FEDERATION OF ALUMINIUM CONSUMERS IN EUROPE

FACE answers to JRC questions on aluminium scrap

Update to FACE's June 2025 position paper on aluminium scrap

12 December 2025

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Executive summary

Context:

- The JRC invited FACE to provide clarifications following its June 2025 position paper**,** to support preparation of the Circular Economy Act, particularly regarding aluminium in construction.

- The European aluminium recycling sector consists of several thousand SMEs across collection, sorting and remelting. This document is based on a survey of seven companies, supported by FACE's broader technical expertise. Despite the limited sample, the issues identified are widely representative of the sector.

What stayed the same between FACE's June 2025 paper and this update in December 2025:

- Companies confirmed the core structural barriers highlighted in FACE's June 2025 paper:
    - Rising exports of scrap
    - Insufficient sorting and recycling infrastructure
    - Outdated classification creates barriers and regulatory complexity creates administrative burden and higher costs

- Correspondingly, companies reiterated the main policy solutions:
    - A trade measure to retain scrap within the EU, such as an export tariff or export ban (immediate)
    - Incentives to expand and modernise recycling capacity (short to long term)
    - Administrative and regulatory revision (medium to long term)

What changed between FACE's June 2025 paper and this update in December 2025:

- Between June and December 2025, surveyed companies observed a worsening scarcity of scrap in the EU, leaving recyclers with increasingly limited access to suitable feedstock and making it harder to maintain industrial continuity.

- EU exports now include significant and growing volumes of both pre-consumer and post-consumer aluminium scrap, exceeding 1 million tonnes per year.

- Given today's market pressures, surveyed companies now unanimously support strong rather than moderate export safeguards (a high export tax or an outright ban) to stop scrap leakage, in combination still with incentives and administrative simplification to improve recycling capabilities.

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Context and introduction

In early June 2025, FACE published its position paper on aluminium scrap. After reading it, the European Commission's Joint Research Centre (JRC) had some additional and clarifying questions.

The JRC is currently supporting the European Commission's Directorate-General for the Environment on a legislative proposal called the Circular Economy Act, with a focus on aluminium used in construction. In preparation for this legislative proposal, the JRC asked FACE to provide answers to some questions on its position paper.

The structure of the document is based on the structure of the questions received by the JRC:

1. Profile of Aluminium Consumers in Europe
2. Improvement of Market Framework Conditions to Increase Scrap Quality
3. Current International Scrap Trade

One thing to note is that the European aluminium recovery and recycling sector consists of a highly diverse industrial base, encompassing several thousand companies, most of them SMEs, active across the value chain. The analysis presented in this document is informed by a survey of seven companies, complemented by FACE's long-standing technical and market expertise. Although the sample is necessarily limited, the mechanisms, challenges and policy needs identified are widely observed across the broader industry. In this sense, the insights provided extend well beyond the surveyed firms or FACE's membership and are reflective of the structural realities faced by the many SMEs engaged in aluminium scrap collection, sorting, preparation and remelting throughout Europe.

These answers are therefore intended to support the Commission's evidence-base by offering a consolidated, industry-wide view of the barriers and enablers affecting aluminium scrap quality, availability, and circularity in the EU, as well as providing stakeholders with a document that improves industry knowledge.

Answers

1. Profile of Aluminium Consumers in Europe

How many production facilities do you have in the EU?

The industrial segment of aluminium recovery and recycling in Europe is a very complex and diverse group comprising thousands of companies, upstream of which are around a hundred large and medium-sized factories such as secondary smelters of new and old scrap, for subsequent sale and distribution on the market of secondary formats for further processing, such as foundry ingots, rolling plates and extrusion billets, or for internal reuse of secondary metal for further processing. The rest of the large light metal recycling system consists of thousands of operators who collect and market aluminium scrap, together with other metallic and non-metallic materials. This is clearly a highly diversified system, consisting largely of small or very small companies.

The companies surveyed for the purpose of answering this questionnaire have 17 production facilities, spread across Italy, France, Germany, Spain, and Sweden. These facilities include recycling and rolling mills, coating plants, production of aluminium profiles, production of aluminium extrusion billets, aluminium rolling slabs, aluminium T-bars for remelting, and, lastly, technologies, equipment, and digital solutions for aluminium foundries (production of HPDC temperature-control units, integration of lubrication and micro-spray systems for high-pressure die casting, supply of industrial equipment and machinery, and development of digital platforms for predictive maintenance, mould monitoring, and optimisation of production processes).

What is their typical processing capacity?

Surveyed companies have a total capacity of 570 000 tons per year, all products combined.

We estimate FACE members total processing capacity to be around 800 000 tons.

What percentage of your members' supplies can be broken down by the following industry sectors: automotive, construction and packaging?

The three segments indicated are the main users of aluminium. All companies associated with FACE have links with these end segments, in the following order of magnitude: transport/automotive, construction, and packaging.

Of the 7 companies surveyed, there were at least 4 which operate in building & construction. At least 3 who serve the industrial (including automotive) sectors, and at least 3 the packaging sector.

How vertically integrated are the supply chains of your members, as in, how frequently do the remelter, manufacturer of semi-finished and final products belong to the same company?

Among 7 surveyed companies, there were 2 cases where the smelter/remelter and the manufacturer of semi-finished products were vertically integrated.

a) **Is there a typical model or constellation among your members in the construction sector? For example, does the company comprise: i) remelter + manufacturer of semi-finished products or ii) manufacturer of semi-finished products + finished products, etc.?**

Among surveyed companies, the most typical constellation was where the smelter/remelter and the manufacturer of semi-finished products were vertically integrated.

b) **What are the factors that most influence their aggregation, such as membership of related industrial groups, geographical proximity, or...?**

The factors that most influence their aggregation are:

- historical growth of a company to include different parts of the industrial process
- proximity to foundry districts
- participation in industrial networks and associations
- technological synergies involving automation, digitalisation, and sustainable processes

What criteria do your members use when deciding whether or not to incorporate secondary material into their products?

- metallurgical requirements of the alloys
- stringent specifications from end customers, often based on the mechanical and physical characteristics that the finished product must have
- quality of the secondary material: today, it has characteristics comparable to primary material from a qualitative point of view.
- availability and consistency of secondary scrap

Pre-consumer scrap

a) **Do your members have take-back agreements with smelters and remelters for pre-consumer scrap in the construction sector? Under what conditions?**

Surveyed companies either don't have such agreements, these agreements don't apply to their situation, or only have this agreement with the plants within their own group.

