



Formerly SteelMint / CoalMint

Methodology

Deriving Coking Coal Index: CFR India

Version 1.1

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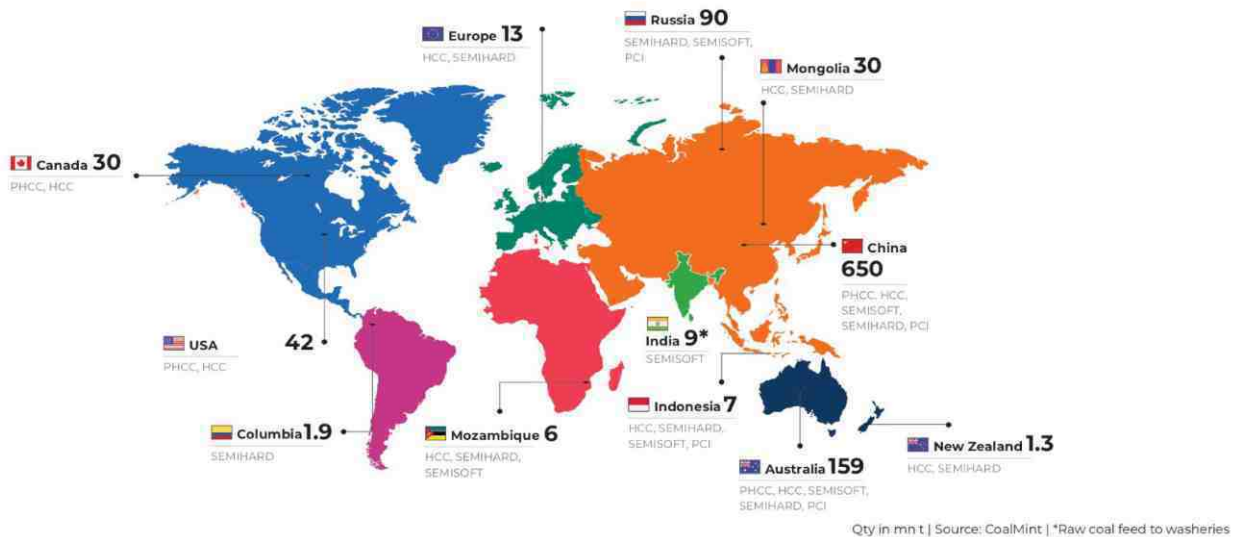
Synopsis of global met coal market: _____

The global met coal market is estimated around 1113 mn t, with India having a 20% market share. Bulk of the material is used in blast furnace for iron making. India's total annual met coal import volumes including PCI (majorly used for blending purpose) stands at around 70 mn t.

Met coal market at a glance _____



Countrywise met coal production: _____



Country-wise met coal demand: —————

China and India are major consumers of coking coal, with China using 738 mn t in 2022 and India 71 mn t. China plans to reduce coking coal usage to meet their carbon neutrality efforts. In contrast India's production is expected to grow with support from Government initiatives to boost domestic steel production.

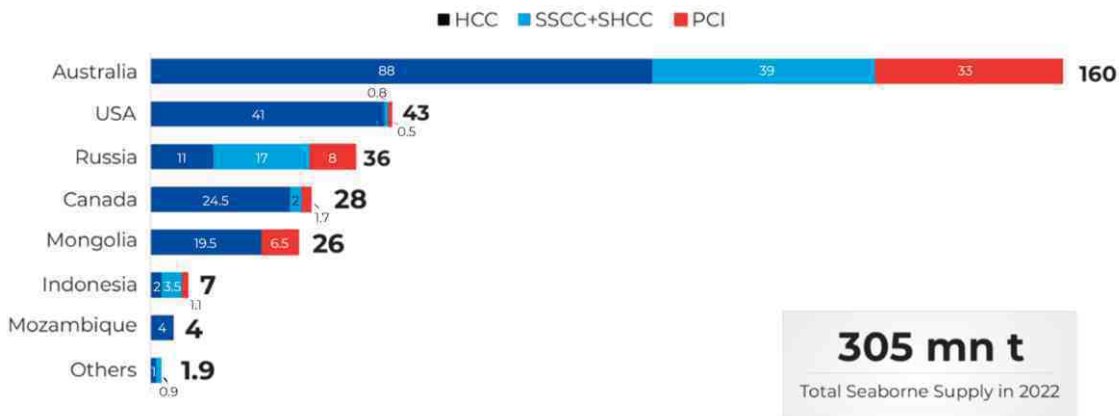
Country	2018	2019	2020	2021	2022
China	655	728	773	742	738
India	69	70	65	70	71
SE Asia	11	15	18	22	20
JKT	121	119	104	114	103
EU 27	70	69	59	68	59
MENA	18	17	16	17	16
CIS	70	69	69	72	56
Americas	54	49	41	50	51
Total	1067	1137	1144	1155	1114

Quantity in mnt

Seaborne metallurgical coal supply: —————

Worldwide seaborne supply of metallurgical coal stands at 305 mn t including 55% of hard coking coals (HCC), 25% of a mix of semi-soft coking coals (SCC), while 20% is the share of pulverized coal injection coal (PCI).

