S&P Global
Platts

METHODOLOGY AND SPECIFICATIONS GUIDE

PLATTS cFLOW - COMMODITY FLOW FOR CRUDE

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INTRODUCTION

Platts cFlow Commodity Flow module enables daily, transparent analysis of waterborne movements of crude oil by volume around the world. It provides Platts informed views/projections of what is currently moving between supply and demand centres and enables users to identify and take advantage of potential shifts.

In order to understand how Commodity Flow calculates volumes for Crude Oil, it is important to understand how the underlying data is handled.

As tankers are tracked a record of their port history is kept. When a tanker visits a port, Platts cFlow automatically allocates an activity to that port calling based on a combination of vessel, port and jetty characteristic data stored in Platts cFlow. For example, if a crude tanker were to visit Ras Tanura in Saudi Arabia, a crude export terminal, then Platts cFlow would assign this port calling a tag of 'Loading'.

All automatically assigned tags for vessel greater than 80,000 tons are reviewed by Platts Trade Flow Data team to verify the activity at each port is accurate and that a load/discharge did in fact occur.

Platts cFlow then groups a vessel's port callings into its constituent voyages; a voyage is defined as the arrival at the first load port to the departure at the final discharge port.

Along with port callings, Platts cFlow maintains a record of various other historic data on vessels including their reported draught.

Key assumptions:

- Crude ton to bbl conversion factor:

  a. default = 7.33

  b. where crude grade is available, an appropriate conversion factor is applied (based on crude API)

- Tons per centimetre immersion (TPC) = calculated per vessel, reverting to an average based on vessel weight class (approximate default values below):

  1. Panamax - 65

  2. Aframax - 87

  3. Suezmax – 108

  4. VLCC - 162

- A full vessel 'Loading' or 'Discharging' event = 98% of total vessel capacity, or as calculated by draught

The following methods work in sequence to establish the volume that Platts cFlow believes a vessel has loaded or discharged at a port. For a given month, the calculated volumes represent a reliable proxy for total actual volume imported or exported for a country.

How is total volume for a voyage calculated?

1. Volume derived from draught change
The algorithm will consider the total draught change across all load and discharge port callings within a single voyage. By considering total draught change for both the export and import legs of the voyage, a reliable total volume loaded/discharged for that voyage can be established, in combination with using the TPC value.

[Draught Change] x [TPC] = Tons

At this point, if a sensible total volume for a voyage cannot be calculated using draught, the algorithm will discard it and progress to the second method.

2. Volume derived from capacity of vessel
The algorithm will default to using a volume equal to 98% of the tanker capacity as total volume for a voyage.

How is the calculated volume for a voyage attributed to individual ports?

1. Draught change at each port
The algorithm will consider the draught change at each port, relative to the total draught change for the whole load/discharge leg of the voyage.

For example, if a tanker loads and its total calculated loaded volume is 1,000,000 bbls, the volume might be attributed as follows:

Port A - 60% total load draught change = 600,000 bbls

Port B - 40% total load draught change = 400,000 bbls

2. Pro-rata based on Trade Flow analyst tags
If method 1 cannot be used, the algorithm will look to attribute volume based on the activity at each port, as reviewed by Platts Trade Flow analyst team.

If a vessel loads 1,000,000 barrels over two ports that have been reviewed as loading, the volume would be pro-rated as follows:

Port A - 50% of loading = 500,000 bbls

Port B - 50% of loading = 500,000 bbls

3. Pro-rata based on Platts cFlow port characteristics
If method 2 cannot be used, the algorithm will look to attribute volume based on the import/export characteristics of the ports within the voyage.

The volume attribution is then the same as method 2.

4. Pro-rata based on country characteristics
If method 3 cannot be used, the algorithm will look to attribute volume based on the import/export characteristics of the countries within the voyage.

The volume attribution is then the same as method 2.

FREQUENTLY ASKED QUESTIONS

How is the current month forward curve calculated?

For the current month volumes are calculated by extrapolating the volume discharged/loaded up to the current day across the remainder of the month, constrained by upper and lower bounds. Current month calculations also include vessels inbound to ports, driven by Platts cFlow iDestination algorithm.

Can you include vessels inbound to Port X in forward-looking monthly data?

The Commodity Flow forward-looking month volumes are driven by Platts cFlow iDestination, and are included as inferred loads/discharges that contribute to monthly totals.

Why do future months show the same import/export total as the current month?

Future month volumes are initially capped at the current month total volume while a prediction is not possible.

The actual import/export volume based on iDestination is available in the call-out and will change regularly to reflect the current state of incoming volumes.

The shipments in the drill-down for future months will reflect the volume stated in the call-out.

What are the Red, Amber or Green indicators on the graph?

Where a public benchmark is not available for a given month, Platts cFlow provides a 'Confidence Score' along with our data by way of a coloured indicator on the graph.

Green – data reviewed by our analysts.
Amber – data partly reviewed by our analysts.
Red – data has not been sufficiently reviewed by our analysts.

For the current forward-looking month, a weighting factor is also included to adjust our confidence relative to the days through the month.

Why are fixtures not included?

Fixtures are often ambiguous in date and reference routes such as 'Persian Gulf – Japan'. In reality, a vessel may call at any number of ports in the Persian Gulf over the fixture period, making associations to specific port callings unreliable.

