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FACE

FEDERATION OF ALUMINIUM CONSUMERS IN EUROPE

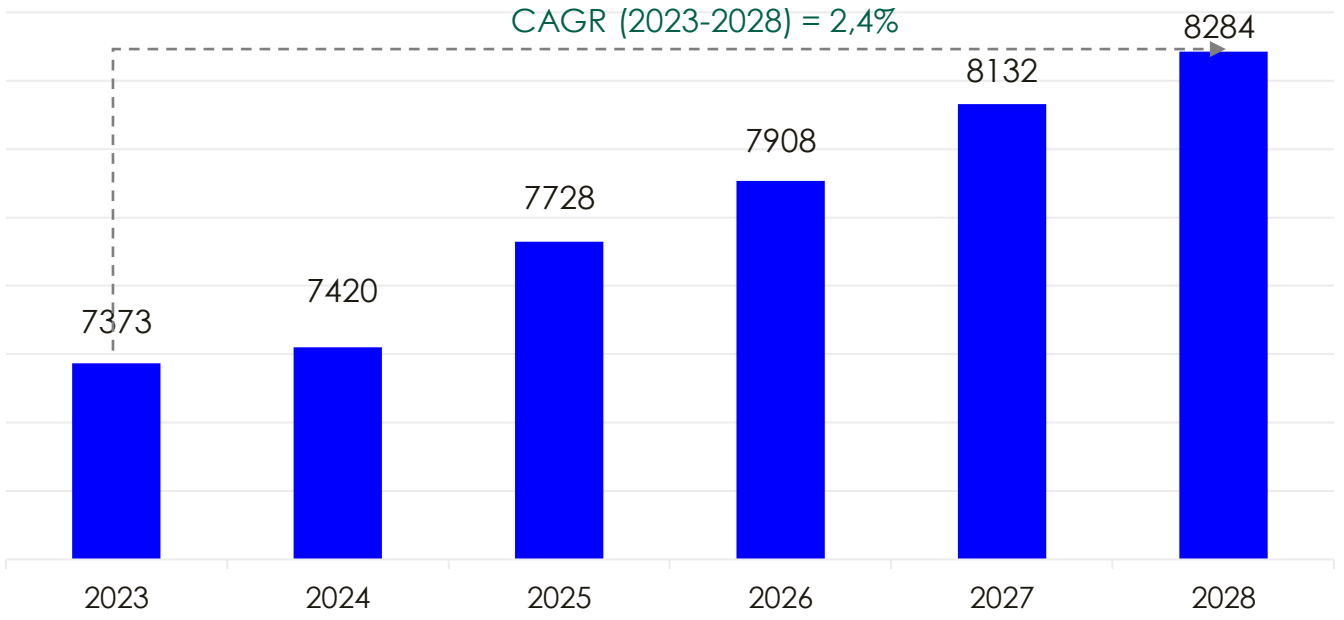
RESTRICTIONS ON PRIMARY ALUMINIUM IMPORTS WOULD IRREVERSIBLY DAMAGE THE EU DOWNSTREAM ALUMINIUM INDUSTRY

April 2024

PRIMARY ALUMINIUM USE IS SET FOR GROWTH

Following the post-COVID growth (2020-2022), the EU's demand for primary aluminium decreased in 2023 with forecasted strong bounce-back in the next 5 years

Total EU primary aluminium consumption, 000' tonnes



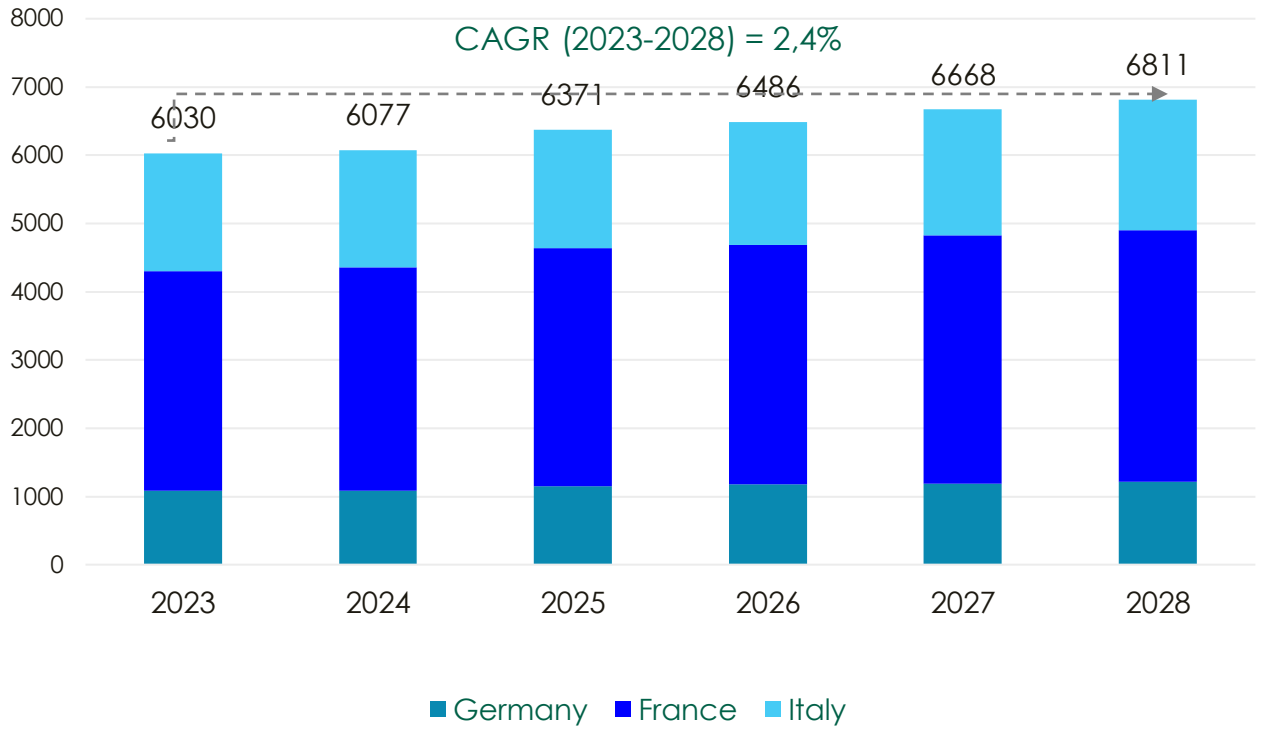
Source: CRU, FACE estimations on EU-27 countries demand for aluminium based on the CRU data on top 20 EU largest aluminium consuming countries

ALUMINIUM PROCESSING IS EXPECTED TO DRIVE THE EU PRIMARY DEMAND …

Expected growth in EU aluminium consumption requires increasing volumes of **competitive** and, preferably, **low carbon** primary aluminium

EU aluminium processing and transforming companies is a segment employing directly over 200,000 people or 92% of those employed in the EU aluminium industry

