

ALUM FORUM: **U.S. INDUSTRY EXPERIENCE**

John Weritz
Vice President Standards and Technology

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WHO WE ARE

The Aluminum Association

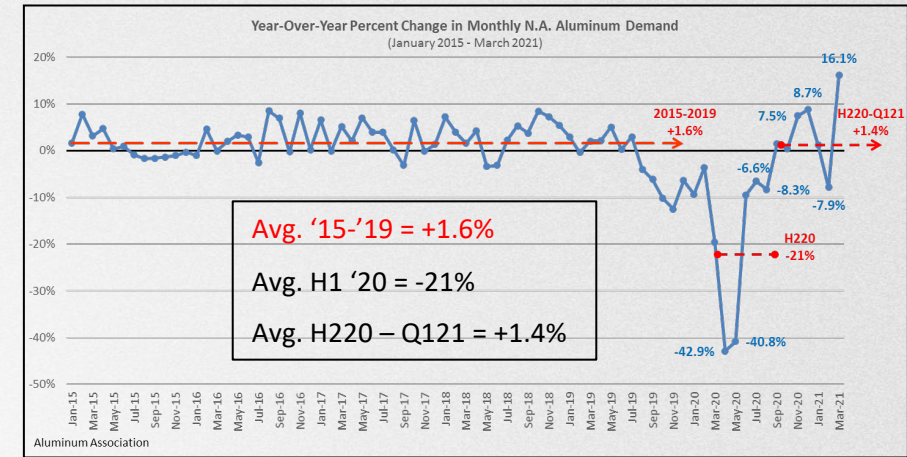
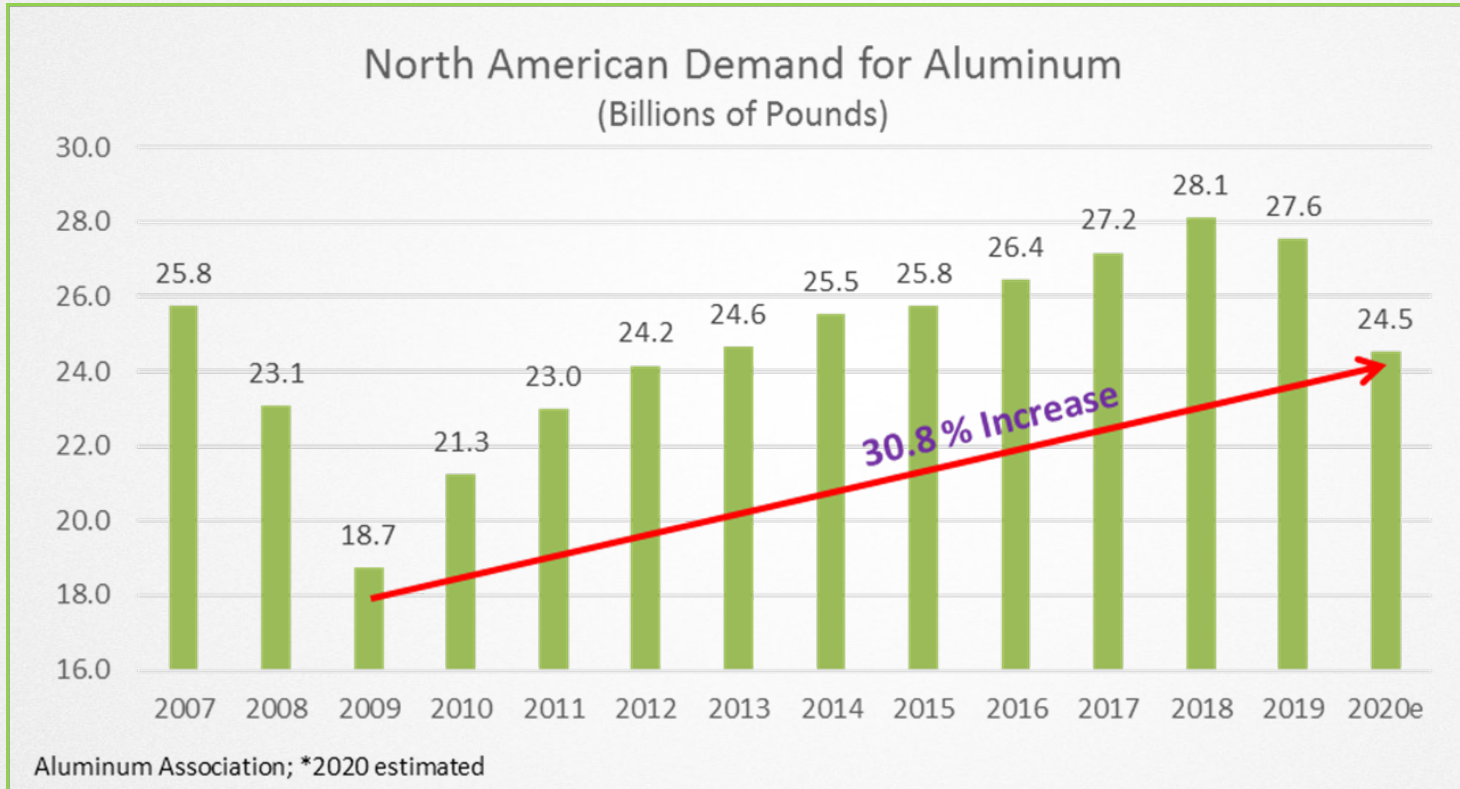
- 120 member companies across value chain
- Represent vast majority of North American aluminum production and fabrication
- \$70B industry directly employs 166,000 workers (indirectly supports +494,000)
- Role is to:
 - Boost Competitiveness
 - Grow Aluminum's Voice
 - Develop Key Research
 - Enhance Industry Safety
 - Provide Essential Standards & Data

