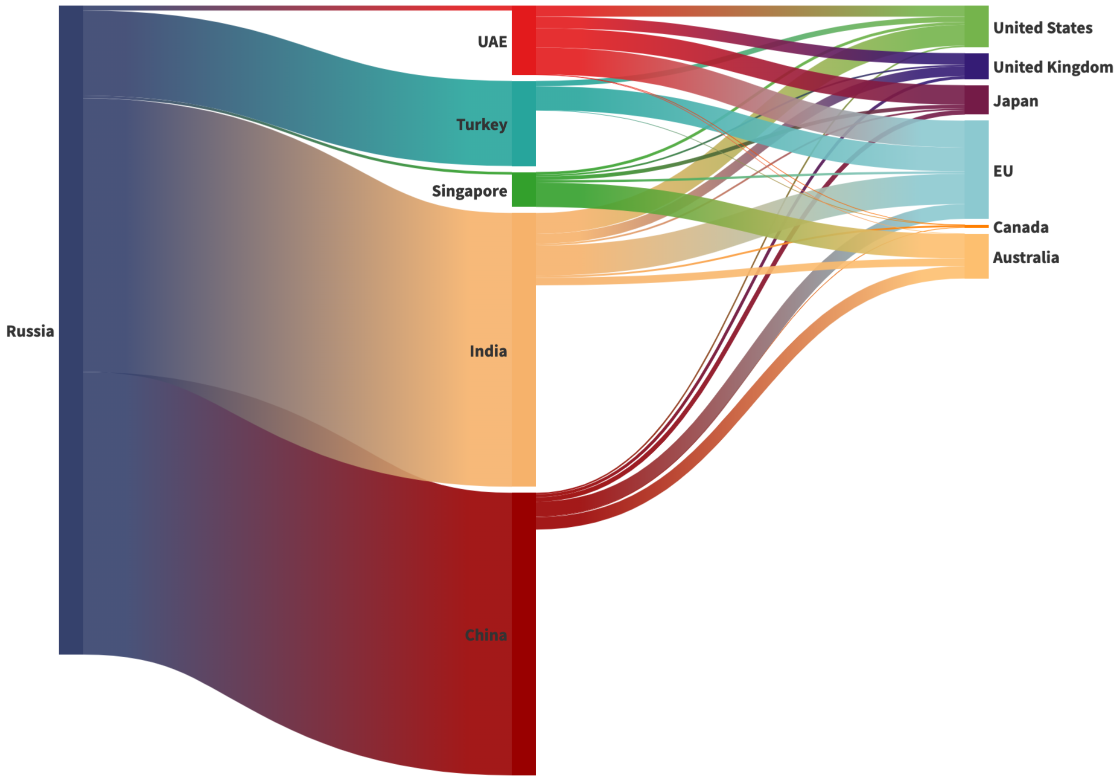
The Laundromat: How the price cap coalition whitewashes Russian oil in third countries

Russian crude into laundromat countries and their exports of oil products to price cap coalition nations.

One year post invasion | Million tonnes



Source: CREA analysis based on Kpler data.

Key findings

- The EU, most of G7 and Australia have banned or limited imports of Russian crude oil and oil products, leading to a significant fall in Russia's oil prices and export revenues. However, these price cap coalition countries have increased imports of refined oil products from countries that have become the largest importers of Russian crude. This is a major loophole that can undermine the impact of the sanctions on Russia.
- One year on from Russia's invasion of Ukraine, the price cap coalition countries increased the imports of refined oil products from China (+3.6 million tonnes or +94%), India (+0.3 million tonnes or +2%), Turkey (+1.8 million tonnes or +43%),

UAE (+2.6 million tonnes or +23%) and Singapore (+1.8 million tonnes or +33%). Price cap coalition countries' imports of refined oil products from these five countries rose by +10 million tonnes (+26%) or EUR 18.7 bln (+80% in value terms) in the year since Russia's invasion compared to the prior year. We call these five countries that have increased purchases of Russian oil and "launder" it into products shipped to countries having sanctioned Russian oil the "laundromat" countries.

- Among the price cap coalition, the largest importer of oil products from the laundromat countries was the EU, whose imports amounted to EUR 17.7 bln. Australia purchased EUR 8.0 bln worth in the 12 month period since Russia's invasion, followed by the USA (EUR 6.6 bln), the UK (EUR 5.0 bln) and Japan (EUR 4.8 bln). The highest proportions of imported oil products into oil price cap coalition countries were diesel (29%), jet fuel (23%) and gasoil (13%).
- China's monthly exports of oil products to Europe and Australia spiked in late 2022, far above historical levels. In the lead up to sanctions on Russian oil, China significantly increased its oil products exports, reaching 2.9 million tonnes in Q4 of 2022 which was 150% higher than the quarterly average in 2022.
- In the year following the start of the invasion, seaborne imports of Russian crude oil into China, India, Turkey, United Arab Emirates (UAE) and Singapore increased by 140% in volume terms, compared with the 12 month period before the invasion. The total value of their imports was EUR 74.8 bln over the twelve months, and since the EU crude oil ban until one year after the start of the war, these five laundromat countries have made up 70% of Russia's crude oil exports.
- As Russia is forced to offer discounted oil to ensure it is able to find buyers, the laundromat countries are refining larger volumes of imported Russian crude to then export the refined products to sanction imposing countries (+10 mln tonnes or +26% of refined oil products exported to price cap coalition countries one year post invasion compared to the prior 12 months). This is currently a legal way of exporting oil products to countries that are imposing sanctions on Russia as the product origin has been changed. This process provides funds to Putin's war chest.
- The price cap coalition countries are responsible for the vast majority of the increase in laundromat countries' exports of oil products since the start of Russia's invasion. Laundromat countries' exports of oil products increased 80% in value terms and 26% in volume terms (selling an additional +10 million tonnes) to price cap coalition countries, but only rose 2% (or +2.9 million tonnes) to non-price cap countries in the year since the invasion on prior year levels.
- Since the imposition of the crude oil price cap (5 December 2022) up to one year after the invasion (24 February 2023), India (3.8 million tonnes) was the largest

exporter of oil products to price cap coalition countries, followed by China (3.0 million tonnes) and UAE (2.9 million tonnes).