Production of Semi-Finished products in France/Germany/Italy, 000' t

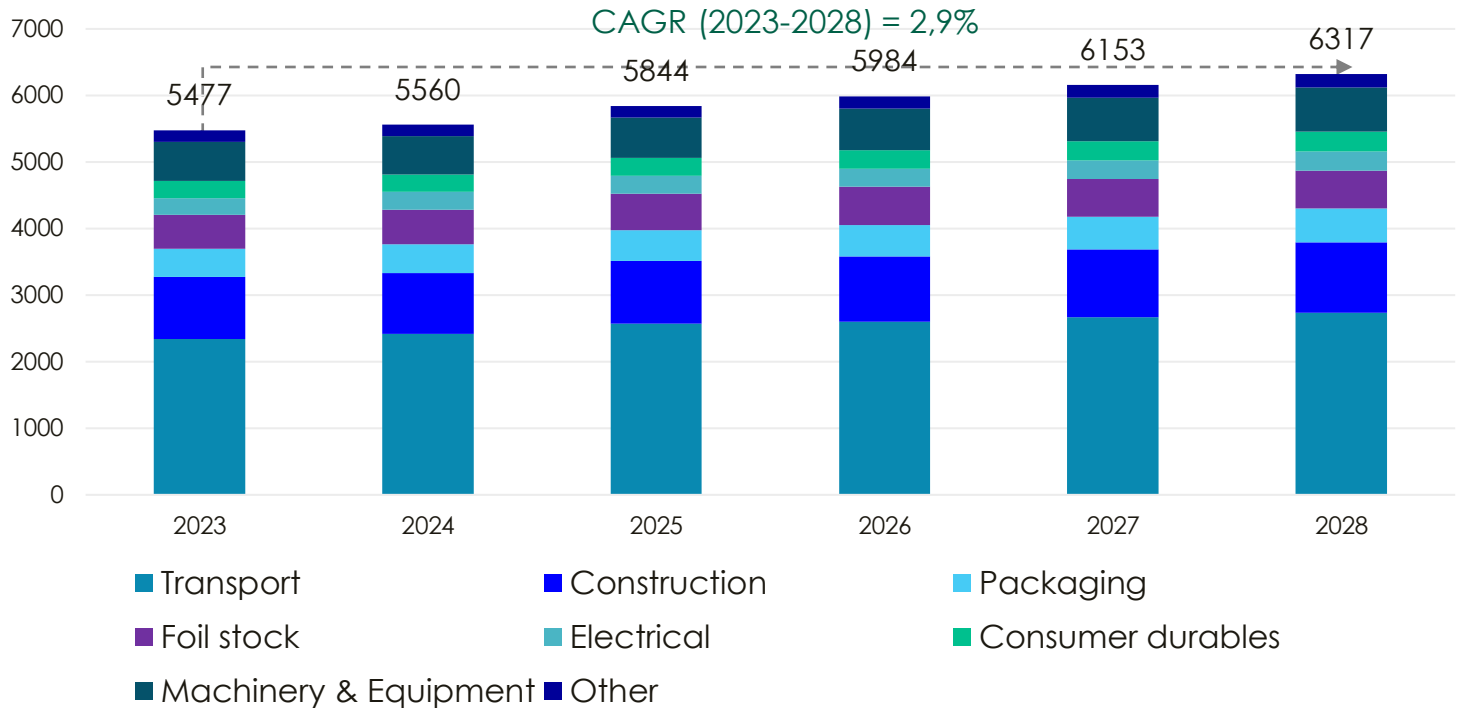


Source: CRU

… SUPPLYING END-USER SECTORS AND ENABLING ECONOMIC GROWTH

Main aluminium semis consuming sectors encourage the EU's industrial advancement, R&D and decarbonisation

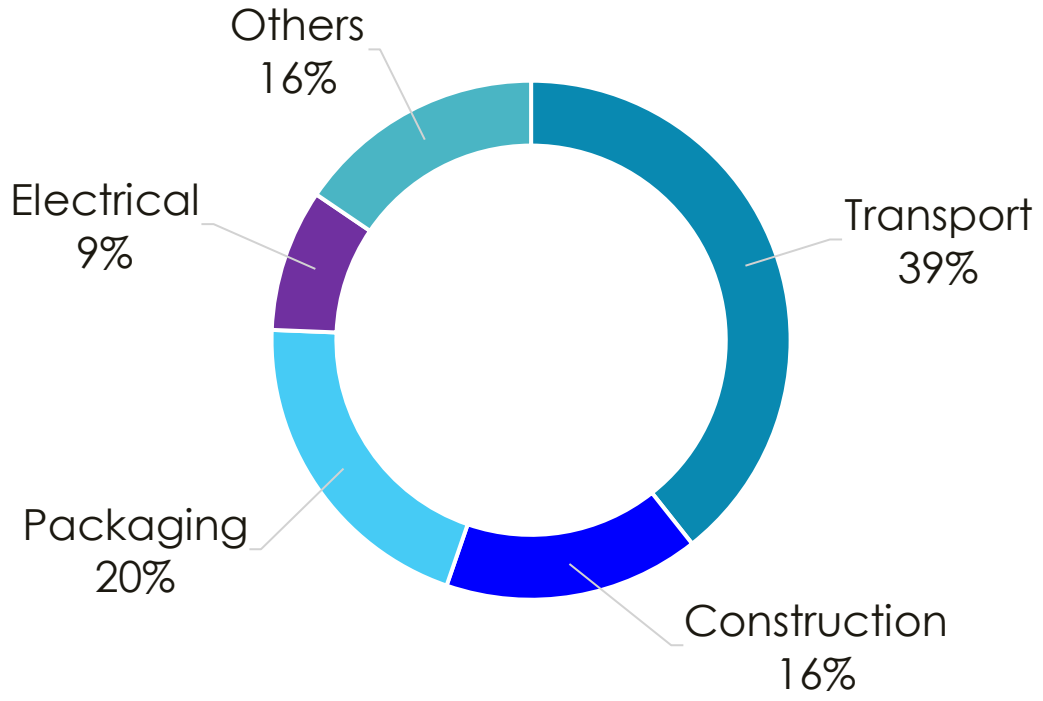
Semi-finished products consumption in Germany, Italy, France, '000 tonnes



Source: CRU

END-USE INDUSTRIES ARE SOLID DEMAND DRIVERS

Incremental aluminium demand structure by end-use in Europe, 2023 - 2030



End-use demand growth must be supported by

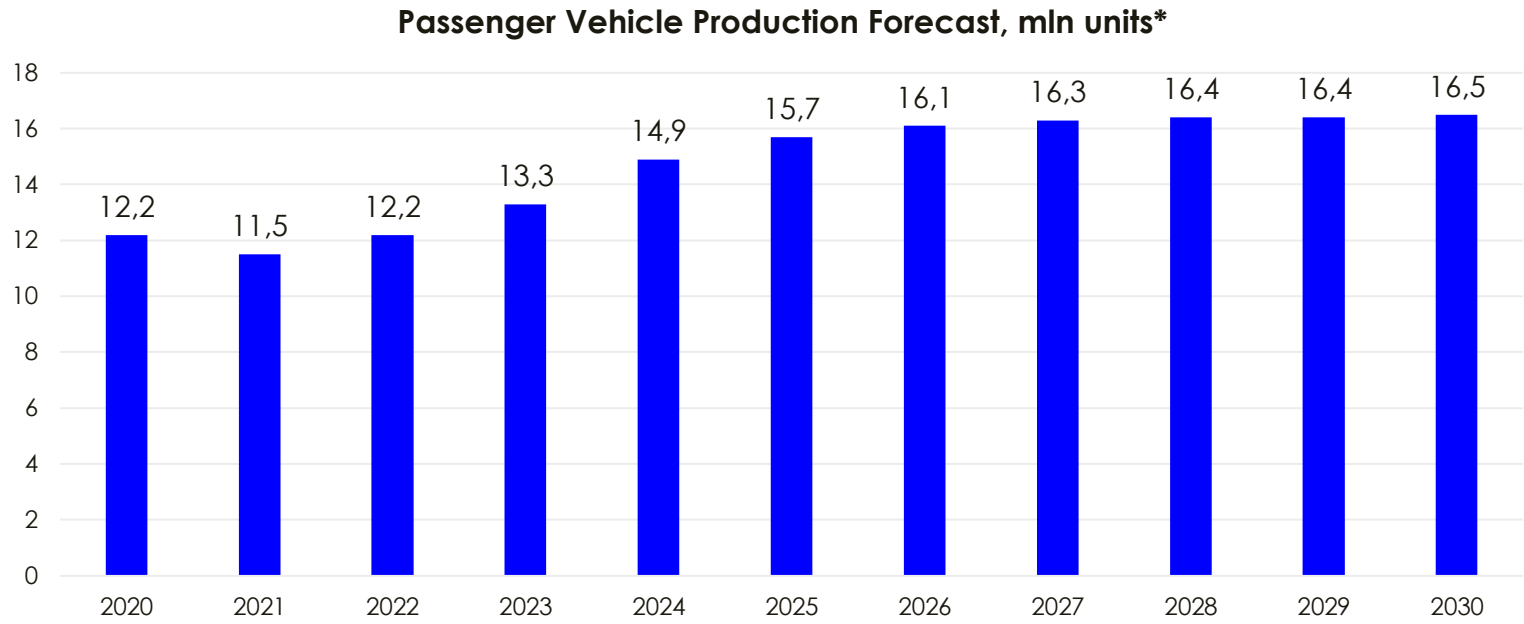
- Development of downstream production in Europe
- Access to low carbon energy and raw materials
- Non - interruptive supply chains
- Competitive price environment
- Access to state-of-the-art decarbonisation technologies

