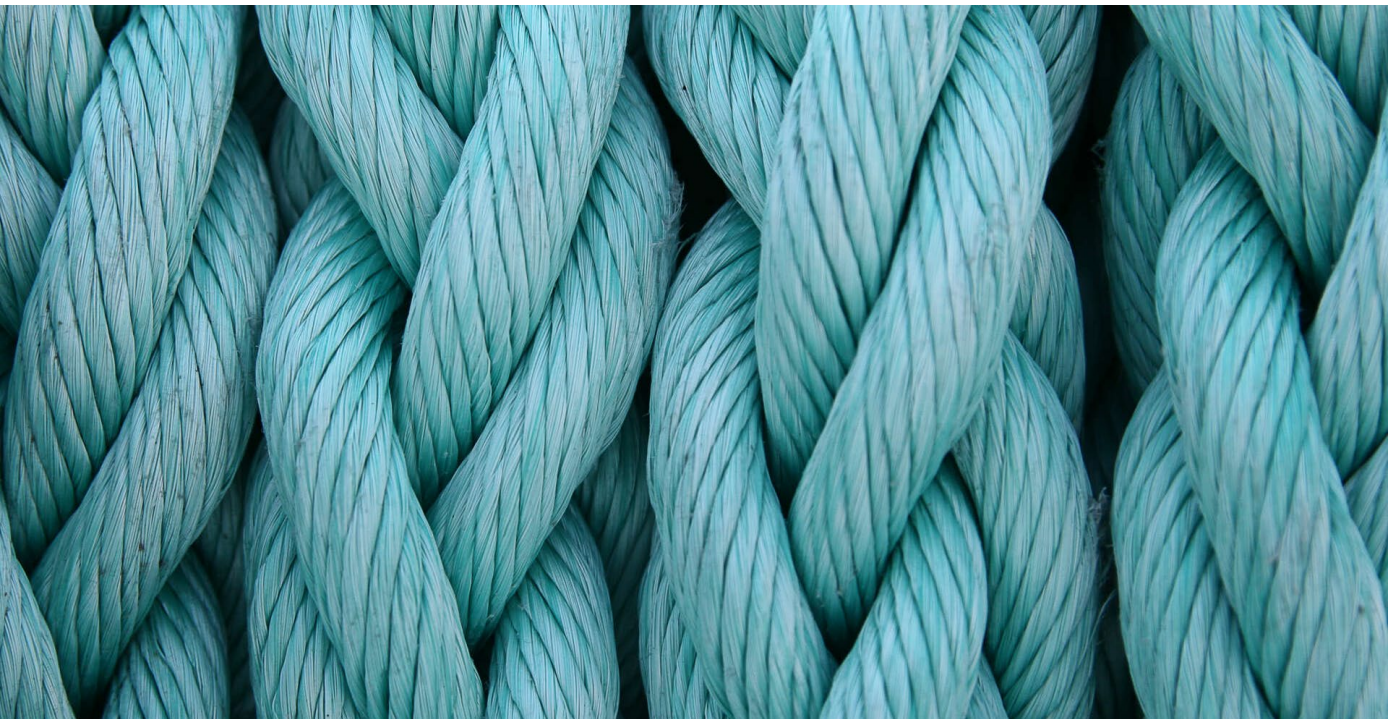


Russia's Shadow Fleet – Understanding its Size, Activity and Relationships



This paper seeks to identify and analyze the key determinants and make-up of Russian shipping risk, providing a contemporary overview on the tactics and methods employed by Russian and non-Russian vessels when attempting to evade sanctions.

The Russian shadow fleet or ghost fleet has been widely discussed and debated since the G7 Oil Price Cap for crude oil took effect on Dec. 5, 2022 and continued when the subsequent price cap on refined products became effective on Feb. 5, 2023.