- The Indian port of Sikka is the biggest oil product export port to the price cap coalition countries, and the largest importing port in the world of seaborne crude oil from Russia. The port serves the Jamnagar refinery. EUR 2.7 bln of petroleum products have been exported from that location to price cap coalition countries since December 2022 to February 2023.
- Overall, the PetroChina Dalian refinery in China is the largest recipient of Russian crude oil in the world, due to a pipeline connection to Russia. The main export destination for oil products from Dalian is Australia.
- 56% of Russian crude oil shipped to laundromat countries has been transported by vessels owned and/or insured by the price cap coalition countries since December 2022 up until the anniversary of Russia's invasion of Ukraine. This share is 74% for oil products exported from laundromat countries from December 2022 until the anniversary. This illustrates the coalition's strong leverage to ratchet down the price cap level as well as taking action to ban refineries buying Russian crude to refine it and sell the products to sanctioning countries.

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Introduction

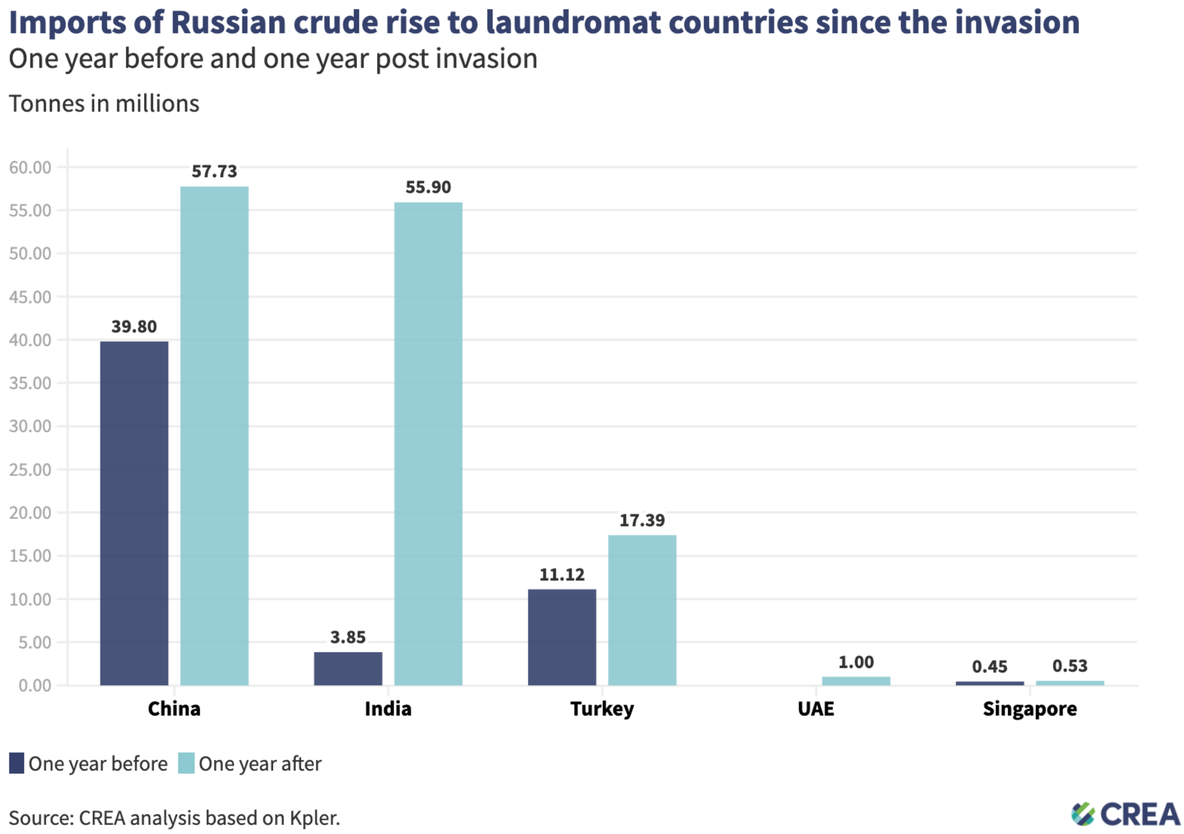
The EU has banned the seaborne imports of crude oil from Russia, and is part of the wider price cap coalition having set a price cap of USD60 for Russian crude oil on 5 December 2022. The EU banned the imports of Russian oil products on 5 February 2023, and the price cap coalition set two price caps for Russian oil products, starting on the same day. These price caps are USD100 for products selling at a premium, and USD45 for other products.

To safeguard and enhance the effectiveness of these sanctions, this briefing looks at third countries importing Russian crude oil and exporting it as refined oil products to the price cap coalition's countries or regions. This is a way to skirt around the sanctions, still enabling Russia to receive revenues from crude oil, with the price cap coalition importing products made from Russian crude.