In this last case, they keep all the internal scrap in the loop, and no scrap is sold outside of the group.

One company, an aluminium smelter, said they collect pre-consumer scrap from contractors if such scrap is available or available for purchase. They report that, due to the situation on the construction market and with suppliers to the construction market, they do not have any contracts for 2025 and 2026 because of the large share of exports of this type of scrap outside the EU (clean, homogeneous scrap with a wide range of uses, such as 6060/6063 alloy, that can be successfully used as a substitute for primary aluminium for some product groups, which also allows us to bypass customs restrictions outside the EU). They further report that in 2025, clean PIR scrap from the production of semi-finished products and components for the construction market was difficult to obtain on the European market due to the export of this type of scrap to North America and the Middle East

b) **Is this different from the automotive sector?**

Answers from surveyed companies differed. Some said there was no difference from the automotive sector, others said that there was, as in the automotive sector pre-consumer scrap is more homogeneous and subject to stricter specifications than in other sectors. There exist some scrap vendors who place automotive scrap in the market, after selecting and sorting it.

One company reported seeing an increase in PIR scrap exports from the automotive market (primarily rims, brake calipers, engine blocks, body parts (aluminium extrusion products), and suspension systems). As PIR scrap generated by the automotive industry is clean, segregated, and free of contaminants. it's a very attractive raw material to replace primary aluminium, particularly for the US market, and especially when the difference in raw material purchase price is $350-450/tonne.

c) **Are there other operators (your customers) downstream in your supply chain who generate pre-consumer scrap? Are they organized to return this material to remelters, or is it treated as generic scrap?**

Surveyed companies said that in most cases, structured companies return it to remelters through organised systems. For example, "Reworking Contracts" which include the collection of PIR scrap and its melting, along with re-refining and re-delivery to the client. In some cases, the scrap is collected by local traders who manage the scrap in their country.

Post-consumer scrap

a) Do your members use post-consumer waste from the construction industry in their products?

Among 7 surveyed companies, 3 said they are using 100% scrap in their processes, the overwhelming majority of which is post-consumer scrap. Difficult to pin-point the origin of all the scrap but, as these companies are active in the construction sector, it is likely that a portion of it is coming the construction sector. One cited using post-demolition profiles as well as all kinds of PCR scrap for their products.

Another surveyed company said that they had some limited volumes of post-consumer waste from the construction industry in the past but that this had changed.

b) What are the conditions of its use?

According to surveyed members, foundries require:

- low contamination
- stable and certifiable composition
- traceability
- compatibility with automotive or structural requirements

With regards to the first point, contamination, further illustrated the point with the following example: if the PCR scrap contains up to 1 percent of organic impurities, the recycling of this raw material is quite simple and technologically uncomplicated. However, if the content of organic impurities is more than 1%, a process is required to separate the material from the contaminants. This company does this in a tilting-rotary furnace using a gas-oxygen burner with the use of protective salts.

c) Do you know where it comes from?

Among surveyed companies, half did not know or the question was not applicable to them. One said that it comes from solar panels, windows and doors, facades.

Two said it comes from collection in the country of their vendors, mainly Spain, Portugal, Italy and France and that their vendors select through automatic shredding and sorting lines, including magnetic separation, Foucault currents system, air flotation, size classification, X-ray, and Libs.

One company said they source 50% of their PCR scrap from Germany, Austria, and the Benelux countries, 40% from Eastern Europe, and 10% from the Iberian Peninsula. This company reportedly does not purchase aluminium scrap from outside the European Union for safety and radiation protection reasons, as well as image reasons, as the company's philosophy is to support local suppliers from the EU and support the development of recycling in Europe.

Flexibility of the supply chain: to what extent can your members, who are downstream buyers in the aluminium supply chain, influence the composition of alloys used in construction?

Surveyed companies said the extent to which downstream buyers can influence the composition of alloys used in construction differs. One, with extrusion and profile processing plants, said they have a relatively important sway. Another, with a recycling and rolling mill and a coating plant, said that it is possible to propose some products, but in many cases it's the standardization norms that define the use of one alloy or another.

This same company noted how in the last 25 years, the roller shutter market, which was mainly standardized as 3005 Al-Mn alloy, has changed into 3105 alloy driven by the introduction of the twin-roll continuous casting system in many secondary smelters.

Overall, companies think there is the possibility to use a higher percentage of scrap in the construction sector.

a) **Do other sectors (packaging, automotive, etc.) have a greater or lesser ability to influence their suppliers?**

Surveyed companies had differing views on this point. The majority however believes that other sectors have a greater ability to influence their suppliers. Overall, the impressions are as follows:

- automotive: higher influence (strict specifications)
- packaging: moderate influence
- construction: lower standardisation and wider tolerances

2. Improvement of Market Framework Conditions to Increase Scrap Quality

In your position paper, you say that "*For the most part, we have capacity in the EU to recover post-consumer, scrap. However, third countries (in Asia, notably) buy it at a more attractive price, because they do not have the regulations we have in the EU.*" Could you elaborate on that?

Which are these regulations you refer to concretely?

FACE has previously said that regulations such as the WFD, WSR, REACH, CLP, POPs, EU ETS, CBAM, and various product-specific directives all have a direct or indirect impact. Overall, there is a list of at least 30 EU regulations that impact, positively or negatively, the price and quantity of aluminium scrap available in the EU. In order to confirm which regulations have the most impact, we submitted a list of said regulations to the companies we surveyed and asked them to highlight the regulations that, in their opinion and experience, impacted most the availability or price of scrap in the EU. Here is said list:

Waste & Shipment Legislation:

1. Waste Framework Directive (WFD) – Directive 2008/98/EC
2. End-of-Waste Criteria for Metal Scrap – Commission Regulation (EU) No 333/2011
3. Waste Shipment Regulation (WSR) – Regulation (EU) 2024/1157

Chemicals Legislation:

4. REACH Regulation – Registration, Evaluation, Authorisation and Restriction of Chemicals (Regulation (EC) No 1907/2006)
5. CLP Regulation – Classification, Labelling and Packaging (Regulation (EC) No 1272/2008)
6. Persistent Organic Pollutants (POPs) Regulation – Regulation (EU) 2019/1021 (for contaminated scrap)