My tanker loaded 1,700,000 bbls but Platts cFlow reports 1,300,000 bbls. Why?

Variance on a vessel-to-vessel basis is expected. Volumes are indicative estimates only and, overall, provide a reliable monthly total. It is possible to export Platts cFlow data for external review should you wish to supplement it with your own.

Country X exports crude oil by pipeline/truck also, how does this factor in to Platts cFlow volumetric reporting?

Pipeline/truck/other volumes are excluded from Platts cFlow Commodity Flow data.

Where available, data from reputable public sources (including government bodies, producers and operators) that enables the display of waterborne-only data is used as a benchmark (e.g. China GAC).

JODI does not provide a breakdown of crude data by waterborne, pipeline or otherwise as it does for LNG as is assumed to be total volume where displayed.

I have noticed that historic data for both Platts cFlow and the JODI is occasionally retrospectively adjusted – why is this?

Platts cFlow data is constantly under review by our analysts and is presented as-is. Accompanied by a rationale and confidence scoring system, we aim to give the highest level of transparency possible in how a calculated import/export volume has been arrived at. JODI also occasionally reviews their published figures as government bodies provide confirmed data.

How are you using official published import/export statistics in your algorithms?

Official data is displayed in Platts cFlow only to serve as a comparison; it is not otherwise incorporated into Platts cFlow data and does not form part of the algorithm. Platts cFlow monthly totals are derived purely from cFlow data using our algorithm.

Why don't you have import and export figures for more countries?

Before Platts cFlow data for a country is added to the Commodity Flow module, a large amount of analysis is carried out by our dedicated Trade Flow team to ensure that Platts cFlow provides the best quality data possible. This process takes time and, as such, there is a delay between requests for new data and its addition to the system.

We are working to add data for more countries on an on-going basis.

What are the next countries that you will be adding to the tool?

We value and encourage user feedback. Please contact us with the data you need to see next in Commodity Flow.

Contact:

For further clarification around our methodology email us at: support.cflow@spglobal.com.

IMPORTS / EXPORTS

Country	Export	Import	Official Stats Source	Last Published Official Stats	Platts Analysis Confidence Score
Algeria	Yes		JODI	Feb	Moderate
Angola	Yes		JODI	Feb	Good
Australia	Yes		JODI	Feb	Moderate
Brazil	Yes		JODI	Feb	Moderate
Bulgaria		Yes	JODI	Feb	Moderate
Cameroon	Yes				Moderate
China		Yes	General Administration of Customs (China)	Feb	Good
Colombia	Yes		JODI	Dec	Good
Congo, Democratic Republic of	Yes				Low
Congo, Republic	Yes				Moderate
Cote d'Ivoire	Yes				Low
Denmark	Yes	Yes	JODI	Feb	Moderate
Ecuador	Yes		JODI	Feb	Good
Equatorial Guniea	Yes				
Finland		Yes	JODI	Feb	Good
France		Yes	JODI	Feb	Good
Gabon	Yes				Moderate
Ghana	Yes				Moderate
Greece		Yes	JODI	Feb	Moderate
India		Yes	JODI	Feb	Good
Indonesia	Yes	Yes	JODI	Aug	Low
Iran (Islamic Rep.)	Yes		JODI	Jan	Moderate
Iraq	Yes		State Organisation for Marketing of Oil (Iraq)	Mar	Good
Ireland		Yes	JODI	Feb	Good
Italy		Yes	JODI	Feb	Good
Japan		Yes	Ministry of Economy, Trade and Industry (Japan)	Mar	Good
Kuwait	Yes		JODI	Feb	Good
Libya	Yes		JODI	March 2014	Moderate
Lithuania		Yes	JODI	Feb	Good
Malaysia		Yes	JODI	Dec	Low
Mexico	Yes		JODI	Feb	Good
New Zealand		Yes	JODI	Feb	Good
Nigeria	Yes		JODI	Feb	Good
Norway	Yes		JODI	Feb	Good
Oman	Yes		JODI	Feb 2016	Good
Philippines		Yes	JODI	Jan	Moderate
Poland		Yes			Moderate
Portugal		Yes	JODI	Feb	Moderate
Qatar	Yes		JODI	Feb	Moderate
Romania		Yes	JODI	Feb	Good
Russia	Yes				Moderate
Saudi Arabia	Yes		JODI	Feb	Good
Singapore		Yes	JODI	Feb	Low
South Africa		Yes	South African Revenue Services	Mar	Moderate
South Korea		Yes	Korea Customs Services	Mar	Good
Spain		Yes	JODI	Feb	Good
Sudan	Yes				Moderate
Sweden		Yes	JODI	Feb	Good
Thailand		Yes	JODI	Jan	Moderate
Trinidad and Tobago	Yes		JODI	Dec	Moderate
Tunisia	Yes	Yes	JODI	Jan	Moderate
Turkey	Yes	Yes	JODI (Import)	Feb	Moderate
United Arab Emirates	Yes		JODI	Sept	Moderate
United Kingdom	Yes	Yes	JODI	Feb	Moderate
United States of America		Yes			Moderate
Venezuela	Yes		JODI	Aug	Moderate