Five laundromat countries increased imports of Russian crude oil, refining it to products sent to sanctioning countries

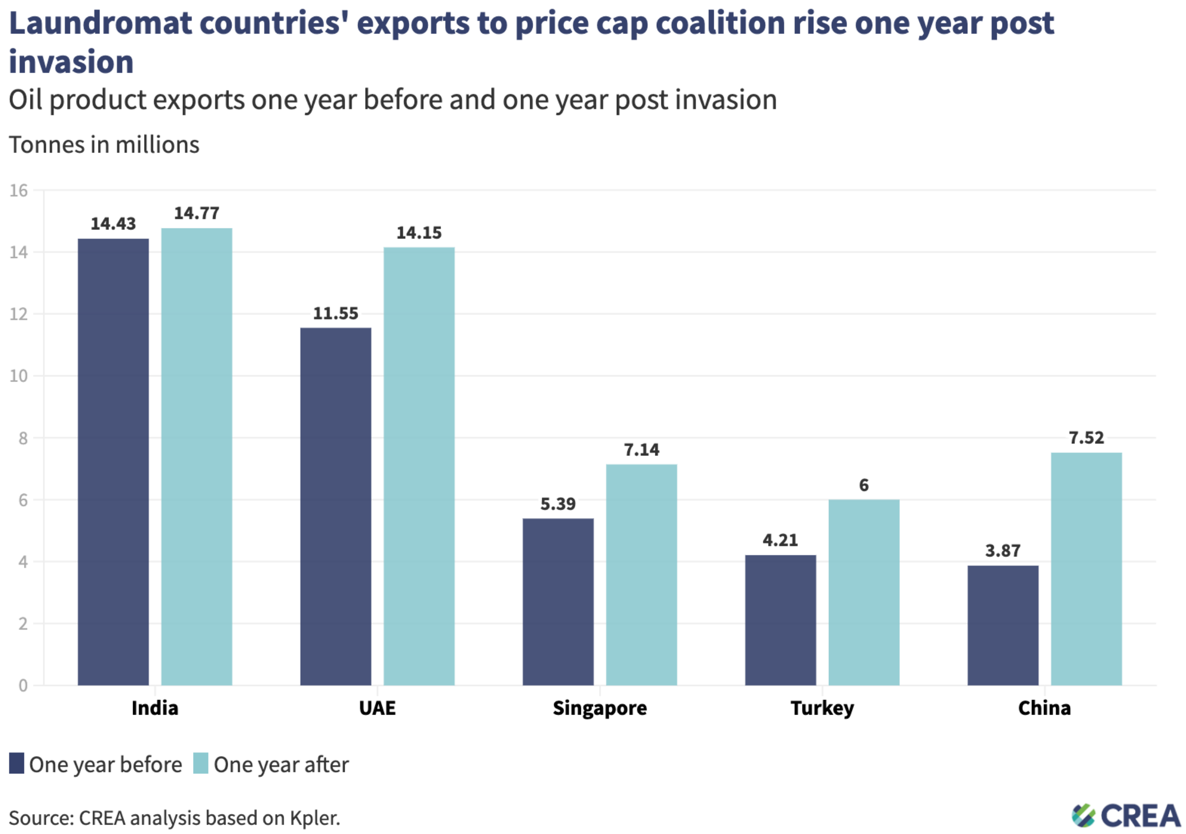
Since the beginning of the invasion, demand for Russian crude oil has increased significantly by China, India, Turkey, UAE and Singapore. China (57.7 million tonnes), India (55.9 million tonnes), Turkey (17.4 million tonnes), The United Arab Emirates (UAE, 1.0 million tonnes) and Singapore (0.5 million tonnes) increased imports of Russian crude oil on the prior year, importing EUR 74.8 bln worth of oil in the 12 month period since Russia invaded Ukraine (February 24 2022). These countries' increase in Russian crude oil import volumes represents a 140% (or in value terms EUR +48.2 bln) increase from the 12 month period before the invasion. China, India, Turkey, UAE and Singapore are increasing Russian crude oil imports offered at a discount to these willing buyers that are not imposing sanctions on Russian crude oil.

These countries are then refining this crude oil and exporting more refined oil to sanction imposing countries, increasing oil product exports to price cap coalition countries by 10 million tonnes or EUR 18.7 bln (+80% in value terms) in the year after the invasion compared to the prior year. This is a legal method of laundromat countries purchasing Russian crude and exporting the refined oil products to sanction imposing countries by masking the origin of the oil. This process provides funds to Putin's war chest through the purchase of Russian crude that ends up as refined products in sanction imposing countries.



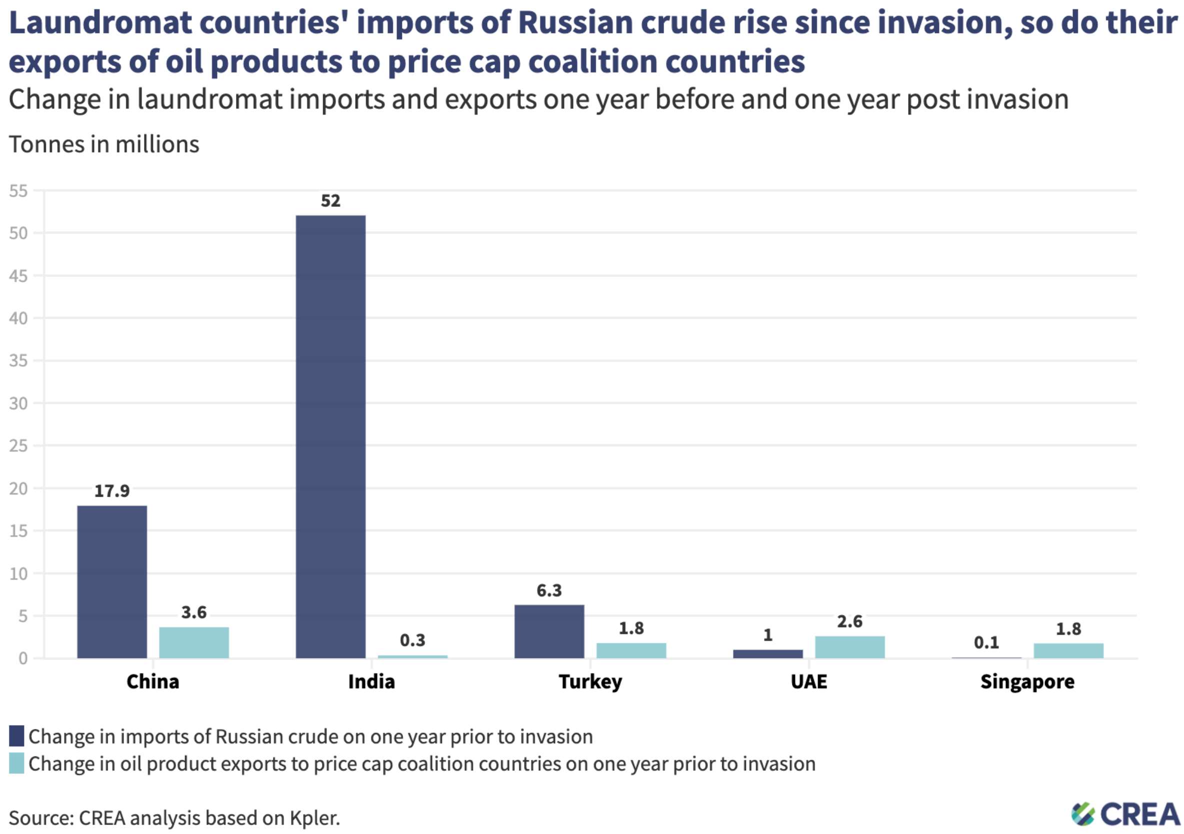
Imports of refined products by oil price cap coalition countries from China (+3.6 million tonnes), India (+0.3 million tonnes), Turkey (+1.8 million tonnes), UAE (+2.6 million tonnes), and Singapore (+1.8 million tonnes) have increased from 39.5 million tonnes in the year before the Russian invasion of Ukraine to 49.6 million tonnes one year post Russia's invasion. This represents an increase of 26% (+10 million tonnes) in volume terms or an 80% rise (EUR 18.7 bln) in monetary terms of refined oil imports by price cap coalition countries from laundromat nations.

