

Corporate Sustainability Strategies and Technologies

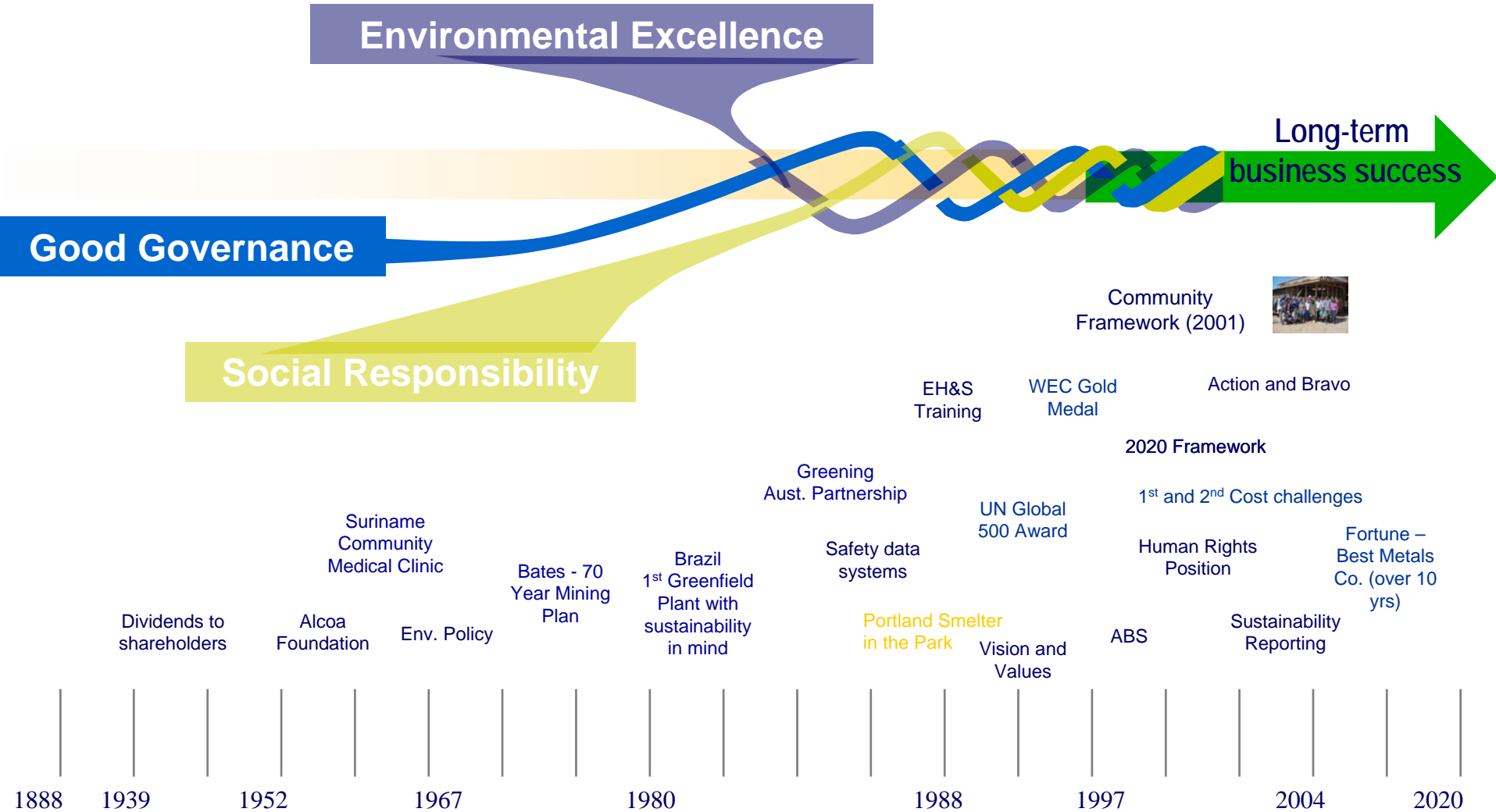
October 18, 2005
The Pew Center
Cleveland, Ohio