U.S. Aluminum Industry Direct Jobs by Sector

	2013	2016	2018	2020	% Change 2018-2020	% Change 2013-2020
Primary/Alumina	12,787	4,879	3,131	4,829	54.2%	-62.2%
Secondary (Recycling)	9,428	9,507	9,412	8,691	-7.7%	-7.8%
Sheet/Plate/Extrusion	61,806	62,327	63,757	62,883	-1.4%	1.7%
Foundries	45,234	50,867	51,364	50,551	-1.6%	11.8%
Forgings	10,328	10,462	10,888	10,464	-3.9%	1.3%
Coatings	2,814	3,132	2,838	2,664	-6.1%	-5.3%
Metal Service Centers	23,142	24,631	26,563	26,146	-1.6%	13.0%
Total	165,539	165,804	167,953	166,228	-1.0%	0.4%

Learn more at aluminum.org/economy

BIG PICTURE TRENDS



COVID-19 Pandemic: “Essential” Industry, Profound Impact on Operations & Markets

Sustainability: Proactive Market Growth & Development Opportunities

New Administration, New Congress: Shift in Policy Focus -- Infrastructure, Climate, Trade, Regulations, Spending

Macro-Economy: Supply Chain Challenges, Labor Availability, Inflation (?)

ALUMINUM MARKET TODAY

Container & Packaging

- Shifting consumer preferences and customer innovations driving demand for beverage cans and flexible packaging.
- Can sheet shipments increased 3.3% in 2020, announcements from Kaiser and Arconic, significant canning capacity coming online this year/early next.

Transportation

- EVs, fuel economy will intensify light-weighting demands.
- Passenger & light vehicle production returned to pre-pandemic levels (production in H2 2020 increased slightly over production in H2 2019). RV production surged in H2 2020 and has stayed high.

B&C

- Tremendous resiliency, with housing starts up 7% and construction spending up 4.7% for the year.

Electrical

- Renewed attention to electrical grid could lead to significant investments. Opportunities in renewables, EV infrastructure.