We cannot verify exactly what proportion of the increase in oil products exported by laundromat countries to price cap coalition countries is refined from crude oil with a Russian origin. However, one year after the invasion, laundromat countries increased refined product exports to price cap coalition countries by 26% in volume terms or 80% in value terms and increased Russian crude imports over the same time period by 140% in volume terms or 182% in value terms. This demonstrates that laundromat countries have increased their imports of Russian crude oil since the invasion in comparison to the prior year, this crude oil is then being refined domestically and exported to sanction imposing countries, circumventing measures that attempt to hinder Russian government revenues used by Putin to fund the war.



As seen in the chart above, all five laundromat countries exported higher volumes of oil products to price cap coalition countries one year after Russia's invasion compared to the prior 12 month period. India exported the highest volume of oil products to price cap coalition countries one year since Russia's invasion shipping 14.8 million tonnes, representing a 2.4% increase on the prior year in volume terms but a 48% rise in value terms (due to the rise in oil product prices which provides higher incentives or profits for refineries undertaking these exports of refined products). UAE, China and Singapore followed as the largest oil products exporters one year post invasion, selling 14.2 million tonnes, 7.5 million tonnes and 7.1 million tonnes respectively to price cap coalition countries. All of the five laundromat countries increased Russian crude oil imports over the same time period (one year since the Russian invasion on the prior year) that their exports of refined oil products sold to price cap coalition countries rose, which provides evidence that laundromat countries are providing funds to the Kremlin through higher imports for

Russian crude on the prior year, enabled through the product imports by the price cap coalition.



Interestingly, the vast majority of the increase in laundromat countries' exports of oil products since the start of Russia's invasion has been sold to price cap coalition countries rather than other nations that are not imposing sanctions on Russia. Laundromat countries increased their imported volumes of Russian crude by 140% (or EUR +48.2 bln) one year after the invasion compared to the prior year. The exports of oil products increased by +80% (EUR +18.7 bln) to oil price cap coalition countries in value terms or by +26% in volume terms (+10 million tonnes). Laundromat countries increased oil product exports to non-price cap countries by a much smaller +2% in volume terms (+3 million tonnes) in the year since the invasion on prior year levels. This provides evidence that the rise in sales of oil products from laundromat countries are mostly driven by rising sales to price cap coalition countries.

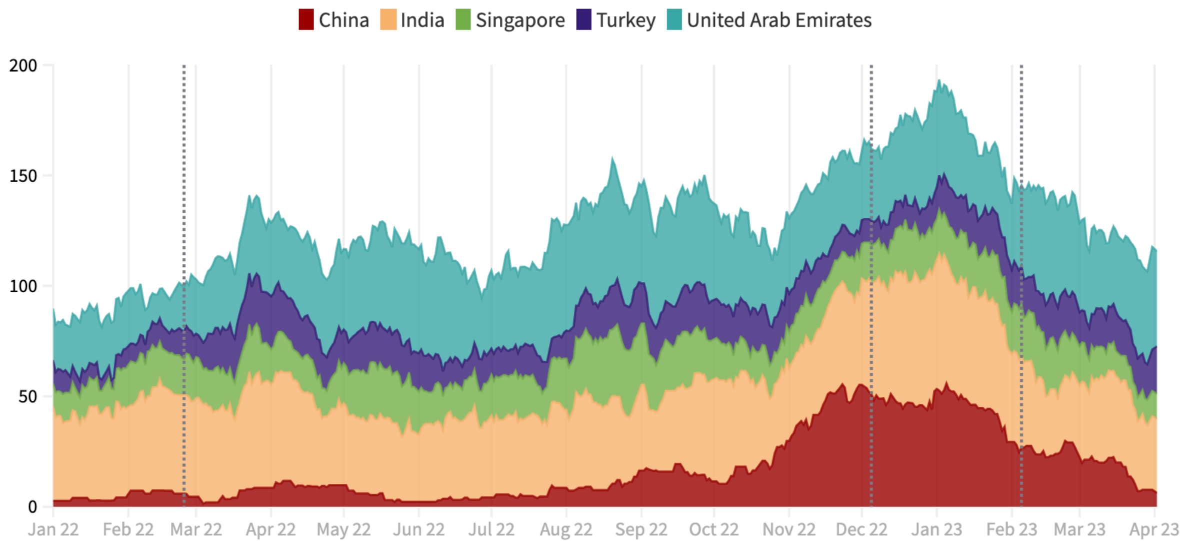
Imports from laundromat countries spiked after the EU's ban on Russian crude oil

Since the start of the crude oil import ban and crude oil price cap policy (imposed on 5 December 2022) until one year on from Russia's invasion (24 February 2023), price cap coalition countries have imported 12.9 million tonnes (EUR 9.5 bln) of oil products from the laundromat countries. Monthly oil products imported into price cap coalition countries from laundromat countries reached a peak in December–January 2023, as seen in the chart below. Monthly oil products imported into price cap coalition countries from laundromat countries fell from December 2022 (5.9 million tonnes) to January (4.5 million tonnes) and further in February 2023 (3.6 million tonnes) towards pre-invasion levels, as seen in the chart below.

