

CRU Prices

Carbon Products
Methodology and
Definitions Guide

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THE INDEPENDENT AUTHORITY
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Methodology and Definitions Guide – Carbon Products

1 Scope

This guide covers carbon product prices in all geographical markets and should be read in conjunction with the *CRU Group Compliance Framework and Methodology Guide*. It details commodity-specific methodology which have precedence, with all other aspects covered by the Group methodology guide.

2 Methodology

Frequency

The final price assessment inclusion date is the fourth Wednesday of each month, at which point all prices are updated in CRU's Carbon Products Monitor. Published price assessments represent all gathered prices pertaining to each current or upcoming pricing window, ensuring contracts fixed at the start of the pricing period are recorded alongside those fixed at the end of this period - price ranges are then established.

For settlement windows containing a mix of quarterly and semester pricing (6-month settlement period), CRU analysts will use discretion when including mixed tenor prices, to better reflect the true market conditions at the time of publication.

Assessment Method

Analysts use telephone and email to collect market intelligence as well as to verify the information received. Price assessments are meant to reflect actual deals concluded, and information is gathered through consultations with producers, buyers, traders and shipping companies. FOB prices are derived either from direct sales from producers to traders/buyers or from netbacks on CIF sales based on estimated or actual freight rates.

Price determination in an illiquid market

In the case that there are no submissions that meet, or after normalisation can meet, the definition below in any monthly or quarterly time period, the prior period's published price range will be rolled over and used as the value for the current period. In the case of low market liquidity but where a single admissible data point has been received, this single data point would be the sole determinant of the value of the price range in the relevant period.

Exclusion of outliers

Expert judgement may be used in the exclusion of a data point as an input to the calculation of a final price. In doing so consideration may be given to the range and distribution of data collected in the same timeframe from other data providers; previous data received from the same data provider; non-price information received from the data provider and the current market state from any other source. Inclusion or exclusion of input data in the final price is recorded.

Any price data that deviates from the previous assessed price range or the collected price data for the trading period will receive extra scrutiny. For example, if a transaction is considered to be a potential outlier, supporting documentation as a means of further authentication may be asked for. Supporting documentation is typically a contract or purchase/sales order, but other documentation may be accepted. Supporting documentation may not be asked for when, in CRU's judgement, the data is otherwise corroborated or deemed valid.

Expert Judgment

Expert judgement may apply to decisions on what type of price data is submitted; if the deal is executed at arms-length; if normalisation of price data submitted is required; the means of any normalisation, and the inclusion of a data point in the calculation of the final price (exclusion of outliers).

An analyst will consult with one or more colleagues before any application of expert judgement if in any doubt, or where collective input would improve the quality of a judgement.

Deactivated assessments

If the quotation suffers from limited transparency or if business dynamics change, it will be deactivated. CRU will provide 3 months' notice before the deactivation date. Its history will still be available to clients, should they require it, but no further information will be collected for that product from the time it is deactivated.

Sizes and Specifications

Transaction sizes may vary by shipment. Timing of spot assessments typically reflect transactions for a product to be supplied within 30 days although this may vary. CRU reserves the right to adjust its historical pricing assessments if compelling new evidence emerges.

Final publication

CRU's carbon prices are published in the *CRU Carbon Product Monitor*, associated *Carbon Product Price Basket*, via FTP data feeds and available in DataLab.

3 Definitions

Green Petroleum Coke: Monthly

No.1 China (\$/t Ex-works)

DataLab name:	Carbon Products, Green Coke, 1A 1B, Spot price; China, EXW
Material:	1A / 1B GPC
Price basis:	Ex-works
Location:	China
Type:	Spot
Currency:	US\$
Weight unit:	Metric tonne
Pricing:	Reflects typical 1A/1B grade green petroleum coke
Duties/tariffs:	Where applicable
Sulphur, %:	≤ 0.50
Volatile, %:	≤ 12
Ash, %:	≤ 0.30
Moisture, %:	Actual measured
Real Density, %:	≤ 2.04
Coke powder, %:	35
Silicon, µg/g:	300
Vanadium, µg/g:	150
Iron, µg/g:	250
Calcium, µg/g:	200
Nickel, µg/g:	150
Sodium, µg/g:	100
Nitrogen, %:	Actual measured
Frequency:	Monthly

2A 2B China (\$/t Ex-works)

DataLab name:	Carbon Products, Green Coke, 2A 2B, Spot price; China, EXW
Material:	2A / 2B GPC
Price basis:	Ex-works
Location:	China
Type:	Spot
Currency:	US\$
Weight unit:	Metric tonne
Pricing:	Reflects typical 2A/2B grade green petroleum coke
Duties/tariffs:	Where applicable
Sulphur, %:	≤ 1.00 (A)
Sulphur, %:	≤ 1.50 (B)
Volatile, %:	≤ 12
Ash, %:	≤ 0.40 (A)
Ash, %:	≤ 0.50 (B)
Moisture, %:	Actual measured
Coke powder, %:	Actual measured
Silicon, µg/g:	Actual measured
Vanadium, µg/g:	Actual measured
Iron, µg/g:	Actual measured
Calcium, µg/g:	Actual measured
Sodium, µg/g:	Actual measured
Nitrogen, µg/g:	Actual measured
Frequency:	Monthly