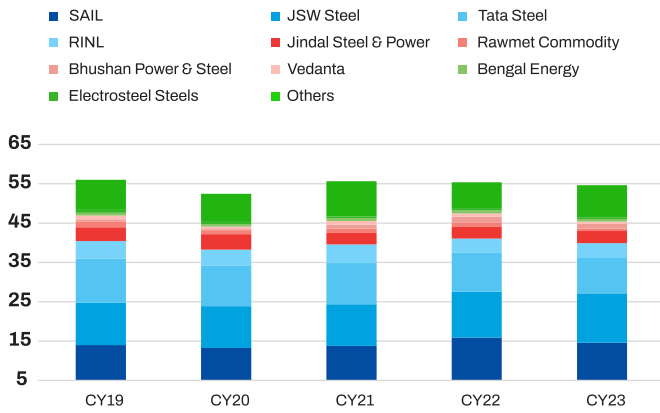
Seaborne metallurgical coal supply



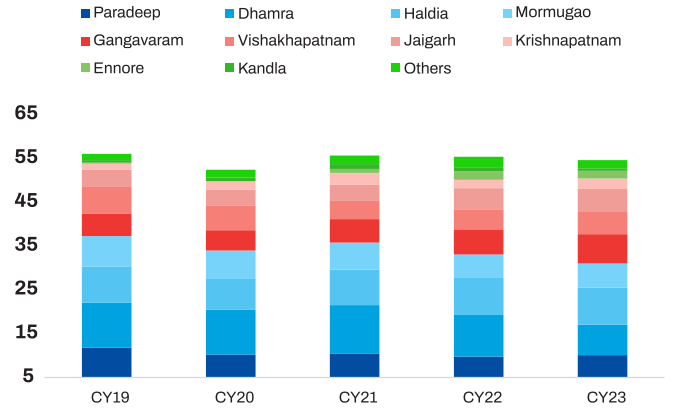
Qty in mn t | Source: CoalMint

Analysis of India's coking coal imports

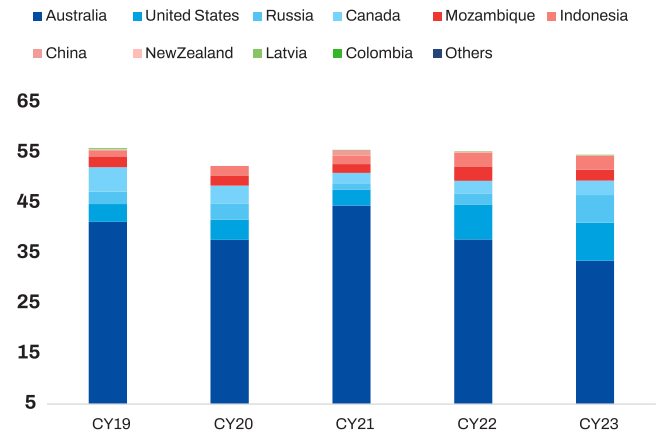
Company-wise India coking coal imports



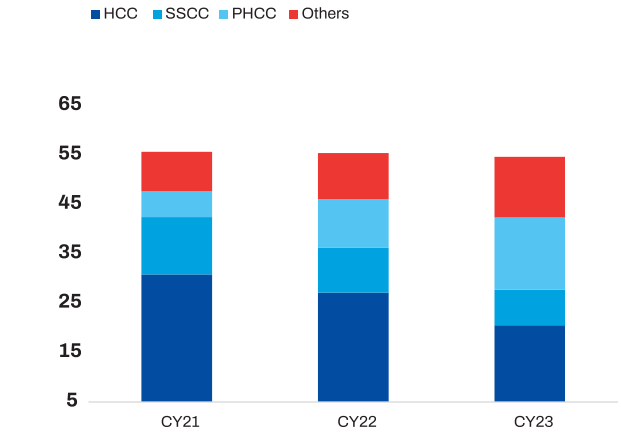
Unload port-wise India coking coal imports



