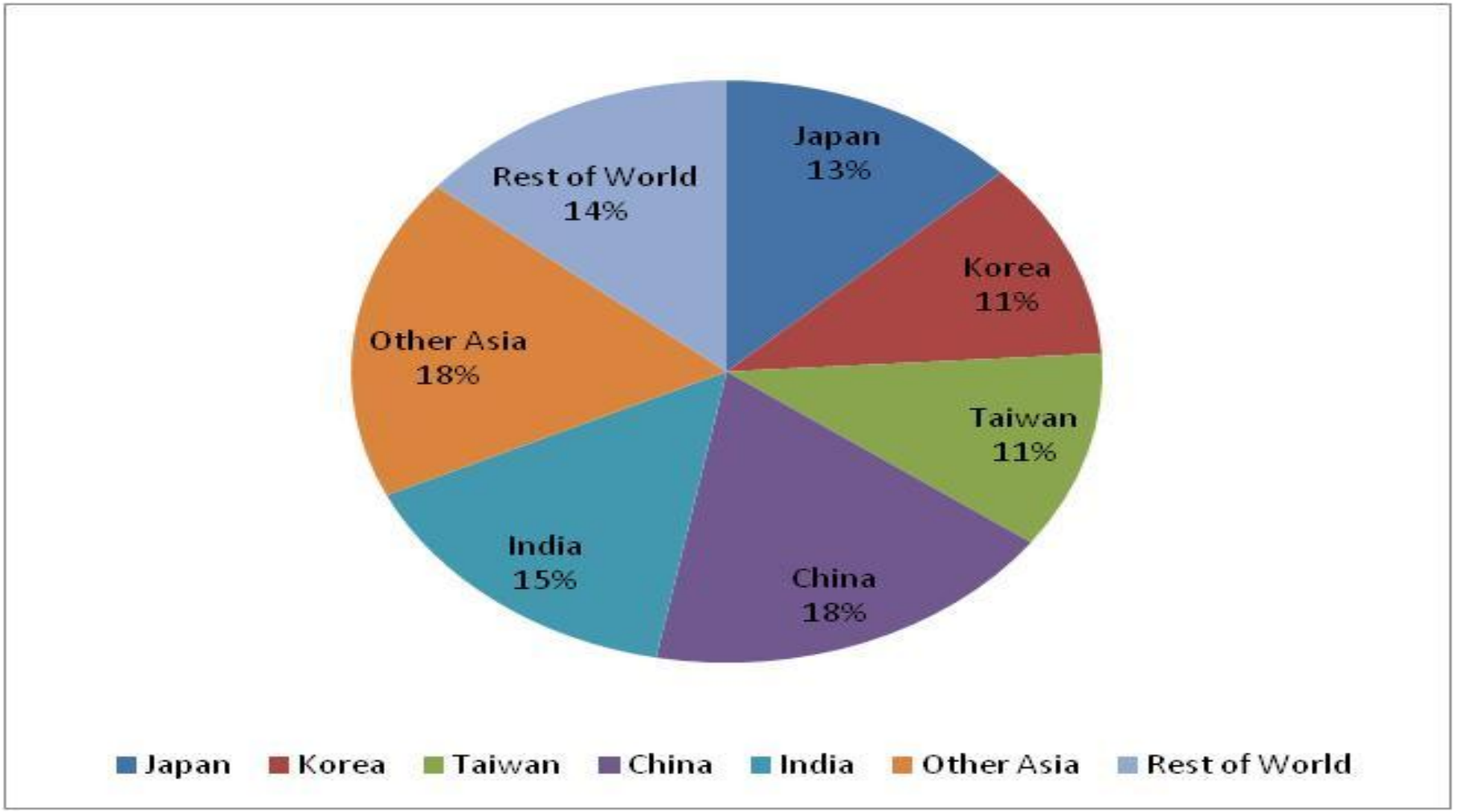
The Competitive Strengths and Weaknesses of Indonesia's Steam Coal Industry

Competitive Strengths & Weaknesses of Indonesia's Steam Coal Industry (relative to Australia)

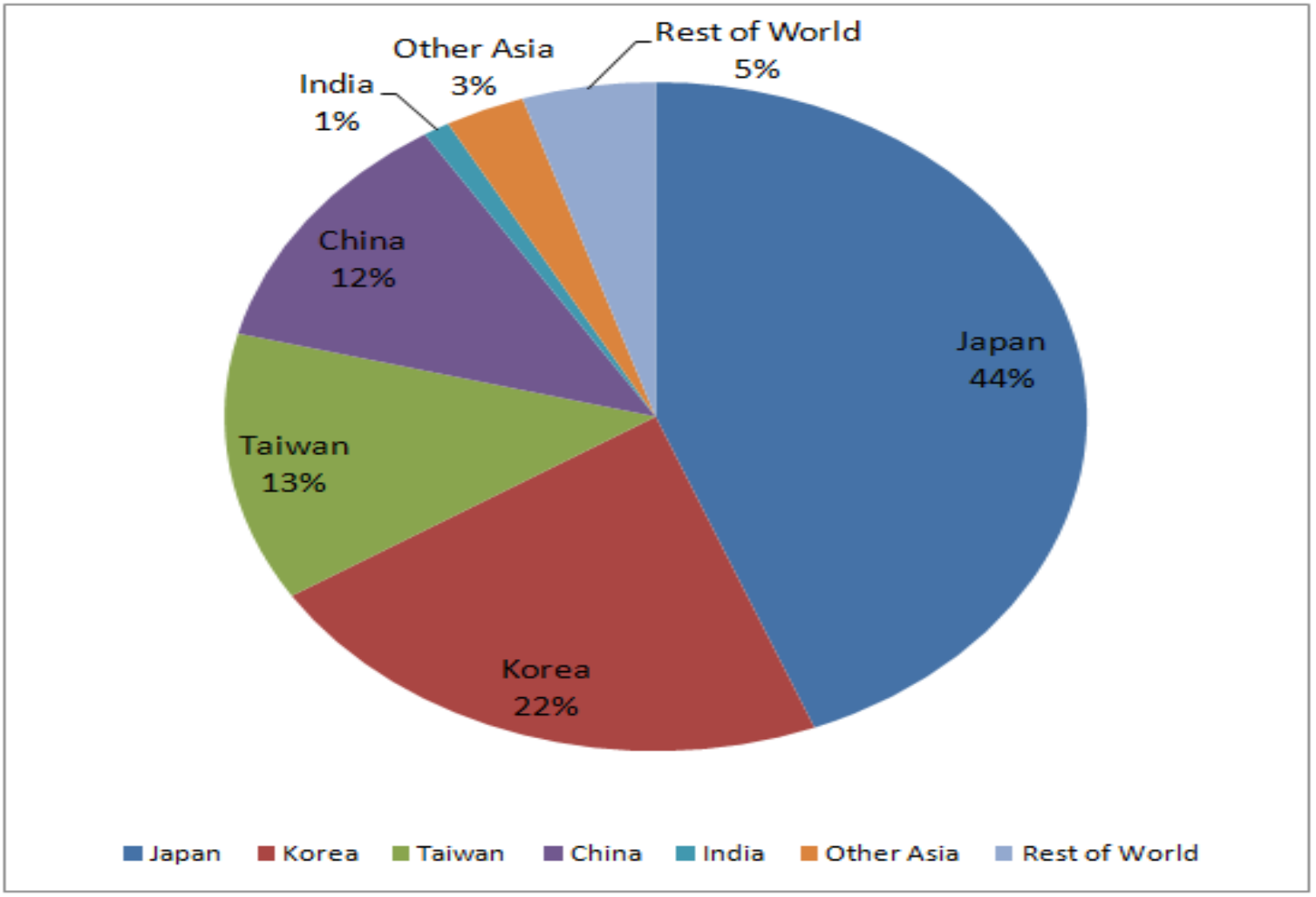
Strengths	Weaknesses
• Highly Diversified Market • Close to Major Coal Demand Centers in Asia • Flexible and Modular Inland Transportation Systems • Low stripping ratios and attractive conditions for open-cut mining	• Lower CV, Higher Moisture Coal • Greater Political Risk and Regulatory Uncertainty • Less Transparent Resource & Reserve Estimates • Higher Diesel Dependency

Market Diversity

Indonesia's 2009 coal exports were evenly spread across Asia while….



.. Australia's 2009 steam coal exports were heavily concentrated in East Asia.



Comparison of Inland Transport and Coal Loading Facilities

(Photos courtesy of PT Adaro)

Inland transport arrangements for Indonesia's 6 largest coal producers favor truck & barge with some overland conveyors

Company	2010 Production (million tons)	2010 Exports (million tons)	Mine Site to Barge Port (km)	Barge Port to Ship Loader/Port	Remarks
Adaro	42.5	33.3	79 (truck)	250/450 (Barge)	Loading @Taboneo anchorage or IBT
KPC	40.0	36.1	13 (OLC)	1/9 (OLC)	Load Port: TBCT
Kideco	28.9	22.3	39 (truck)	58 (Barge)	8-12 KT Barges loads @ TMCT and then 28 KM to Floating Cranes
Arutmin	20.4	17.1	7 -18 (truck)	124/199 (Barge)	Barges @ Sauti & Mulia travel 160 KM to NPLCT; can load PMX and Cape vessels
Berau	17.2	12.7	13 (truck)	74 (Barge)	From Lati to Muara Pantai
Indominco	14.3	13.6	35 (truck)	0/9 (OLC)	From Port to Bontang Coal Terminal

Offshore Facilities

- As of June 2010, Indonesia had:
  - 47 floating facilities ranging from 10,000 t/d floating cranes to a 72,000 t/d floating loading facility w/total nameplate capacity of 400 mtpa
  - 11 land ports ranging in size from 5,000 t/d to 80,000 t/d w/ a total nameplate capacity of 150 mtpa
- Each year more floating facilities are being added, which are larger in scale and have faster loading rates than facilities installed 2-3 years ago.

Australia's steam coal industry relies on fixed rail transport with each train hauling 6,000 – 12,000 tonnes to transport coal from the mines to fixed ports such as…….

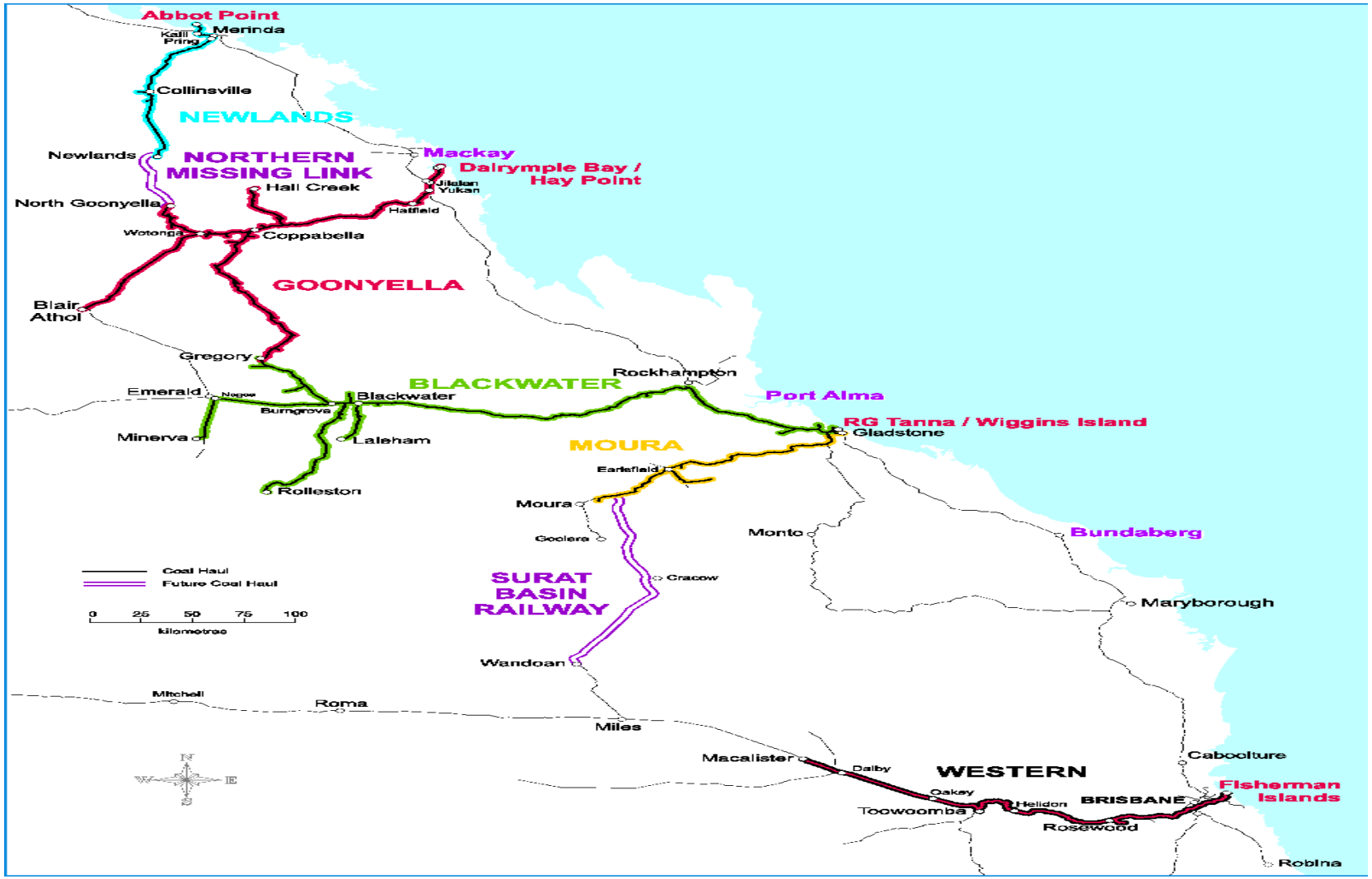
… the port of Gladstone with a 2009 nameplate capacity of 79 mtpa but with plans to expand it to 142 mtpa by 2020.