Source: Based on CRU data

AUTOMOTIVE SECTOR IS FORECASTED TO GROW SUBSTANTIALLY BY 2030

+ 25%

Passenger vehicle production in Europe by 2030



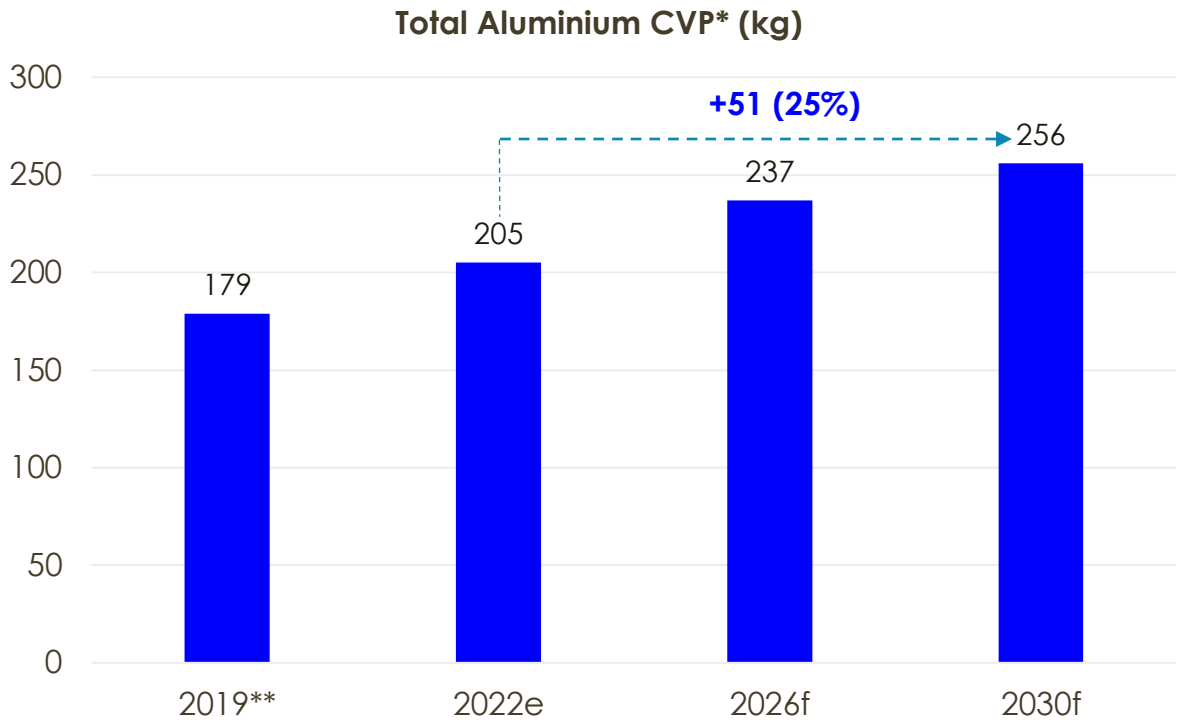
Source: Ducker, LMC Automotive Q3-2022, Q4-2021; *Ducker applied the 2026–2029 CAGR to estimate the 2030 production volume which is not yet available in LMC forecasts, CRU
* EU27+UK

A HEALTHY ALUMINIUM DOWNSTREAM IS A PRE-REQUISITE FOR THE WELL-BEING OF THE EU AUTOMOTIVE SECTOR

Driven by electrification and further light weight requirements, the average aluminium Content Per Vehicle (CPV) will keep on increasing and in 2030 may reach 256 kg per vehicle

Stricter EU fleet-wide CO2 emission targets set by EU regulations - defined as % reduction from 2021 starting point, with specific target set annually for each OEM – push OEMs towards BEV strategy:

- 15% reduction from 2025 on
- 55% reduction from 2030 on (new target)
- Zero emission starting 2035
- Climate neutrality by 2050



*CPV = Content Per Vehicle
**EA study 2019 included second set of OE wheels;
Source: https://european-aluminium.eu/wp-content/uploads/2023/05/2023_04_Aluminum-Content_Ducker-Study_EA-Public-Summary_190423.pdf , p 22