Country-wise India coking coal imports



Grade-wise India coking coal imports



Mine-wise India coking coal imports

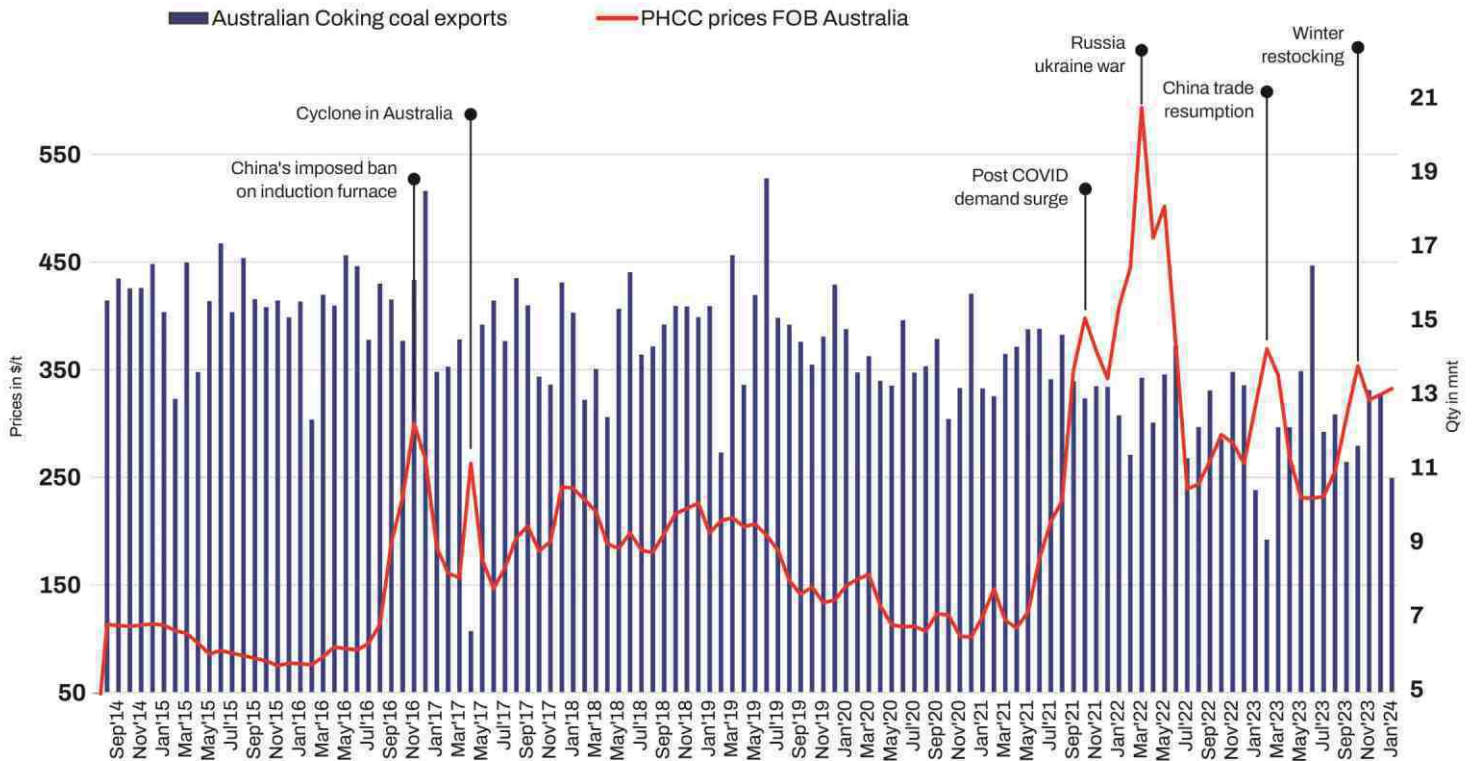


Fig in mnt | Source: BigMint

Analyzing the dynamics between Australian coking coal prices and export Vol- —————

In order to gauge the volatility of Coking Coal prices FOB Australia, we have conducted a comprehensive assessment of both the price and the quantity of coal exported from Australia over a 10-year period. The objective is to determine whether the observed fluctuations were driven by specific influences or were characterized by an unbiased pattern.