INDONESIA
Semarang
Dili
EAST TIMOR
Kupang
Timor Sea
PAPUA NEW GUINEA
Lae
Port Moresby
SOLOMON ISLANDS
Honaira
Darwin
Gulf of Carpentaria
Indian Ocean
Derby
Broome
Port Hedland
Learmonth
Carnarvon
Western Australia
Tennant Creek
Northern Territory
Alice Springs
Mount Isa
Cairns
Abbott Pt
Hay Point
Mackay
Queensland
Queensland
Gladstone
Tropic of Capricorn
Coral Sea
VANUATU
Port-vila
Noumea
NEW CALEDONIA
AUSTRALIA
South Australia
Cook
Geraldton
Kalgoorlie
Perth
Great Australian Bight
Port Augusta
Broken Hill
Darling
Bourke
New South Wales
NSW
Newcastle
Brisbane
Port Lincoln
Adelaide
Canberra
Sydney
Victoria
Melbourne
Tasmania
Hobart
Tasman Sea
Indian Ocean
Auckland
Hamilton
Rotorua
New Plymouth
NEW ZEALAND
Westport
Greymouth
Wellington
Christchurch
Timaru
Invercargill
Dunedin
0
1000 Miles
0
1000 Km

Coal Terminal Expansion Plans: NSW & Queensland, 2006 – 2020 (in mtpa)

Newcastle	NSW	**2006**	**2008**	**2010**	**2012**	**2015**	**2020**
1. Kooragang Coal Terminal		64.0	77.0	91.0	101.0	101.0	101.0
2. Carrington Coal Terminal		25.0	25.0	25.0	25.0	25.0	25.0
3. NCIG Coal Terminal (Planned)		0.0	0.0	30.0	45.0	66.0	66.0
Sub Total		**89.0**	**102.0**	**146.0**	**171.0**	**192.0**	**192.0**
Port Kembla	NSW	16.0	16.0	16.0	16.0	16.0	16.0
NSW Total		**105.0**	**118.0**	**162.0**	**187.0**	**208.0**	**208.0**
Gladstone	Queensland						
1. RG Tanna Coal Terminal		51.0	72.0	72.0	72.0	72.0	72.0
2. Barney Point Coal Terminal		7.0	7.0	7.0	7.0	0.0	0.0
3. Wiggins Island (Planned)		0.0	0.0	0.0	0.0	25.0	70.0
Sub Total		**58.0**	**79.0**	**79.0**	**79.0**	**97.0**	**142.0**
Hay Point	Queensland						
1. Dalrymple Bay Coal Terminal		55.7	85.0	85.0	85.0	85.0	85.0
2. Hay Point Coal Terminal		40.0	44.0	44.0	55.0	55.0	55.0
Sub Total		**95.7**	**129.0**	**129.0**	**140.0**	**140.0**	**140.0**
Abbott Point	Queensland	15.0	25.0	50.0	80.0	100.0	100.0
Brisbane	Queensland	5.0	5.0	5.0	5.0	8.0	10.0
Queensland Total		**173.7**	**238.0**	**263.0**	**304.0**	**345.0**	**392.0**
TOTAL		**278.7**	**356.0**	**425.0**	**491.0**	**553.0**	**600.0**

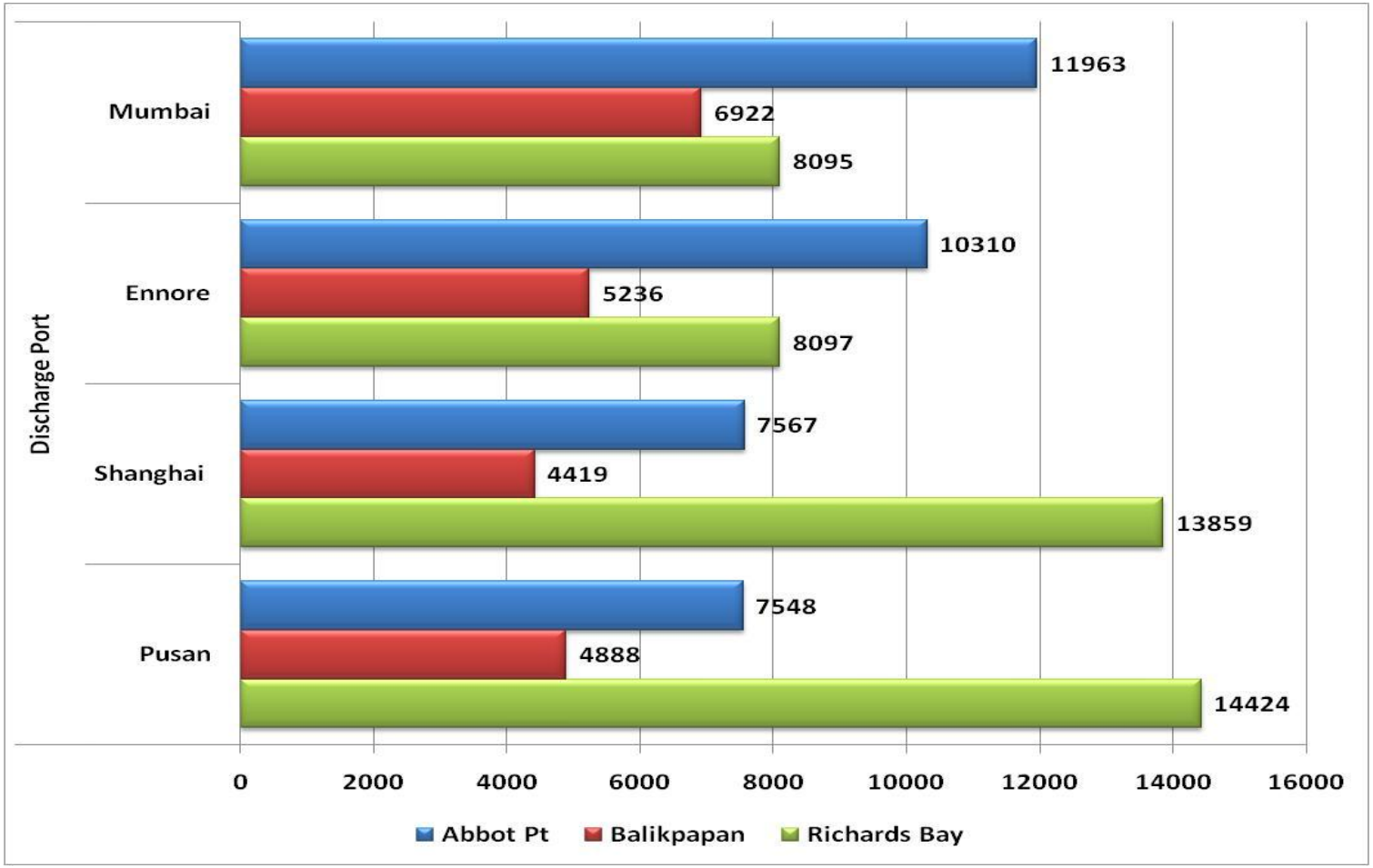
Railway-Port Connections from Existing & Planned Queensland Coal Mines



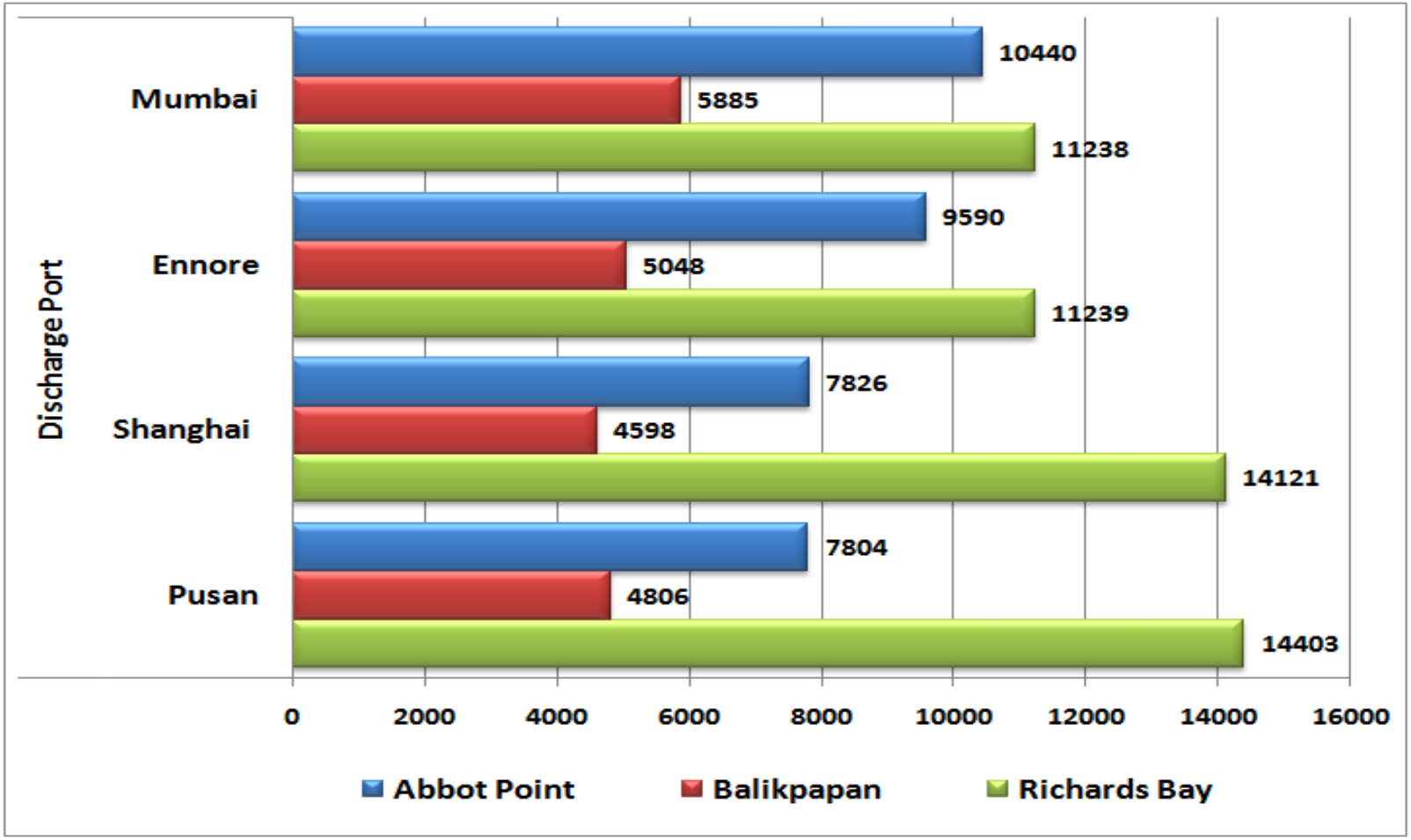
Source: Queensland Government, "Coal Transport Infrastructure in Queensland: Overview of Future Expansion" updated on September 2008 and available at: www.transport.qld.gov.au.