Product-Specific Waste Legislation

7. End-of-Life Vehicles Directive (ELV) – Directive 2000/53/EC (and upcoming ELV Recast proposal)
8. WEEE Directive – Waste Electrical and Electronic Equipment Directive 2012/19/EU
9. Packaging and Packaging Waste Regulation (PPWR) – adopted (will replace Directive 94/62/EC)
10. Battery Regulation – Regulation (EU) 2023/1542 (relevant for aluminium-containing battery casings and collection flows)

Climate, Carbon & Energy

11. EU Emissions Trading System (EU ETS) – Directive 2003/87/EC (as amended)
12. Carbon Border Adjustment Mechanism (CBAM) – Regulation (EU) 2023/956
13. Energy Efficiency Directive (EED) – Directive (EU) 2023/1791
14. Renewable Energy Directive (RED III) – Directive (EU) 2023/2413
15. Climate, Energy and Environmental State Aid Guidelines (CEEAG) – 2022/C 80/01 - rules on aid for energy-intensive sectors

Industrial Emissions, Permits & Safety

16. Industrial Emissions Directive (IED) – Directive 2010/75/EU
17. Best Available Techniques (BAT) Conclusions for Non-Ferrous Metals – (EU) 2016/1032 (IED BAT Conclusions) - legally binding under IED
18. Seveso III Directive – Directive 2012/18/EU (for sites storing hazardous materials)
19. Environmental Liability Directive (ELD) – Directive 2004/35/EC

Transport, Storage & Fire Safety

20. ADR Directive on the inland transport of dangerous goods - Directive 2008/68/EC
21. EU Occupational Safety and Health Directives (OSH) – e.g., Directive 89/391/EEC

Finance, Reporting & Sustainability

22. EU Taxonomy Regulation – Regulation (EU) 2020/852 (criteria for "sustainable economic activities")
23. Corporate Sustainability Reporting Directive (CSRD) – Directive (EU) 2022/2464
24. European Sustainability Reporting Standards (ESRS) – detailed reporting framework under CSRD
25. Sustainable Finance Disclosure Regulation (SFDR) – Regulation (EU) 2019/2088 (affects investors financing recyclers)

Cross-cutting & Supporting Legislation

26. Single Market rules & Services Directive – Directive 2006/123/EC (affects permitting and cross-border operations)
27. Competition Law (State aid, Article 107 TFEU) – relevant for energy support to recyclers
28. EU Circular Economy Action Plan (CEAP) – non-binding but influences product law reforms
29. EU Critical Raw Materials Act (CRMA) – Regulation (EU) 2024/… (lists aluminium as a strategic raw material in some contexts; affects permitting and supply-chain planning)

From this list, companies surveyed highlighted the following as impacting the most the price or availability of scrap in the EU:

- Waste Framework Directive (WFD) – Directive 2008/98/EC
- End-of-Waste Criteria for Metal Scrap – Commission Regulation (EU) No 333/2011
- Waste Shipment Regulation (WSR) – Regulation (EU) 2024/1157
- REACH Regulation – Registration, Evaluation, Authorisation and Restriction of Chemicals (Regulation (EC) No 1907/2006)
- End-of-Life Vehicles Directive (ELV) – Directive 2000/53/EC
- Packaging and Packaging Waste Regulation (PPWR)
- Battery Regulation – Regulation (EU) 2023/1542 (relevant for aluminium-containing battery casings and collection flows)
- EU Emissions Trading System (EU ETS) – Directive 2003/87/EC (energy costs for remelters)
- Carbon Border Adjustment Mechanism (CBAM) – Regulation (EU) 2023/956 (indirect effects on competitiveness)
- Industrial Emissions Directive (IED) – Directive 2010/75/EU
- BAT Conclusions for non-ferrous metals
- IED requirements
- ADR Directive on the inland transport of dangerous goods - Directive 2008/68/EC
- EU Occupational Safety and Health Directives (OSH) – e.g., Directive 89/391/EEC
- European Sustainability Reporting Standards (ESRS) – detailed reporting framework under CSRD
- Sustainable Finance Disclosure Regulation (SFDR) – Regulation (EU) 2019/2088 (affects investors financing recyclers)
- Single Market rules & Services Directive – Directive 2006/123/EC (affects permitting and cross-border operations)

We used these answers, as well as conversation with them, to complete the position highlighted in our position paper.

When we say that third countries can offer more attractive prices for post-consumer scrap because they do not have the regulations we have in the EU, we refer to a broad set of environmental, chemicals, waste-management and industrial-emissions rules that significantly increase the cost of processing scrap in Europe. In the EU, scrap must be treated, cleaned and processed according to strict environmental and safety standards before it can be melted. This contrasts with many non-EU countries, particularly in Asia, where operators can melt scrap containing plastics, coatings or other contaminants without comparable controls on emissions, dioxins or air quality. As a result, they can operate at lower cost and pay higher prices for the same scrap.

The main constraints in the EU come from environmental and industrial emissions legislation, such as the Industrial Emissions Directive and the BAT Conclusions for non-ferrous metals. These require advanced filtration systems, strict limits on dioxins, VOCs and particulates, and substantial investment in abatement technologies. This means that European operators must shred and clean material, remove plastics and coatings, and treat exhaust gases before melting.

Waste and scrap-management rules also add complexity. The Waste Shipment Regulation introduces heavy administrative procedures and delays when moving scrap across borders. End-of-Waste criteria are often unclear or inconsistently applied, forcing operators to treat materials as “waste” for longer and comply with additional paperwork and controls. Product-specific rules such as the ELV Directive and the Battery Regulation impose further sorting, depollution and traceability requirements before aluminium can enter recycling streams.

Chemicals legislation, including REACH and the POPs Regulation, restricts the presence of certain contaminants or hazardous substances in scrap. This either removes some material from recycling entirely or forces costly pre-treatment, thereby reducing usable volumes and increasing processing costs. Climate and energy regulations, especially the EU ETS, further raise the cost base for remelters by increasing energy prices.

Trade and competitiveness measures such as CBAM do not regulate scrap directly, but they increase the attractiveness of low-carbon secondary aluminium and therefore intensify demand for scrap inside the EU. This pushes up prices and adds to the pressure on supply. The combined effect of these measures is more paperwork, more pre-treatment steps, stricter quality requirements and higher compliance costs. They also contribute to regional imbalances in scrap supply, which can increase price volatility.