PHCC prices, FOB Australia with Australian Coking coal exports



Methodology followed by PRA's (Broader Points): —————

Parameters / Global: Coking Coal Index: Australia	Price Reporting Agency - 1	Price Reporting Agency - 2	Price Reporting Agency - 3	Price Reporting Agency - 4
Coking coal index covered	Premium hard coking coal, fob DBCT, \$/wmt	Premium hard coking coal low-volume Index FOB Australia	Prime low-volatile daily Asian markers (MCC1 and MCC4)	Premium Low Vol HCC FOB Australia
Data collections by market participants	Buyer, Seller and Traders in spot market.	Buyer, Seller and Traders in spot market.	Transactions, Bids and offers, other market information	Buyer, seller, exporters, traders
Index Weightage	Spot Trade Price Weightage: 100%, Long Term Contract Price Weightage: 0%, Coking coal forward prices: Not included in Index	Spot Trade Price Weightage: 70%, Long Term Contract Price Weightage: not specified, Coking coal forward prices: Argus Ferrous Markets includes forward swaps price assessments for premium low-volatile hard coking coal fob Australia.	Spot Trade Price Weightage: not specified Long Term Contract Price Weightage: not specified Coking coal forward prices: Not specified	Spot Trade Price Weightage: 80% Coking coal forward prices: Not specified
Index Calculations Weightage %	The Fastmarkets Coking Coal Indices are a tonnage weighted calculation – where actual transactions carry full weight, as reflected by the reported volume, while offers, bids and market participants' own estimate of the market are weighted at the specified minimum tonnage for the index.	Assessments are based 50pc on a volume-weighted average of deals done and 50pc on a survey of active market participants	50% +50%	
	Buyer Side (Sub Index): 50%	A: 50pc on a volume-weighted average of deals done	50% on a tonnage weighted basis of transactions	x% on a tonnage weighted basis of transactions
	Seller Side (Sub Index): 50%	B: 50pc on a survey of active market participants	50% on the survey of fair value.	y% on the survey of fair value.
	Preliminary index figure (A*50% + B*50%)	Preliminary index figure (A*50% + B*50%)	Preliminary index figure (A*50% + B*50%)	Individual brand wise price figure (A*x% + B*y%)
	Outliers: any data points falling +/- 4% away from the preliminary index figure are excluded as outliers and the index recalculated	Outliers: Information on transactions, bids and offers that lie outside the specifications of timing, size and quality will be taken into account but information that lies within the listed specifications of the assessment will be given most weight.		
Final Index	Final Index	Final Index	No Index calculations	
Index calculation in periods of low liquidity	In the absence of transactions, offers at lower levels or bids at higher prices, the index prices will reflect the stability of the market by being flat if participants' feedback has been little changed.	In the absence of transactions, the assessment will be based on the market survey. Argus does not exclusively rely upon transactions to establish market prices.	McCloskey avoids rigid transaction count thresholds to maintain reliable and representative markers in the dynamic coal markets, where transaction sizes can vary. If no trades or bids/offers meeting specified standards occur, McCloskey carries over the previous day's marker value.	NA
Assessment Timing	Covers two-month delivery or loading periods, published every Monday following the last Friday of the month.	A consistent schedule every Friday or closest prior working day in the event of a UK public holiday.	Follows a precise timing schedule, reflecting a 24-hour reporting period.	

*NA: Data Not Available

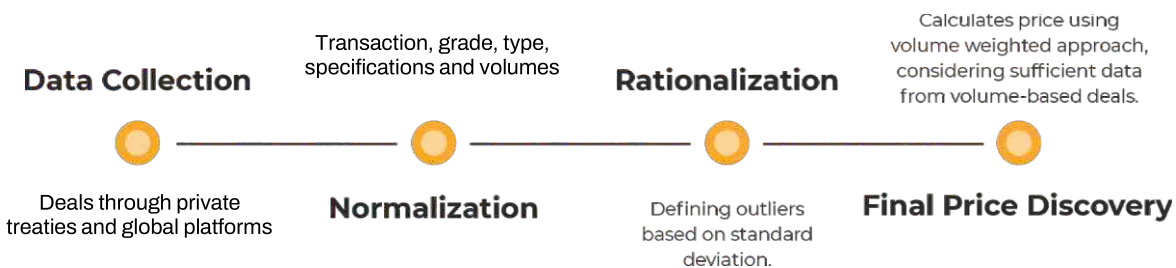
Index Computation Methodology: _____

All the PRA's are publishing their index based upon base grade Coke Strength after Reaction (CSR) value of coking coal by considering the average price of various brands of coking coal.

Industry Suggestions: _____

1. Initially, index can be prepared based on the actual transactions/bids taken place.
2. The data should be prepared based on the imports received by any countries i.e., Australia, USA, Canada, Mozambique. Country wise weightage should be given based on only transactions. Bids and offers to be excluded.
3. For FOB Australia following to be considered: -
 - a. Top 5 importing Country-wise weightage to be given.
 - b. Separate weightage to given for different type of transactions. Such as:-
 - Miner to steel mill.
 - Miner to miner.
 - Miner to trader.
 - Steel mill to steel mill.
 - Trader to trader.
 - Trader to steel plant.
 **Miner to steel mill should be given the highest weightage.
4. Final destination (Country/Mill) if not disclosed then the weightage should be reduced even if there has been a transaction. Separate country to given separate weightage.
5. In future, top brands from global mines (based on historical data) should be consider for computing CFR India index along with separate FOB Australia.
6. SteelMint should approach the miners for collection of the prices with the support of Ministry. They can take referral letter from the ministry which will give them the support in getting the prices.

BigMint's price collection process _____



Support Required: _____

BigMint would need the support of the industry for deals/transactions which has been concluded by them. Moreover, to develop relationship with the Australian miners, BigMint would require the support of Ministry for recommendation.

Index description

Big Mint's Coking Coal Price Index

Accurate, comprehensive, and timely information provides a strong competitive advantage. In the coking coal industry, there is often a lack of reliable data regarding coking coal prices for decision-making.

Big Mint will address these issues by offering the Coking Coal Price Index, providing realistic, aggregated coking coal market information. This will assist companies in making informed decisions. The index will be published on the 25th of each month for coking coal.

Monthly assessments for a basket of Global coking coal grades reflecting the spot market value of grade wise

Index details

Start Date	To be decided
Commodity	Coking Coal
Frequency	Monthly
CCY / UOM	USD / mt
Precision	Rounded off
Periods	1 Month
Data types	Index
Pricing basis	Variable
Delivery basis	CFR
Trading hub	Portside India
Time-zone	IMT
Holiday calendar	India

Index quality specification

The assessments reflect loadings 30, 45 days forward from the current calendar month from a basket of Global grades comprising of Australia, USA, Russia, Mozambique.