Closer to Major Asian Coal Import Markets

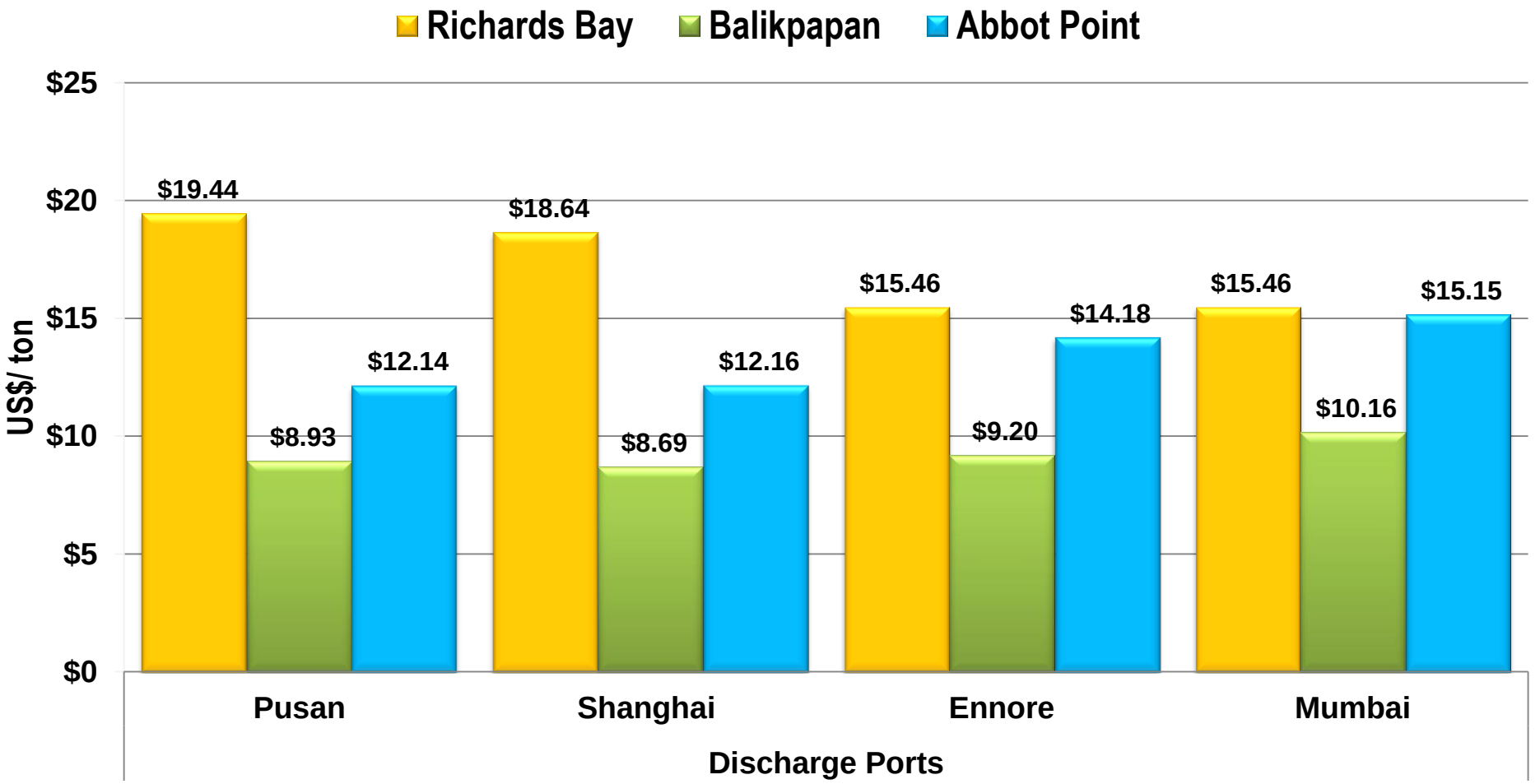
Indonesia's coal terminals are closer to Asia's major coal markets than Richards Bay (RSA) or Australia's coal terminals (RT distances in nautical miles)



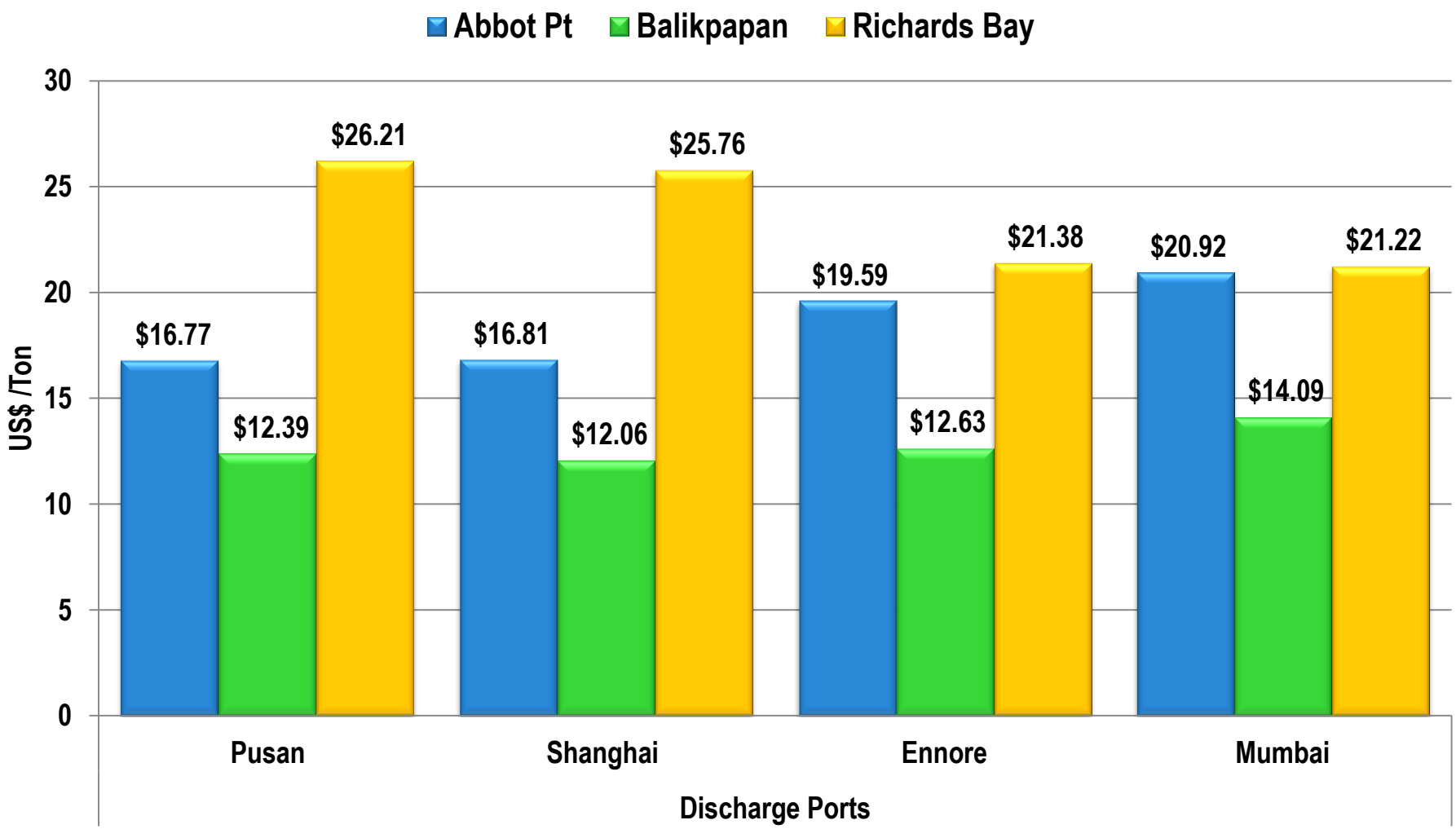
This location advantage is even greater if we consider Cape vessels making nonconsecutive voyages between load and discharge ports (NM distances for non-consecutive voyages with Qingdao as the "open position")



Indonesia's freight rate advantage provides a significant competitive advantage over RSA & Australian steam coal industries (US$/tonne (ar)) (Assumptions: Non-consecutive voyages, Daily Charter Rate for Cape =$30K/day , IFO= $480/t, MDO=$750/t)

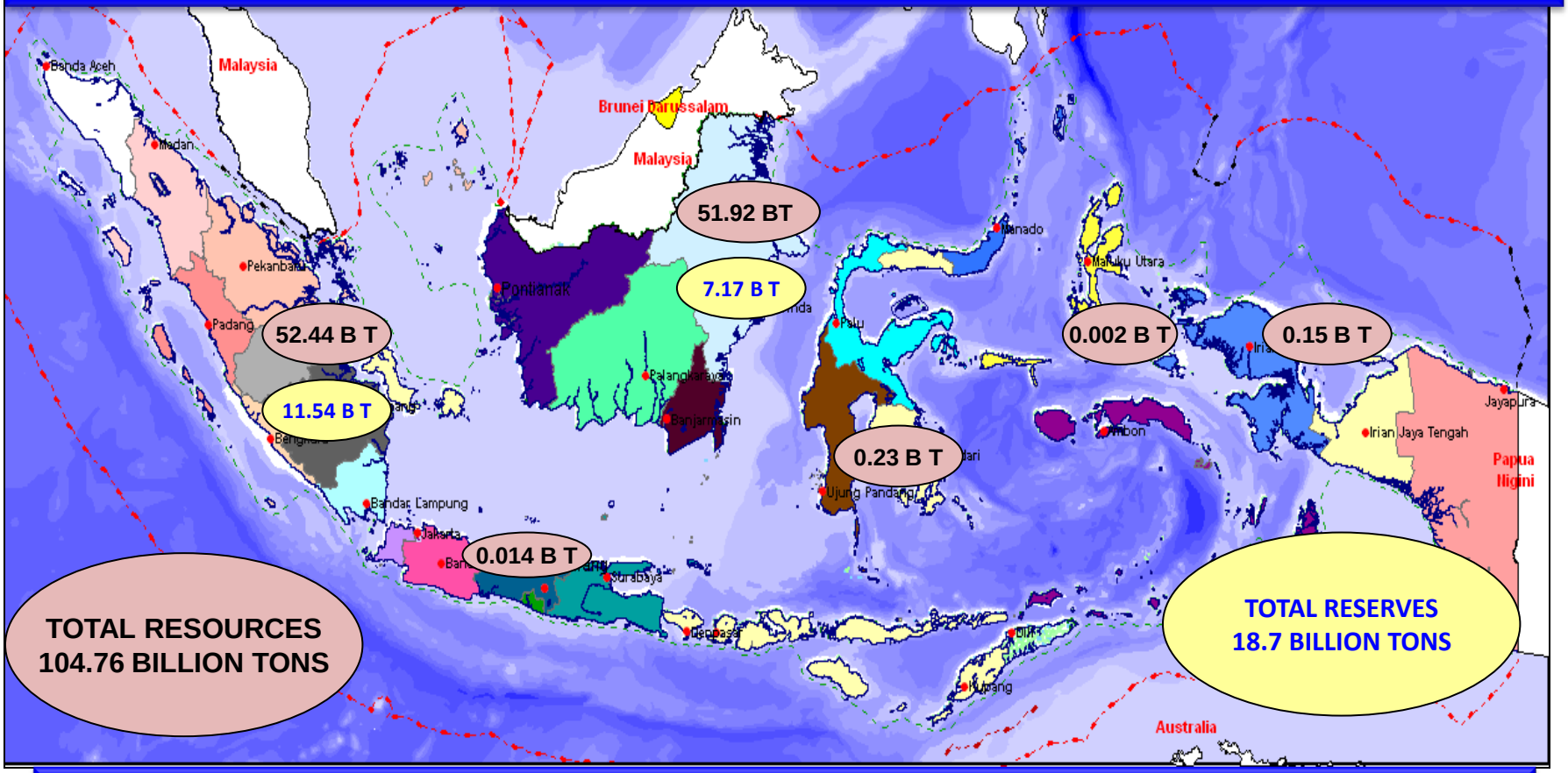


Indonesia's Freight Advantage is even larger at higher charter rates and fuel prices
(Assumptions: $45k/d charter rate, IFO=$600/t, MDO+$900/t



