The European Steel Processors Association
Discussion paper on Scrap and DRI:
Securing a Fair, Sustainable Transition to Green Steel

EXECUTIVE SUMMARY:

The European Steel Processors Association (ESPA) presents a discussion paper addressing the critical role of scrap and Direct Reduced Iron (DRI) in the transition to green steel within the EU. As the steel industry shifts towards electric arc furnace (EAF) technology, with plans for 28 new EAFs by 2030, the demand for high-quality scrap and DRI is set to increase significantly.

Key findings highlight:

1. **Rising Demand for Scrap**: Scrap is a vital enabler of steel decarbonization in the EU. While current supply levels are adequate, demand is set to rise significantly — from 73 million tonnes in 2023 to an estimated 112 million tonnes by 2030. This sharp increase raises growing concerns over the long-term availability of scrap, a resource critical to achieving low-carbon steel production targets.
2. **DRI as a Strategic Resource**: DRI is emerging as a vital alternative to traditional steelmaking methods, reducing carbon emissions and addressing quality scrap shortages. Its compatibility with both EAF and BOF processes positions it as a key enabler in the decarbonization effort.

To mitigate potential shortages of scrap and DRI, ESPA proposes several strategic actions:

- Recognize scrap as a strategic resource under the EU industrial policy. Promote the investment in high quality scrap collection and recycling and ensure that handling scrap processing waste is not uneconomic in Europe.
- In order to retain scrap in Europe as soon as it becomes in short supply, establish gradually increasing controls and/or quotas limitations on scrap exports, especially towards countries that impose export limitations on their critical raw materials and where waste management norms are less strict than in the EU. Include DRI in the EU's Critical Raw Materials list to ensure its strategic importance is acknowledged, including in the CBAM regulation.
- Leverage trade agreements to secure diversified DRI supplies and foster industrial partnerships for the production of low-carbon steel inputs.

By adopting these measures, the EU can enhance its resilience in securing essential materials for sustainable steel production while supporting its broader decarbonization goals.

To achieve the EU’s decarbonisation goals, the European steel industry is moving rapidly towards the deployment of EAF technology. A total of 28 new EAFs with a total production capacity of about 43 million tonnes are expected to be built in Europe by 2030. In addition, the rate of scrap usage is expected to grow within remainng BOF facilities. This transition is driving up the demand for high-quality scrap and DRI, both of which are essential for low-carbon steelmaking. Understanding the future challenges linked to the potential lack of scrap and DRI ESPA calls on the EU to develop a balanced and forward-looking policy that ensures fair access to these critical inputs, strengthens high-quality scrap recycling, and formally recognizes DRI as a strategic raw material for Europe’s green industrial future.

1. Potential lack of high quality scrap

Recent projections confirm the risk that there will not be sufficient scrap and processed scrap available to cover the EU low-carbon steel production needs. As Europe moves toward EAF steelmaking, scrap demand is expected to rise sharply - from 73 million tonnes in 2023 to 112 million tonnes by 2030. Scrap availability is expected to decline, raising concerns about meeting low-carbon steel production needs with particular reference to high-quality scrap. For example, the shares of the two highest quality scrap categories, pre-consumer scrap (scrap produced within steel mills) and new scrap (scrap that comes from the processing of steel-using industries) are projected to drop down from 47% in 2023 to 41% in 2030. Moreover, according to Eurostat, ferrous scrap represents one of the most exported type of waste from the EU (approx. 16.7 Mt in 2024).

Estimations of Scrap Supply vs Scrap Demand

Indicator	Estimated Value	Source
Gross scrap collection for EAF production (2024)	100–110 million tonnes	GMK Center, Eurofer, Euric
Scrap exports to third countries (2024)	16.7 million tonnes	Eurostat, GMK Center
Expected Demand for Scrap 2030 (EAF advanced scenario)	120–130 million tonnes	BCG, GMK Center, Arthur D. Little
Expected demand for Scrap 2030 (CRU scenario)	112 million tonnes	CRU
Expected EAF capacity by 2030	100–110 million tonnes	GMK Center
Estimated Scrap Shortage 2030	15 million tonnes (actual surplus 9 Mt)	BCG

2. DRI as a Strategic Enabler

Driven by the decarbonisation goals, many European steelmakers are also shifting to the DRI-EAF route as a cleaner alternative to traditional BF-BOF production. On top of decreasing the carbon footprint of steel production, the use of DRI or HBI (Hot Briquetted Iron) is compatible with both EAF and BF/BOF technologies and helps address quality scrap shortages, as well as enable the future use of hydrogen when it becomes economically viable.

To mitigate risks related to potential scrap/DRI shortage ESPA proposes:

- To invest in quality scrap collection and recycling (reflecting a commitment to sustainable practices in the broader context of the Circular Economy Action Plan) and to treat scrap as strategic under EU industrial policy
- In order to retain scrap in Europe as soon as it becomes in short supply, establish gradually increasing controls and/or quotas limitations on scrap exports especially towards countries that impose export limitations on their critical raw materials and where waste management norms are less strict than in the EU. To include DRI in the EU Critical Raw Materials list and ensure a fair treatment of DRI under the CBAM regulation
- To use trade agreements to secure diversified DRI supply and establish industrial partnerships for production of low-carbon steel inputs.