Monthly oil product exports from laundromat countries to price cap coalition countries

By declared export country

Thousand tonnes per day | 30-day running average



Source: CREA analysis based on Kpler. • Dotted lines represent the beginning of the war, and the EU's crude oil and refined oil products bans and wider price caps respectively.

CREA

Oil products imported into price cap coalition countries from laundromat countries were still significantly higher year on year in December 2022 (+106% on December 2021) and January 2023 (+51% on January 2022) and headed towards pre-invasion levels in February (+28% on February 2022 levels). China's total exports of refined oil products dropped 50% in January 2023 compared to the prior month (December 2022), impacted by Lunar New

Year travel demand boosting domestic consumption of transport fuels, but exports remained considerably higher in January 2023 (+107% or +1.8 million tonnes) than January 2022 levels. Whether future demand from price cap coalition countries for laundromat countries' oil products rises or falls following the oil products ban (enacted on 5 February) will depend on many factors including laundromat countries' domestic demand, China's return from lockdowns, price cap coalition countries' oil product stockpiles and discounts offered on Russian crude to laundromat countries.

Exports of oil products from laundromat countries to price cap coalition countries since the start of the crude oil import ban and price cap policy (5 December 2022) to the one-year anniversary (24 February 2023) of the invasion of Ukraine in millions of tonnes	
India	3.7
China	3.0
United Arab Emirates	2.9
Singapore	1.7
Turkey	1.4

As seen in the table above, India (3.7 million tonnes) was the largest exporter of oil products to price cap coalition countries since the implementation of the crude oil price cap (5 December 2022) up to the one-year anniversary (24 February 2023), followed by China 3.0 million tonnes) and UAE (2.9 million tonnes). Monthly oil product exports from laundromat countries to price cap coalition countries fell from 5.9 million tonnes in December to 3.6 million tonnes in February 2023.

Largest oil product importers of the price cap coalition buying from laundromat countries one year post Russia's invasion in millions of tonnes	
EU	20.1
Australia	9.1
United States	8.5
Japan	6.0
United Kingdom	5.3
Netherlands	5.1
France	3.5

Spain	2.6
Belgium	2.2
Italy	1.9
Romania	0.9
Other	4.4
Total	**49.6**

The EU imported 20.1 million tonnes of oil products from laundromat countries in the year after Russia's invasion of Ukraine, the largest importing region of the price cap coalition. Australia was the largest country buyer of oil products from laundromat countries, purchasing 9.1 million tonnes (EUR 8.0 bln) in the 12 month period since Russia's invasion followed by the USA importing 8.5 million tonnes (EUR 6.6 bln) and Japan purchasing 6.0 million tonnes (EUR 4.8 bln). The highest proportion of imported oil products into oil price cap coalition countries was diesel (29%) followed by jet fuel (23%), gasoil (13%) and naphtha (10%).

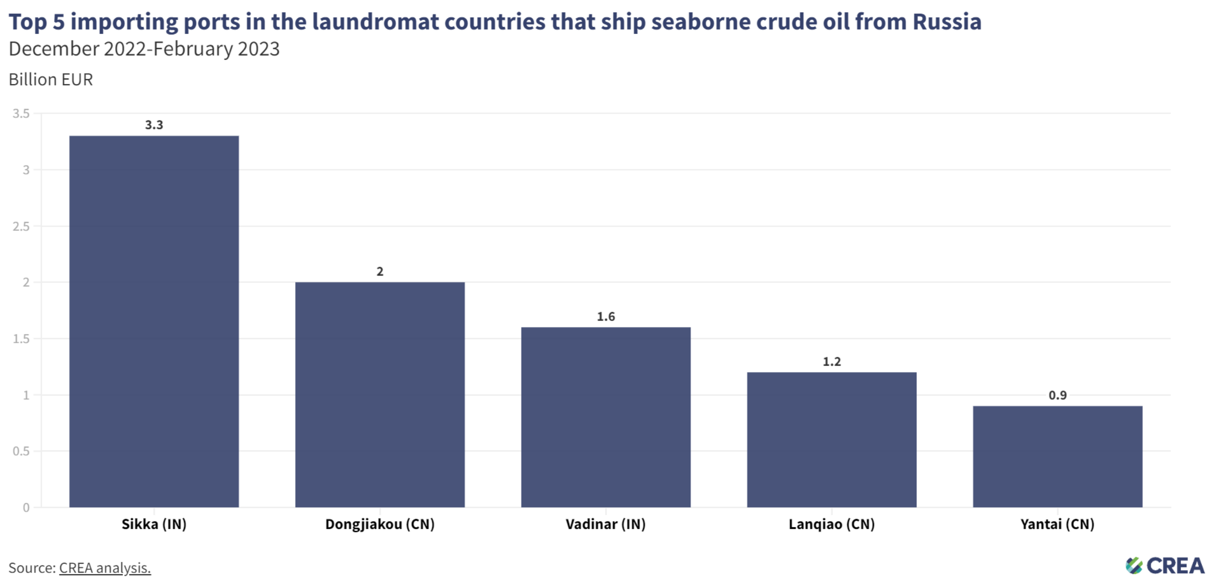
China's monthly exports of oil products to Europe & Australia rose significantly in late 2022 and slowed towards prior year levels in early 2023

China's monthly exports of oil products to Europe and Australia spiked in late 2022, far above historical levels. In the lead up to the sanctions on Russian crude oil (enacted on 5 December 2022), China significantly increased its oil products exports to price cap coalition countries, with exports in Q4 of 2022 reaching 2.9 million tonnes which was 150% higher than the quarterly average in 2022. Between November 2022 and February 2023, China's oil products exports to Australia were 1.6 billion tonnes higher compared to the same period the prior year, representing a dramatic 11-fold increase. The vast majority of the increase in oil product imports into Australia from China was diesel, making up 74% of the total Q4 volumes in 2022.