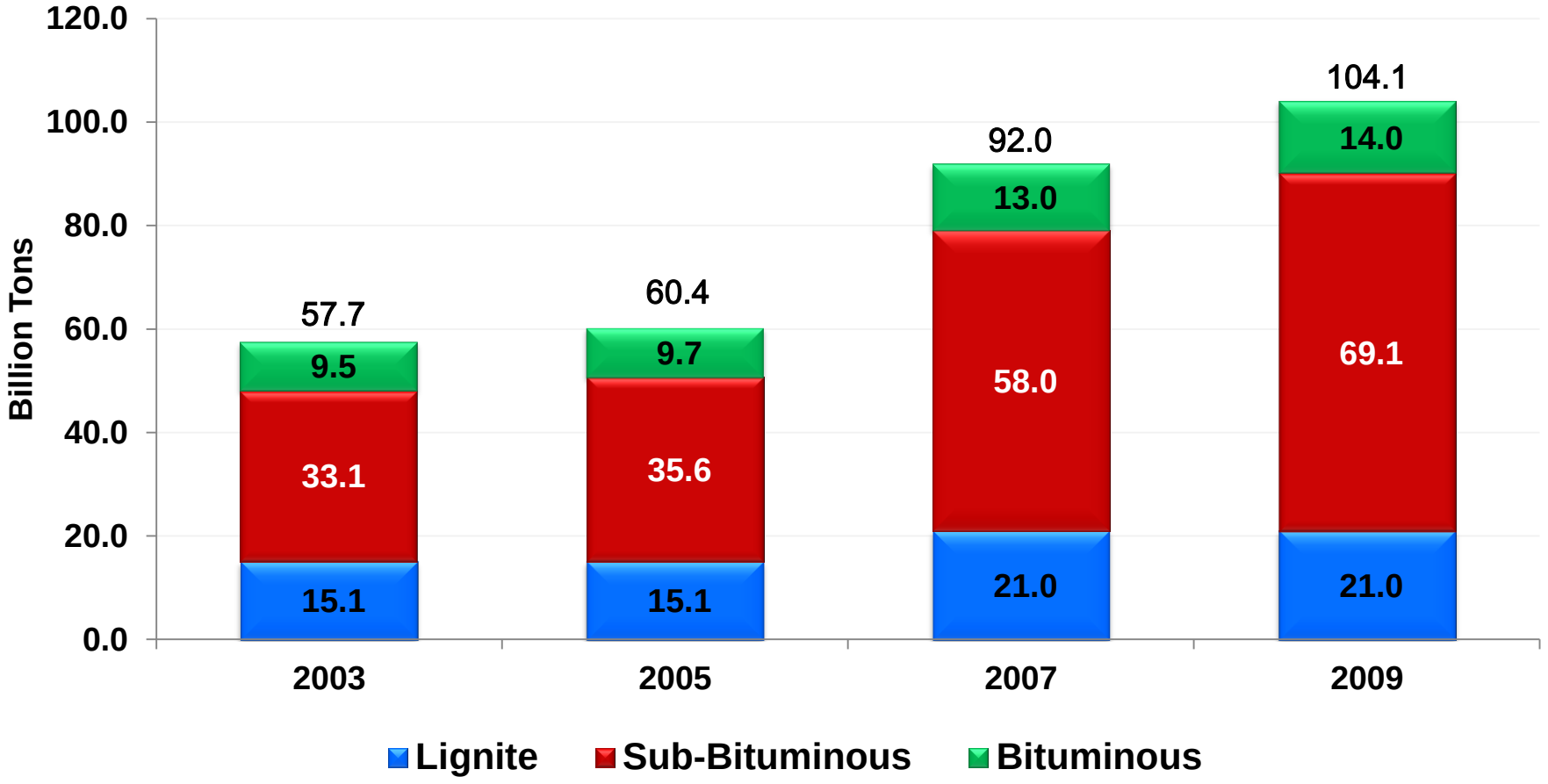
Less Transparent Coal Resource & Reserve Estimates

MAP OF INDONESIA'S COAL RESERVES AND RESOURCES, 2009

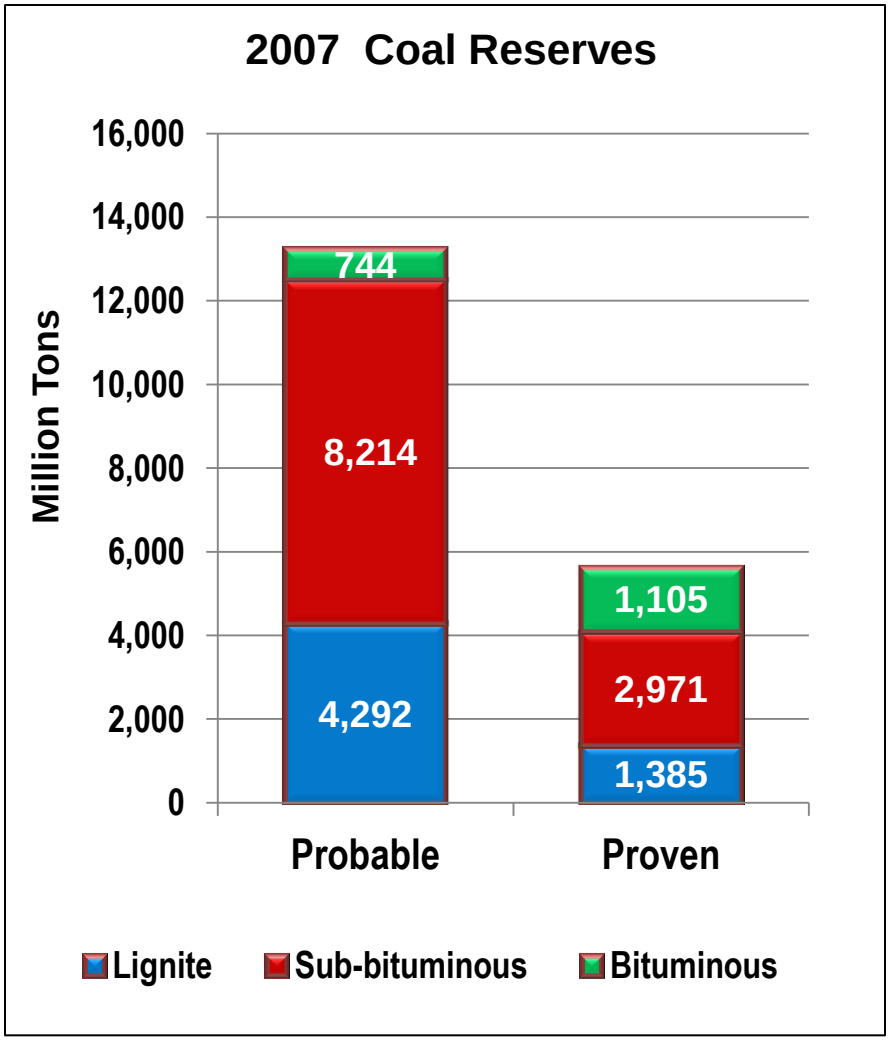


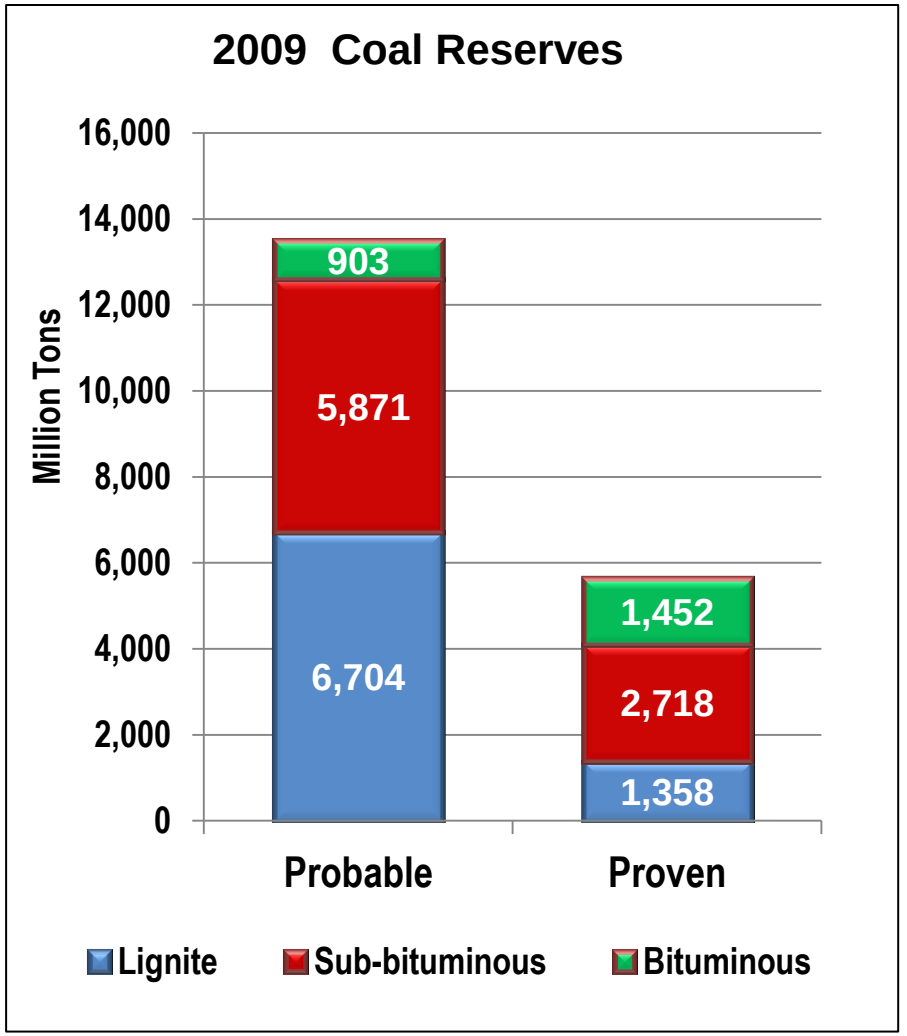
Note : Coal Resource Estimates for South Sumatra, East Kalimantan & South Kalimantan are based on Joint NEDO – MEMR Study (2007 – 08)

NEDO-MEMR Joint Study resulted in 2007 resources increasing by 54% over 2005 figures due to an increase in hypothetical sub-bit resources. MEMR increased sub-bit resources by an additional 12% in 2009