ENERGY TRANSITION IS UNTHINKABLE WITHOUT EXTRA ALUMINIUM USE

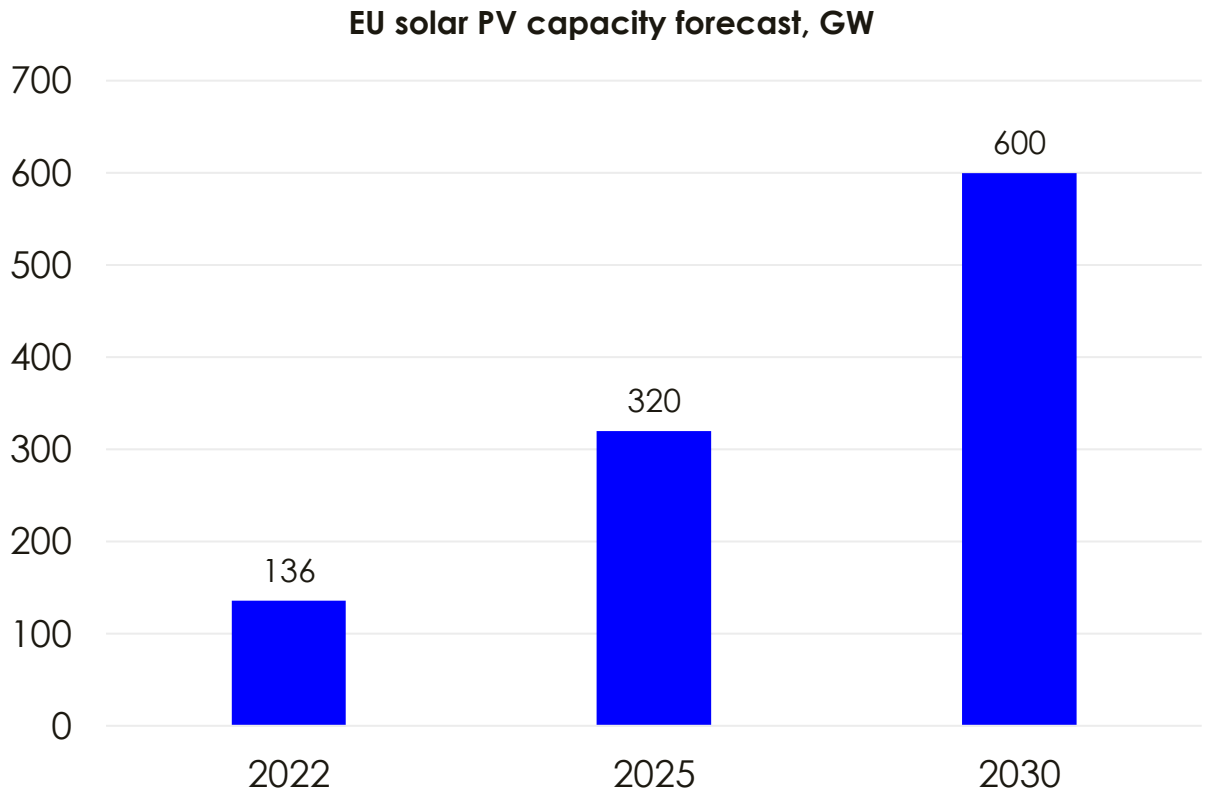
EU target by 2030

600 GW

solar PV capacity

Up to 10 mln

of aluminium tonnes is required



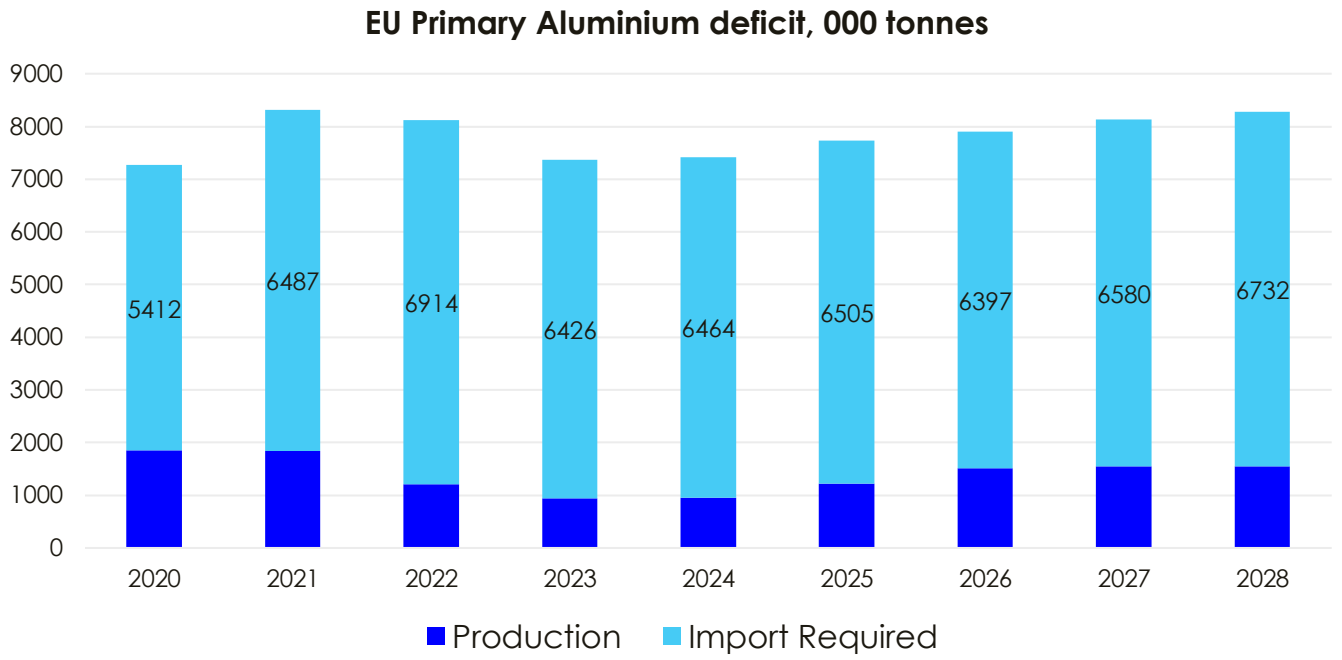
Source: Aluminium-and-solar-joint-paper-SolarPower-Europe-European-Aluminium.pdf
INTERNAL MARKET, INDUSTRY, ENTREPRENEURSHIP AND SMES - The European Solar Alliance: the start of a "Made in Europe" solar value chain (europa.eu)

EU ALUMINIUM DILEMMA: USE COMPETITIVE PRIMARY IMPORTS OR IMPORT COMPEETING ASIAN FINISHED PRODUCTS

Imports will stay at

~6,5-7 mln.tn

annually and will fill the gap
between EU primary production and demand



Source: CRU (Consumption, Production), Eurostat (Imports HS Code 7601)

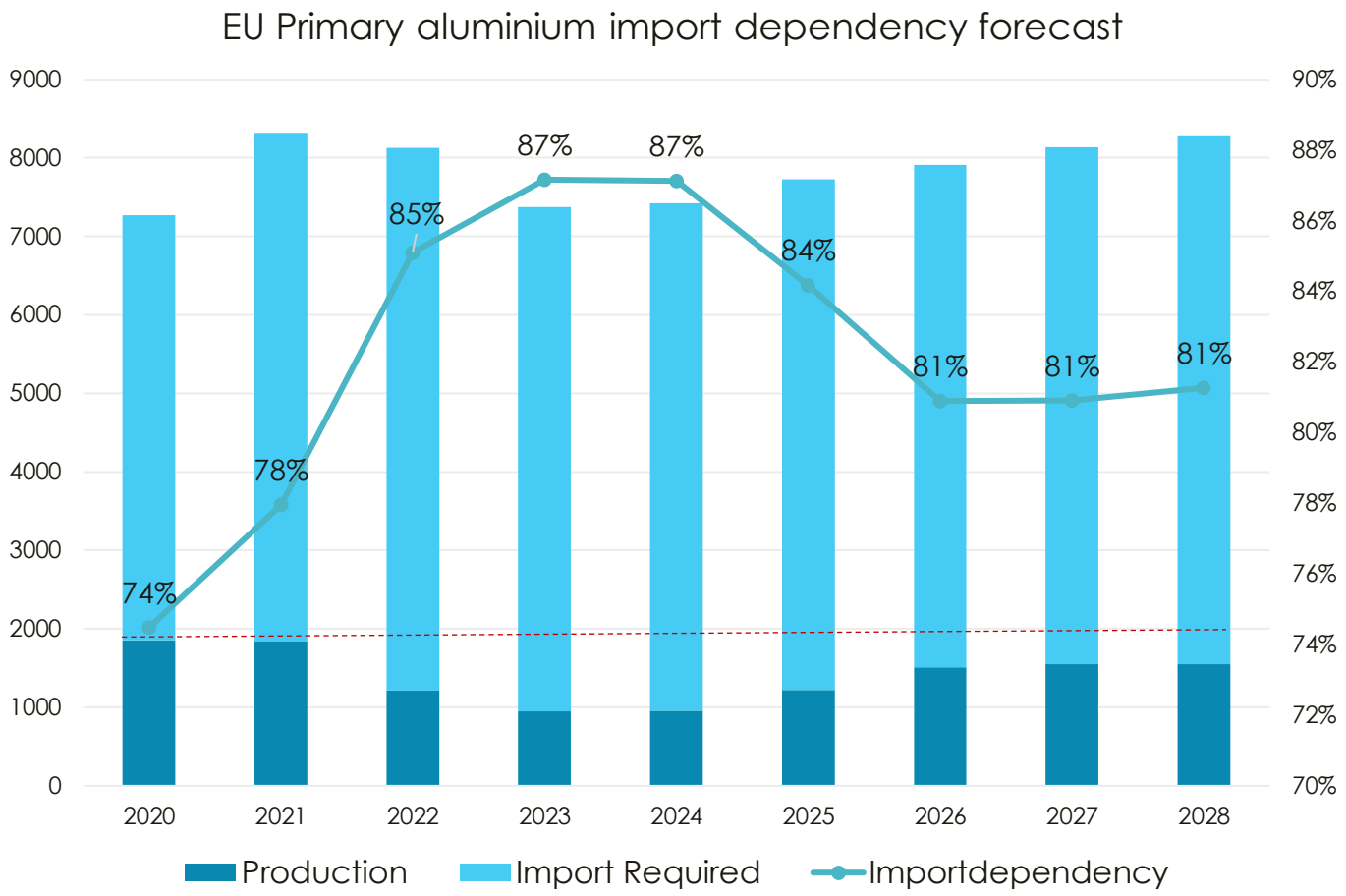
EU SMELTERS ARE UNABLE TO MEET THE DEMAND