**A sustainable enterprise requires vision
and a broad set of values**

**Sustainable companies are just that –
sustainable in the long term**

Alcoa Accomplishments and Direction

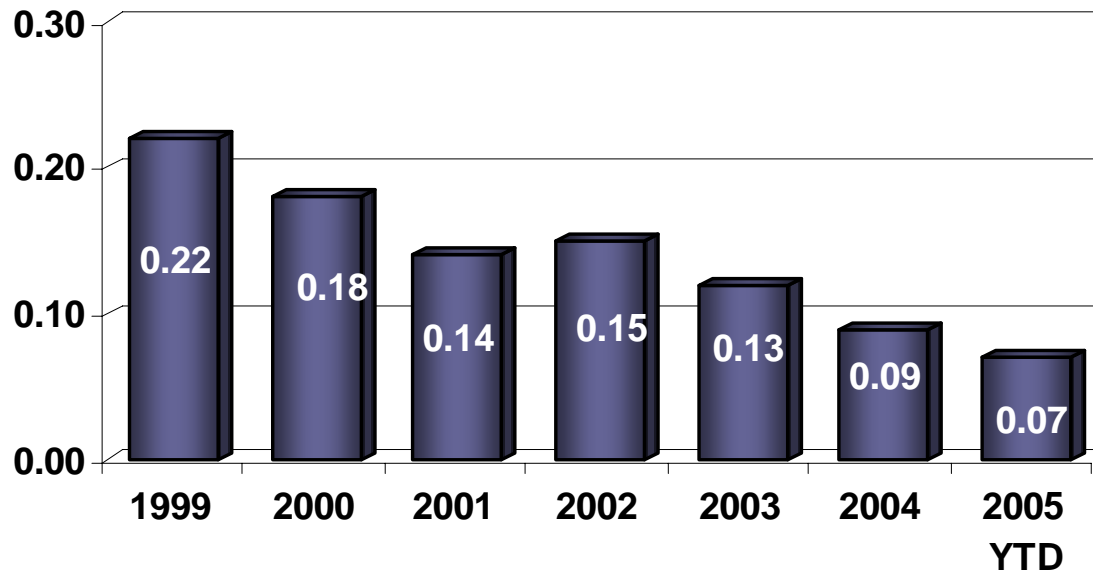
A Long History of ...