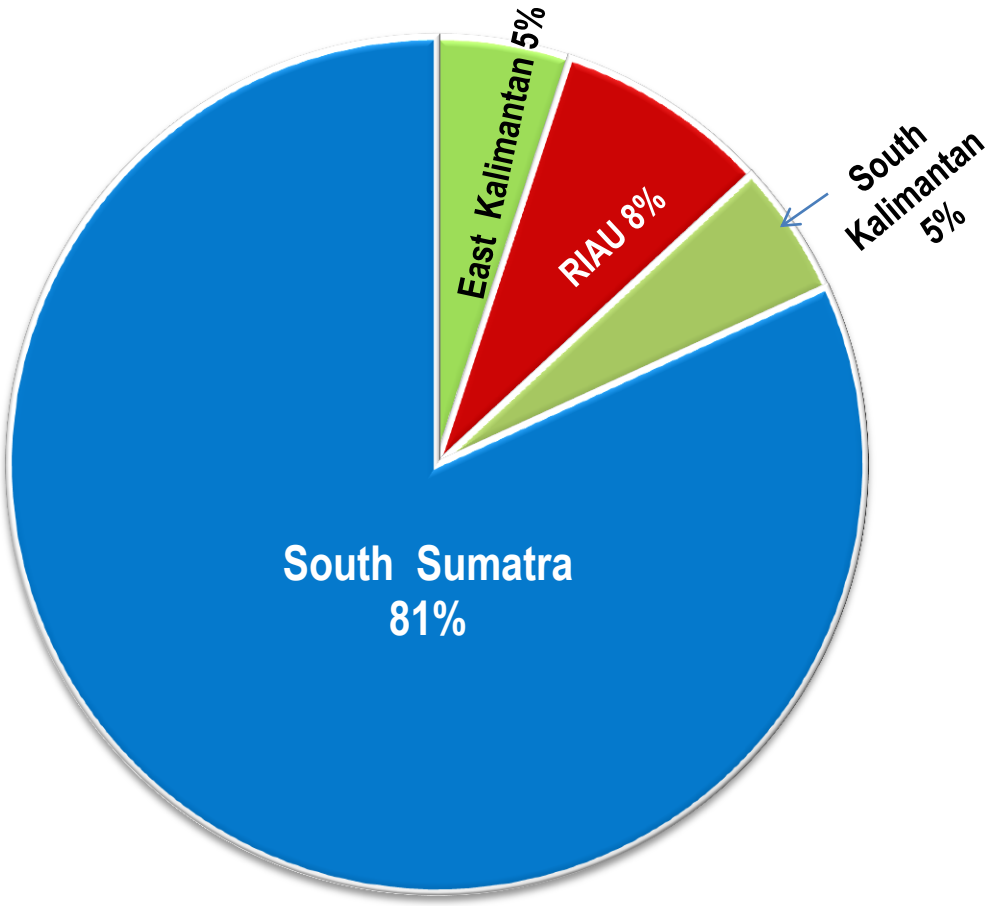


Indonesia's Proven Coal Reserves remained almost unchanged from 2007 and 2009. However, probable reserves shifted from sub-bits to low rank coals or lignites.





Location of Indonesia's low rank coal resources (2009 low rank resource estimate = 21.2 billion tons)



MEMR-NEDO Coal Reserve and Resource Estimates are much higher than previous estimates but….

- The MEMR does not identify the reporting basis that was used.
- Most of the reserve increases are for “probable reserves”. Proven reserves have actually declined over this period.
- Increases in the resource base are a mixture of hypothetical and measured resources mainly for sub-bituminous grades of coal.
- MEMR has thus far refused to release the Joint NEDO-MEMR study, which is the basis for the official increases in reserves and resources, to the public.
- This study, if released for public comment, should shed light on:
  - the reporting basis and data sources used for estimating reserves and resources
  - the standard adopted (was it JORC?) for classifying coal deposits into different resource and reserve categories
  - the specific changes in the data base that led to such large increases in both resources and reserves.
- Until the Joint Study is released for review and comment, one must treat the latest reserve and resource data with extreme caution.

Australia's Steam Coal Resources and Reserves

- The Australian Government through Geoscience Australia (GA) publishes official estimates of Australia's black and brown coal resources and reserves in an annual report titled "AUSTRALIA'S IDENTIFIED MINERAL RESOURCES" (AIMR).
- GA has been publishing the AIMR since 1999. The most recent issue, which is dated December 2009, provides resource and reserve data as of December 2008
- GA expresses coal resources as Demonstrated Resources, which are separated into Economic and Sub-economic categories. and reported on an as-received basis.
- Economic Demonstrated Resources (EDR), which represent those resources that GA concludes have either near-term or long-term potential to be developed economically, are roughly 3-4 times greater than the JORC Reserves reported annually by publicly traded mining companies.
- This information is available to the public w/o charge through a single contact person who will answers questions by email.

This table shows GA's December 2008 estimates of Australia's black coal EDR data (billion tons, as-received)

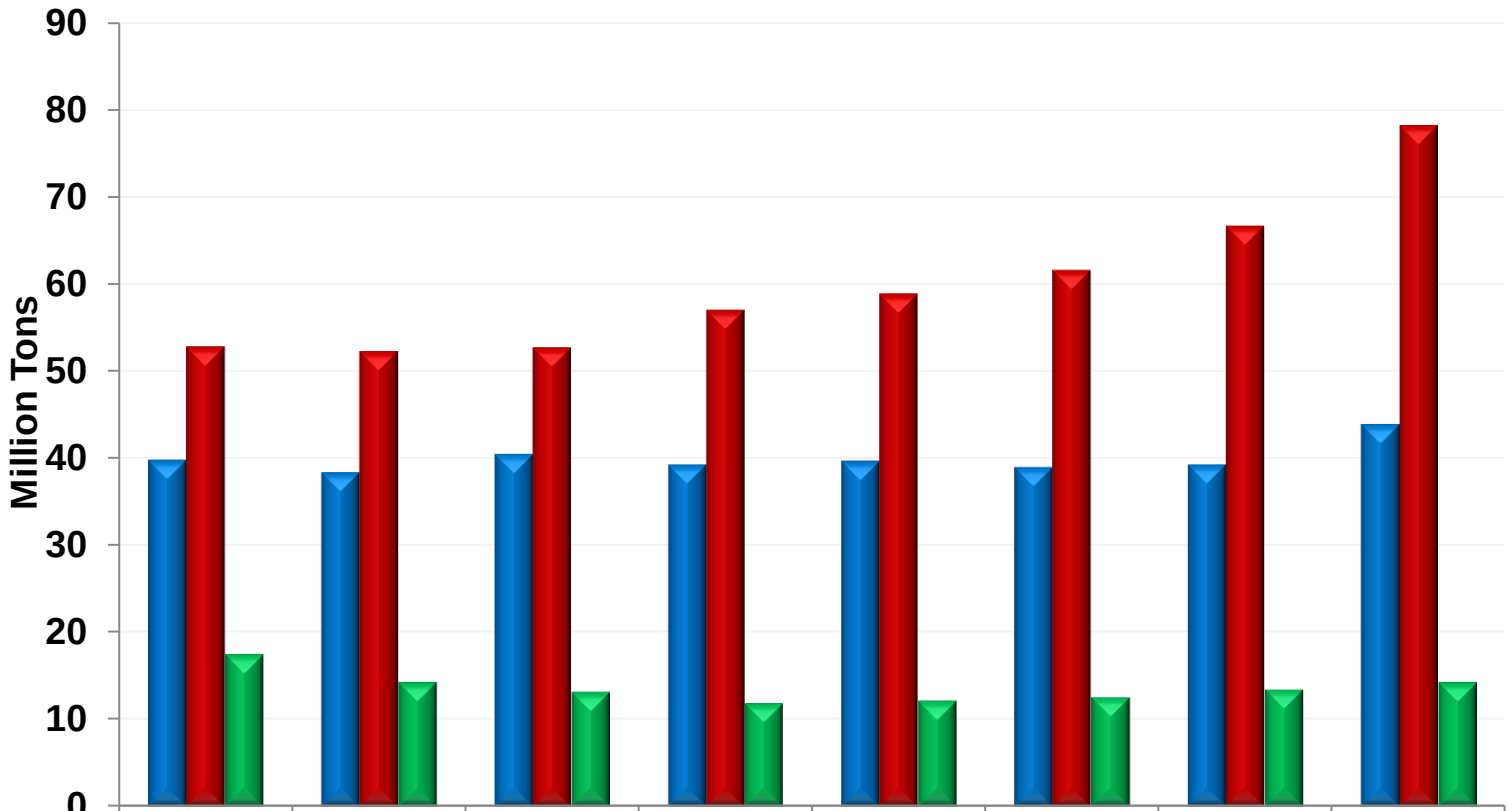
Coal Type	Demonstrated Resources				Company+Estimates	
	Economic (EDR)	Accessible EDR (AEDR)	Sub-economic		Inferred Resources	JORC Reserves (% of AEDR)
			Para-marginal	Sub-marginal		
Black Coal						
- in situ	56.2	n/a	3.0	10.3	106.0	n/a
- recoverable	39.2	39.1	1.5	6.7	66.7	13.4 (34%)
Brown Coal						
- in situ	44.3	32.2	43.1	18.1	112.3	n/a
- recoverable	37.1	32.1	38.8	16.3	101.1	4.8 (15%)

Source: Geoscience Australia, "Australia's Identified Mineral Resources, 2009", Table 1

This table shows GA's December 2009 estimates of Australia's black coal EDR data (billion tons, as-received)

Coal Type	Demonstrated Resources				Company+Estimates	
	Economic (EDR)	Accessible EDR (AEDR)	Sub-economic		Inferred Resources	JORC Reserves (% of AEDR)
			Para-marginal	Sub-marginal		
Black Coal						
- in situ	60.7	n/a	3.3	9.2	125.2	n/a
- recoverable	43.8	43.7	1.8	5.9	78.2	14.2 (33%)
Brown Coal						
- in situ	41.2	n/a	43.5	18.1	112.3	n/a
- recoverable	37.1	32.1	39.1	16.3	101.2	4.7 (15%)

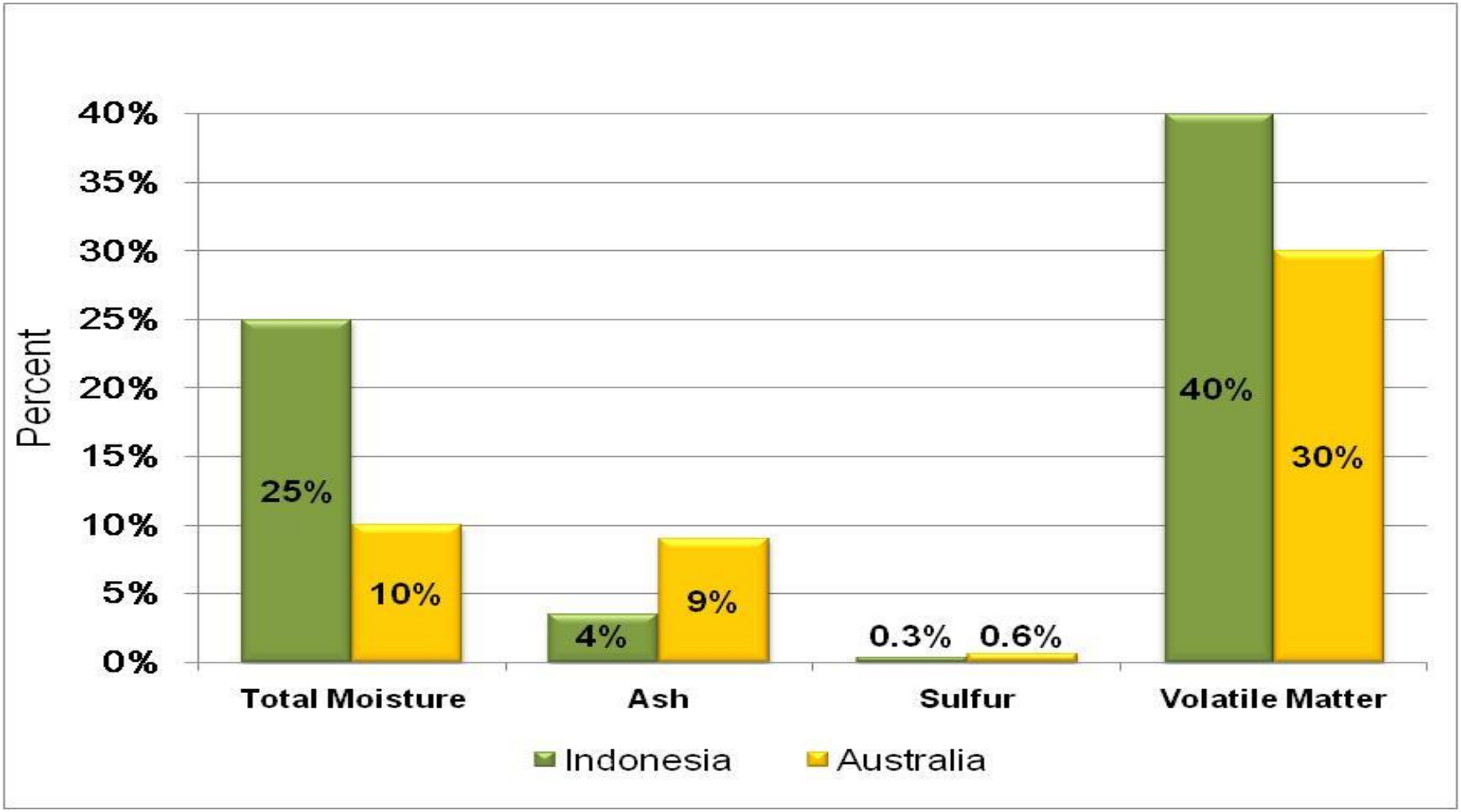
Australia's black coal EDR and JORC reserves have oscillated within a narrow range since 2003 while inferred resources have climbed by 28%



