





SSAB, Greenbrier, Alter Trading: Creating a Continuous Cycle

The steel industry is increasingly looking for ways to reduce emissions while maintaining the quality and performance required by modern manufacturing. While recycled steel has long been an important part of steelmaking, SSAB, Greenbrier and Alter Trading are demonstrating how recycling can become part of a closed-loop supply chain.

The recent collaboration connects SSAB's Iowa steelmaking operation, Greenbrier's railcar manufacturing and Alter Trading's metal recycling operations in a continuous cycle.

At SSAB's Montpelier, Iowa, USA, facility, SSAB Zero™ is produced using recycled steel and fossil-free energy. Manufactured in an electric arc furnace, SSAB Zero is designed to deliver the same quality and performance as conventional SSAB steel while reducing CO₂ emissions. SSAB reports Scope 1 and 2 emissions of less than 0.05 kg CO₂e per kilogram of steel.

The steel then moves through the manufacturing supply chain. In June, after it was processed at SSAB's St. Paul, Minn., USA, facility, SSAB Zero was shipped to Greenbrier to be fabricated into 50 gondola railcars. The project demonstrated the use of green steel in heavy-duty transportation equipment while also incorporating high-strength steel to help reduce railcar weight and increase payload capacity.

These gondolas are now used by Alter Trading to transport recycled metals, including end-of-life steel, back to SSAB's Iowa facility. There, the recovered material can once again become

feedstock for steel production. Rather than treating recycling as the end of a product's life, the companies are demonstrating a model where steel remains within the industrial system and returns to the steelmaking process.

Creating a truly circular steel economy requires more than simply melting scrap; it requires coordination across the entire value chain from steelmaking and processing to manufacturing, transportation, collection and recycling. The project connects those stages through an existing industrial supply chain and physical material flows rather than relying on offsets or mass-balance allocation.

The project also highlights the role transportation can play in a circular economy. The steel produced from recycled material is used to build railcars that, in turn, transport more recycled metal back to the steel mill. Rail therefore becomes an integral part of the process rather than a means of moving finished products.

By connecting a steelmaker, manufacturer and recycler, the companies are showing how circularity can be incorporated into existing industrial operations. The objective is ultimately about more than producing green steel. It is about keeping that steel in use for as long as possible and creating a system in which its material value can be recovered at the end of each product's life.

SSAB, Greenbrier and Alter Trading are demonstrating that a circular economy can move beyond an idea and become a working industrial supply chain. ♦