Biggest laundromat country ports receiving Russian crude oil & exporting products are in China and India

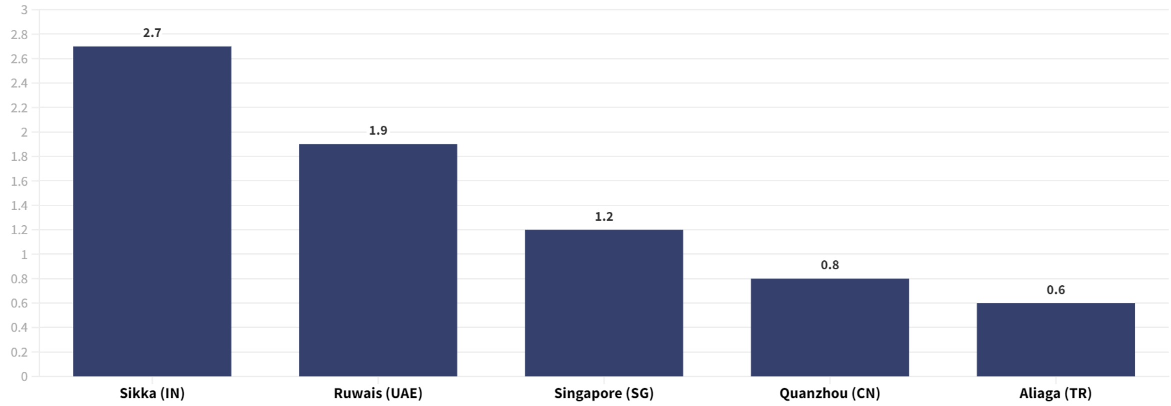
Russia's war against Ukraine and the subsequent sanctions on Russian fossil fuel exports have highlighted ports in the laundromat countries, mainly used to ship Russian crude oil and refined petroleum products to the price cap coalition counties or other destinations around the globe.

The choice of ports is not random. Some ports are geographically more convenient for exports to Europe and others for Australia or North America, oil refineries are located near ports such as the ports of Sikka or Chennai in India, Dalian or Qingdao in China, or the companies that own the refineries have trade links with Russia or an oil pipeline to the port from Russia.



Sikka and Vadinar in India and Dongjiakou, Lanqiao and Yantai in China are major Russian seaborne crude oil import ports. Between December 2022 and February 2023, EUR 9 bln worth of seaborne crude oil was imported to these five ports alone. The largest importing port from Russia is Sikka (EUR 3.3 bln), followed by Dongjiakou (EUR 2.0 bln), Vadinar (EUR 1.6 bln), Lanqiao (EUR 1.2 bln), and Yantai (EUR 0.9 bln).

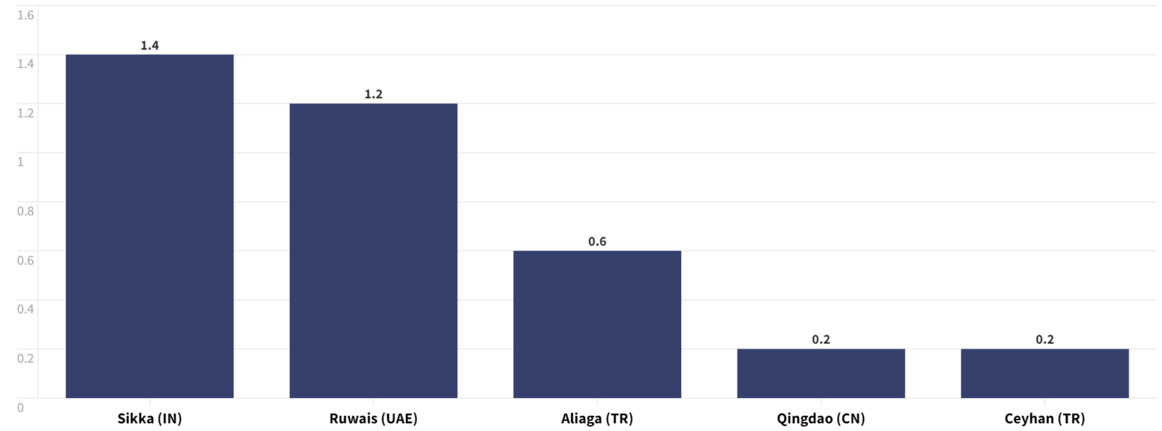
Top 5 exporting ports in the laundromat countries that ship seaborne oil products to the price cap coalition countries
December 2022-February 2023
Billion EUR



Source: CREA analysis.

The largest sources of oil products entering the price cap coalition countries were shipments from the ports of Sikka, IN (EUR 2.7 bln), Ruwais, UAE (EUR 1.9 bln), Singapore, SG (EUR 1.2 bln), Quanzhou, CN (EUR 0.8 bln) and Aliaga, TR (EUR 0.6 bln).

Top 5 exporting ports in the laundromat countries that ship seaborne oil products to the EU
December 2022-February 2023
Billion EUR



Source: CREA analysis.