	2002	2003	2004	2005	2006	2007	2008	2009
EDR Resources	39.7	38.3	40.4	39.2	39.6	38.9	39.2	43.8
Inferred Resources	52.8	52.3	52.7	57.0	58.9	61.6	66.7	78.2
JORC Reserves	17.4	14.2	13.1	11.8	12.1	12.5	13.4	14.2

Indonesian coals have lower CV, higher moisture and lower ash fusion temperatures than Australian steam coals have

But Indonesian coals also have lower S and ash contents than Australian coals making them excellent blending stocks in China and India.



Indonesia's coals have lower CV, higher moisture and lower AFT but, in many cases, ultra low sulfur and ash when compared with……

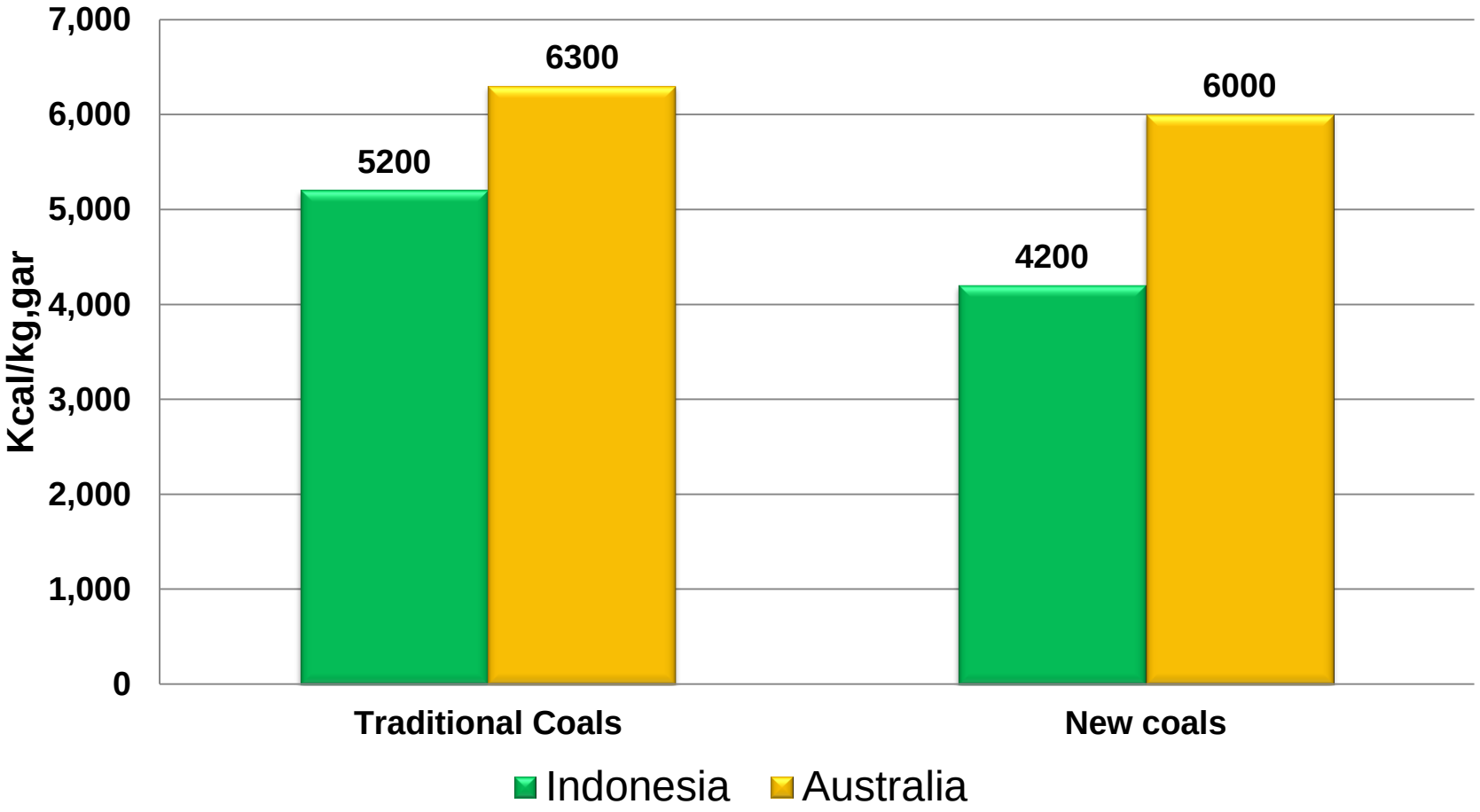
Coal Quality Parameter ↓	Coal Brand → Reporting Basis ↓	KPC Pinang	KPC Melawan	Adaro Envirocoal	Arutmin Ecocoal	Kideco Roto
GCV (Kcal/Kg)	GAD	6,546	5,735	5,900	5,000	5,310
GCV (Kcal/Kg)	GAR	6,150	5,350	5,100	4,221	4,700
Total Moisture (%)	AR	14.5	23.5	26.0	35.0	26.5
Inherent Moisture(%)	AD	9.0	18.0	14.5	23.0	17.0
Ash (%)	AD	5.5	3.0	1.5	3.9	3.0
VM	AD	40.0	38.0	43.0	38.0	41.5
TS	AD	0.70	0.25	0.20	0.20	0.24
AFT	Initial Deform. Red Atmos.	11.5	1,150	1,200	1,150	1,150
HGI (#)	n/a	45	42	50	60	45

…… NSW export-grade steam coals

Coal Quality Parameter ↓	Coal Field → Reporting Basis ↓	SOUTHERN	WESTERN	HUNTER	NEWCASTLE	GUNNEDAH
GCV (Kcal/Kg)	GAD	6,750	6,600	6,810	6,760	7,050
GCV (Kcal/Kg)	GAR	6,390	6,220	6,360	6,330	6,515
Total Moisture (%)	AR	6.4	8.0	9.1	8.5	9.0
Inherent Moisture(%)	AD	1.1	2.6	2.7	2.3	1.5
Ash (%)	AD	19.5	20.4	13.5	15.1	17.5
VM	AD	20.8	28.7	32.7	30.6	26.8
TS	AD	0.45	0.55	0.60	0.60	0.65
AFT	Initial Deform. Red. Atmos.	1,460	1,460	1,270	1,380	1,530
HGI (#)	n/a	64	45	50	52	65

Source: www.australianminesatlas.com

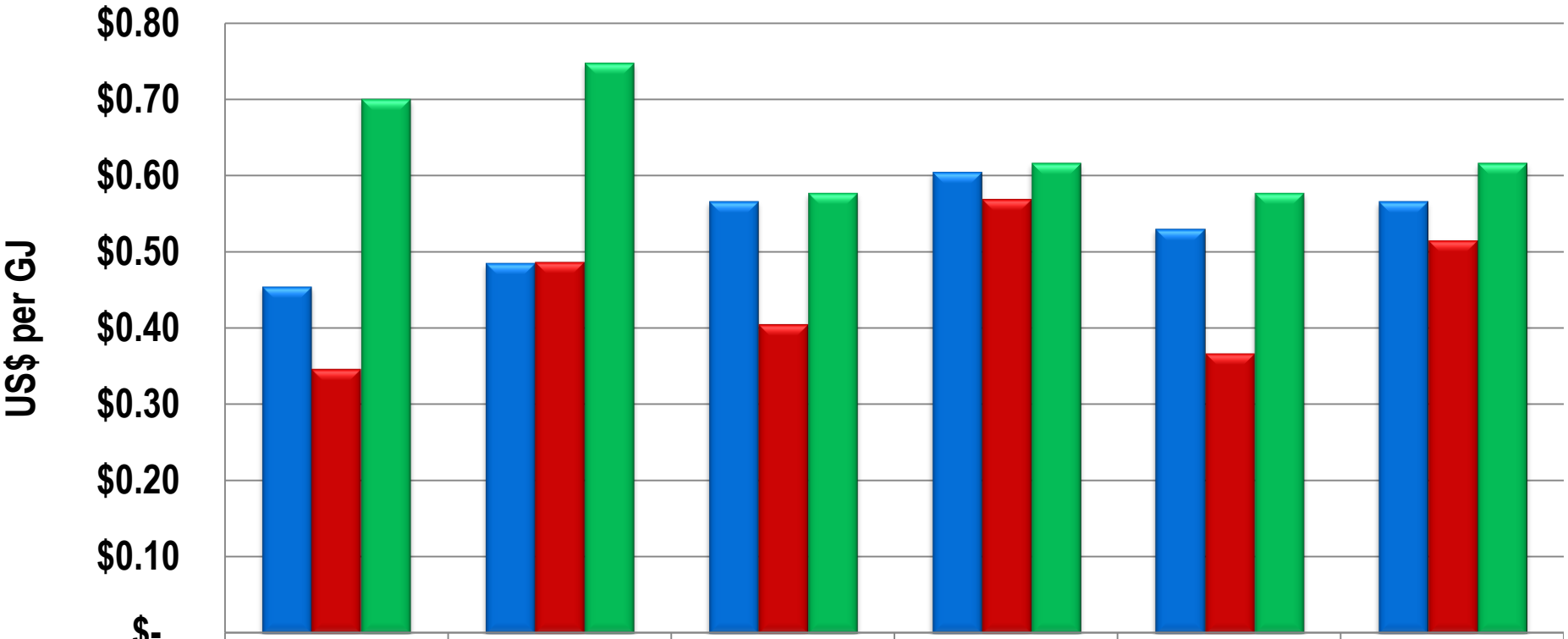
Traditional Indonesian coals have lower CVs than Australian coals; New Indonesian coals will have an even lower CV when compared to new Australian steam coals



Indonesia's coals have lower CV, higher moisture and lower AFT but, in many cases, ultra low sulfur and ash when compared with……

Coal Quality Parameter ↓	Indonesian Low Rank Coals			Australian New Coals		
	Coal Brand → Reporting Basis ↓	Adaro EnviroCoal 4000	Kideco SM Coal	Arutmin Ecocoal	Hancock (Alpha/Galilee Basin)	Xstrata (Wandoan/ Surat Basin)
GCV (Kcal/Kg)	GAD	4,865	5,255	5,000	6,500	6,350
GCV (Kcal/Kg)	GAR	4,000	4,100	4,221	6,040	5,975
Total Moisture (%)	AR	40.0	36.0	35.0	15.0	15.0
Inherent Moisture(%)	AD	27.0	18.0	23.0	8.5	9.7
Ash (%)	AD	2.5	4.0	3.9	7.7	8.0
VM	AD	37.0	43.0	38.0	34.4	41.5
TS	AD	0.15	0.1	0.2	0.5	0.4
AFT	Initial Deform. Red Atmos.	1,200	1,120	1,150	1,350	1,340
HGI (#)	n/a	50	45	60	50-55	35