The G7 cap, imposed on crude and refined oil cargoes of Russian origin, set a limit of US\$60 a barrel for crude, US\$100 a barrel for diesel and kerosene etc. which trades at a premium to crude and US\$45 a barrel for fuel oil and naphtha which generally trades at a discount to crude. The ceilings will be reassessed in mid-March with further reviews every two months. A transition period for refined products is currently in place for of 55 days, this excludes from the price cap vessels currently carrying Russian petroleum products that were purchased and loaded before Feb. 5, 2023 and unloaded before April 1, 2023.

In this context, Russia has repeatedly stated that it will not work with the price cap, but the vast majority of seaborne Russian oil shipments rely on services provided by companies based in the G7. Large volumes of Russian oil are shipped on Greek owned vessels and very significant numbers of Russian vessels are insured through the United Kingdom-based International Group of P&I Clubs. If Russia insists on not conforming to the price cap, it cannot use services located in G7 countries due to sanctions controls. Therefore, Russia needs to transport its oil output in order to maintain current cargo levels by other means, as the current Russian fleet alone does not have the capacity to do so. This scenario gives rise to the need for a substantial shadow or ghost fleet of vessels able to transport Russian oil at close to capacity as possible while potentially evading G7 sanctions and the crude and refined oil price caps.

There are multiple estimates as to how many vessels make up the Russian shadow fleet, ranging from 100 to a higher estimate of 600¹. While an exact number in the shadow fleet would be difficult to determine, there are certain vessels with particular characteristics and patterns that can be used in an assessment of ships likely to be involved in the transfer or movement of Russian oil.

This paper seeks to identify and analyze the key tactics and methods employed by Russian and non-Russian vessels when attempting to evade sanctions on the movement of oil and its refined products.

Key Takeaways

- This paper estimates **443 tanker vessels (with a DWT greater than 10,000) are currently operating within the Russian shadow or ghost fleet**
- The number of **vessels with a wider potential for risk in regard to Russian sanctions is estimated to be 1,900**. These are vessels of all nationalities and ownership that have made Russian port calls, STS transfers etc.
- From these **1,900 ships the majority are Greek owned and cover a wide range of flag registries from the Marshall Islands, Liberia and Panama**
- New vessels have begun to work the Russian tanker routes. **35 new vessels have visited Russian oil ports for the first time** in the period between Dec. 5, 2022 and Feb. 16, 2023
- **Ceuta on the North African Mediterranean coast is the current hotspot for Russian oil STS** (ship-to-ship) transfers, with a monthly average of 18 between October 2022 and January 2023
- Other **STS transfer hubs for Russian oil are the Peloponnese region of Greece and South Korea**

¹ <https://www.ft.com/content/955389bf-d01b-4acb-bd15-b764425a8a18> and <https://www.economist.com/finance-and-economics/2023/01/29/how-russia-dodges-oil-sanctions-on-an-industrial-scale> and <https://www.weforum.org/agenda/2023/02/shadow-fleet-hurting-efforts-to-defund-the-invasion-of-ukraine/>

- Russian diesel appears to be finding a new home in North Africa with multiple cargo deliveries to Tunisia in 2023. For **the first two months of 2023, Russian refined product cargoes delivered to Tunisia have already exceeded volumes in 2022**
- An increasing number of **vessels that once worked the Venezuelan oil cargo route and engaged in suspicious activity when delivering these shipments are moving over to Russian tanker routes**

Shadow Fleet Estimation

Providing an estimation on the overall number of vessels in the shadow or ghost fleet is difficult to determine. One of the key reasons for the differences in numbers from various shipping brokers, traders and others is due to methodology. Certain methodologies account for port calls since the first oil cap on Dec. 5, 2022, while others might discount this due to it being an open and easily identifiable aspect of shipping Russian oil. Other estimations might not utilize ownership data due to a lack of authoritative sources.