3A 3B China (\$/t Ex-works)

DataLab name:	Carbon Products, Green Coke, 3A 3B, Spot price; China, EXW
Material:	3A / 3B GPC
Price basis:	Ex-works

Location:	China
Type:	Spot
Currency:	US\$
Weight unit:	Metric tonne
Pricing:	Reflects typical 3A/3B grade green petroleum coke
Duties/tariffs:	Where applicable
Sulphur, %:	≤ 2.00 (A)
Sulphur, %:	≤ 3.00 (B)
Volatile, %:	≤ 14
Ash, %:	≤ 0.60
Moisture, %:	Actual measured
Frequency:	Monthly

Calcined Petroleum Coke: Monthly

No.1 China (\$/t Ex-works)

DataLab name:	Carbon Products, Calcined Coke, 1A 1B, Spot price; China, EXW
Material:	1A / 1B CPC
Price basis:	Ex-works
Location:	China
Type:	Spot
Currency:	US\$
Weight unit:	Metric tonne
Pricing:	Reflects typical 1A/1B grade calcined petroleum coke
Duties/tariffs:	Where applicable
Sulphur, %:	≤ 0.50 (A)
Sulphur, %:	≤ 0.70 (B)
Volatile, %:	≤ 0.50
Ash, %:	≤ 0.50
Real Density, %:	≤ 2.04 (A)
Real Density, %:	≤ 2.05 (B)
Frequency:	Monthly

2A 2B China (\$/t Ex-works)

DataLab name:	Carbon Products, Calcined Coke, 2A 2B, Spot price; China, EXW
Material:	2A / 2B CPC
Price basis:	Ex-works
Location:	China
Type:	Spot
Currency:	US\$
Weight unit:	Metric tonne
Pricing:	Reflects typical 2A/2B grade calcined petroleum coke
Duties/tariffs:	Where applicable
Sulphur, %:	≤ 1.50 (A)
Sulphur, %:	≤ 3.50 (B)
Volatile, %:	≤ 0.50
Ash, %:	≤ 0.50
Real Density, %:	≤ 2.05
Frequency:	Monthly

3A 3B China (\$/t Ex-works)

DataLab name:	Carbon Products, Calcined Coke, 3A 3B, Spot price; China, EXW
Material:	3A / 3B CPC
Price basis:	Ex-works
Location:	China
Type:	Spot
Currency:	US\$
Weight unit:	Metric tonne

Pricing:	Reflects typical 3A/3B grade calcined petroleum coke
Duties/tariffs:	Where applicable
Sulphur, %:	≤ 3.00 (A)
Sulphur, %:	≤ 4.00 (B)
Volatile, %:	≤ 0.50
Ash, %:	≤ 0.50
Real Density, %:	≤ 2.05
Frequency:	Monthly

China Export (\$/t FOB)

DataLab name:

Material:	CPC
Price basis:	China Export FOB
Location:	China
Type:	Contract & Spot
Currency:	US\$
Weight unit:	Metric tonne
Pricing:	Reflects typical export grade calcined petroleum coke
Duties/tariffs:	Where applicable
Sulphur, %:	≤ 1.50 (A)
Sulphur, %:	≤ 3.00 (B)
Volatile, %:	≤ 0.50
Ash, %:	≤ 0.50
Real Density, %:	≤ 2.05
Frequency:	Monthly

Carbon Products, Calcined Coke, Spot price; China, FOB

Coal Tar: Monthly

China (\$/t Ex-works)

DataLab name:

Material:	CT
Price basis:	Ex-works
Location:	China
Type:	Spot
Currency:	US\$
Weight unit:	Metric tonne
Pricing:	Reflects typical coal tar
Duties/tariffs:	Where applicable
Frequency:	Monthly

Carbon Products, Coal Tar, Spot price; China, EXW

Coal Tar Pitch: Monthly

China (\$/t Ex-works)

DataLab name:

Material:	CTP
Price basis:	Ex-works
Location:	China
Type:	Spot
Currency:	US\$
Weight unit:	Metric tonne
Pricing:	Reflects typical coal tar pitch
Duties/tariffs:	Where applicable
Frequency:	Monthly

Carbon Products, Coal Tar Pitch, Spot price; China, EXW

Anodes: Monthly

China (\$/t Ex-works)

DataLab name:

Material:
Price basis:
Location:
Type:
Currency:
Weight unit:
Pricing:
Duties/tariffs:
Frequency:

Carbon Products, Anodes, Spot price; China, EXW

Anode
Ex-works
China
Spot
US\$
Metric tonne
Reflects typical anode
Where applicable
Monthly

China Export (\$/t FOB)

DataLab name:

Material:
Price basis:
Location:
Type:
Currency:
Weight unit:
Pricing:
Duties/tariffs:
Frequency:

Carbon Products, Anodes, Spot price; China, FOB

Anode
China Export FOB
China
Spot
US\$
Metric tonne
Reflects typical anode
Where applicable
Monthly

Calcined Petroleum Coke: Quarterly

US Gulf Coast (\$/t FOB)

DataLab name:

Material:
Price basis:
Location:
Type:
Currency:
Weight unit:
Pricing:
Duties/tariffs:
Typical Sulphur, %:
Typical Vanadium, ppm:

Carbon Products, Calcined Coke, Contract price; USA, FOB

CPC
USGC FOB
US Gulf Coast
Contract
US\$
Metric tonne
Reflects typical calcined petroleum coke
Where applicable
2.5 – 3.5
300-400

Europe (\$/t CIF)

DataLab name:

Material:
Price basis:
Location:
Type:
Currency:
Weight unit:
Pricing:
Duties/tariffs:
Typical Sulphur, %:

Carbon Products, Calcined Coke, Contract price; Europe, CIF

CPC
EU CIF
Rotterdam
Contract
US\$
Metric tonne
Reflects typical calcined petroleum coke
Where applicable
1.0-2.0

Typical Vanadium, ppm: 150-300

Middle East (\$/t CIF)

DataLab name:

Material:

Price basis:

Location:

Type:

Currency:

Weight unit:

Pricing:

Duties/tariffs:

Carbon Products, Calcined Coke, Contract price; Middle East, CIF

CPC

M.E. CIF

Delivered M.E. Smelter

Contract

US\$

Metric tonne

Reflects typical calcined petroleum coke

Where applicable

Coal Tar Pitch: Quarterly

China Export (\$/t FOB)

DataLab name:

Material:

Price basis:

Location:

Type:

Currency:

Weight unit:

Pricing:

Duties/tariffs:

Typical Softening point, °C:

Typical Insoluble in Quinoline, %:

Typical Ash, %:

Frequency:

Carbon Products, Coal Tar Pitch, Spot price; China, FOB

CTP

Export FOB

China

Contract

US\$

Metric tonne

Reflects typical coal tar pitch

Where applicable

103-120

7-12

≤0.5

Quarterly

North America (\$/t FOB)

DataLab name:

Material:

Price basis:

Location:

Type:

Currency:

Weight unit:

Pricing:

Duties/tariffs:

Typical Softening point, °C:

Typical Insoluble in Quinoline, %:

Typical Ash, %:

Carbon Products, Coal Tar Pitch, Contract price; USA, FOB

CTP

Ex-works

Supplier Facility

Semester

US\$

Metric tonne

Reflects typical coal tar pitch

Where applicable

108-113

8-16

≤0.5

Europe (\$/t FOB)

DataLab name:

Material:

Price basis:

Location:

Type:

Currency:

Weight unit:

Pricing:

Duties/tariffs:

Typical Softening point, °C:

Typical Insoluble in Quinoline, %:

Carbon Products, Coal Tar Pitch, Contract price; Europe, FOB

CTP

EU FOB

Europe

Semester

US\$

Metric tonne

Reflects typical coal tar pitch

Where applicable

103-120

4-7

Typical Ash, %: ≤0.5

Europe (€/t FOB)

DataLab name:

Material:

Price basis:

Location:

Type:

Currency:

Carbon Products, Coal Tar Pitch, Contract price; Europe, FOB

CTP

EU FOB

Europe

Semester

Euro conversion from US\$

Anodes: Quarterly

China Export (\$/t FOB)

DataLab name:

Material:

Price basis:

Location:

Type:

Currency:

Weight unit:

Pricing:

Duties/tariffs:

Frequency:

Carbon Products, Anodes, Spot price; China, FOB

Anode

Export FOB

China

Contract

US\$

Metric tonne

Reflects typical anode

Where applicable

Quarterly

Glossary of abbreviations

INCO TERM RULES FOR ANY MODE OR MODES OF TRANSPORT:

EXW – Ex-Works
FCA – Free Carrier
CPT – Carriage Paid To
CIP – Carriage and Insurance Paid To
DAT – Delivered at Terminal
DAP – Delivered at Place
DDP – Delivered Duty Paid

INCO TERM RULES FOR SEA AND INLAND WATERWAY TRANSPORT:

FAS – Free Alongside Ship
FOB – Free on Board
CFR – Cost and Freight
CIF – Cost Insurance and Freight

COUNTRY ABBREVIATIONS USED:

We use ISO 3166 alpha-2 standard country codes