2018 Georgia Recycling Coalition Conference

September 18, 2018
Founded in 1988, Now Part of AISI
# AISI Producer Members

## United States
- AK Steel Corporation
- ArcelorMittal USA
- California Steel Industries, Inc.
- Cleveland-Cliffs Inc.
- DTE Energy Resources
- EVRAZ North America
- Harsco Metals & Minerals
- Nucor Corporation
- SSAB Americas
- Tenaris Bay City
- TimkenSteel
- United States Steel Corporation

## Canada
- Algoma
- ArcelorMittal Dofasco
- Ivaco Rolling Mills 2004 L.P.
- Stelco

## Mexico
- Altos Hornos de Mexico S.A.
- ArcelorMittal Mexico
- Deacero S.A.P.I de C.V.
- Tenaris Tamsa
- Ternium Mexico

Plus over 120 associate members from the industry
Meet SMDI

Investor Companies

AK Steel
ArcelorMittal
NUCOR
SSAB

Partner Alliances

A/S Partnership
MBMA
Cool Metal Roofing
Steel Framing Alliance
Steel. The Better Builder.
CFSEI
Metal Initiative
SHORT SPAN STEEL BRIDGE ALLIANCE
Canned Food Alliance
Canned Food. The Easy Way to Eat Right.
• Ultra light Steel Auto Body

• Steel Bridges

• Steel Utility Poles

• Residential Steel Framing
Meet SMDI Sustainability Group

Mark A. Thimons
Vice President, Sustainability, SMDI

Kishore Mahbubani
Sustainability Analyst

Brandie Sebastian
Director, Life Cycle Assessment

David Keeling
Director, Recycling

After all, Recycling is the “gateway drug” to sustainability!
The Steel Recycling Institute is an industry association with the mission of promoting and sustaining steel recycling. It is the primary information and technical resource for entities interested in steel recycling and the use of steel in sustainable construction.

The SRI also serves as the clearinghouse for life cycle assessment data for the North American Steel Industry. The SRI documents the environmental performance of steel products through life cycle assessment (LCA) studies and environmental product declarations (EPDs).

Since 1990, the industry has reduced energy intensity by 31 percent and CO2 emissions by 36 percent per ton of steel shipped. Through recycling, the steel industry saves the energy needed to power 20 million homes for one year.
Why recycle Steel?

Economics - saves money - substitution cost
Environment - conserves resources

Energy: 5450 BTU saved per lb. Of steel

Saves per ton of steel
Coal - 1,400 lbs
Iron ore - 2,500 lbs
Limestone - 120 lbs

Saves landfill space
1 cubic yard whole steel cans = 150 lbs
1 cubic yard flattened steel cans = 850 lbs
A Partnership in Steel Making

Two Production Methods:

BOF or Integrated Mill
- About 40% of overall U.S. production
- Uses coke to convert Iron ore to Pig iron
- Typically 65-75% molten iron
  and 25-35% scrap

EAF or Mini Mill
- About 60% of U.S. production
- Uses primarily scrap and direct-reduced iron (DRI)
- Typically 0-25% iron and 75-100% scrap

No matter what the process used, we need old steel to make new steel!
Additional Steel Capacity announced in the last year

Aero Junction, HRC Mill in Mingo Junction, OH

Charter Steel SBQ mill in Cleveland, OH

Commercial Metals Rebar Mill in Durant, OK

Expansion of Steel Dynamics Rebar Mill in Roanoke, VA

NLMK restart of HDG line in Sharon, PA

**New Nucor Steel Rebar mills in Sedalia, MO** and Frostproof, FL,

Expansion of Nucor Steel Merchant Bar Mill in Kankakee, IL

Republic Steel in Lorraine, OH

Possible Expansion of Big River Steel in Osceola, AR

Bilstein Cold Rolled Steel starting up a greenfield cold-rolled sheet facility in Bowling Green, KY

Restart of Blast Furnace at US Steel plant in Granite City, IL
Steel Recycling vs Other Materials

- paper
- aluminum
- glass
- plastic

STEEL

www.Recycle-Steel.org
World Steel Market (2017)

- World Production = 1,691,200,000 metric tons
- Chinese Production = 831,700,000 metric tons
- US Production = 81,600,000 metric tons

China - 831 million metric tonnes
Japan - 104.7 million metric tonnes
India - 101.4 million metric tonnes
USA - 81 million metric tonnes

Top exporters
- China #1
- Japan #2
- South Korea #3
- US #16

Top importer
- US-35.7 Million Metric Tonnes

Top importer
- USA! USA! USA!