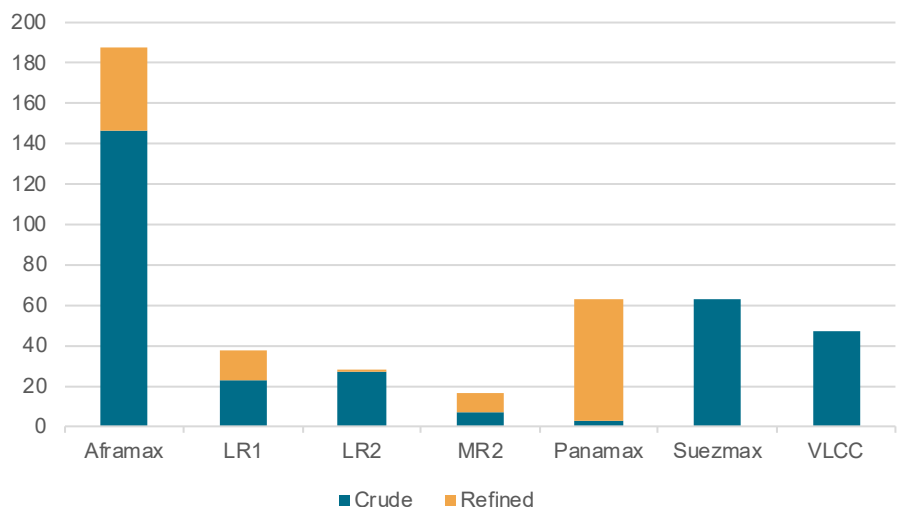
The methodology used in this paper accounts for the following attributes:

- Vessels with a current Russian registration or ownership entity since the G7 oil price cap was introduced on Dec. 5, 2022
- Vessels making their first port call or STS with Russia after Dec. 5
- Vessels previously working Iranian or Venezuelan oil tanker routes but have now switched to Russian cargoes
- Vessels sold with missing ownership entities or having an unknown or undisclosed buyer since August 2022 (the G7 oil price cap was announced in September 2022)

From this list a number of ships have been identified as lifting Russian oil cargo within price cap limits due to trade patterns, flag, country registration and ownership investigation and were removed from the overall analysis. Also removed from the list are vessels with a tonnage below 10,000 DWT. Using this analysis, a total of 443 vessels are believed to be Russian ghost ships as of Feb. 27, 2023.

The breakdown by ship type group is 316 crude oil vessels and 127 refined product tankers.

Russian Shadow Fleet by Ship Type Group

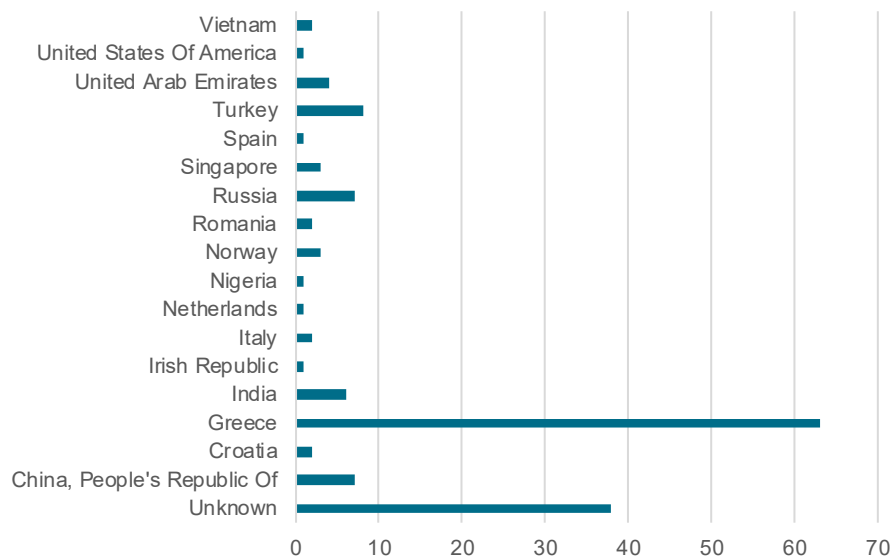


The 443 vessels within the ghost or shadow fleet suggests there is enough capacity for Russia to continue supplying its partners and markets. Recent estimates outlined the need for 240 ships to be available to Russia in order to maintain current seaborne crude exports².