The largest sources of oil products entering the EU were shipments leaving Sikka, IN (EUR 1.4 bln), Ruwais, UAE (EUR 1.2 bln), Aliaga, TR (EUR 0.6 bln), Qingdao, CN (EUR 0.2 bln), and Ceyhan, TR (EUR 0.2 bln).

The largest importer of Russian crude oil and largest exporter of oil products from China is Dalian, which receives Russian crude oil directly through a pipeline. The largest recipient of

Dalian's exports is Australia, but most other destinations are outside of the price cap coalition, which is why the port doesn't rank among the top five above. The majority of the crude oil processed by the Dalian refinery appears to be Russian, with only a few imported shipments of domestically produced crude oil. The pipeline transport means that the crude oil is completely outside of the reach of the price cap mechanism.

Another port to look out for is Vadinar in India. Between December 2022 and February 2023, Russian crude oil worth EUR 1.6 bln was shipped to this port. At the same time, more than EUR 0.4 bln worth of seaborne oil products have been exported to the price cap coalition countries from this port.

The port is of great value to the Russian oil industry, especially Rosneft. The Vadinar oil refinery, owned by Nayara Energy Limited, is located near the port, and Rosneft possesses a 49.13% share of Nayara Energy Limited. This situation where a Russian company owns an oil refinery in a third country highlights a possible way of circumventing sanctions. Rosneft or other oil companies from Russia are free to transport crude oil to Vadinar, where it is refined and can be exported to the price cap coalition countries as oil products from India. At the same time, it allows for collecting revenues for Russia by increasing demand for Russian crude that is refined in laundromat countries and sold to price cap coalition countries.

European shipping industry carries the majority of laundromat shipments

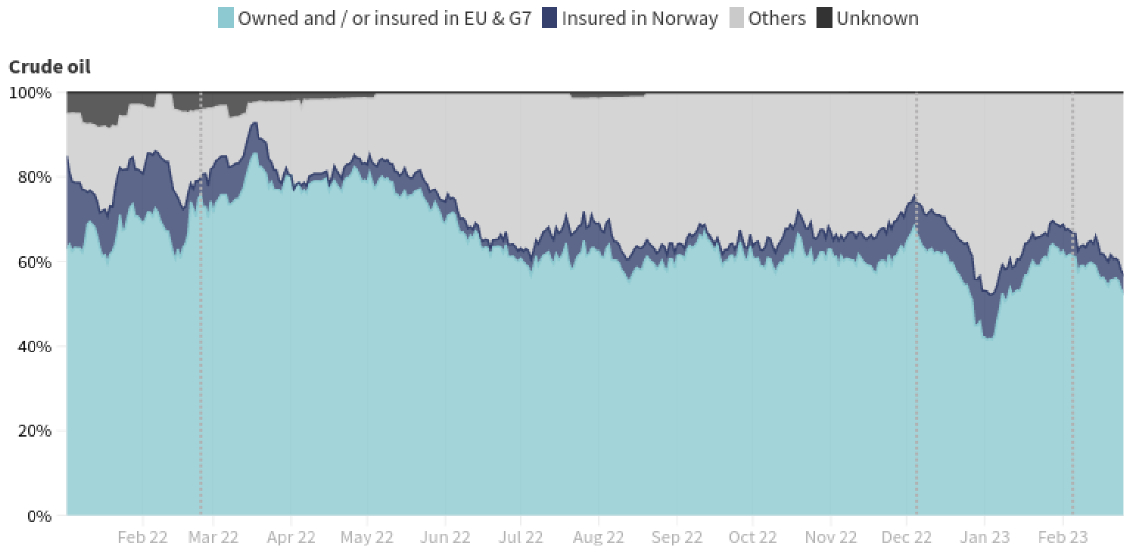
56% of Russian crude oil shipped to the laundromat countries has been transported by vessels owned and/or insured by the price cap coalition countries since December 2022 up until the anniversary of Russia invading Ukraine. Additionally, 74% of laundromat countries' exported oil product shipments in the same period were transported by vessels owned and/or insured by price cap coalition countries.

Such a high proportion of Russian crude oil being transported to laundromat countries using price cap coalition countries owned vessels or maritime insurance illustrates that the coalition has strong leverage to ratchet down the price cap level as well as take action to ban refineries buying Russian crude oil from selling their refined products to sanctioning countries. Banning imports of oil products from refineries that purchase Russian crude oil would create a disincentive for refineries from purchasing crude oil of Russian origin, lowering Russia’s export revenues from fossil fuels. This would hinder Russia’s ability to fund the war, especially important as it deals with large fiscal deficits in 2023.

Crude oil shipments from Russia to laundromat countries

By ship ownership / insurer

30-day running average

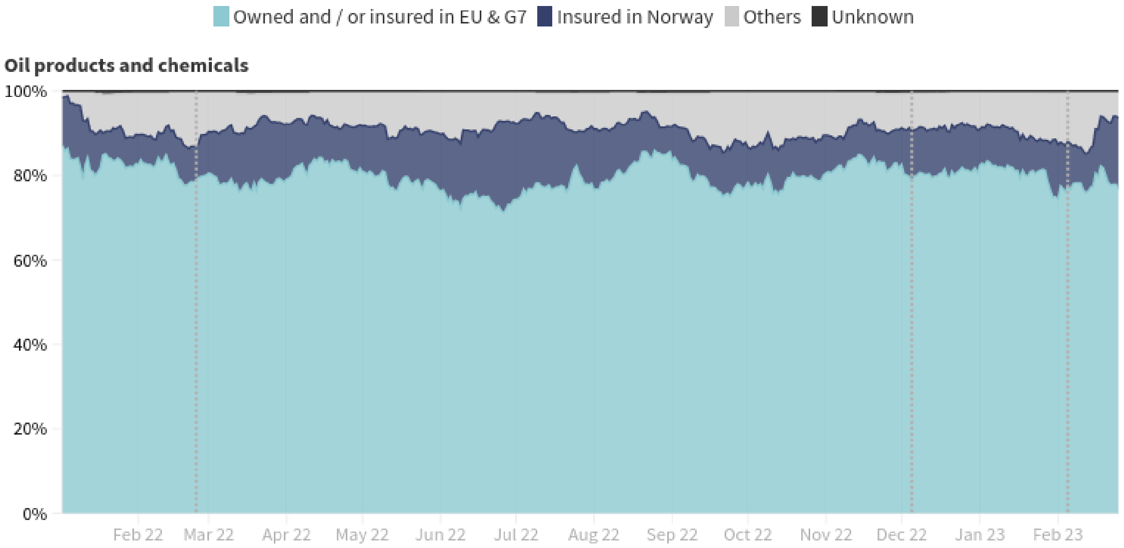


Source: CREA analysis. • Dotted lines represent the beginning of the war the EU's crude oil and oil product bans and the wider price caps respectively.