Alcoa Lost Workday Performance



68% Reduction from 1999



Elimination Of Wastes



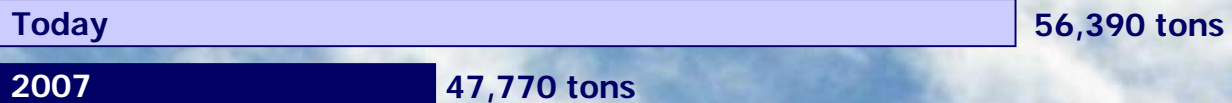
60% REDUCTION

SO₂



30% REDUCTION

NOx



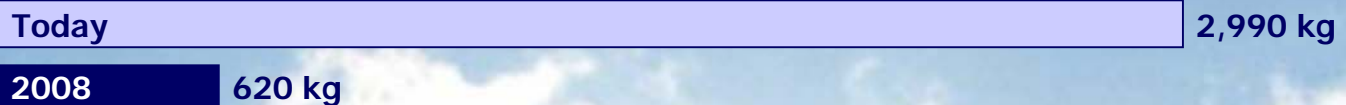
50% REDUCTION

VOCs



80% REDUCTION

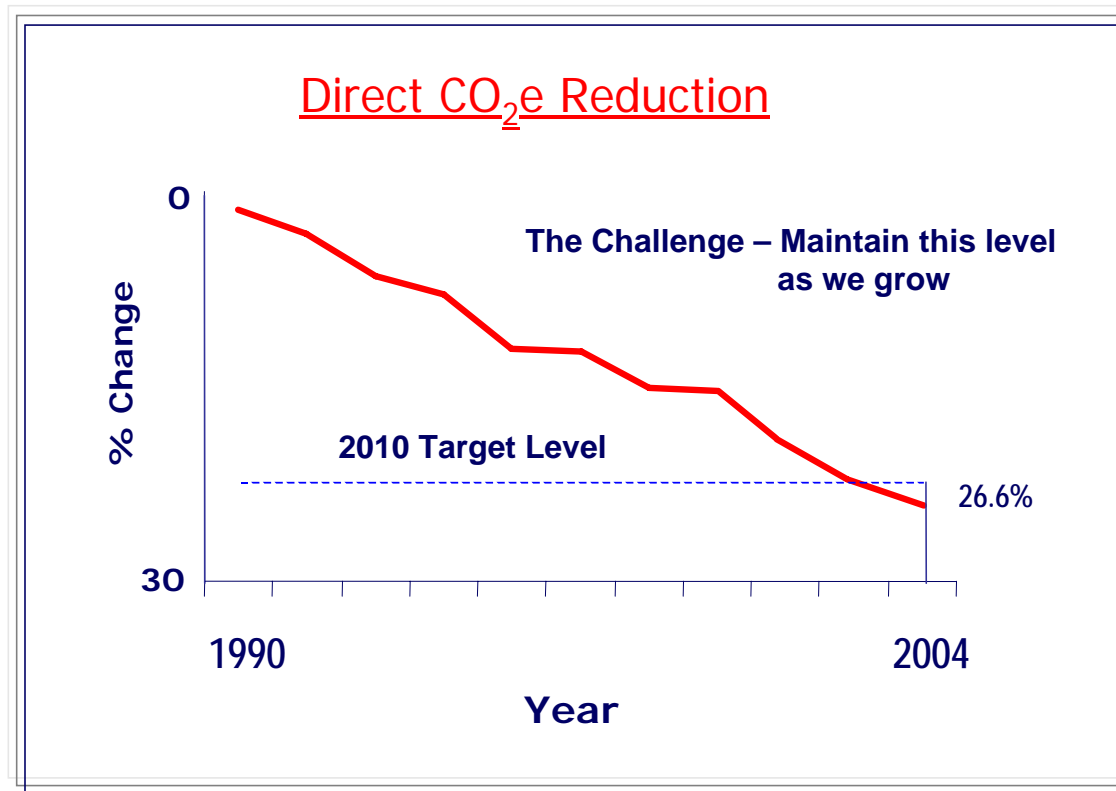
MERCURY