Oil Tankers and the Wider Potential for Russian Risk

The estimated wider risk in regard to Russian sanctions and the oil price cap is calculated by S&P Global Market Intelligence to potentially affect 1,900+ ships out of the total population of 9,200+ oil and products tankers. These 1,900 vessels are deemed to be of high or medium risk due to a Russian owner or registration, a Russian port call or an STS engagement in Russian waters or with a Russian related entity. Since the beginning of 2023, 150+ of these high-risk ships have made a direct port call in Russia and a breakdown of this number highlights a large proportion domiciled in Greece.

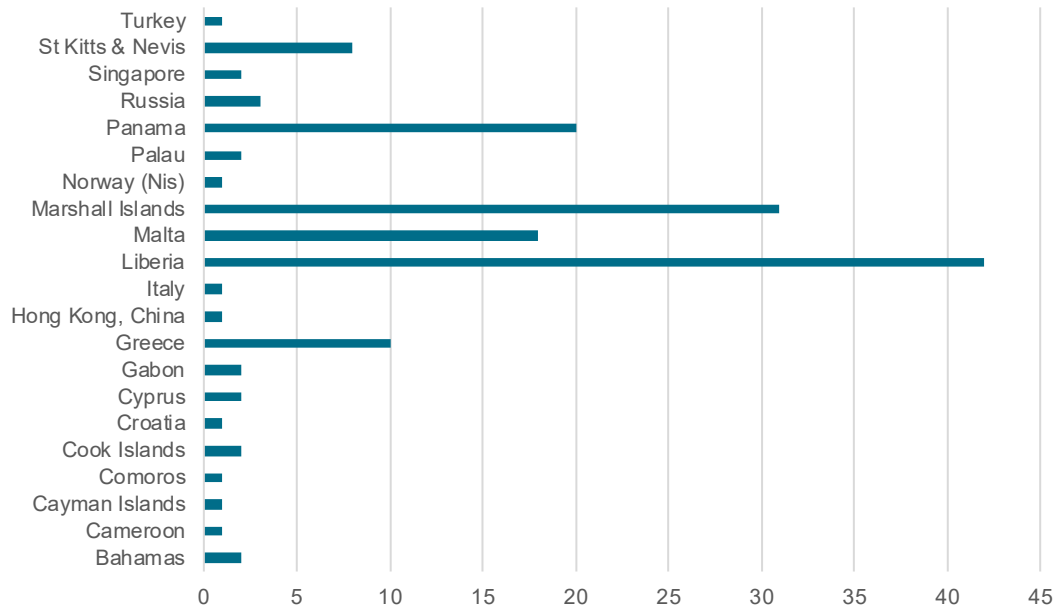
Owner Domicile of Vessels Visiting Russian Ports in 2023



Source: S&P Global Market Intelligence, Maritime Intelligence Risk Suite (MIRS)

²<https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/shipping/021623-product-tanker-markets-shift-amid-russian-sanctions-scorpio-tankers>

Flag State of Vessels Visiting Russian Ports in 2023



Source: S&P Global Market Intelligence, Maritime Intelligence Risk Suite (MIRS)

Vessels Making Their First Russian Port Visit

Since the crude oil price cap went into effect on Dec. 5, 2022, 35 tanker vessels (oil and refined products) have visited a Russian port for the first time in their trading history (until Feb. 16). The nationality of the overwhelming majority of these vessels are from the Marshall Islands, Panama, Liberia and Hong Kong. 63% of these vessels are older than 13 years, with a maximum age of 27. These vessels are making direct journeys and discharging cargo in Egypt, Nigeria, China and India.

One of the vessels is Crius (IMO: 9251274), a tanker which changed flag and full ownership structure in November 2022, including its ultimate beneficial owner. In its previous life, the vessel was mainly working routes in Southeast Asia; Malaysia, Singapore and Australia but subsequent to changing owner it has conducted its most recent voyages out of the Primorsk and Ust-Luga ports in Russia. The Crius has loaded Russian oil and conducted STS at Ceuta in the Mediterranean Sea in January 2023, the vessel it partnered with was engaged with a second ship at Ceuta where it also conducted an STS transfer. The two Aframax vessels transhipped cargo to the Natalina 7 (IMO: 9310147) destined for Singapore. All vessels involved in the cargo shipment changed ownership in August and November 2022 and have a more opaque ownership structure as a result with offices based in China. From the list of 35 tanker ships, there are another 9 which have moved to a significantly more unclear ownership structure, changing owners in late 2022 for inflated resale values.