By contrast, operators in many third countries can melt mixed or contaminated scrap with limited pre-treatment, operate without comparable emissions controls, and avoid the investments required in Europe. This allows them to offer higher prices for post-consumer scrap and makes export more attractive for European collectors and traders, even though the EU has the technical capacity to recycle the material domestically.

Besides the adoption of advanced recycling technologies, what other enablers (policy measures) are needed to match the demand for improved-quality scrap from smelters with the supply from recyclers?

According to surveyed companies, the following policy measures could help in this regard:

- European standardisation of scrap categories / EU-wide quality standards
- updated, harmonised End-of-Waste criteria for metal scrap
- greater traceability, including EU-wide digital scrap traceability
- recycled-content rules that reward high-quality secondary metal
- measures to limit exports to third countries
- incentives for sorting and decontamination/impurity removal technologies

The most widely cited requirement among surveyed companies was the harmonisation of scrap categories and minimum quality specifications at EU level. Clear, consistent EU-wide standards would reduce ambiguity, improve the functioning of the internal market, and create stronger incentives for recyclers to deliver clean, specification-grade scrap. This was also one of the main issues and policy recommendations presented by FACE in its June 2025 position paper.

Incentives and measures to limit exports to third countries were the two other points and policy recommendations originally raised in FACE's position paper which came up again, independently, from surveyed companies.

One company underlined the need to develop an environment where the growing capacity of automatic recycling lines, that its being installed in Europe has access to the raw materials (scrap, in this case). This is the only way to ensure the sustainability of recycling activity. They argued that, with this sector improving through R&D, investment financing, and grants, new technologies would appear, as they have done in the last two decades. This company presented the example of an R&D project in Spanish urban waste collection plants that is trying to "digest" the plastic added to metals in some scraps. The process transforms the plastic into methane and leaves the metal ready to be used as scrap for smelters.

The fact that these points resurfaced independently, across companies beyond those consulted for FACE's June 2025 position paper, reinforces the robustness of the earlier findings and confirms that the mechanisms described apply to a broad segment of the industry. Across the board, companies emphasise three core policy needs: measures to limit exports to third countries to secure sufficient scrap for EU recyclers; targeted incentives to strengthen recycling capabilities through R&D and investment; and, in the longer term, simplification and harmonisation of administrative requirements, particularly in relation to scrap classification and movement.

The other policy measures that came up from surveyed companies were traceability, updated, harmonised End-of-Waste criteria for metal scrap and recycled-content rules that reward high-quality secondary metal.

In your position paper, you propose a green certificate system for scrap:

'Develop a Certified "Green Scrap" Label: Inspired by initiatives in countries like the Netherlands, creating a national certification system for clean, non-contaminated aluminium scrap (aligned with ISRI grades) could streamline export procedures under the EU Green List of the Waste Shipment Regulation. This encourages quality sorting and avoids unnecessary export blocks.'

a) **Could you give us more details on how this would work and why it would be beneficial for EU aluminium circularity?**

Surveyed companies were in favour of a "green scrap" label, provided that it:

- certifies contamination and quality levels
- verifies that recycling takes place within the EU
- rewards processes with lower environmental impact

A Certified Green Scrap system would introduce a recognized EU-wide quality label for aluminium scrap that meets strict, verifiable criteria for cleanliness, alloy sorting, and environmental performance. The framework would build on existing best practices within Europe—such as the Dutch MRF Quality Mark and the EU End-of-Waste certification process under Commission Regulation (EU) No 333/2011—and align with international scrap standards like the ISRI specifications.

The system would apply only to aluminium scrap that meets defined purity and sorting standards. In practical terms, only scrap that is clean, properly sorted by alloy type, and free from attachments, plastics, or hazardous residues would qualify. Shredded aluminium ("Twitch"), for instance, would need to reach a verified minimum metal purity threshold, typically around 99 percent. These benchmarks, consistent with both ISRI grades and EU End-of-Waste criteria, ensure that Green Scrap retains its alloy-specific value and avoids the downcycling that occurs with mixed-grade scrap.

Certification and verification would be carried out by accredited national authorities or recognized third-party auditors. Scrap processors and recyclers that consistently produce high-quality material in line with defined standards would receive certification. This process could mirror Dutch practice, where all members of the Metal Recycling Federation are subject to annual audits verifying compliance with environmental legislation and operational standards. Under the End-of-Waste regime, recyclers achieving EU-defined purity and traceability standards can market processed scrap as a product rather than waste, which streamlines trade and reduces administrative burdens.

Once certified, Green Scrap could be recognized as a non-problematic Green List material under the EU Waste Shipment Regulation. This recognition would allow simplified export procedures—notification based on information provision rather than prior consent—by giving competent authorities confidence that the material is non-contaminated and compliant with environmental rules. In practice, such certification would reduce administrative friction and minimize the risk of unjustified shipment delays or refusals.

The expected benefits for EU aluminium circularity are significant. Certification would encourage better sorting and incentivize recyclers to invest in advanced technologies such as optical sorting and eddy current separators to transform low-grade post-consumer scrap into high-purity feedstock for secondary aluminium production. More of this high-quality scrap could then substitute for primary aluminium in alloy

manufacturing, reducing dependence on imported primary metal and lowering overall carbon emissions, since secondary production consumes roughly five percent of the energy required for primary production. By clarifying material quality, the certification would also make trade more transparent, help recyclers unlock underused scrap streams within Europe, and create market incentives for cleaner processing through potential price premiums and faster logistics.

We must also note that one company surveyed thought that the introduction of certificates would influence the increase in prices on the scrap market and increase the risk of unfair practices, as in the case of certificates for green products and end products based on Mass Balance calculations, which do not reflect the actual share of recycling in the end product.

b) Could you also provide us with links to the NL system you are mentioning?

The proposal draws inspiration from Dutch practices that combine industry-led certification, regulatory oversight, and consistent EU alignment. In the Netherlands, the Metal Recycling Federation requires all members to maintain the MRF Kwaliteitsborging quality mark, a certification that confirms compliance with environmental and occupational standards as well as responsible administrative procedures. Certified companies undergo annual external audits to ensure continued compliance. Information on this system is available on the Federation's official website: MRF – Kwaliteitsborging (Dutch).