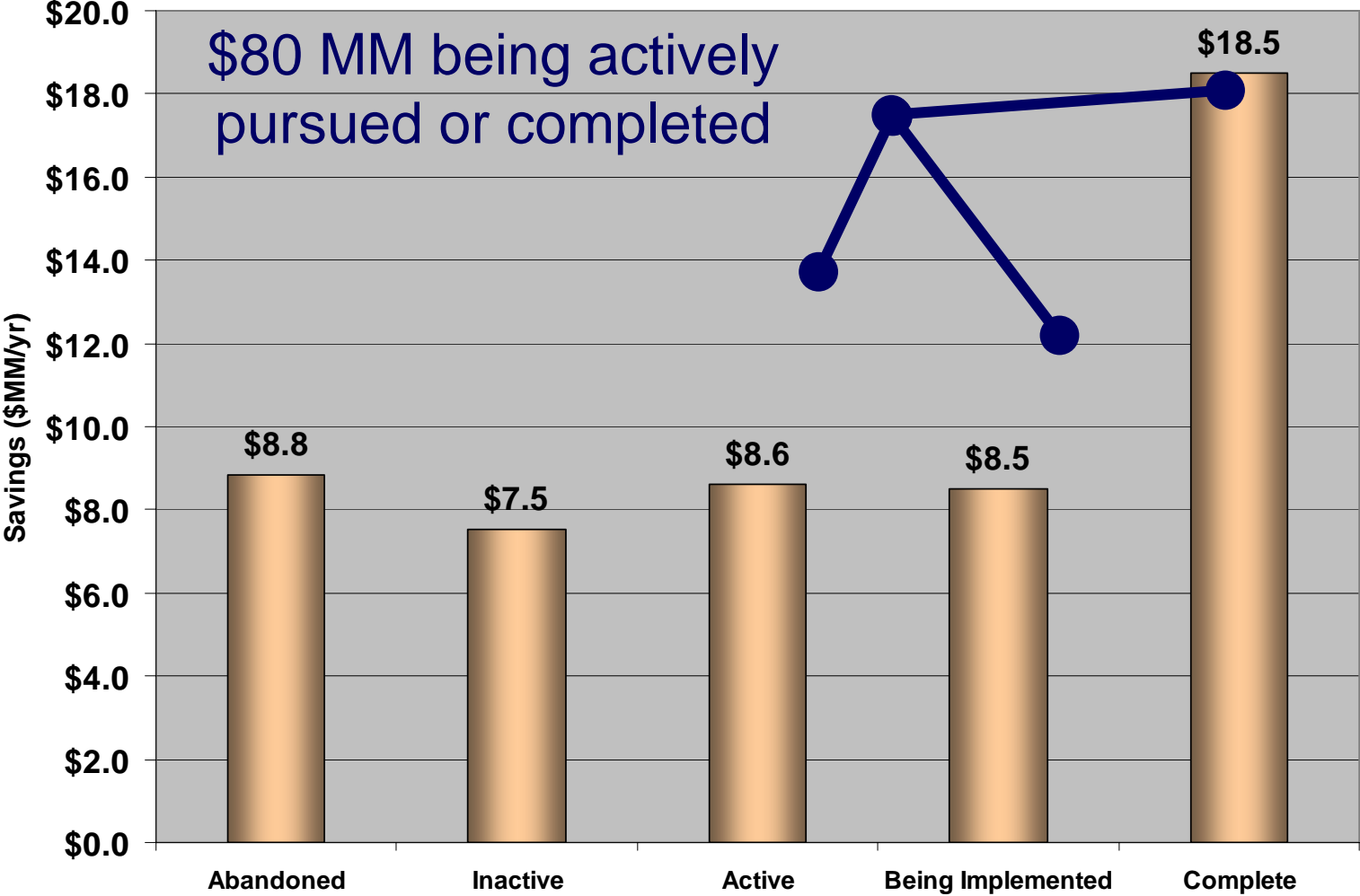
GHG Emissions



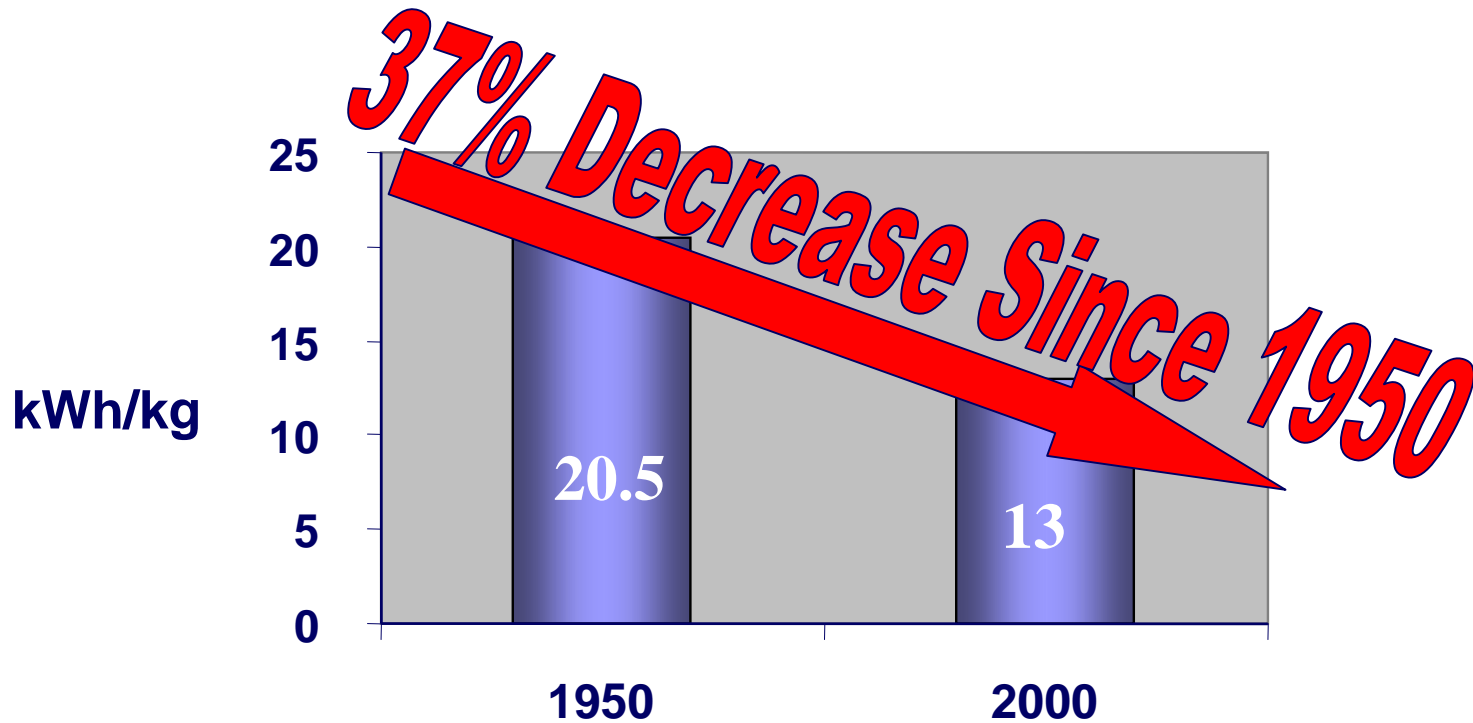
We Set a Goal of Reducing GHG by 25% by 2010