Criteria for inclusion

Contract size	10,000 mt
Destination restriction	India East & West Coast
Trading window	Within 1 month of commencement of trading

Every SUPRAMAX (50,000 mt-60,000 mt), PANAMAX (70,000 mt-80,000 mt) and CAPESIZE (90,000 mt onwards) vessel can be used between a seller and a buyer to complete a deal.

INDIA

Basis: CFR

Unload port: Any port in Eastern and Western India

Index time

Time details

25TH of Each Month - 16:00 Hrs. IST

Calculation approach

TRADE/DEAL DATA APPROACH	Y/N
Priority to reported and concluded transactions	Y
Sole-sourced data from trading principles accepted	N
Inter-affiliate data accepted as valid	Y

The assessment reflects the most competitive value for each grade of coking coal. The value of the material is assessed on CFR India portside basis i.e. the unloading port. Weightage will also be given based on the size of the vessel.

BigMint will only consider deals/transaction prices which have been concluded by the seller and the buyer. It will not factor in offers or indicatives derived from the market.

The deliverable grade, declared by the seller to the buyer, is considered the most competitive grade in the basket.

Alias definition

ALIAS	TIME	PERIOD TYPE	PERIOD
Coking Coal CFR India	16:00 Hrs. IST	Month	1

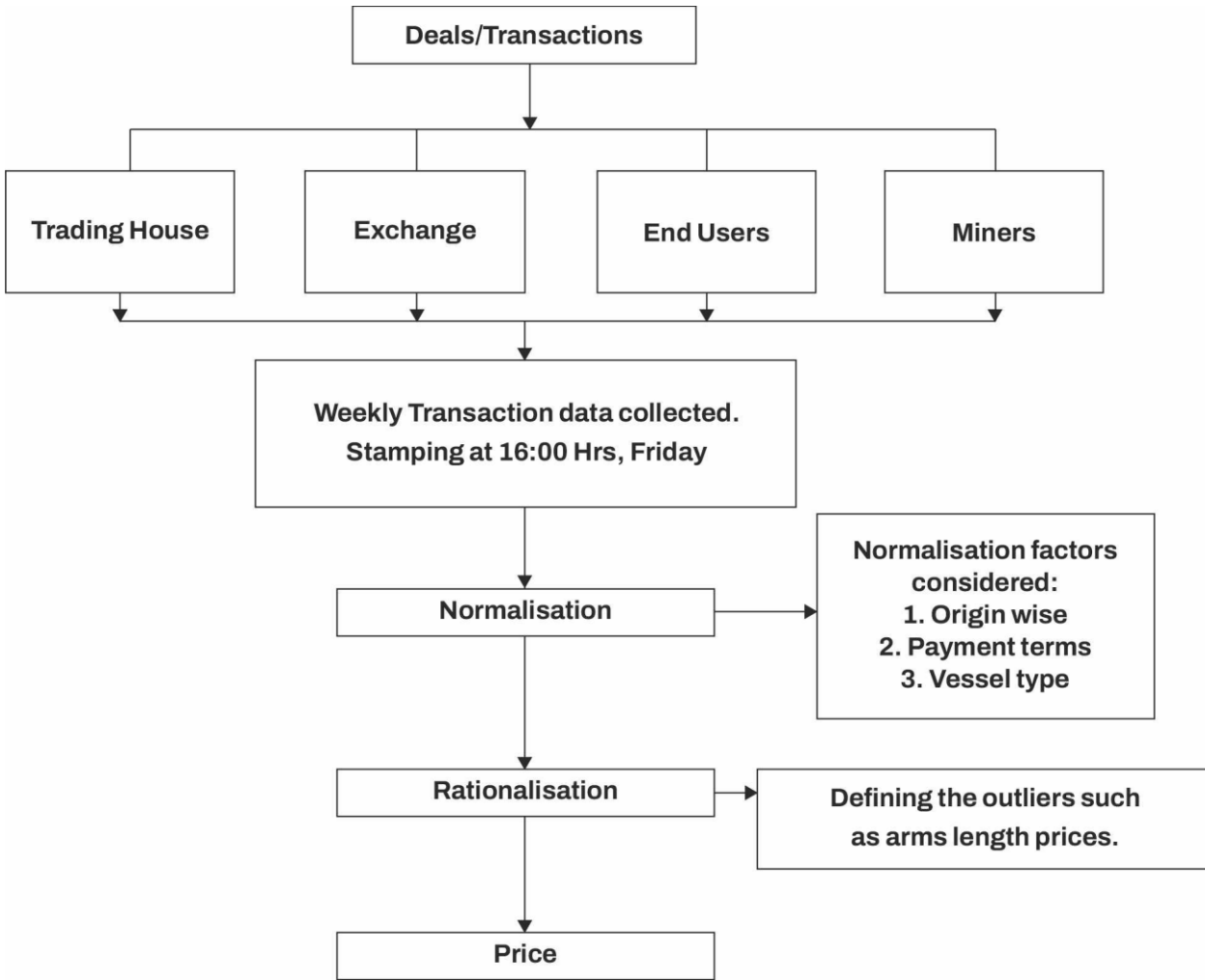
Methodology information

Methodology version - 1.0

Methodology valid from - TBD

Methodology valid to - ongoing

Origin-wise & Grade-wise Calculation process —————



For HCC : _____

Country	Mines
Australia	Goonyella
Australia	Peak Downs
Australia	Moranbah
Australia	Lake Vermont
USA	Cambria Creek
USA	Wentz
USA	Alpha
USA	Pond Fork
Mozambique	Benga
Mozambique	Mabu
Indonesia	Lampunut
Indonesia	Tuhup
Indonesia	Suprabari Mapanindo Mineral (SMM)
Canada	Teck Vetur
Canada	Teck Standard

For PHCC : _____

Country	Mine Name
Australia	Goonyella
Australia	Peak Downs
Australia	Lake Vermont
Mozambique	Benga

For SSCC : _____

Country	Mine Name
USA	Blue Diamond
USA	Brooks

NOTE: The above mines are currently under consideration for inclusion in the Coking Coal Index.