The Netherlands also implements the EU's End-of-Waste criteria under Commission Regulation (EU) No 333/2011, which defines when iron, steel, and aluminium scrap cease to be classed as waste. Accredited organizations such as Kiwa Nederland B.V. carry out independent assessments of recyclers' processes, issuing End-of-Waste certificates once the material meets EU-defined purity and documentation criteria. As a result, the certified scrap becomes a recognized secondary raw material and is no longer subject to waste shipment rules. European Metal Recycling BV (EMR Nederland) was among the first Dutch recyclers to obtain such certification, illustrating how verified quality standards can make circular trade more efficient.

Strong traceability and classification requirements further reinforce the Dutch system. Scrap handlers must classify all materials using European Waste Catalogue (EWC) codes and report corresponding transactions to the national Landelijk Meldpunt Afvalstoffen (LMA). At the same time, customs documentation uses Harmonized System (HS) codes for trade purposes. Although Dutch law does not require both sets of codes to appear together in a single permit, many recyclers use them in parallel to improve traceability and reduce the risk of misclassification. This approach contributes to the Netherlands' reputation as one of the EU's most proactive enforcers of the Waste Shipment Regulation. The relevant platform for national waste documentation can be accessed at LMA – Landelijk Meldpunt Afvalstoffen.

These combined mechanisms—industry certification through the MRF, formal EU-wide End-of-Waste validation, and strong traceability practices—create a transparent, reliable framework for scrap processing and trade. They demonstrate how an EU-wide Certified Green Scrap label could be designed to support both high environmental standards and smooth market functioning.

c) Why would that make an export ban unnecessary?

The reasoning initially put forward by FACE is that a Certified Green Scrap system would address the root causes of excessive EU scrap exports more effectively than a blanket export ban or tariff. By shifting incentives and improving material quality, the Green Scrap approach would reduce outflows organically, without the market distortions and unintended consequences associated with hard restrictions.

The Certified Green Scrap approach addressed, we thought, the structural causes of high EU scrap exports more effectively than blunt measures such as export bans or tariffs. Its aim is to retain higher-value material within Europe through improved quality and market incentives rather than administrative restrictions.

Much of the aluminium scrap currently exported from the EU—estimated at around 70 to 80 percent—is mixed, low-grade post-consumer scrap that EU remelters struggle to reuse efficiently. By introducing a verifiable certification system, recyclers across the Union would be encouraged to enhance sorting and control contamination. As more clean, alloy-specific scrap becomes available, it would be commercially advantageous to recycle and sell it within the EU rather than exporting it abroad. This structural improvement would strengthen the region's secondary aluminium supply and decrease reliance on energy-intensive primary metal production.

At the same time, the system would maintain open and compliant trade flows. Certified Green Scrap, recognized as a Green List material, could move with simplified procedures under the Waste Shipment Regulation, reassuring authorities that exports are environmentally sound. Contaminated or uncertified scrap would remain outside this category, preventing both environmental risks and illegal shipments without penalizing compliant recyclers or blocking legitimate business activity.

This approach also fit the broader policy direction of the European Green Deal and the Circular Economy Action Plan, which emphasize resource efficiency, low-carbon production, and rules-based trade.

Now, we acknowledge that exceptional market pressures—such as rapidly growing demand for EU high-grade scrap from third-country buyers—justify safeguard measures, including targeted tariffs or narrowly defined restrictions, to protect Europe's immediate supply. Over the longer term, however, a Certified Green Scrap system remains a consistent, economically sound, and environmentally robust means of strengthening aluminium circularity in the EU.

Thus, although the Green Scrap system remains a valid strategic solution, FACE supports protective measures that may be necessary under today's exceptional conditions to safeguard Europe's secondary aluminium supply and industrial resilience.

Do you have data on the flows of pre-consumer scrap from your members-downstream manufacturers? Is it returned on a toll-basis to remelters? Is it sold to recyclers? What is the share of each of these flows flow?

Surveyed companies either return it to remelters on a toll-basis, or use all of the pre-consumer scrap internally.

How, if at all, are you involved directly or indirectly in projects that are improving the quality of recycled scrap output?

Companies are involved in improving the quality of recycled scrap output in a variety of direct and indirect ways, depending on their role in the value chain.

Some are improving it through better sorting at the source (better scrap output from suppliers), combining it with investment in technological development and on-site implementation. For example, one company recently developed and deployed a multi-year project using LIBS technology for quality assurance of incoming scrap. After two years of development, the first installation phase is now complete and the second phase will follow next year. Their plant also serves as a testing facility for new processing lines supplied by their vendors, allowing continuous refinement of sorting and quality-control technologies. Another uses a similar system of preparing the scrap (shredding, homogenization, and cleaning) before delivery to the plant in collaboration with suppliers and performs additional cleaning, homogenization, and preparation for production once on-site.

Others contribute indirectly through digitalisation and process-optimisation efforts. Data platforms that analyse correlations between scrap quality and casting defects help identify contamination issues and improve process parameters. Companies also participate in working groups, industry associations and circularity initiatives focused on improving material flows and enhancing the quality of recycled metal, particularly in high-pressure die-casting applications.

Some companies take part in national or EU-funded research projects, including programmes under innovation agencies such as Vinnova, which support advancements in sorting, impurity reduction and process monitoring.

Finally, certain firms generate scrap exclusively in-house and therefore focus on maintaining high internal quality standards rather than participating in broader scrap-quality improvement projects.

3. Current International Scrap Trade

Are you aware of what type of scrap is currently imported?

The majority of surveyed companies said that there was no scrap currently imported.

One company surveyed said, according to their information, the main materials imported are UBC in different levels of cleanliness and mixed metals that are used as input material for the shredding and sorting lines. Small quantities imported from industrial users (pre-consumers) who have well-identified and separated scrap. Often working with their vendors as closed-loop materials.

What type of scrap is currently exported, with a focus on construction?

a) **It is generally assumed that exports of pre-consumer scrap are negligible, but some evidence from data shows that it does happen – what is the truth?**

Exports of pre-consumer aluminium scrap from the EU are neither negligible nor limited to exceptional cases; available trade data and price signals indicate that both pre-consumer and post-consumer scrap are now exported in significant and growing volumes. Evidence from Eurostat's HS 7602 aluminium waste and scrap statistics shows that EU exports have exceeded 1 million tonnes per year and have risen much faster than the intake of scrap by European recyclers, confirming that high-quality fractions, including pre-consumer material, leave the EU market in large quantities.