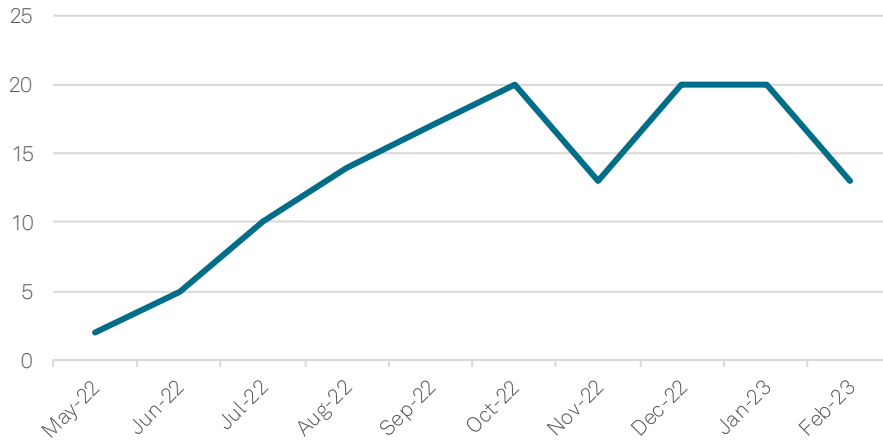
The list also includes the HS Everett (IMO:9410870), which changed hands in November 2022, moving to a single ship owner based in Liberia. The HS Everett has recently visited a Russian port and engaged in STS transfers with other ships working with Russian oil products in the Peloponnese region of Greece.

Other notable points in the list of tankers visiting Russian ports for the first time since the price cap implementation are shipowners and charterers seeking to reposition their fleet by accessing better tanker freight rates and sourcing of refined products. A number of vessels owned by U.S., Spanish and Greek firms have recently switched to Russian routes.

Ship-to-Ship Transfers Hubs – Ceuta

The autonomous Spanish zone of Ceuta, on the north coast of Africa, has witnessed a considerable rise in cargo transfers by tanker vessels between August 2022 and February 2023.

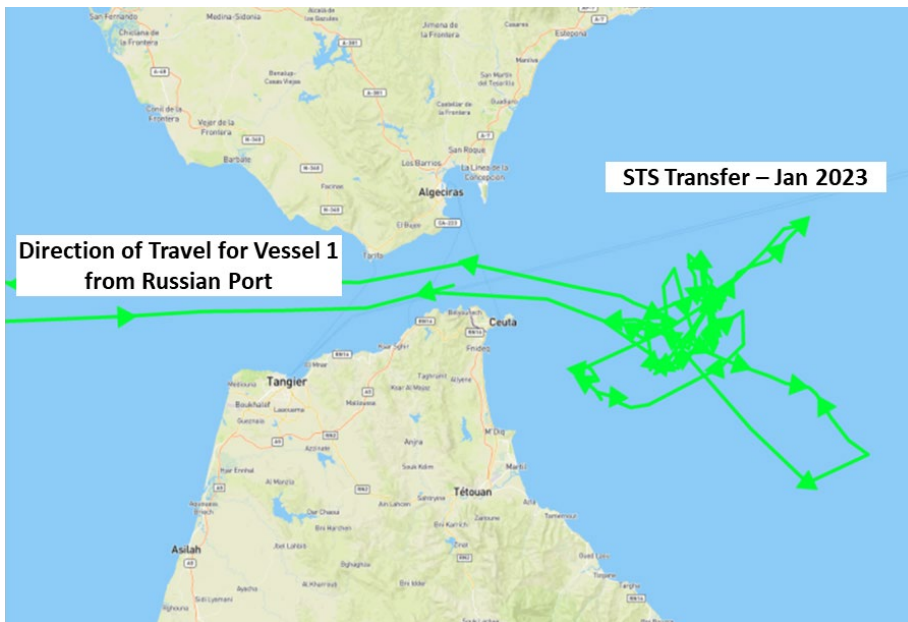
Number of Unique Vessel STS Transfers, Ceuta