Brand-wise Coking coal specifications

Product	Country	Brand	CSR (%)	Volatile matter (%)	Total moisture (%)	Ash (%)	Sulfur (%)	Phosphorous (%)	Max fluidity (ddpm)
PHCC	Australia	Anglo PLV	72	19	11	9.8	0.54	0.05	120
PHCC	Australia	German Creek	70	17.4	10.5	9.5	0.56	0.05	40
PHCC	Australia	Moranbah North	70	21.5	11	9.8	0.52	0.04	650
PHCC	Australia	Peak Downs	72	20.5	9.5	10.5	0.62	0.03	450
PHCC	Australia	Saraji	70	19	10	10.5	0.62	0.04	180
PHCC	Australia	Goonyella	67	23.5	10	8.9	0.52	0.03	1100
PHCC	Australia	Oaky North	70	20.5	10	9.5	0.65	0.07	700
PHCC	Australia	Riverside	70	22	9.5	10	0.55	0.02	500
PHCC	Australia	Peak Downs North	68	22.4	9.7	10	0.52	0.04	700
PHCC	Australia	Goonyella C	70	20.4	9.5	9.8	1.01	0.06	230
PHCC	Australia	GLV	68	20.5	10	10	0.3	0.07	300
PHCC	Australia	Wollombi	69	21.5	10	9.5	0.55	0.02	500
PHCC	Australia	Leatherwood	60	25	10	9.7	0.65	0.04	2500
PHCC	Australia	Byerwen	71	23	10	9.5	0.55	0.01	1200
PHCC	Australia	Illawarra	73	24	10	9.5	0.45	0.05	3000
PHCC	Australia	Appin	70	24	9	8.8	0.37	0.08	1500
PHCC	Australia	Wongawilli	75	23.8	13.5	10.6	0.6	0.01	8000
PHCC	Australia	Kemera	72	23.5	10	10.5	0.43	0.06	2500
PHCC	Australia	Kiama	66	24	9	10.9	0.38	0.09	1000
PHCC	Canada	Elkview	70	20	9	9.5	0.3	0.07	30
PHCC	Canada	Standard	71	23.5	9	9.5	0.5	0.07	125
PHCC	Canada	Raven	70	22	9	9.5	0.4	0.07	75
PHCC	Canada	Ridgemont	67	25.5	9	9	0.5	0.07	190
PHCC	Canada	Eagle	68	27.5	9	8.5	0.6	0.6	750
PHCC	Canada	Grey Wolf	65	27.5	9	8	0.6	0.5	450
PHCC	Mozambique	Moatize Low Vol	73	20.7	9	10.5	0.98	0.08	300
PHCC	US	Blue Creek No.7	72	21.5	9	9.75	0.8	0.04	1100
PHCC	US	Affinity	65	17	8.5	7.75	0.75	-	40
PHCC	US	Rustic Ridge	70	26	8.5	8.5	1	-	10000
PHCC	US	Oak Grove	72	22	10	9.5	0.65	-	1500
HCC	Australia	Carborough Downs	59	21	11	8	0.35	0.04	-
HCC	Australia	Lake Lindsay	55	17.8	10.5	9.5	0.55	0.06	15
HCC	Australia	Dawson	42	29.6	10.5	8.7	0.42	0.01	700
HCC	Australia	Daunia	57	22	10	8	0.42	0.04	200
HCC	Australia	Blackwater CC	35	27.2	11	8.5	0.42	0.06	650
HCC	Australia	Poitrel	45	24.4	11.5	8.5	0.38	0.06	300
HCC	Australia	Integra	-	37.5	9	9.5	0.55	0.02	120000