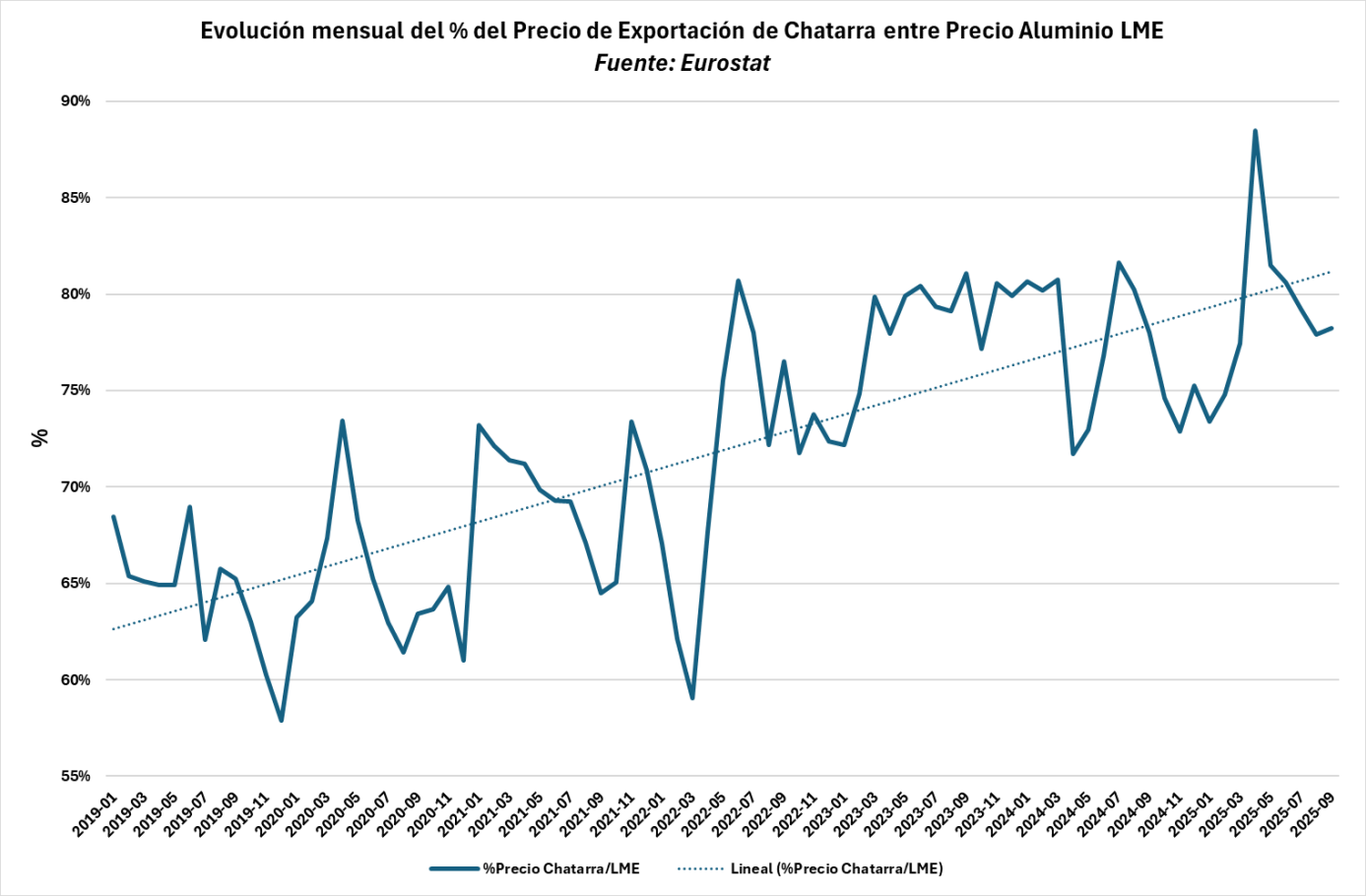
In practice, all major scrap streams are involved in exports, including used beverage cans (UBC), shredded aluminium such as "twitch", and profile scrap generated both before and after products reach consumers. For many years it was assumed that post-consumer scrap would remain largely within Europe because of its mixed and contaminated nature, while exports would mostly concern cleaner, pre-consumer industrial offcuts; this assumption is no longer valid. Particularly in countries like Spain, recyclers have invested heavily in shredding and advanced sorting plants designed to upgrade mixed post-consumer scrap into high-quality feedstock for secondary smelters, which requires a steady supply of such mixed scrap as raw material.

Over the last few years, however, traders—especially from Asian markets—have increasingly sourced both pre-consumer and higher-grade post-consumer scrap directly in Europe, competing with local recyclers for the same material. As a result, many plants have struggled to secure sufficient mixed post-consumer scrap to keep their facilities fully utilized and have faced sharply rising purchase prices, sometimes losing the traditional cost advantage of scrap over primary aluminium. Internal market intelligence from European industry sources suggests that scrap price differentials versus LME primary aluminium have widened by more than 10%, which can translate into increases of over 250 euros per tonne, eroding the economic incentive to use scrap rather than primary metal.

Eurostat-based analyses of HS 7602 exports, where the average export unit value is compared each month with the LME aluminium price, indicate a clear upward trend in the ratio of scrap export prices to LME, as illustrated in the attached chart. This rising ratio means that the "average" exported scrap has become progressively more valuable relative to primary aluminium, a strong indication that the quality of exported material has increased and now includes a larger share of well-sorted, high-purity scrap rather than predominantly low-grade residues. In other words, exports are increasingly drawing on the same high-quality scrap streams that European secondary smelters need, rather than merely removing marginal, difficult-to-use fractions from the system.

The combined effect is that exports of both pre-consumer and upgraded post-consumer scrap contribute to a tightening of scrap availability within the EU, pushing some secondary aluminium producers to rely more on primary metal, which in turn slows progress on decarbonisation and circularity objectives. For a region that is structurally short of energy and raw materials, this situation underscores the importance of policies that improve scrap quality management, incentivise domestic recycling, and ensure that high-value secondary raw materials remain available for European industry.

Monthly percentage change in the Scrap Export Price relative to the LME Aluminium Price (Eurostat)



b) Do your members (manufacturers) export pre-consumer scrap?

Surveyed companies do not export pre-consumer scrap. Many collect it for their own production needs.