Source: S&P Global Market Intelligence, Maritime Intelligence Risk Suite (MIRS)

The number of unique vessels conducting STS activity in the Ceuta zone increased from 2 per month in May 2022 to 20 in January 2023. Many Russian origin vessels have been involved in the STS transfers and there are examples of ships carrying Russian oil products being transferred to multiple vessels. The predominant flag states engaged in this activity in Ceuta are the Marshall Islands, Panama, Cameroon, Belize and Liberia. The pattern of trade around Ceuta follows a particular theme. A tanker loads cargo at a Russian Baltic or Black Sea port, at Ceuta it pairs with another vessel and then the vessel with the transferred cargo sails onwards to destinations such as Brazil, India, China or UAE.

In the example below, a Marshall Islands flagged vessel conducted an STS with a Greek flagged tanker at Ceuta. The Marshall Islands flagged vessel loaded oil at St. Petersburg, its cargo transferred at Ceuta to the Greek owned vessel and then moved via the eastern Mediterranean through the Suez Canal. The destination for the cargo changed multiple times since the STS transfer, ranging from Port Said, Singapore, Unknown and Tanjung Pelepas.



Source: S&P Global Market Intelligence, Maritime Intelligence Risk Suite (MIRS)



Source: S&P Global Market Intelligence, Maritime Intelligence Risk Suite (MIRS)

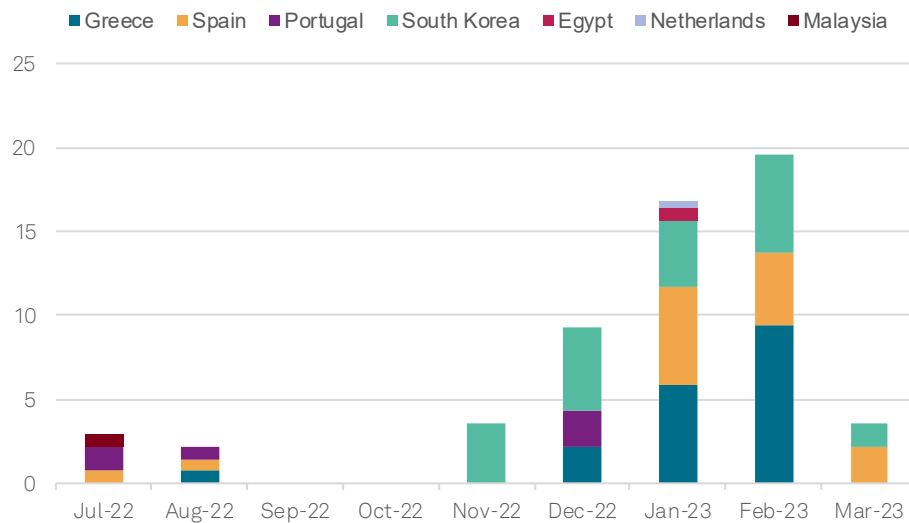
The STS transfers in January and February 2023 outside Ceuta also highlight an issue with vessel ownership. There are numerous examples of group owner nationalities within the EU (Ireland and Greece) pairing with vessels that are potentially carrying Russian oil and have a suspicious ownership hierarchy, in some cases the ultimate group owner is unknown.

The risks of engaging in an STS with a vessel without full ownership history are further highlighted in the case of a Singaporean flagged vessel in early 2023 receiving oil cargo via transfer from the 'Nobel' (IMO:9105114) previously Russian flagged and owned until July 2022. The vessel of Singaporean nationality was subsequently denied entry to a Spanish port due to its historical STS trading partnership with the 'Nobel'.