HCC	Australia	Lake Vermont Hard Coking	62	21.5	11	8	0.45	0.08	100
HCC	Australia	Kestrel	50	34-35	8	7.5	0.66	0.01	2500
HCC	Australia	Tahmoor	58-60	27.4	7.2	9.2	0.36	0.06	4500
HCC	Australia	Gregory	57	33	8.5	8.5	0.65	0.03	5000
HCC	Australia	Isaac Plains East	52	25	11	9.5	0.52	0.06	50
HCC	Australia	Curragh	60	21	9.5	7	0.6	0.05	100
HCC	Australia	Middlemount	57	19	10	10	0.5	0.03	50
HCC	Canada	Wolverine HCC	57	24	9.5	8.25	0.5	0.01	275
HCC	Canada	Willow Creek	-	21.5	9.5	8.5	0.68	0.05	15
HCC	Canada	CST Coal	62-68	18	9.5	9.5	0.55	0.4	3-10
HCC	Canada	Polar Ridge	62	25	9	8.75	0.4	0.4	200
HCC	Canada	Kodiak	42	26.5	9	8.75	0.3	0.2	40
HCC	Indonesia	Lumpunut	60	27.5	9	4.5	0.5	0.02	400
HCC	Indonesia	SMM	-	35	9	9	0.75	0.01	10000
HCC	Mongolia	Mongolian Coal (3)	60	26	10	11	0.7	0.05	-
HCC	Mongolia	Mongolian Coal (5)	60	28	10	11	0.7	0.05	-
HCC	Mozambique	Mabu	64	26	9.5	10.5	0.9	0.9	2000
HCC	Russia	K4	-	22	11	10.5	0.4	-	-
HCC	Russia	K10	45	22	9	11.5	0.35	0.05	-
HCC	Russia	Elga	48-49	32.8	6.9	9.97	0.18	0.01	12000
HCC	US	Buchanan	40	18.7	7	5.26	0.73	-	100
HCC	US	Leer	67-68	32-33	6.5	1-1.1	-	-	-
HCC	US	Green Ridge (Pinnacle)	59-60	18.3	-	6.55	0.61	-	78
HCC	US	Blue Creek No.4	66	25.3	9	9.75	0.8	0.04	12000
HCC	US	Beckley	62	16.8	7.5	7	0.82	-	50
HCC	US	Windber	51	16.5	8	7	1	-	25
PCI	Australia	Carborough Downs	-	20	-	10.5	0.35	-	-
PCI	Australia	Capricorn	-	18.4	-	9.5	0.45	0.08	-
PCI	Australia	Peak Downs North	-	21	-	9.5	0.35	0.06	-
PCI	Australia	Blackwater Weak coking coal	-	25.5	-	9.5	0.45	0.08	-
PCI	Australia	BHP 17% VM	-	17	-	9.1	0.35	0.088	-
PCI	Australia	Poitrel PCI	-	22.8	-	9.5	0.35	0.07	-
PCI	Australia	South Walker Creek PCI	-	13.8	-	9.1	0.32	0.1	-
PCI	Australia	Curragh	-	18	-	9	0.45	0.05	-
PCI	Australia	Jellinbah	-	15.5	-	11	0.75	0.15	-
PCI	Australia	Lake Vermont	-	20	-	11	0.5	0.07	-
PCI	Australia	Foxleigh	-	12.5	-	8.5	0.53	0.06	-
PCI	Australia	Coppabella	-	13	-	8.5	0.5	-	-