One company reported that over the past 14 months there has been a marked increase in cases where, during tenders on the European market, scrap volumes were sold at significantly higher prices to buyers outside the European Union—such as in the United States, Mexico, or Turkey—than to European purchasers. This highlights a growing trend whereby, despite tenders taking place on the European market, scrap is increasingly awarded to non-EU buyers offering higher prices. Illustrating strong external demand and a widening price gap that European buyers struggle to match, resulting in more scrap being diverted outside the EU and reduced availability for European industry.

c) What do you think is the scrap recyclers' motivation to recycle vs. to export?

According to surveyed companies, Scrap recyclers balance their motivation to recycle versus export according to stability, profitability and the quality requirements of the markets they serve. Recyclers who have invested heavily in equipment, labour and pre-treatment processes generally prioritise maintaining steady, predictable recycling operations. They rely on regular business to cover operational costs, ensure continuous throughput and recover past investments. For these operators, supplying domestic smelters offers a more stable path than depending on fluctuating export markets.

Exporting tends to be more speculative and driven by short-term price opportunities. When foreign buyers offer significantly higher prices, exports can become attractive, but this is often tied to punctual market conditions rather than long-term industrial strategy. In contrast, well-established recycling relationships within the EU offer more predictable volumes, reduced commercial disputes, greater homogeneity in scrap quality and better alignment with traceability requirements.

Recycling for domestic smelters also allows recyclers to benefit from clearer quality specifications, improved matching between supply and demand and lower risks compared with navigating heterogeneous global markets. Ultimately, recyclers are motivated to recycle when they can operate profitably and consistently; they are motivated to export when external price signals outweigh the value of stable, long-term domestic partnerships.

In your position paper you do support a temporary export restriction due to the import tariffs in the US, if flanked by other measures to support better EU sorting capacity. Is this still the case after the announcement by DG TRADE?

Surveyed companies unanimously and strongly support some form of trade restriction on aluminium scrap. Some in the form of an export tax, others in the form of a total export ban. This position remains valid following the recent announcement by DG TRADE that the European Commission plans to curb EU scrap exports. The rationale is that current market distortions created by third-country policies, most notably but not limited to, high US tariffs on primary aluminium combined with the absence of equivalent tariffs on scrap, are drawing increasing volumes of high-quality European scrap out of the EU, while many competing regions maintain their own export duties, licensing requirements, or outright bans on metal scrap.

Summary of export restrictions on metal waste & scrap materials, based on the OECD inventory

- INDIA applies indirect measures, such as tolls, that influence the level or direction of exports, either de jure or de facto.
- MALAYSIA imposes a 10% export duty and requires exporters to obtain prior authorization through a licensing system.
- INDONESIA imposes authorization requirements on aluminum scrap and has implemented an export ban on alumina.
- CHINA applies a 15% tariff on the export of aluminum scrap.

Given market circumstances, and how they have evolved between June and July 2025, companies have shifted from supporting a more modest export tax (e.g. 10–15%) to a stronger measure such as an export tax exceeding 50% or an outright export ban. The reasoning behind a high export tax is to narrow the difference in prices between the LME in London and the Midwest premium in the US. In such a case, exports would become unprofitable.

One company highlighted that, although they would be in favour of a ban, they saw this as much easier to circumvent, with export controls being quite limited in European Union countries, in their view. A much more effective tool, they argued, is the introduction of tariffs and the monitoring of scrap metal trade through documentation of sales and purchase volumes and scrap quality.

Whether the chosen tool is a high export tax or outright ban, companies underline that such a trade restriction on aluminium scrap, introduced in isolation, would not be sufficient to address structural imbalances. They view an export measure—whether in the form of an export tax, licensing requirement, or narrowly framed ban—as a necessary short-term safeguard, that needs to be flanked by measures that ensure competitiveness and a fair long-term playing field for EU recyclers and secondary smelters. This includes strengthening and enforcing quality and traceability standards for scrap, supporting investments in advanced sorting capacity, and ensuring that EU climate and circular-economy policies translate into a genuine competitive advantage for operators who have invested heavily in low-carbon recycling.

Over the past decade, European recyclers and secondary smelters have been encouraged to cut emissions and invest in new recycling facilities on the understanding that EU climate policy would reward these efforts through stable access to scrap and growing demand for low-carbon aluminium. Yet these investments are now at risk because significant quantities of high-quality EU scrap are exported to countries that themselves apply restrictions on the export of their own scrap or primary aluminium, such as export duties, licensing regimes, and de facto barriers. This situation undermines EU industrial policy,

as European plants face shortages of feedstock while competitors abroad benefit from both EU scrap and protective measures at home.

Against this backdrop, the announcement by DG TRADE is seen as a step in the right direction, but companies insist that any EU export-control regime must be part of a broader, coherent strategy. The priority is to secure sufficient, high-quality scrap for European recycling capacity, avoid further closures of secondary furnaces, and maintain the emissions-reduction benefits of replacing primary metal with recycled aluminium, which requires about 95% less energy. A balanced package that combines targeted, time-limited export restrictions with structural measures to improve sorting, certification and market transparency is therefore still considered necessary to restore fair competition, protect past investments in EU recycling, and support the Union's long-term circular-economy and climate objectives.

In your position paper, you make a number of suggestions to improve scrap classification systems, in particular:

a) **Harmonizing, refining and/or bringing in line with ISRI the national scrap classifications, distinguishing more and less contaminated scrap and wrought/cast scrap in CN, HS codes, also removing ambiguities in EWC and LoW classifications.**

How exactly would this translate into benefits? In particular, how would it increase scrap uptake in the EU and reduce its scrap exports?

Harmonising and refining scrap classifications would mainly deliver greater clarity and predictability in the way aluminium scrap is defined, traded and regulated in the EU, while companies stress that this is a medium- to long-term solution rather than a quick fix for today's market tensions. Aligning customs (CN/HS) and environmental codes (EWC/List of Waste) with internationally recognised commercial specifications such as ISRI grades and European standards would make it possible to distinguish much more clearly between wrought and cast scrap, and between clean, high-grade material and mixed or contaminated streams. At present, most aluminium waste is recorded under broad codes like HS 7602, which do not reflect its true quality or recyclability and therefore obscure what is actually moving across borders.