Energy Efficiency



Specific Electricity Requirements Down

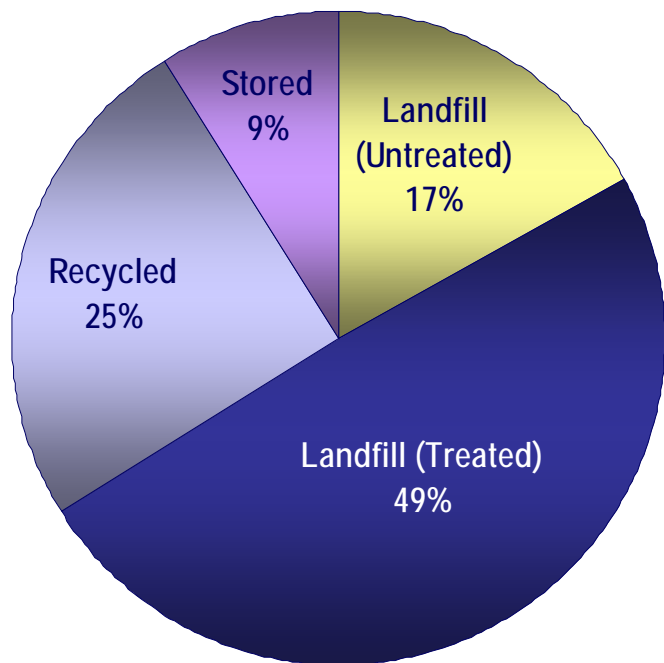


- Improved process control
- Better cell design

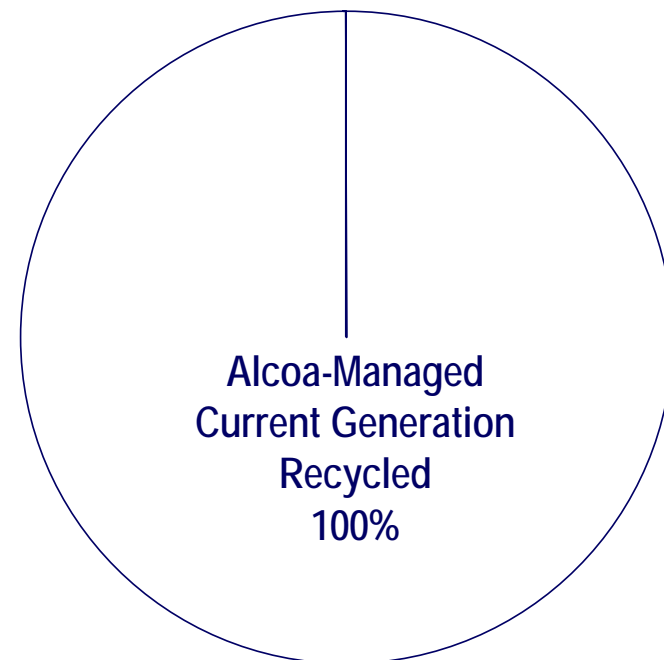
Worldwide Spent Pot Liner Management