Since 2000 the EU lost 60% of domestic primary aluminium production followed by another 1 million tonnes in 2020-2023.

Planned restarts:

Announced restarts at Spanish San Ciprian and German Trimet's smelters are estimated to bring additional 425 000 tonnes of production by 2027.

Fundamentally the EU's production will never return to the pre-COVID and pre-energy crisis levels.



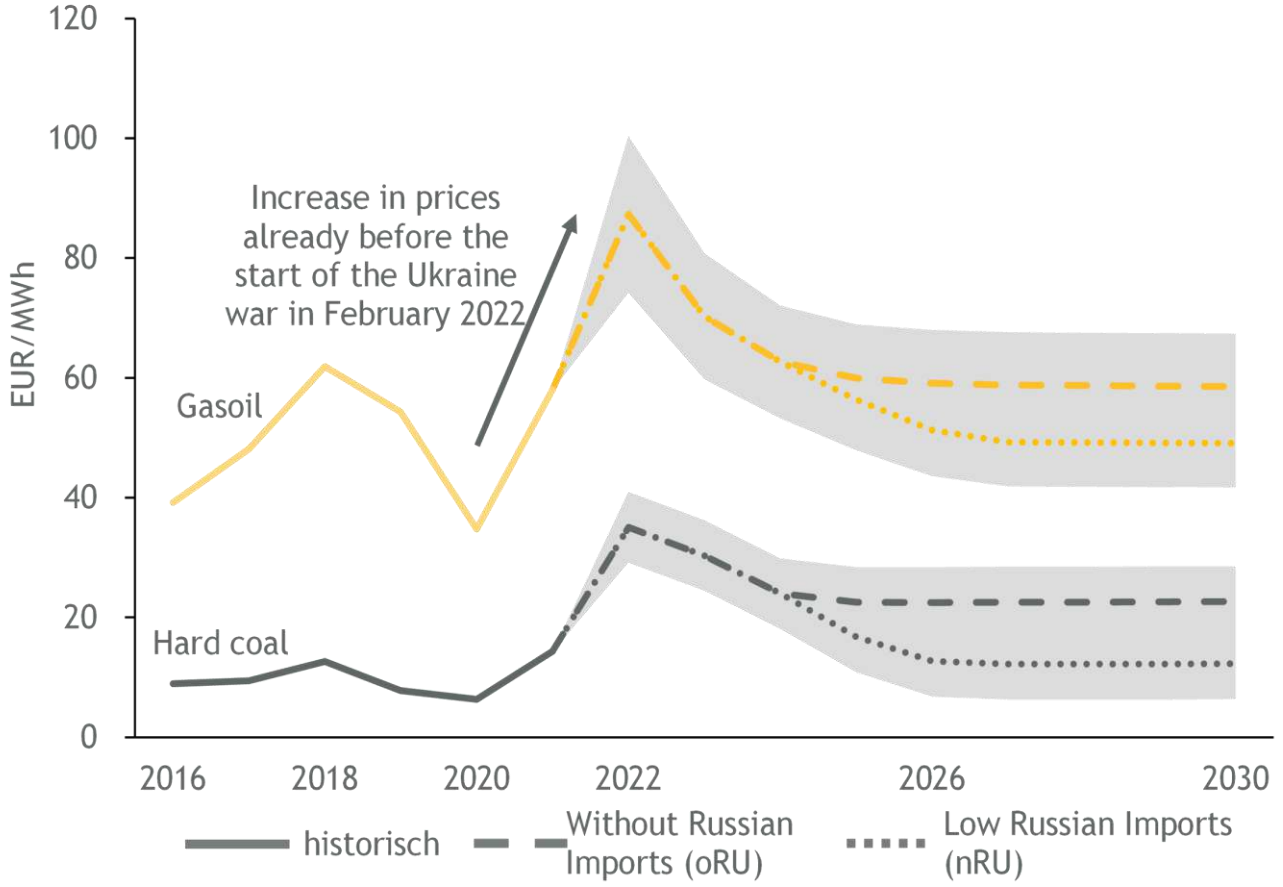
Source: CRU [Alcoa to resume operations at its San Ciprián aluminium smelter by 2024; Aluminium Extrusion, Profiles, Price, Scrap, Recycling, Section (alcircle.com)]

ENERGY PRICES ARE EXPECTED TO REMAIN HIGH, AFFECTING PLANS FOR SMELTER RESTARTS

Despite a slowing down of the energy prices increase in Europe, they are still high

Economic forecasts show that at least in a short-term period prices for enterprises will not decrease substantially

High energy tariffs directly affect both primary aluminium smelters capabilities to be restarted and downstream companies' cost effectiveness