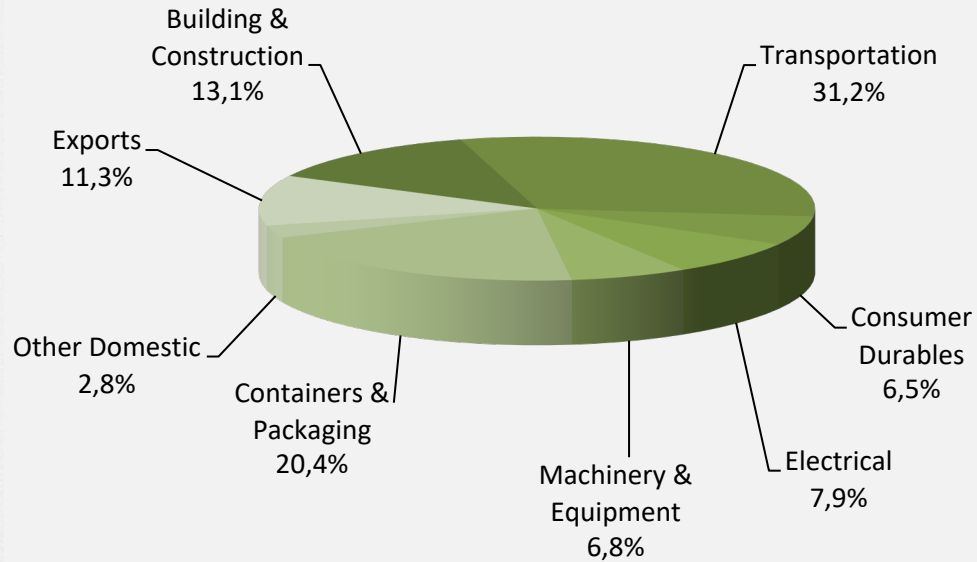
Questions for 2021 & Beyond

- Impact of COVID Relief and vaccination roll-out?
- Less commercial construction?
- Travel recovery post-pandemic?
- New fuel economy regulations?
- Federal investment in infrastructure?
- China's Impact on global aluminum trade flows – and trade policy?

MARKET BREAKDOWN

Shipments by Major Market - 2020

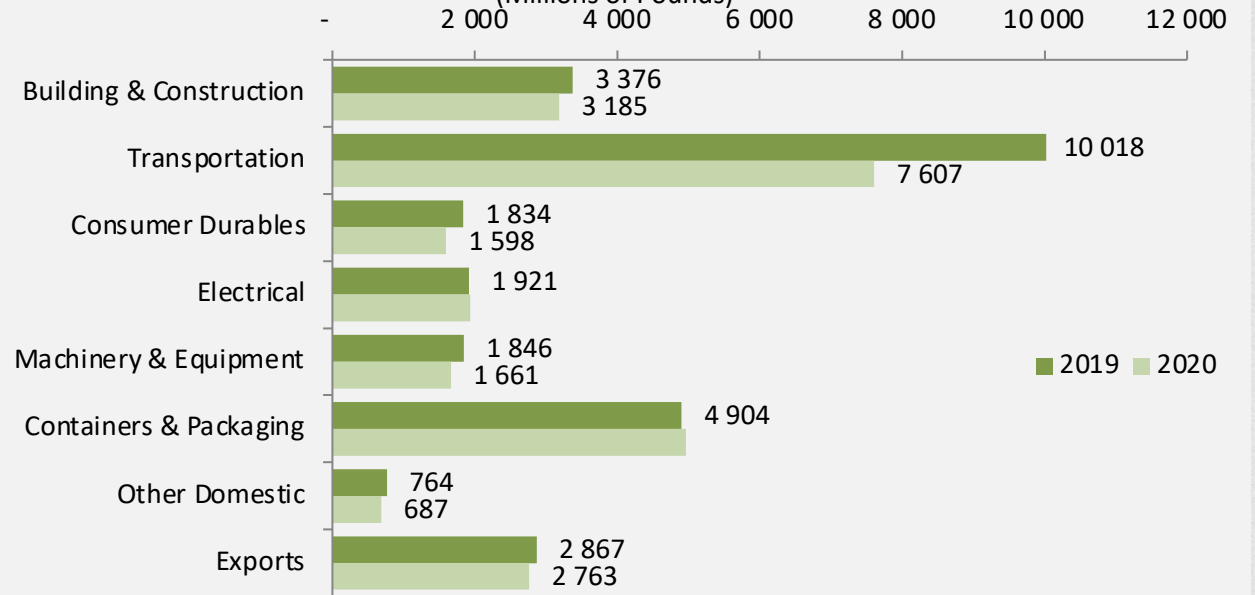
(24.4 Billion Pounds)



