

BY THE NUMBERS: THE FLOW OF STEEL

About half the steel used in the U.S. comes from foreign sources. But efficiency and recycling might do more than trade barriers to reduce imports.

The U.S. consumes more than 100 million metric tons of steel per year, in products as diverse as concrete reinforcement bars, petroleum pipelines, and washing machines. A recent paper by engineers at the University of Michigan traced the flow of that steel through U.S. industry, looking for ways to use the metal more efficiently.

The researchers suggest that as much as 8.4 million tons of scrap could be recycled by adding some new iron to copper contaminated steel scrap, while much of the 7 million tons of sheet metal scrap in the auto industry could be eliminated by more efficient metal stamping techniques.

While U.S. steel production was 92 million tons and consumption was 112 million tons, the national steel industry lost quite a bit of steel along the way: around 15 million tons of fabrication scrap, 6.8 million tons of forming scrap, some 49 million tons in exports, and more. Some 15 million tons of scrap steel is exported and another 19 million tons is sent to landfills, compared to 40 million tons that's recycled. By the time all the steel exits the flow, only about 42 million tons of steel originally produced in the United States makes it into products used in the U.S.

The whole paper can be found at DOI: [10.1021/acs.est.9b01016](https://doi.org/10.1021/acs.est.9b01016)

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