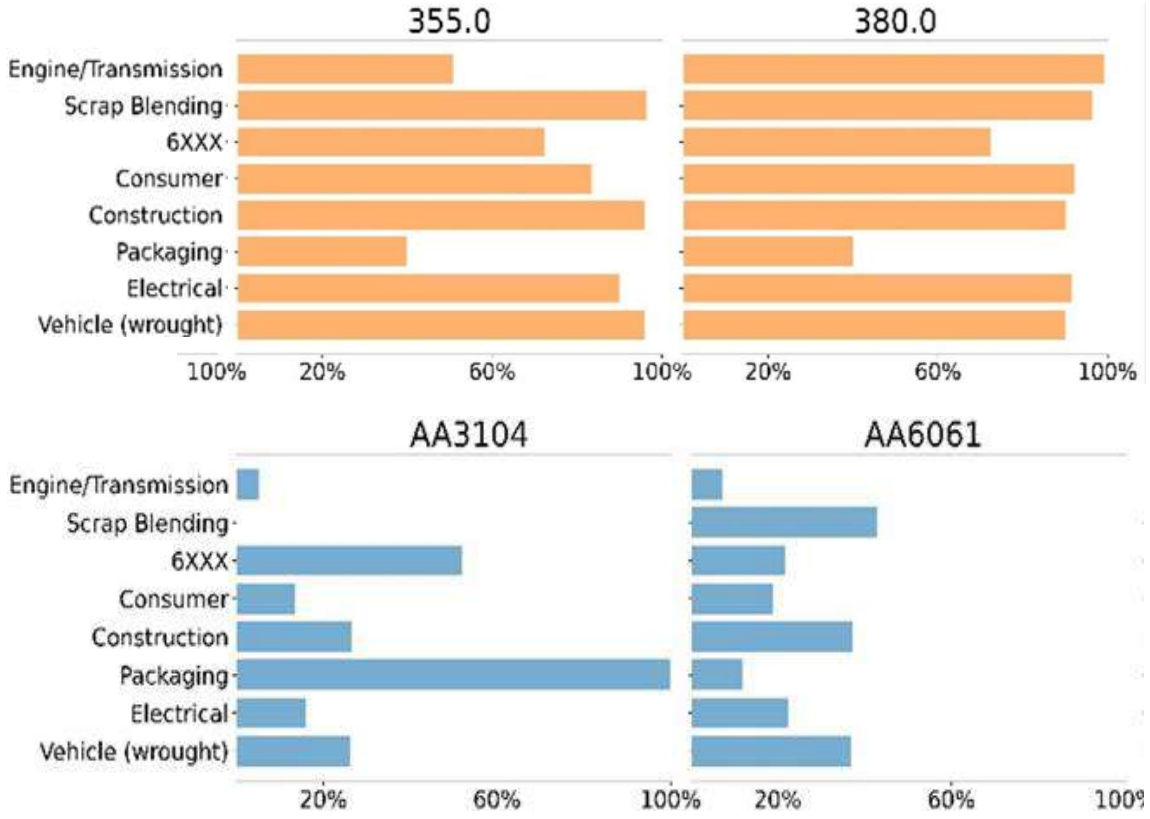
Source: Energy prices in Europe to remain at a high level in the medium term — EWI (uni-koeln.de)

RECYCLING WILL NOT SOLVE THE DEFICIT ISSUE

The remelting process itself requires 0,8 – 2,4 million tonnes of primary aluminium (PA) to reach 9 million tonnes of recycled aluminium production in 2050 as predicted by EA

If the EU succeeds in reprocessing around 1 million tonnes of currently exported low quality scrap, an additional 1,5 million tonnes of PA will be needed to reach an acceptable quality for the resulting metal

The examples below illustrate the share of primary aluminium (%), which should be added to scrap coming from different sources to produce two wrought (3104, 6061) and two cast (355.0, 380.0) aluminium alloys



Source: : European aluminium, FACE estimations [Making sustainable aluminum by recycling scrap: The science of "dirty" alloys - ScienceDirect]

DIRECT LOSSES OF DOWNSTREAM COMPANIES IN CASE OF SANCTIONS

In 2018 the announcement of the U.S. sanctions against RUSAL caused an immediate 35% rise in market prices (LME), a 80% hike of price for alumina and turmoil in the industry worldwide.
In case Russian primary aluminium is sanctioned, European customers would pay at least an additional 5.8 bln USD more for primary aluminium per year due to the "post-sanctions" price increase.

"Pre-sanctions" as of today (2023 average)		
Premium EU Duty Paid	LME cash	All In
273	2249	2522
"Post-potential sanctions" scenario		
Premium EU Duty Paid	LME cash	All In
382	2923	3305
"Post-potential sanctions" all in price minus "Pre-sanctions" all in price (USD/tonne)	Primary aluminium Consumption (tonnes)	Extra costs (USD)
783	7 448 550	**5 832 215 000**

Source: FACE estimations, Market analytics

Negative impacts for the EU aluminium market have already occurred: prices for aluminium rose by 3,6%, driven only by rumors around the potential ban on Russian-origin aluminium
Aluminum Jumps After Report EU May Sanction Russian Metal (bloomberglaw.com)
The price of aluminium and nickel rose due to assumptions that US sanctions would limit supplies of the two metals in February 2024
Aluminium and nickel not included in US sanctions on Russia (mining-technology.com)
If more sanctions affect aluminium … it could lead to difficulties in replacing up to 500,000 metric tonnes of aluminium, affecting demand and potentially causing production issues in European automotive plants
https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/metals/013124-slower-steel-aluminum-flows-to-europe-on-red-sea-troubles-add-to-sectors-woes

RUSSIAN ALUMINIUM IS VITAL IN TERMS OF VOLUMES AND QUALITY

One of lowest carbon footprints in the industry

INDUSTRY AVERAGE	**12.4** t CO_{2eq}/t Al, at-smelter Scope 1&2	**15.1** t CO_{2eq}/t Al, Full-scope
RUSAL ALLOW CARBON FOOTPRINT	**2.3** t CO2eq/t Al, at-smelter Scope 1&2	**4.6-6.9** t CO_{2eq}/t Al, Full-scope

MORE THAN

99% **RENEWABLE ENERGY**

For over two decades Russia with up to 12% of the EU demand (approx. 8% in 2023) has been supporting hundreds of aluminium processing and downstream transforming companies

Given that in 2023 EU demand for aluminium was weak, decrease of Russian supply was not as sensitive as it will be when the demand restores in the coming years as most forecasts predict

Russian aluminium is one of the most competitive, low cost in the world

Russian aluminium is one the greenest raw material domestic EU processors have access to

Shipments from Russia help the EU achieve its climate and industry objectives

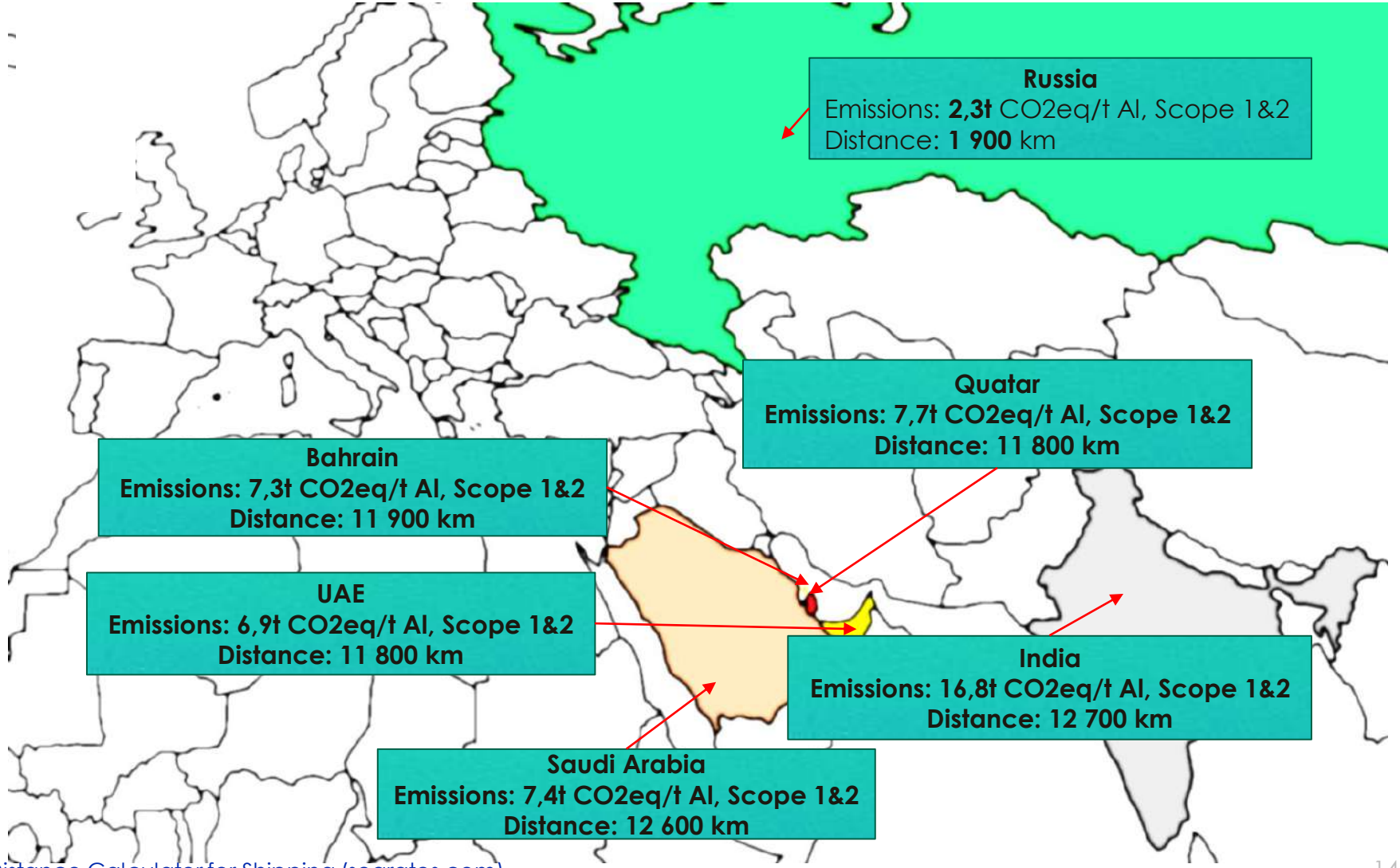
Source: open sources on Russian aluminium industry, FACE analysis