Indonesia will lose most of its transport advantage to India once shift to low rank coals occurs



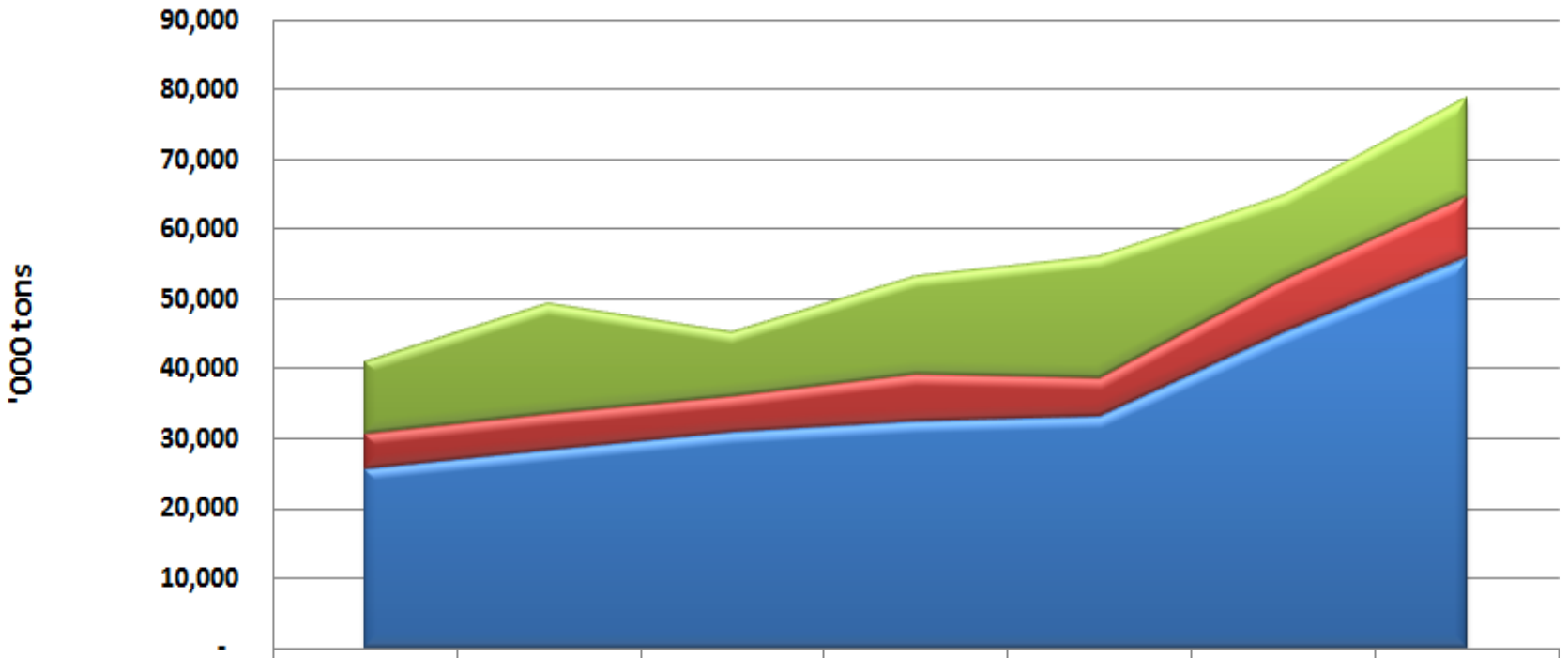
	Shanghai Trad.	Shanghai New	Mumbai Trad.	Mumbai New	Ennore Trad.	Ennore New
Abbot Point	$0.45	$0.49	$0.57	$0.60	$0.53	$0.57
Balikpapan	$0.35	$0.49	$0.41	$0.57	$0.37	$0.52
Richards Bay	$0.70	$0.75	$0.58	$0.62	$0.58	$0.62

CVs (kcal/kg) for Traditional Abbot Pt/Richards Bay/Balikpapan Coals = 6300/5900/5400
CVs (kcal/kg) for New Abbot Pt/Richards Bay/Indonesian Low Rank Coals= 5900/5900/4200

Can Indonesia Meet Both Domestic and Export Requirements for Steam Coal?

PLN's Fast Track Coal-fired Power Plant Programs
and
Their Implications for Coal Export Markets

Domestic coal demand has always been driven by the power sector



	2005	2006	2007	2008	2009	2010 (est.)	2011 (est)
Other Industries	10,371	15,900	9,285	14,111	17,510	12,260	14,290
Cement	5,152	5,301	5,248	6,843	5,579	7,600	8,860
Power	25,669	28,358	30,923	32,477	33,181	45,100	55,820

New Coal-fired power plants being built for PLN's 1st Fast Track Program (9,483 MW total)

ON JAVA		
No.	Project	Total MW
1	Labuan, Banten	630
2	Rembang, Jateng	630
3	Indramayu, Jabar	990
4	Suralaya, Bantem	625
5	Pacitan, Jatim	630
6	Paiton, Jatim	660
7	Teluk Naga, Bantern	945
8	Pelabulan Ratu, Jabar	1,050
9	Tanjung Awar Awar, Jatim	700
10	Adipala, Jateng	660
	Total	7,520

OFF JAVA		
No.	Project	Total MW
1	Meulaboh, NAD	220
2	Pangkalan Susu Sumut	400
3	Tarahan Lumpung	200
4	Susel, Barru	100
5	Kalteng 1, Pulang Pisau	120
6	Teluk Sirih, Sumbar	224
7	Kalsel, Asam-Asam	130
8	Katbar 1, Pant Baru (LOI)	100
9	Others (15 small plants; <100 MW)	469
	Total	1,963

Largest new PLN coal-fired power plants projects

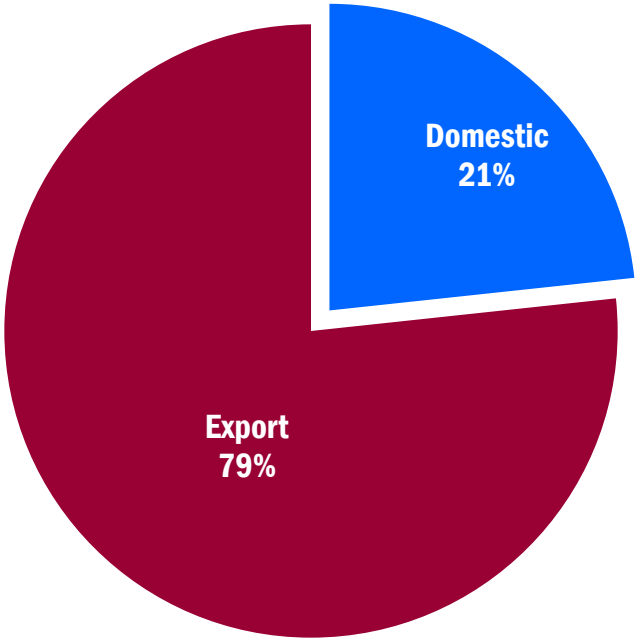
Sites	Typical Capacity (MW)	Target Commercial Operation Date
Cirebon – Jawa	600	2011
Piton – Jawa	800	2012
Tanjung Jati – Jawa	2 x 600	2012
Central - Jawa	2 x 1,000	2014
Indramayu – Jawa	2 x 1,000	2015, 2016
Sumatra mine mouth	5 x 600	2016, 2017, 2018

PLN's Projected Coal Consumption by Coal Type, 2010 -2014 (million tons)

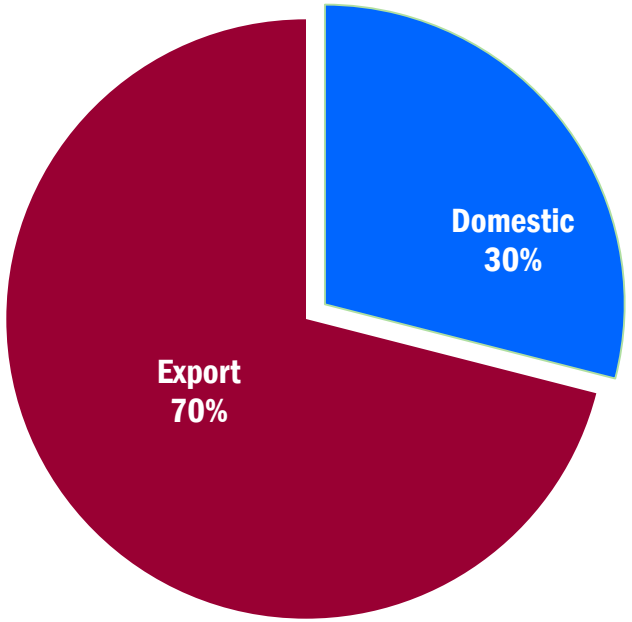
Typical Calorific Value (kcal/kg, gar)	2010	2011	2012	2013	2014
4000	2.0	14.8	21.7	26.6	35.7
5000	27.7	29.9	33.0	34.5	39.0
6000	4.9	4.9	8.9	8.9	8.9
Total	34.6	49.6	63.5	70.0	83.7

- In 2009, Indonesia's domestic coal requirements were 56.3 mt (21% of total sales)
- By 2013, domestic requirements are expected to reach 100 mt , which will account for 30% of total sales.
- Exports + domestic sales are expected to grow from 254 mt in 2009 to 328 mtpa in 2013, largely due to PLN's 10 GW fast track power plant program.

2009



2013

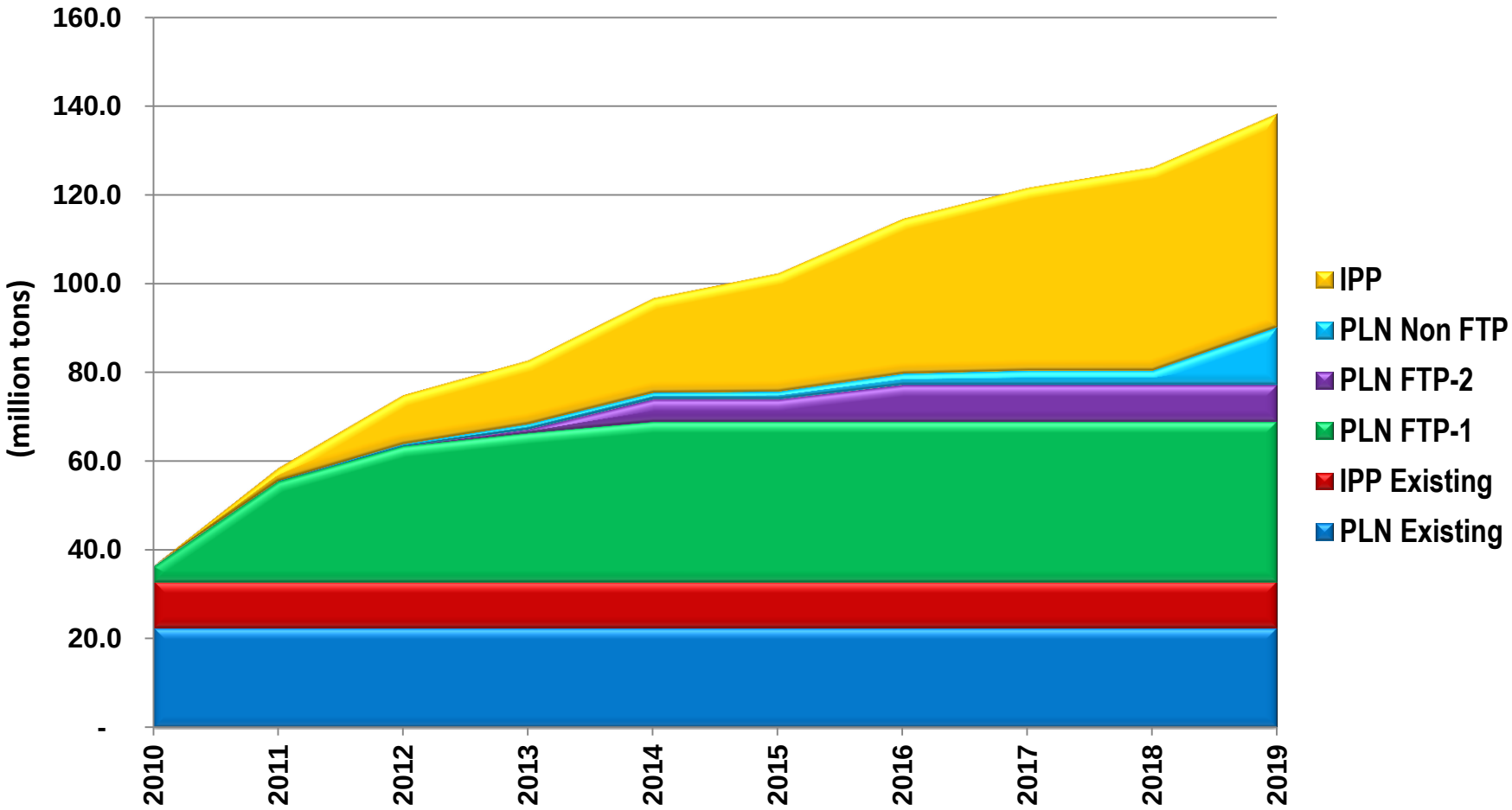


Between 2008 and 2015, domestic coal demand expected to increase by 14% per year as new PLN-owned coal-fired power plants are brought into operation (in million tons)