Ship-to-Ship Transfers Hubs – Peloponnese and South Korea

A similar scenario to Ceuta is evident with crude and refined oil STS transfers at the Peloponnese region of southern Greece and in the waters close to the South Korean port city of Yeosu. Cargo loaded at Russian Black Sea ports is transferred multiple times at the Peloponnese/Kalamata STS zone before continuing its journey eastwards.

Russian Crude STS Discharges by Location, mm of barrels



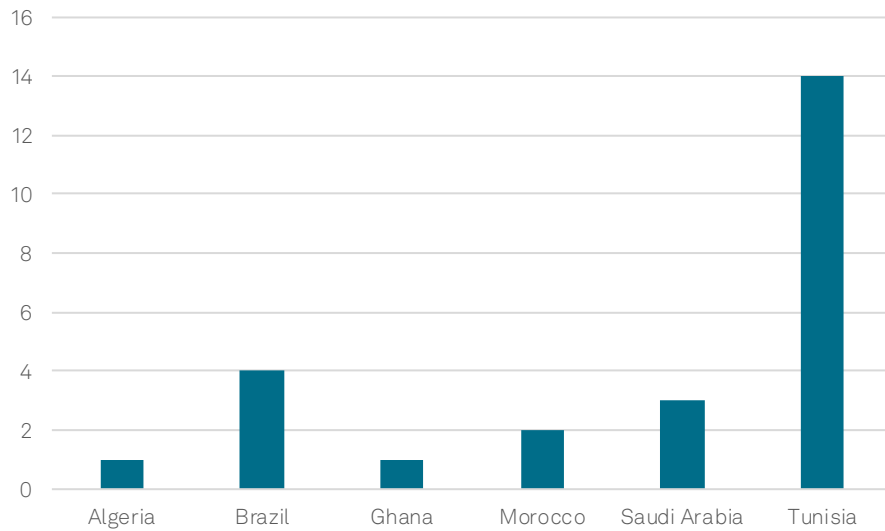
Source: S&P Global Commodity Insights, Commodities at Sea (CAS)

There has been a significant increase in STS activity, with transfers approaching 19 million barrels in February, up from 16 million in January and 9 million in December 2022. Most of the pairings, as stated, occur in the regions of Peloponnese, Ceuta and South Korea.

Refined Product Shipments to Africa and the Middle East

A new development since the G7 Oil Price Cap has been the diverting of Russian refined product cargoes such as diesel to ports in North Africa and the Middle East. A number of cargoes at the end of January and early February 2023 were discharged in Tunisia. Other countries appearing prominently are Ghana, Morocco and Algeria. As Russian refined product cargoes no longer service the European market, they are undergoing longer freight journeys from Baltic ports to other destinations such as Saudi Arabia and Brazil.

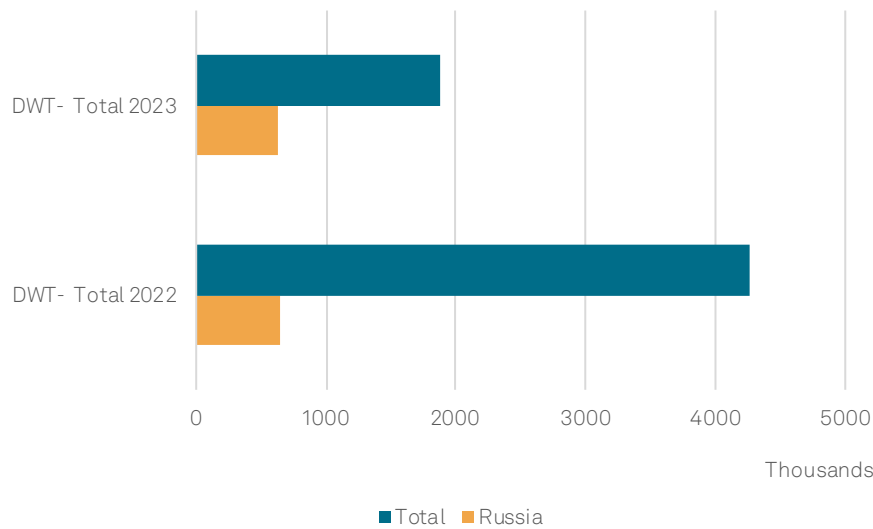
Number of Shipments of Refined Products to North Africa/Middle East/Brazil (Jan and Feb 2023)



Source: S&P Global Market Intelligence, Maritime Intelligence Risk Suite (MIRS)

Russian refined product cargoes to Tunisia, in January and February 2023 alone, have reached the same levels as 2022. As a percentage of overall trade, 2023 shipments account for 33% of overall Tunisian imports compared to 15% in 2022.