POSSIBLE ALTERNATIVE SUPPLIERS LOSE OUT TO RUSSIA IN TERMS OF CARBON FOOTPRINT AND LOGISTICS

Asian aluminium has a carbon footprint 3-8 times higher than the one made in Russia

Distance between Russian and EU's ports (Netherlands) is much shorter than between Middle Eastern and moreover Indian ports and the EU's (Greece).

Red Sea crisis makes circum-Africa route more expensive and 3x longer



Source: CRU, Cargo Calculator | Sea Distance Calculator for Shipping (searates.com)

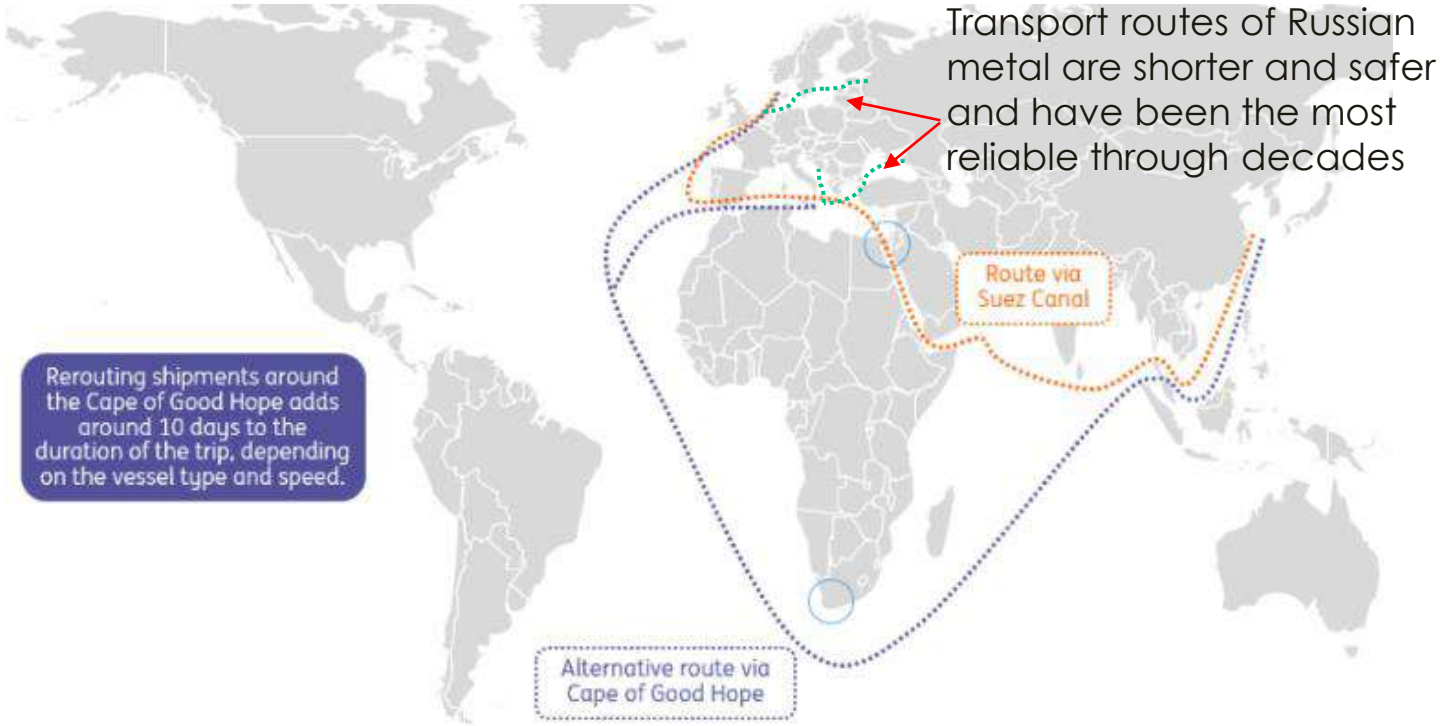
LOGISTIC ISSUES ALONE PUT AT RISK THE EU ALUMINIUM SUPPLY CHAIN

The Red Sea logistic crisis interrupted the main route to deliver aluminium from Asia

$2,500 to $10,000 - additional shipping costs per each 40-foot container and additional CO2 maritime emissions

Rerouting mainly affects Middle Eastern and Indian primary aluminium suppliers – the main alternative to Russian supplies (~30% growth of supplies in 2023)

Now, Russian producers are already supporting European companies (producers of aluminium road wheels and consumers of billets) substituting volumes they are not able to receive via the Red Sea.



Source: Uncertainty looms: Container shipping and logistic giants forewarn lengthy Red Sea crisis; Aluminium Extrusion, Profiles, Price, Scrap, Recycling, Section (alcircle.com)