Steel scrap exports virtually unaffected by Green Fence or National Sword but Blue Sky has affected all exports.

Concerned about underutilized Chinese Import licenses due to risk of rejection and associated costs

Good News, Steel can scrap is typically not exported and US mills have capacity to consume every pound!
WEEKLY TONNAGE OF RAW STEEL PRODUCTION
(Thousands of net tons)

WEEK ENDED: SEPTEMBER 1, 2018

Source: Compiled by AMM using data from American Iron and Steel Institute.
Capacity Utilization Effect on Supply vs Demand

Then:
- August 2008
  Prime Scrap $900.00 / GT
  Capacity Utilization = 87.66%
- September 2008
  Prime Scrap $500.00 / GT
  Capacity Utilization = 65.86%
- December 2008
  Prime Scrap $125.00 / GT
  Capacity Utilization = 39.99%

Now:
- Week of September 1, 2018
  Capacity Utilization = 79.8%
Overall Steel Recycling Rate: 76% (64.5 million tons recycled)
Automobile Steel Recycling Rate: 87% (14.3 million tons recycled)
Appliance Steel Recycling Rate: 88% (2.7 million tons recycled)
Container Steel Recycling Rate: 71% (1.3 million tons recycled)
Construction Structural Rate: 98% (*based on C/D survey)
Construction Reinforcement: 71% (*based on C/D survey)
Steel cans in the marketplace

Steel food cans make up 90% of the steel can marketplace

Steel Aerosol cans are 7% of the steel can marketplace

Over 70% of Americans have access to programs which include empty aerosol cans.

Steel paint cans are 3% of steel cans in the marketplace
No matter, the vehicle you drive…

It is the **steel** in that vehicle that keeps you safe and secure
A typical appliance is produced using about 65 percent steel which is the primary reason nearly 90 percent of discarded appliances are recycled each year. The steel content drives the recycling of appliances!
AMM WEEKLY SHREDDED SCRAP PRICE COMPOSITE
(price per gross ton)

Based on markets in Alabama, Pittsburgh, Chicago, and Philadelphia.

Source: AMM

UPDATE: SEPTEMBER 7, 2018

2018
2017
2016

$349.00
Structural recycling rate steady for last 10 years!
AMM WEEKLY NO. 1 HEAVY MELT PRICE COMPOSITE
(in dollars per gross ton)

Based on markets in Pittsburgh, Chicago and Philadelphia.

Source: AMM

Updated: September 7, 2018

2018
2017
2016

$321.67

The Strength and Sustainability of Today’s Steel

Willis Tower, Chicago, IL

Then (1972)
- Sears Tower
- 76,000 tons of steel
- 20% recycled content (est)

Now (2013)
- Willis Tower (second tallest in hemisphere)
- 60,000 tons of steel (strength)
- 90% recycled content (for structural steel)
- 43,000 automobiles
- 7,000 tons of steel cans from curbside-drop off
- 10,000 tons of industrial scrap
- 876,000 fewer man-hours
- 58% smaller carbon footprint
- 74% less embodied energy
Ferrous Scrap Dealers

Years of steel recycling experience

Convenient locations

Container and transportation capabilities

Complete processing equipment

Strong relationships with end markets

Look for additional consolidation/vertical integration
Recycle-Steel.

Dave Keeling
P.O. Box 160
Big Bend, WI 53103
262-662-4435
dkeeling@steel.org

Website: www.recycle-steel.org
Twitter: @EnviroMetal
Facebook: www.facebook.com/EnviroMetal
YouTube: www.youtube.com/EnviroMetal