Driving the Modern Manufacturing Renaissance: 
*The U.S. Aluminum Industry Today*

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June 4, 2014
Emerging U.S. Manufacturing Renaissance Is Real

Growing numbers of U.S. companies looking to bring manufacturing operations back home

After decades of exodus, companies returning production to the U.S.

• Low LNG prices in the U.S.
• Growth in Chinese wages & energy prices
• Increase in U.S. labor productivity
• Rise in high-skilled, advanced manufacturing

Our Views: ‘Reshoring’ trend generates good news for U.S. workers
Industrial Production Reaching Pre-Recession Levels


Source: US Federal Reserve; (Seasonally Adjusted Index; Base Year = 2007)
U.S. Industry Driving Jobs/Economic Activity

Today, the U.S. Aluminum Industry Accounts for:

- 672,000 Direct and Indirect Jobs
- $152 Billion Direct and Indirect Economic Output
- 17,000+ Facilities Nationwide
- 0.9% U.S. GDP Economic Footprint

Employment Impact

In 2013, the aluminum industry directly employed

155,000

Vs

106,000

Directly employed by the aluminum industry in 2009

- $77,000 Average Industry Wage
- $40.9 Billion Paid in Direct and Indirect Payroll

Vs

- $43,000 Average National Wage
- $16 Billion Generated in Federal, State and Local Taxes
Aluminum Investing Big in U.S. Manufacturing

• $1 billion in capital investment in the U.S. announced since Fall 2013
• 1,000+ full and part-time jobs created
  • Alcoa: Davenport, IA & Alcoa, TN
  • Novelis: Oswego, NY
  • Tri-Arrows & Constellium: Bowling Green, KY
• One macro-trend driving this growth…
The Lightweighting Revolution

American Lightweight Materials Manufacturing Innovation Institute (ALMMII)
Manufacture of Optimized, Multi-Material, Lightweight Structures for Transportation

* Prioritize materials & processes for transportation sectors and synergize with other industries as appropriate
Societal Pressures Driving Vehicle Weight Reduction Trend

- **Public**
  - Corporate Average Fuel Economy
  - Truck Fleet Standards

- **Private**
  - Corporate Sustainability Efforts
  - Consumer Demand
North America Ranks Second in Global Primary Production

Global Primary Aluminum Production, 2013

Source: International Aluminium Institute; The Aluminum Association
Secondary Production is Increasingly Important in the U.S.


20% growth since 2009

Source: The Aluminum Association
U.S. Economic Indicators Positive for Aluminum

**Percent Change in U.S. Real GDP**

Chained 2009 Dollars

Source: Bureau of Economic Analysis  Seasonally Adjusted

**U.S. Housing Starts**

Thousands of units

Source: U.S. Census Bureau  Seasonally Adjusted Annual Rate

**North America Light Vehicle Production**

(Millions of Units)

Source: Wards Automotive

**U.S. Value of Construction Put-in Place**

Billions of Dollars

Source: U.S. Census Bureau  Seasonally Adjusted Annual Rate
Demand Is Trending to Pre-Recession Levels

Estimated Aluminum Demand for North America
(000 of Metric Tons)

Source: The Aluminum Association

*Preliminary
Demand Growth Driven by Transportation/B&C Markets...

Shipments by Major Market - 2012
10.8 million metric tons

- Transportation: 29.9%
- Consumer Durables: 6.2%
- Electrical: 8.0%
- Machinery & Equipment: 6.5%
- Containers & Packaging: 19.6%
- Other Domestic: 3.2%
- Building & Construction: 11.0%
- Exports: 15.6%

Source: The Aluminum Association
But Especially the Transportation Market

Transportation Markets, U.S. and Canada
(000 of Metric Tons)

75% growth since 2009*

Source: The Aluminum Association
And this Growth is Expected to Continue

The trend line continues to be supported by new aluminum applications

Average increase of 7 lbs per year for 35 years

Source: Ducker Worldwide
Sustainability: The Key Industry Differentiator

Energy Use for Primary Production

- 1995
- 2005
- Today

26% Reduction

Carbon Footprint for Primary Production

- 1995
- 2005
- Today

37% Reduction

Power Consumption and PFC Emissions Driving Decline
Industry Innovation Driving Decline
But More Work Remains

**DRIVING THE DECLINE**

1. New Computer Technology
2. More Energy Efficient Facilities
3. Increased Use of Hydropower

**RECYCLING IS KEY TO CONTINUING INDUSTRY IMPROVEMENT**

- 92% Less energy to produce recycled vs. primary aluminum
- 10% increase in energy consumption and CO2 emissions decrease by 15%
- Last year $900M was wasted by throwing 40B aluminum cans in the trash
The Association’s Role: Promoting the Metal

Critical Business Information & Statistics

Game-Changing Sustainability Research

Study: Auto Aluminum Provides Best Energy-Savings, CO₂ Solution

A new Department of Energy study shows aluminum is the best way to reduce total vehicle energy consumption and CO₂ emissions.

Developing the Standards that Enable Commerce

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The Association’s Role: Telling Our Story in Washington

Launched Congressional Aluminum Caucus

Released Aluminum Economic Impact Study

Dynamic Digital Platform

Industry/Association News Resonating
On the Horizon...

The President’s Climate Action Plan

Federal Air Quality Regulations

State-Level Action on Recycling

2014 Midterm Elections
Thank You and Questions