PCI	Australia	Century (Milenium)	-	21.5	-	9.5	0.4	0.05	-
PCI	Australia	Baralaba	-	10.7	-	10.3	0.68	0.09	-
PCI	Australia	Yarrowonga	-	17.7	-	9.9	0.61	-	-
PCI	Australia	Yarrabee	-	9	-	10.5	0.65	0.12	-
PCI	Australia	Middlemount	-	18.5	-	10.5	0.45	0.03	-
PCI	Canada	Brule	-	13	-	8.5	0.5	-	-
PCI	Russia	Batchatsky PCI	-	18-20	-	10-Sep	0.25-0.3	-	-
PCI	Russia	Krasny Brod	-	16-Dec	-	12	0.35-0.5	-	-
PCI	Russia	Sibirginsky PCI	-	13	-	9.5	0.35	-	-
PCI	Russia	T grade 10 Ash	-	10.5	-	10	0.4	0.04	-
PCI	Russia	T grade 11 Ash	-	11	-	11	0.4	0.04	-
PCI	Russia	Mezhdurenchensky T	-	13	-	10	0.3	-	-
PCI	Russia	Mezhdurenchensky A	-	8	-	12	0.3	-	-
PCI	Russia	-	13-15	-	10-Aug	0.5	0.03	-	-
SS	Australia	Dawson SS	-	29.2	10.5	8.5	0.5	0.01	-
SS	Australia	Drayton Semi	-	37	9	10.5	1.05	-	-
SS	Australia	Blackwater Weak	-	25.2	9.5	9.5	0.4	0.07	-
SS	Australia	Ensham Semisoft	-	29	10	9.5	0.6	0.05	-
SS	Australia	Integra	-	37.5	9	9.5	0.55	0	-
SS	Australia	Ravensworth North	-	35.5	9	9.5	0.65	0.01	-
SS	Australia	Bulga SS	-	34.5	9	9.5	0.55	0.02	-
SS	Australia	Liddell Semisoft	-	36	9	9.5	0.6	0.03	-
SS	Australia	Mount Owen Semi-soft	-	36.5	9	9.5	0.6	0.03	-
SS	Australia	United Semisoft	-	34	9	9	0.45	0.01	-
SS	Australia	Bulga Semisoft	-	34	9	9	0.5	0.01	-
SS	Australia	Hunter Valley Operations	-	33.5	10	9.5	0.55	0.02	-
SS	Australia	Boggabri Semisoft	-	35	10	8.5	0.45	0.01	-
SS	Australia	Isaac Plains	-	25.4	10.5	9.4	0.36	0.1	-
SS	Australia	Isaac Plains East	-	24.9	10.5	9.5	0.4	0.06	-
SS	Australia	Curragh Semi	-	20.5	9	8.5	0.48	0.05	-
SS	Australia	Tarranwanga	-	40	-	5.5	0.5	0	-
SS	Australia	Whitehaven SSCC	-	42	9	5.5	0.45	0.01	-
SS	Australia	Maules Creek	-	40	9	5.5	0.5	0	-
SS	Australia	Donaldson Semisoft	-	32.7	-	8.9	-	-	-
SS	Australia	Austar SSCC	-	40.8	7	9	1	0.03	-
SS	Australia	Warkworth Semisoft	-	34.5	9	9.5	0.5	0.01	-
SS	Canada	Donkin (Canada)	-	35	-	2.8	2.25	-	-
SS	Indonesia	MGM	-	32	11	5.5	0.5	-	-
SS	New Zealand	Buller (NZ)	-	37	-	4	0.7	-	-
SS	Russia	Kirova SS	-	38.5	9	9	0.5	0.02	-

SS	Russia	Raspadskaya GJO	-	34	-	9	0.5	-	-
SS	Russia	Raspadskaya	-	32	10	9.5	0.5	-	-
SS	Russia	Belovsky Special (Russia)	-	29.6	7.3	11.2	0.5	-	-
SS	Russia	Bolshevik G, Zh	-	36	9	9	0.7	-	-
SS	Russia	Antonovskiy Gzh	-	33.5	9	10.1	0.44	0.04	-
SS	Russia	Antonovskiy Gzh+Zh	-	35.6	9	10	0.69	0.05	-
SS	Russia	Abashevskaya	-	32.5	10	10	-	-	-
SS	US	Bailey 2.1	-	39.5	9	9	2.1	-	-

Feedbacks & suggestions received from the industry _____

In a positive development, the Ministry of Steel issued a letter on July 5, 2024, to BigMint, expressing its complete support for the establishment of a comprehensive India-centric coking coal index. The Ministry is confident that collaboration on this project will benefit all stakeholders in the steel industry.

Following this, BigMint has actively engaged with relevant stakeholders to share the idea of developing the India-centric coking coal index and gather their feedback and suggestions for consideration before its launch. Over the past month, the BigMint team has collected and organized the feedback received during meetings.

Some of the key feedback includes:

Subindices and Weightages: It was suggested that the coking coal index should include subindices for PHCC, HCC, and SSCC. This approach will help provide clearer insights into grade-wise coal import transactions. BigMint intends to publish three indices of PHCC, HCC and SSCC.

Frequency of Index Updates: Increasing the frequency of updates to weekly or fortnightly was recommended to better assess market volatility. BigMint plans to publish the indices every two months instead of the initially suggested monthly schedule.

Enhancing Acceptability through Increased Market Participation: To boost global acceptance, it was suggested that global mining companies actively participate in data sharing to provide a more comprehensive supply-side perspective.

Normalization Factors: Laycans were recommended as an additional normalization factor, alongside existing factors such as origin, payment terms, and vessel size. BigMint intends to include this as well as normalization factor.

Unload Port Criteria: It was suggested to focus the index on CNF east coast India, as it accounts for a significant share of India's overall imports.

Change in weightages for price collection: In the absence of trades, releasing the index would be challenging. It is suggested to adjust the weightage to 50% confirmed trades and 50% bids, offers, and indicative prices, instead of the previous approach, which allocated the entire weightage of 100% to confirmed trades.

Revised proposed methodology flowchart:

Indices	Index computation	Weightage	Weighted average price	Final indices
HCC				
T1	xx (Volume weighed average)	50%	xx	xx
T2	xx (Simple average)	50%	xx	
PHCC				
T1	xx (Volume weighted average)	50%	xx	xx
T2	xx (Simple average)	50%	xx	
SSCC				
T1	xx (Volume weighted average)	50%	xx	xx
T2	xx (Simple average)	50%	xx	

**T1 Confirmed Trade*

**T2 Indicative price, Firm offer, Firm bids*

BigMint will keep an eye on market dynamics and is open to revising the methodology as needed, subject to internal committee approvals.



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