Coal market	2009	2011	2013	2015	2017	2019
Power	33	59	85	106	125	142
Other Domestic	23	27	39	46	55	65
Total Domestic Demand	**56**	**86**	**124**	**150**	**180**	**207**
Exports	175	206	236	277	326	382
Total Demand	**231**	**292**	**360**	**427**	**506**	**589**

Source: (a) Power requirements taken from Nur Pamudji, " " IBC Coal Markets 2011 conference, Singapore, Feb 2011. (b) Other Domestic: 9% CAGR, (c) Exports– 8.4% CAGR = CAGR for Indo coal exports 2004-10.

Coal Quantities committed to PLN and Indonesian IPPs under existing Coal Supply Contracts- 2010-2019 (million tons)



Can Indonesia meet new domestic demand + increased export demand?

Yes, as long as government price and non-price regulations do not cripple the industry.

- Indonesia will experience a more gradual increase in domestic coal demand than PLN is forecasting.
- Indonesia's coal producers have demonstrated the ability in the recent past to rapidly increase their production levels to accommodate demand growth. No reason it cannot do so in the future .
- Indonesia's Coal Reserves, if official figures are accurate, are more than adequate to meet this forecasted demand into the foreseeable future.
- In any case, the new domestic demand is largely for LR coals while export demand is predominantly for sub-bituminous coals.
- Shortages , if they do occur, are likely to result from PLN's refusal to pay the market FOB price for Indonesian coal.

Are potential new steam coal mines in Queensland a threat to the future growth of Indonesia's steam coal exports?

Australia Black Coal Industry – Quick Summary

Present	Outlook
• NSW & Queensland account for 98% of Australia's black coal production and 100% of exports: – coking coal (53%) – steam coal (47%) • In 2009, – NSW mainly a steam coal exporter (78% steam : 22% coking) – Queensland exported mostly coking coal (72% coking: 28% steam). – Queensland produced 82% of its coal from O/C mines vs. 66% for NSW. • Transport is by fixed rail to fixed land ports; new transport projects subject to slow government approvals	• New Queensland mines – mostly O/C mines in the Surat and Gallilee Basins – will produce steam coal. • New NSW mines – Underground mines in Hunter Valley + O/C mines in the Gunnedah Basin. – Steam coal- main coal product. • New mines located in the Surat, Galilee and Gunnedah Basins will have significantly higher cash costs. • Continued uncertainty about the schedule for expanding ports and rail networks.

Mega-Mines under development in Queensland

Developer	Basin	Deposit	2010 Resource Estimate* (billion tones)	First Shipment (years)	Export Capacity (MTPA)	Distance to Port (Km)	Total Capital (billion AUS$)
Hancock Coal	Galilee	Alpha Coal	3.6	2013	30	495	7.5
Hancock Coal	Galilee	Kevin Comer	3.4	2013	30	495	9.0
Clive Palmer	Galilee	Waratah	4.3	2013	40	495	5.3
Xstrata	Surat	Wandoan	2.7	2015	22	380	n/a
Syntech	Surat	Cameby Downs	1.4	2010	12-15	430	n/a

* Hancock Coal and Wandoan resource estimates include Measured, Indicated and Inferred only; Xstrata also estimates that it has 400 mt of Reserves (Proved and Probable)

Coal Terminal Expansion Plans: NSW & Queensland, 2006 – 2020 (in mtpa)

Newcastle	NSW	**2006**	**2008**	**2010**	**2012**	**2015**	**2020**
1. Kooragang Coal Terminal		64.0	77.0	91.0	101.0	101.0	101.0
2. Carrington Coal Terminal		25.0	25.0	25.0	25.0	25.0	25.0
3. NCIG Coal Terminal (Planned)		0.0	0.0	30.0	45.0	66.0	66.0
Sub Total		**89.0**	**102.0**	**146.0**	**171.0**	**192.0**	**192.0**
Port Kembla	NSW	16.0	16.0	16.0	16.0	16.0	16.0
NSW Total		**105.0**	**118.0**	**162.0**	**187.0**	**208.0**	**208.0**
Gladstone	Queensland						
1. RG Tanna Coal Terminal		51.0	72.0	72.0	72.0	72.0	72.0
2. Barney Point Coal Terminal		7.0	7.0	7.0	7.0	0.0	0.0
3. Wiggins Island (Planned)		0.0	0.0	0.0	0.0	25.0	70.0
Sub Total		**58.0**	**79.0**	**79.0**	**79.0**	**97.0**	**142.0**
Hay Point	Queensland						
1. Dalrymple Bay Coal Terminal		55.7	85.0	85.0	85.0	85.0	85.0
2. Hay Point Coal Terminal		40.0	44.0	44.0	55.0	55.0	55.0
Sub Total		**95.7**	**129.0**	**129.0**	**140.0**	**140.0**	**140.0**
Abbott Point	Queensland	15.0	25.0	50.0	80.0	100.0	100.0
Brisbane	Queensland	5.0	5.0	5.0	5.0	8.0	10.0
Queensland Total		**173.7**	**238.0**	**263.0**	**304.0**	**345.0**	**392.0**
TOTAL		**278.7**	**356.0**	**425.0**	**491.0**	**553.0**	**600.0**


INDONESIA
Semarang
Dili
EAST TIMOR
Kupang
Timor Sea
Darwin
PAPUA NEW GUINEA
Lae
Port Moresby
SOLOMON ISLANDS
Honaira
Indian Ocean
Gulf of Carpentaria
Derby
Broome
Port Hedland
Learmonth
Carnarvon
Western Australia
Tennant Creek
Northern Territory
Alice Springs
Mount Isa
Cairns
Abbott Pt
Hay Point
Mackay
Queensland
Queensland
Gladstone
Coral Sea
Tropic of Capricorn
VANUATU
Port-vila
Noumea
NEW CALEDONIA
AUSTRALIA
South Australia
Cook
Geraldton
Kalgoorlie
Perth
Great Australian Bight
Port Augusta
Broken Hill
Darling
Bourke
New South Wales
NSW
Newcastle
Brisbane
Port Lincoln
Adelaide
Canberra
Sydney
Victoria
Melbourne
Tasmania
Hobart
Tasman Sea
Indian Ocean
Auckland
Hamilton
Rotorua
New Plymouth
NEW ZEALAND
Westport
Greymouth
Wellington
Christchurch
Timaru
Invercargill
Dunedin
0
1000 Miles
0
1000 Km

Australia's New Coal Supplies and Infrastructure Expansion Plans

New Coal Sources by 2015

Galilee Basin(Queensland)

- Alpha A/Kevins Corner : 60 mtpa
- Waratah : 40 mtpa
- South Galilee : 20 mtpa

Surat Basin (Queensland)

- Wandoan : 22 mtpa
- Cameby Downs : 15 mtpa

Other Queensland/NSW : 50 mtpa

Total 207 mtpa

Infrastructure Expansion Plans

Rail Hauling Capacity

- ↑ From 333 mtpa in 2008 to over 600 mtpa in 2020

Port Handling Capacity

- Total: ↑ from 356 mtpa in 2008 to 600 mtpa in 2020
- Steam coal: ↑ from 164 mtpa in 2008 to 371 mtpa in 2020??

Regulatory Uncertainty Related to Indonesia's new Mining Law: Could it "kill the goose that lays the golden egg"?

Indonesia is now operating under a new mining law that will result in major changes to the industry's structure.

Pre-2009 Contract Arrangements	Main changes under Mining Act of 2009
Coal Contracts of Work (CCOWs) – **1st Gen (1981-90)** – **2nd Gen (1994- 1998)** – **3rd Gen (2000 – 2008)** – **Features of 1st Gen CCOWs:** • **large concession areas (25K – 100K ha)** • **fixed fiscal terms** • **little government interference** – **110 3rd Gen CCOWs signed; only 50 were still valid in 2008** – **Countless KPs (Contracts let by Local Government for small mining areas) – have had a small impact on total coal production**	• **Immediate replacement of KPs with a system of mining licenses known as IUPs.** • **Signed CCOWs remain valid until end of their contract terms but then must be converted into IUPs.** • **Maximum license area: 15,000 ha** • **Greater regulation of all aspects of mining, including selection of mining contractors.** • **MEMR regulation of domestic market obligation (DMO) and mandatory coal reference price (ICRP)**

Summary

- **Kalimantan's coal industry has experienced incredible growth in output and market power over the past 20 years but its best quality reserves are rapidly being depleted.**

- **Infrastructure constraints will not be a problem for the foreseeable future.**

- **Coal resources and reserves, based on official estimates, appear to be adequate to meet reasonable forecasts of both domestic and export requirements for the next two decades and beyond. But how much confidence can one place in these official numbers while the MEMR denies the coal industry access to the NEDO- MEMR Coal Resource and Reserve study?**

- **The expected switch to low rank (LR) coals creates a big challenge for Indonesia's coal producers, who must develop new markets for LR coals that will result in a deterioration of Indonesia's transport cost advantage.**

- **Moving to LR coals may also force Indonesia's coal producers to implement promising but still unproven coal drying technologies.**

Summary

- **Australia's steam coal producers are currently constrained from increasing output by chronic shortages of port and rail capacity.**
- **Massive, high quality steam coal resources remain to be developed out of the Galilee, Surat and Gunnedah basins.**
- **Total production costs for these new Australian coal resources will be much higher than for Indonesian coals on a per gigajoule basis.**
- **But the quality differentials between new Australian and Indonesian LR coals are so great that it is impossible to make a proper competitive analysis of these new coals at this time.**
- **The outlook for both industries is for higher cash costs due to regulatory changes and the shift in coal types and mine locations.**

Summary

- **Regulatory and political risks are, at this point in time, the biggest challenge to Indonesia's coal industry.**
- **Excessive regulation by the Government of Indonesia (GOI) may hurt exports by creating uncertainty about amounts available for export and the minimum price that Buyers must pay.**
- **Over the past decade, the GOI has implemented laws and regulations (e.g., forestry law and regional autonomy law) that were well-intentioned, but either badly structured or incompetently administered.**
- **The coal industry, due to its scale and financial strength, was able to weather those regulatory and political storms.**
- **And, to its credit, the GOI, over that same period, corrected many of its regulatory missteps.**

Summary

- **One always hopes that history will repeat itself and the MEMR, after walking to the edge of the proverbial regulatory cliff, will recognize the regulatory risks it is creating and start to issue regulations that support the continued growth of Indonesia's coal industry and to do so in a more timely fashion.**

- **If it does correct any regulatory missteps, the future of Indonesia's steam coal industry will remain bright and given the need for its coal resources throughout Asia, its continued expansion assured.**

- **But history does not always repeat itself. If the MEMR chooses to continue on its current path of creating regulatory uncertainty, it runs the risk of allowing new coal producers in Queensland to take away existing and new export markets from Indonesia.**