The European Commission's DG TRADE and DG TAXUD are aware of this and are "collaborating with industry stakeholders to assess whether and how to further advance the classification of scrap into key categories"

With more granular, harmonised categories—for example, separate sub-codes for clean wrought profiles, sorted used beverage cans, mixed cast scrap or heavily contaminated shred—European recyclers and smelters could identify and source the grades they need instead of competing in a largely undifferentiated "scrap" market. This would reduce commercial disputes over quality, improve traceability and strengthen price signals that reward better pre-sorting and contamination removal. Over time, such incentives would encourage more investment in sorting and upgrading mixed post-consumer scrap into higher-value fractions that EU plants can use, supporting higher domestic scrap utilisation and helping to meet circular-economy and recycled-content targets.

One company cautions that classification reform, if implemented in isolation, does not automatically guarantee higher domestic uptake. In some cases, investments in advanced sorting and separation can raise scrap purity faster than domestic downstream demand is able to absorb, especially where EU smelters face higher energy, labour or compliance costs. In such circumstances, high-quality scrap may continue to be drawn to third-country markets that can temporarily offer higher prices. This does not argue against better classification, but rather highlights the importance of accompanying measures to ensure that upgraded scrap can be competitively used within the EU.

Better-aligned classifications would also cut regulatory friction in cross-border movements. Clear, shared definitions of what qualifies as non-hazardous, Green-listed scrap versus material requiring stricter control would reduce inconsistent interpretations by national authorities, which today can lead to delays, extra inspections or even reclassification at borders. When high-quality, well-sorted scrap can more easily obtain end-of-waste or product status and is recognised consistently across Member States, it becomes simpler and cheaper to move that material to EU remelters—provided that sufficient domestic processing and melting capacity is in place—rather than exporting it because foreign destinations appear administratively or economically easier.

Several companies therefore stress that classification reform should be seen as an enabling framework, not a standalone solution. Current export pressures are driven primarily by strong external demand, price differentials and structural constraints within the EU value chain. The policy objective should not be to maximise exports of upgraded scrap, but to secure reliable access to raw materials for Europe's own industrial base. This requires classification reform to be combined with complementary policies, such as targeted export safeguards, investment support for sorting and remelting capacity, and measures to improve the competitiveness of low-carbon secondary production in Europe, to keep plants operating and preserve jobs.

In the longer run, however, a more detailed and harmonised classification framework is seen as a necessary foundation for a more circular and strategic approach to aluminium scrap. It would give policymakers better data on what qualities of scrap are leaving the EU, enabling more targeted, evidence-based measures rather than blunt bans or across-the-board restrictions. Combined with broader market and industrial policies, clearer CN/HS, EWC and LoW codes—aligned with ISRI and European standards—can gradually raise domestic scrap uptake, reduce avoidable exports of high-grade material, and underpin the investments in recycling and sorting capacity needed to meet Europe's climate, resource-security and industrial-resilience objectives.

Conclusion

FACE would like to thank the companies that contributed to this analysis. Their input has been essential to providing a clear, evidence-based overview of the dynamics affecting aluminium scrap flows, quality, and market functioning in the EU.

As highlighted throughout this document, the European aluminium recovery and recycling sector consists of a highly diverse industrial base, encompassing several thousand companies—most of them SMEs—active across the value chain. The findings presented here draw on a survey of seven companies, enriched by FACE's long-standing market and technical expertise. Although the survey sample is limited, the mechanisms, challenges and policy needs identified are widely observed across the broader industry. The insights therefore extend beyond the surveyed firms or FACE's membership and are reflective of the structural realities faced by SMEs engaged in aluminium scrap collection, sorting, preparation and remelting across Europe.

Taken together, the responses show that improving aluminium circularity in Europe requires a combination of: targeted measures to safeguard scrap availability in the EU; clearer and more harmonised scrap classifications; stronger quality, traceability and sorting standards; and incentives for investment in advanced recycling technologies. With these elements in place, Europe can reinforce its secondary aluminium industry, reduce reliance on imported primary metal, and better align industrial competitiveness with the EU's climate and circular-economy objectives.

FEDERATION OF ALUMINIUM CONSUMERS IN EUROPE (FACE)

FACE was founded in 1999 to specifically defend the interests of the EU independent downstream aluminium transformers, 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.

Annexes

Annex 1 — Summary of HARBOR Report: Norsk Hydro Announces Closure of 5 European Extrusion Plants (Nov 2025)

(Paraphrased summary — compliant with copyright)

According to industry intelligence released in late 2025, Norsk Hydro plans to shut down five extrusion plants across Europe by 2026. These facilities—located in the UK, Germany, Italy and the Netherlands—together operate several extrusion presses and remelt units, employing more than seven hundred people. The closures come on top of earlier reductions at sites in France and the UK.

The report attributes these decisions to several converging pressures: persistently weak downstream demand in key sectors such as building & construction and automotive; increasing difficulty securing sufficient scrap feedstock; and rising scrap acquisition costs. European secondary producers—especially billet producers and extruders—are described as facing particularly tight margins due to both expensive and scarce scrap. Some operators are reportedly considering withdrawing from the market altogether.

The analysis further notes that the European industry had planned to bring significant new secondary billet capacity online in 2026—over 300,000 tonnes per year—but these expansions may now face delays, slow ramp-up periods, or possible cancellation due to deteriorating market conditions.

Annex 2 — Summary of HARBOR Report: Scrap Outflows at Record Levels (Dec 2025)

(Paraphrased summary — compliant with copyright)

A December 2025 market update highlights that European aluminium scrap exports (EU27 + UK) have reached their highest levels on record, approaching roughly 1.25 million tonnes for the year to date. This represents a continued increase over previous years. India remains the largest external buyer, with strong demand for various secondary scrap grades. Shipments to China have also grown significantly, particularly for cleaner and higher-quality scrap fractions. Exports to the United States have declined, partly due to inventory adjustments at US mills.

The report describes a challenging environment for European secondary producers: low domestic scrap generation, record exports, and weaker demand in automotive and building & construction are collectively compressing margins. Some producers are reportedly planning extended downtime, while others are assessing potential market exits.

The report also notes that the European Commission has signalled its intention to introduce measures to restrict scrap exports, with options expected to be assessed in the coming months and possible implementation in spring 2026. Such measures could support domestic secondary alloy and billet producers, although the speed at which EU sorting capacity can deliver the necessary scrap grades will determine the extent of this relief.