OVERCOSTS PILING UP OVER THE EU ALUMINIUM INDUSTRY

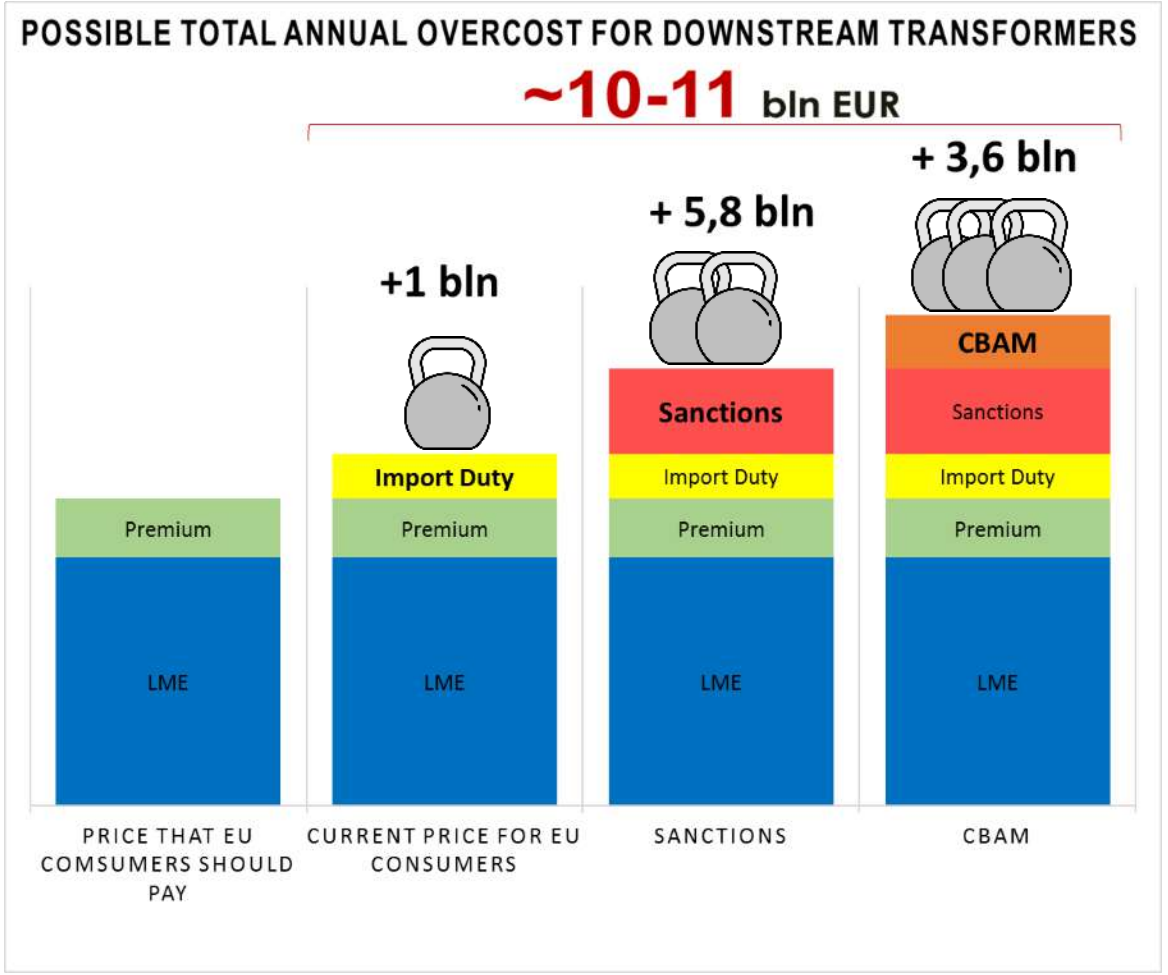
+5.8 billion eur annually higher market premiums in a post-sanctions / ban scenario on all Russian EU imports

+3.6 billion eur annually or more of CBAM extra costs (FACE estimations)

+1 to **+2** billion eur annually from the 6% EU import tariffs for raw/secondary aluminium sold in EU always included in price

Post Covid, post Ukraine war and Red Sea crisis higher energy logistics costs, inflation

Investments, costs of digitalisation/4.0, EU social and environmental norms, binding climate decarbonisation objectives



Source: FACE Estimations

ALUMINIUM SANCTIONS WOULD SEVERELY DAMAGE EU ALUMINIUM INDUSTRY DEVELOPMENT WHILE DOING NO HARM TO RUSSIA

- Restrictions on Russian aluminium would cause dramatic constrains and an instant hike in prices in the European aluminium value chain
- Any primary aluminium price increase would heavily affect the competitiveness of the European downstream producers and consumers who already operate at extremely low profit margin – raw materials purchase represents up to 70% of production costs
- It would be impossible to replace Russian metal with required volumes of aluminium from other sources that would be equal in terms of quality, carbon footprint and price.
- Scrap price is connected to the primary metal's price. If sanctions are put in place, scrap price will increase accordingly, undermining recycling efforts.
- EU market would be supplied with high carbon primary aluminium from elsewhere and at higher prices and with risks of shortages
- Any substitution of primary aluminium supplier is associated with the process of qualification that could take up to 6 months
- Independent downstream SMEs (90% of EU industry) simply would not survive the sudden supply shortages and abrupt price increases
- EU metal processing downstream companies would face the risk that their market would be overrun by cheap competing products mainly from Asia. Entire segments of our industry would be wiped out.
- The ban would create a situation of permanently elevated premiums, while the CBAM, already started in 2024, would add additional charges for high-carbon imports, bringing overall price for EU transformer SMEs and consumers further up
- Sanctions would not affect Russia's war effort, as aluminium represents less than 1% of the country's GDP. On the contrary, LME price increase that would follow sanctions would bring even more profits to Russia's aluminium world sales. Europe now has to compete with the U.S. and other big markets to attract primary aluminium, making a ban on Russia's historically reliable supplies a suicidal move

Source: FACE analysis

CO-SIGNATORIES

FEDERATION OF ALUMINIUM CONSUMERS IN EUROPE (FACE)
FACE was founded in 1999 to specifically defend the interests of the EU independent downstream aluminium transformers, end users and consumers. Based in Brussels, FACE advocates for the liberalisation of raw materials, protecting the EU's manufacturing base, supporting a rules-based and fair international system with the WTO at its core, and for the global transformation towards a low-carbon economy with aluminium as the ideal material for attaining sustainability goals.
https://face-aluminium.com/

GERMAN FEDERAL ASSOCIATION FOR ECONOMIC DEVELOPMENT AND FOREIGN TRADE (BWA)
BWA is a German business network that has made it its first task to create a sustainability-oriented business climate for its many hundreds of member companies and partners. On this basis, the association offers a significant improvement in ethical and business development. To achieve this, those responsible in the BWA work internationally and locally in the regions of Germany. Economic aspects for entrepreneurs are in the foreground, but secured investments at home and abroad and political framework conditions also determine success.
https://www.bwa-deutschland.com/englisch

ITALIAN FOUNDRY SUPPLIERS' ASSOCIATION (AMAFOND)
AMAFOND is the Italian Association of foundry machineries and products suppliers, founded in 1946. It encloses the most important companies of the sector and it's present in the most significant markets all over the world.
https://www.amafond.it/en/homepage/

ITALIAN FOUNDRY ASSOCIATION (ASSOFOND)
ASSOFOND is the sector's employers' association representing Italian foundry firms. In Italy, the sector boasts over 1,000 businesses employing almost 30,000 workers and generating revenue of around 6.5 billion euro. Founded in 1948, Assofond is a member of Confindustria, the Italian employers' federation, and is a founding member of the European Foundry Association (CAEF).
The association promotes the competitiveness of Italian foundries and represents the sector in relationships with institutions and economic, political and social bodies domestically and overseas.
In addition, Assofond assists firms in their relations with authorities, communities and the national and local media and provides support in the following areas: administrative, commercial, economic, tax-related, regulatory, technical, environmental and workplace health and safety.
https://www.assofond.it/en/

ITALIAN NATIONAL ASSOCIATION OF STEELS, METALS, SCRAP, HARDWARE (ASSOFERMET)
ASSOFERMET was founded after World War II, back in 1948. It is based in Milan and defends the interests of the trade, distribution and pre-processing of steel and non-ferrous metals (including aluminium). It represents authorised collection and recovery plants in charge of End of Waste (EoW) processes of ferrous and non-ferrous metal scrap, producing recycled materials from metal waste. It also represents the hardware and Do-It-Yourself (DiY) sector.
http://www.assofermet.it/