Steel Recycling: Another Decade of Advancement

Gregory L. Crawford
NERC Fall Conference
November 7, 2014
Steel is widely recognized as the material that augments the well-being of people and the planet.
WHAT IS RECYCLING?

“Passing again through a series of changes or treatments in order to regain material for human use.”

Merriam-Webster (1926)
Reducing, Reusing, Recovering,
Reclaiming, Regaining, Refreshing,
Restoring, Renewing, Recycling

Watch Out for “Recyclable” vs. “Recycled”
WHAT IS RECYCLABLE?

- Metal
- Paper
- Glass
- Plastics
- Organics
- Textiles
- Wood
- Rubber
- Minerals
- Chemicals
WHY DO WE RECYCLE?

- Recyclables are a Commodity
- Economics – Saves Money
- Environment – Conserves Resources
  - Energy
  - Water
  - Natural Resources
- Saves Landfill Space
- It’s the Law
Why Do We 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**
  - One cubic yard whole steel cans = 150 lbs
  - One cubic yard flattened steel cans = 850 lbs
DOES RECYCLING SAVE MONEY?

- **COSTS**
  - Collection
  - Processing
  - Transportation
  - Mill Operation

- **REVENUE** – Sale of Material

- **SAVINGS** – Landfill Avoidance

- **BUSINESS** – Profit/Loss

- **GOVERNMENT** – Under/Over Budget

- **EXTENDED PRODUCER RESPONSIBILITY?**
RECYCLING SUPPLY OPTIONS

- Residential
  - Curbside
  - Drop-Off
  - Buy-Back
  - Deposit
  - Waste-to-Energy

- Commercial
  - Scrap Dealer
  - Business/Government
  - Industrial
  - Construction & Demolition
  - Waste-to-Energy
STEEL RECYCLING MARKETS

- Appliances
- Automotive
- Construction
- Containers
OVERALL RECYCLING RATE

1988: 66%
1989: 66%
1990: 67%
1991: 67%
1992: 66%
1993: 68%
1994: 69%
1995: 65%
1996: 65%
1997: 64%
1998: 64%
1999: 64%
2000: 68%
2001: 71%
2002: 71%
2003: 71%
2004: 76%
2005: 78%
2006: 83%
2007: 88%
2008: 92%
2009: 103%
2010: 88%
2011: 88%
2012: 88%
90% Industry Estimate

Energy Company Programs

Consumer Incentives
AUTOMOTIVE

Cash for Clunkers
High Strength Steel
CONSTRUCTION

- 98% Industry Estimate
- Deconstruction
- Huge source of scrap
- Cost savings
98% of Curbside Programs Accept Steel Cans

Essential Ingredient
NO Chlorofluorocarbon (CFCs)
Bought to Be Used to Exhaustion
Start TODAY
Landfill Avoidance
Increased Volume/Revenue
Recycler Enthusiasm
Aerosol Can Recycling Logo
Available Free on SRI Website
STEEL AEROSOL CAN STATISTICS

• 7812 Curbside Programs (est. pop. 170,846,673)
  – 7560 Officially accept empty steel cans (est. pop. 167,897,025 or ~98.3%)
  – 2221 Officially accept empty steel aerosol cans (est. pop. 98,443,386 or ~57.6%)

• 44 of the top 50 curbside programs officially accept empty steel aerosol cans. Others arrive unofficially.

• Most consumers toss ALL types of steel cans into curbside bin for magnetic separation and baling.
WAYS TO GROW THE MARKET

- Updating Educational Programs
  - Recyclem.com
- National Recycling Database
- Social Media
  - Twitter & Facebook
  - @EnviroMetal
- Sustainability
- Life Cycle Inventory
- Life Cycle Assessment

[Image of a child-friendly website with various icons and characters promoting recycling and sustainability.]

[Steel Recycling Institute logo and website URL: www.Recycle-Steel.org]
Steel Recycling Institute

WESTERN REGION
Dave Keeling
General Manager
Steel Recycling Institute
P.O. Box 160
Big Bend, WI 53103
262.662.4435
dkeeling@steel.org

EASTERN REGION
Suzette Thomason
General Manager
Steel Recycling Institute
57 Newport Street
Cantonment, FL 32533
850.479.7208
st Thomason@steel.org

NATIONAL
Gregory L. Crawford
Executive Director
Steel Recycling Institute
680 Andersen Drive
Pittsburgh, PA 15220
412.337.6476
gcrawford@steel.org

www.Recycle-Steel.org
• Visit: www.recycle-steel.org

  – Sustainability
  – Steel Aerosol Can Recycling Logo

• Contact: Gregory L. Crawford
  Executive Director
  Steel Recycling Institute
  412-337-6476
  gcrawford@steel.org