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Shipments by Major Market

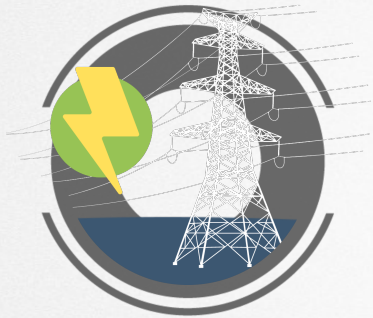
(Millions of Pounds)



The Aluminum Association

THE ALUMINUM **AGENDA**

A Policy Roadmap for a Competitive U.S. Aluminum Industry



Energy



Environment



Infrastructure



Trade



Workforce



aluminum.org/agenda

US INFRASTRUCTURE BILL



Infrastructure

ARLINGTON, VA (July 29, 2021) — In a [letter to Congress](#) today, Aluminum Association president & CEO Tom Dobbins [reiterated](#) the industry’s support for yesterday’s historic bipartisan infrastructure framework.

“The U.S. aluminum industry and its leaders know that this once-in-a-generation infrastructure investment will make our nation more resilient, our climate cleaner, and our economy more competitive,” Dobbins said in the letter. “As one of only eight critical mineral commodities recognized by the federal government as essential to all sectors of the U.S. economy, this bipartisan investment will depend on aluminum.”

The framework addresses a number of the [major infrastructure priorities](#) the Aluminum Association laid out earlier this year:



weight ratio than copper and significant economic benefits, aluminum has for decades been the leading material used in wiring power grids. Aluminum is also vital for solar power with [more than 85 percent](#) of solar photovoltaic components made from aluminum.

- **Public transportation building:** Aluminum is used extensively as a building material in large public transportation building projects. Aluminum’s durability means it can serve its function in a building for many decades, reducing maintenance costs. The framework’s investments in our nation’s transit hubs would depend on aluminum’s attributes to qualify for Leadership in Energy and Environmental Design (LEED) certification and optimize the life cycles of the buildings themselves.
- **Recycling infrastructure:** The framework includes a number of down payments needed to improve our nation’s recycling infrastructure supporting a

US INFRASTRUCTURE BILL



Infrastructure

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ALUMINUM **TRADE** PRIORITIES



Job Growth

Sustainability,
Opportunity

Multilateral

Allies, Institutions,
Partnerships

Climate

Operational &
Policy Issues
Intertwined

China Focus

Tough Talk or Real
Change?

Enforcement

AD/CVD, Trade
Rules, USMCA,
New FTAs?



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SUSTAINABILITY ADVANCES

Production

- Inert anode technology – zero direct GHG emissions
- Elysis (Alcoa/Rio Tinto)
- Al+ (Rusal)

Recycling

- New industry targets and sorting/processing technology
- Closed loop partnerships (Ford, Nissan)

Use Phase

- Lightweighting potential & durability
- Vehicle lightweighting = 20% drop in lifetime emissions

Pathways to 2050

- Partners at International Aluminium Institute
- Released report in March on pathways for the industry to reach net zero emissions by 2050

56

“Aluminum’s history is one of **increasing efficiencies and new processes**. Its next wave of innovations may bring it to zero emissions, and in the process help the world along a net-zero path by mid-century, too.”