Russian Refined Products to Tunisia, DWT



Source: S&P Global Market Intelligence, Maritime Intelligence Risk Suite (MIRS)

Tunisia's uptake in the import of Russian refined product offers a lifeline for Russia due to its exclusion from the European market. Equally, the quantity of diesel entering Tunisia suggests that the imports are too large for internal consumption and there could be an indication that a percentage of the refined product is re-entering Europe or other markets.

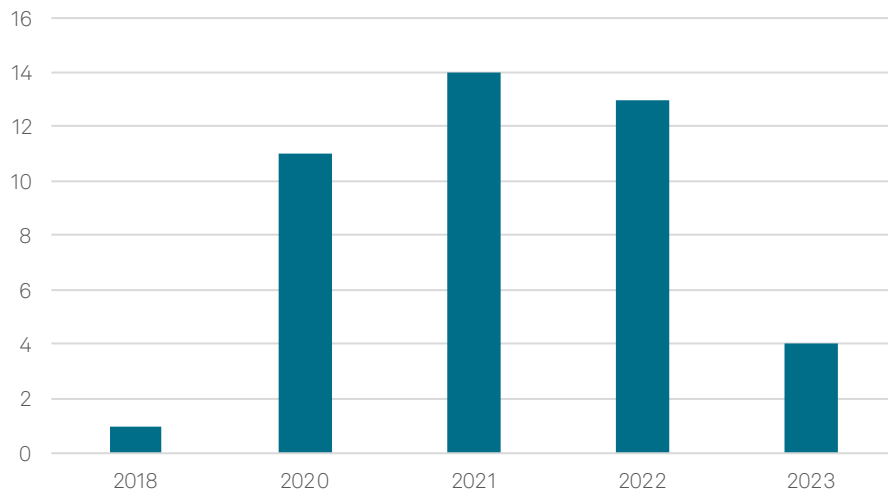
Vessels Switching from Venezuela Trade

A significant number of vessels that previously worked on Venezuelan oil shipment routes have now switched to Russian trade. By late February 2023, 33% of the vessels that previously documented an AIS outage (dark activity) in the proximity of a Venezuelan port between 2021-2022 are now working with Russian crude oil either making direct Russian port calls or conducting cargo transfers at sea with Russian owned or flagged ships. Within this list of vessels, Russia is making most use of Aframax tankers which can haul a total of 9-10mm barrels of oil based on the total number of ships recently moving from Venezuela to Russian trade and Suezmax ships with a total capacity for 7mm barrels.

One of the ships previously transporting Venezuelan crude oil has recently made a Russian port call in late January 2023. The Peria (IMO:9322827) was largely absent from AIS between July 2021-22 but has since re-emerged and undergone a number of flag changes in October and December 2022. The vessel was sold in August of the same year and has a new ownership structure.

Within the list of tankers moving from Venezuelan routes across to Russian ones, the most representative ship nationality is Cameroon. Out of the 43 tankers currently registered with the state only 3 of them have a fully documented and transparent ownership structure. In 2021 and 2022 the number of tankers moving under the country's flag doubled in size and continues to grow in 2023. Since the Russian invasion of Ukraine, vessels are moving to the Cameroon flag in the hope that suspicious vessel practices, including membership of a shadow fleet, would not be regularly scrutinised or inspected.

Number of Cameroon Flagged Tanker Vessels Since 2018



Source: S&P Global Market Intelligence, Maritime Intelligence Risk Suite (MIRS)

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