Oil product shipments from laundromat countries to all nations worldwide

By ship ownership / insurer

30-day running average



Source: CREA analysis. • Dotted lines represent the beginning of the war the EU's crude oil and oil product bans and the wider price caps respectively.

What the allies of Ukraine can do: policy recommendations

The purpose of the price cap policy is to enable Russian oil to find markets at a discounted price. In theory, if the price cap for crude oil was set at a sufficiently low level, and if the coverage and enforcement of the cap was perfect, importing refined Russian oil from third countries would not undermine the policy. However, the price cap is currently set at a level that is far in excess of Russia's costs of production, allowing the Kremlin to extract most of the export revenue as tax. Furthermore, the cap is not effective on shipments from Russia's Far Eastern ports due to lackluster enforcement, and obviously cannot cover oil exports through pipelines. Restricting oil product imports from third countries that import Russian crude oil would also create an additional layer of leverage against Russia's attempts to work around the price caps and import bans.

We recommend to

- Ban imports to the price cap coalition from refineries receiving any Russian crude. Alternatively, develop legislation to require oil product importers into sanctioning countries to provide documentation of the origin of the crude oil used to produce

oil products, and deny imports of refined oil products from originally Russian origin.
- Ban maritime services in perpetuity to vessels used to transport Russian crude without complying with the price cap.
- Reduce reliance on fossil oil through energy saving measures, sustainable transport policies, electric vehicles and clean energy investments. Lower oil demand and prices will reduce Russia's pricing power and leverage, as well as reduce reliance on other questionable suppliers of oil.
- Advocate through political relationships or trade deals to dissuade ally countries from purchasing Russian oil as it is providing finance to Putin's warchest.
- Ban investments in refineries identified as importing Russian crude oil and exporting oil products likely from Russian origin to price cap coalition countries.

Another possible solution could be to require refineries receiving any Russian crude to enforce the crude oil price cap policy as a precondition for exports to the price cap coalition countries. However, the apparent dysfunction of the review mechanism that was supposed to lower the price cap over time has made this approach ineffective as the current price cap level of USD 60 still allows Russia to make a sizable, taxable profit.

Methodology

In this briefing we have focussed on Russian crude oil transported via shipments to countries that we have identified as 'laundromat countries'. These countries have increased Russian crude imports as well as oil product exports, especially to price cap imposing countries.

All the data in this report on oil exports and imports from Russia and laundromat countries is based on Kpler shipment tracking. We use Kpler's categorisation of crude or 'Crude/CO' to define and analyze crude oil flows, and we aggregate all liquid fuels in the Kpler data that are covered by the price caps and import bans imposed by the price cap coalition.

We use MarineTraffic.com and Equasis datasets to record the insurance and vessel ownership. This data enables us to provide analysis of the price cap coalition's provision of insurance/vessel ownership required to transport Russian oil shipments. The P&I and ownership data is collected from Equasis on a regular basis (daily to weekly). However, Equasis does not publish a historical record of ship insurers. We therefore assume that the first insurer we found on Equasis for every single ship has always been its insurer prior to that collection or indicated inception date.

Throughout this report we refer to 'laundromat countries' as those who appear in the data to have increased Russian imports of crude oil one year after Russia's invasion compared to the prior year as well as significantly increased oil product exports. The 'laundromat countries' we have identified and referred to in this report are: China, India, Turkey, Singapore & the United Arab Emirates.

We refer to 'price cap coalition countries' in this report as those that have imposed the price cap policy and import bans on Russian oil: the G7 countries[1], EU, and Australia.

Fossil fuels are sold on a variety of contracts including fixed-price, indexed to average oil prices and indexed to other spot prices. This means that the revenue to the exporter is not directly proportional to the current spot price.

To estimate prices of fossil fuel trades, we first derive historical monthly average prices for imports from Eurostat and UN COMTRADE, since the trade values are indicated both in physical and monetary terms.

We then fit models between these historical prices and average monthly spot prices for the current month and with lags.

For crude oil, we use separate models for each importing region. For oil products, a sufficient level of disaggregation between products is only available from Eurostat and therefore we use one model per commodity category (i.e. Jet fuel, Fuel oils, Diesel and Gasoline) based on average EU trade prices, and apply it across all countries.

About CREA

Centre for Research on Energy and Clean Air (CREA) is an independent research organisation focused on revealing the trends, causes, and health impacts, as well as the solutions to air pollution. CREA uses scientific data, research, and evidence to support the efforts of governments, companies, and campaigning organisations worldwide in their efforts to move towards clean energy and clean air, believing that effective research and communication are the key to successful policies, investment decisions, and advocacy efforts. CREA was founded in December 2019 in Helsinki and has staff in several Asian and European countries. Our work is funded through philanthropic grants and revenue from commissioned research. In our statement of support for Ukraine, CREA absolutely condemns the Russian military's unprovoked and unjustified attack against another

[1] Note that Japan has negotiated an exception.

sovereign nation, Ukraine. The assault goes against the fundamental values of human well-being, safety, and dignity that our organisation seeks to advance. We urgently call for an end to the assault and stand in solidarity with the Ukrainian and Russian people calling for just peace.