Nathaniel Bullard
Bloomberg New Energy Finance



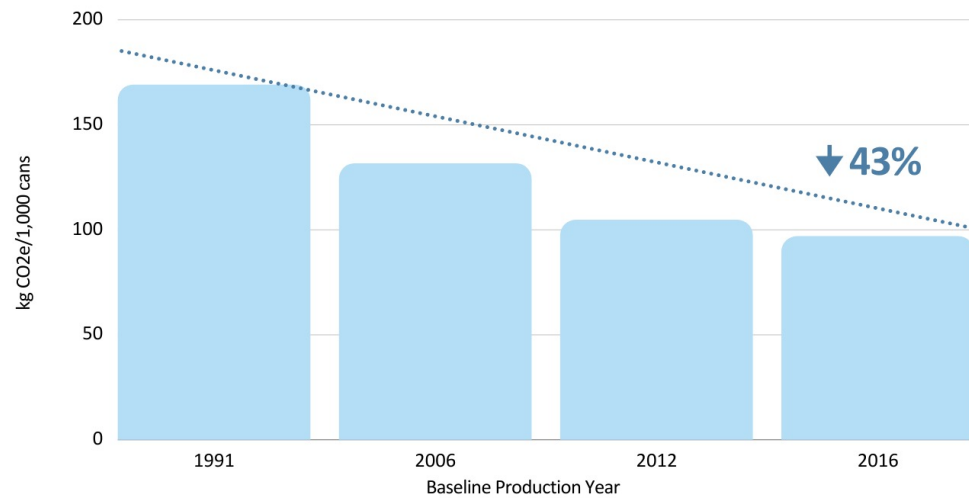
LIFE CYCLE ASSESSMENT: ALUMINUM CAN

- A new comprehensive Life Cycle Assessment (LCA) by sustainability consultancy Sphera shows that the carbon footprint of aluminum beverage cans made in North America has dropped by nearly half over the past three decades.
- The new report was commissioned by the Aluminum Association to update a previous study published in 2014.
- Tracking the life cycle of 1,000 aluminum cans manufactured in North America.

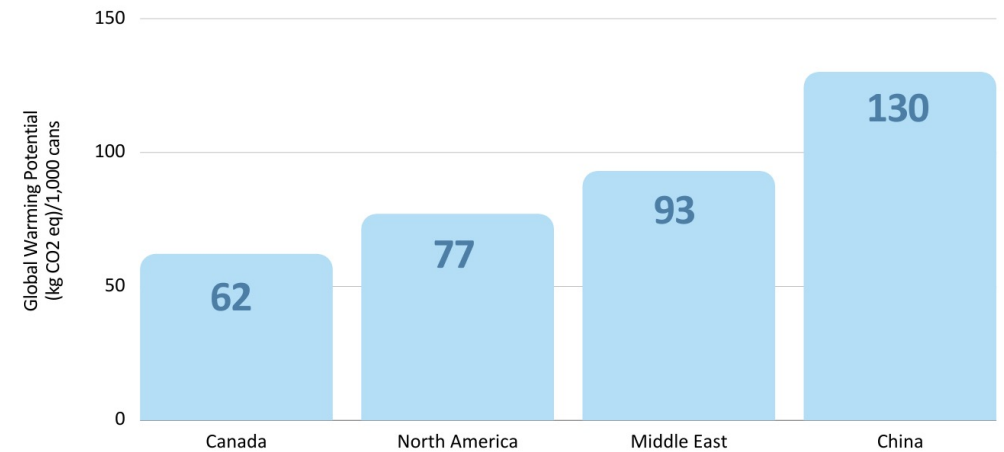


ALUMINUM SOURCING MATTERS

CARBON FOOTPRINT OF ALUMINUM CANS (CRADLE-TO-GRAVE)



EFFECT OF PRIMARY ALUMINUM SOURCING ON CRADLE-TO-GATE CARBON FOOTPRINT



Note: Assuming the same primary metal content as the North American beverage can. Notably, an aluminum can made with only Chinese primary metal and no recycled content would be at least 4 times as carbon intensive (cradle-to-gate) compared to a typical North American aluminum can.

WHAT'S NEXT