2004



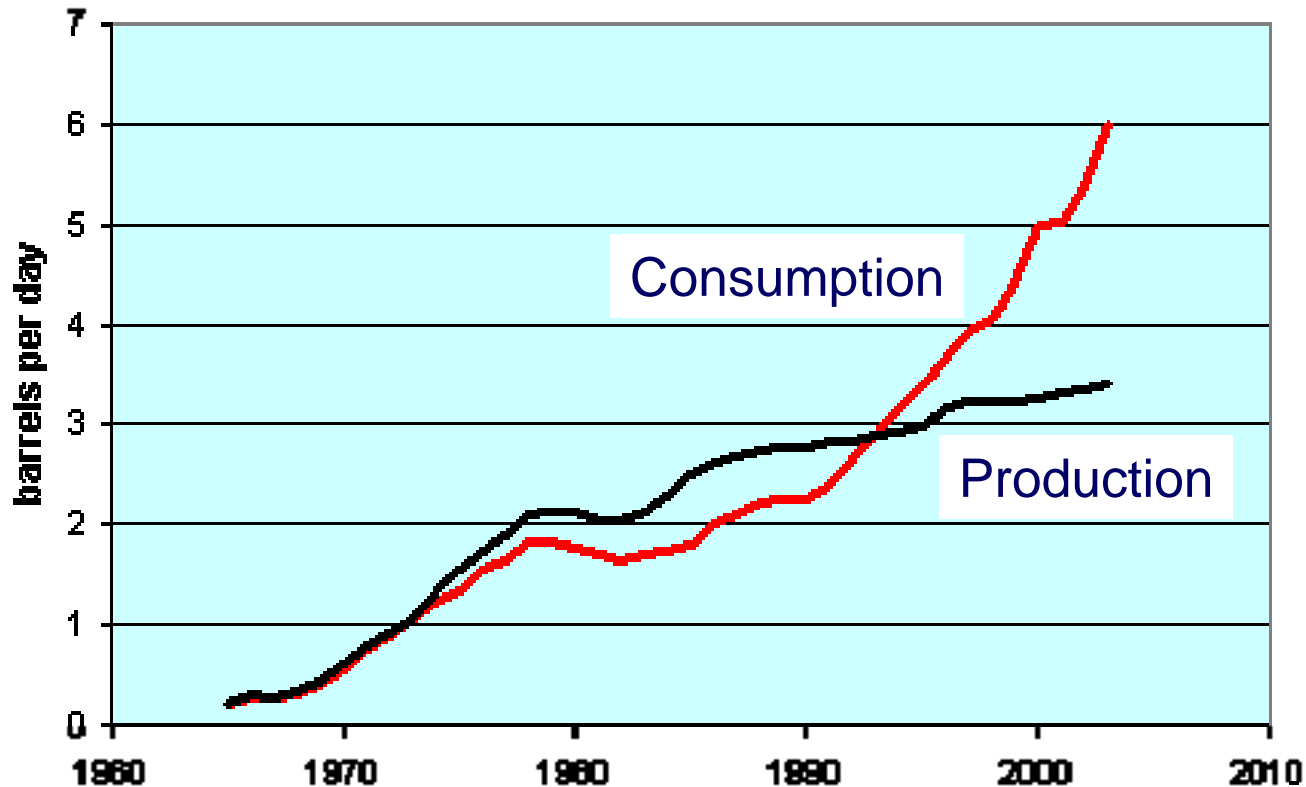
End of 2006



Trends Requiring Action

China Oil Consumption

China

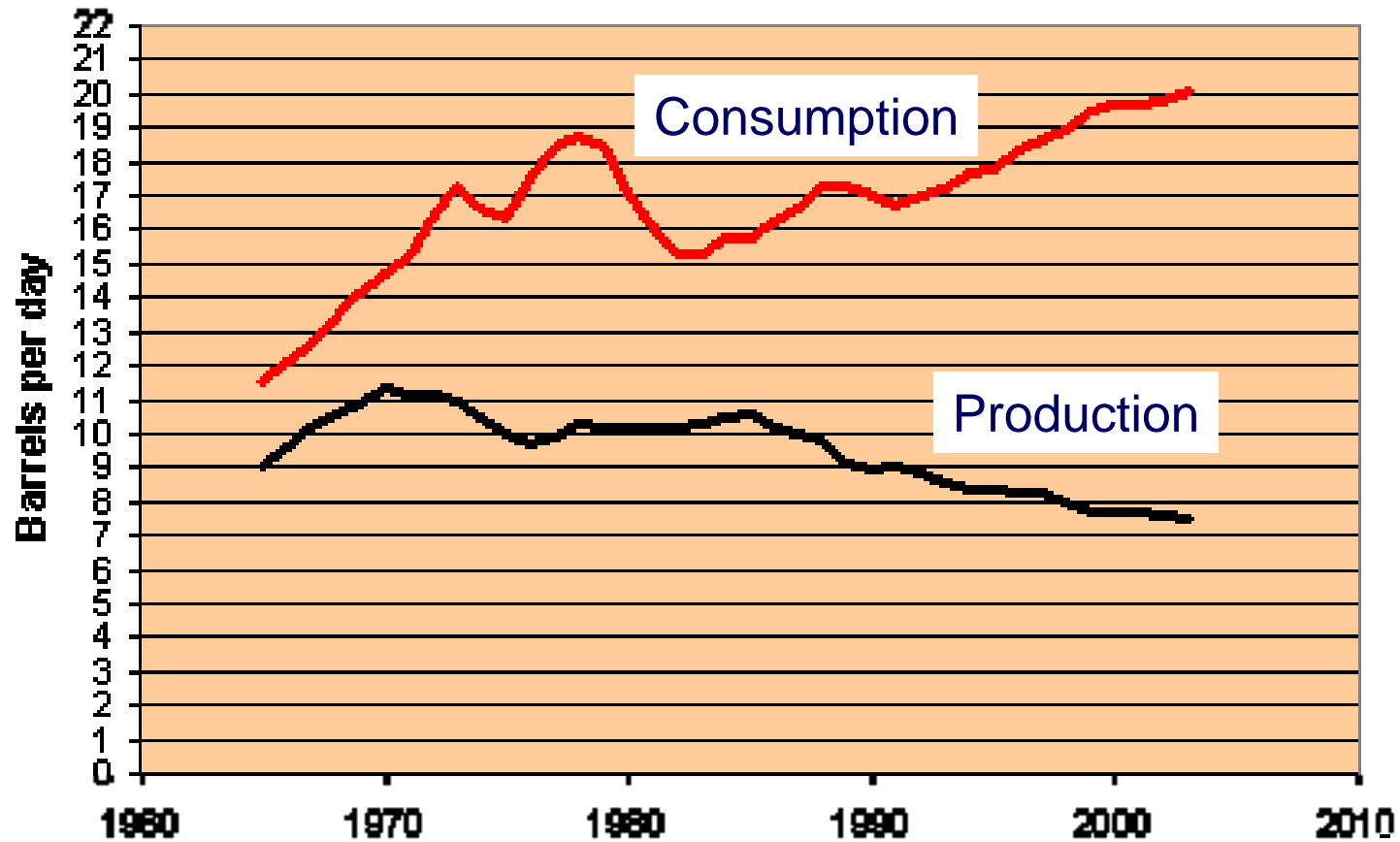


BP Statistical Review

USA Oil Consumption

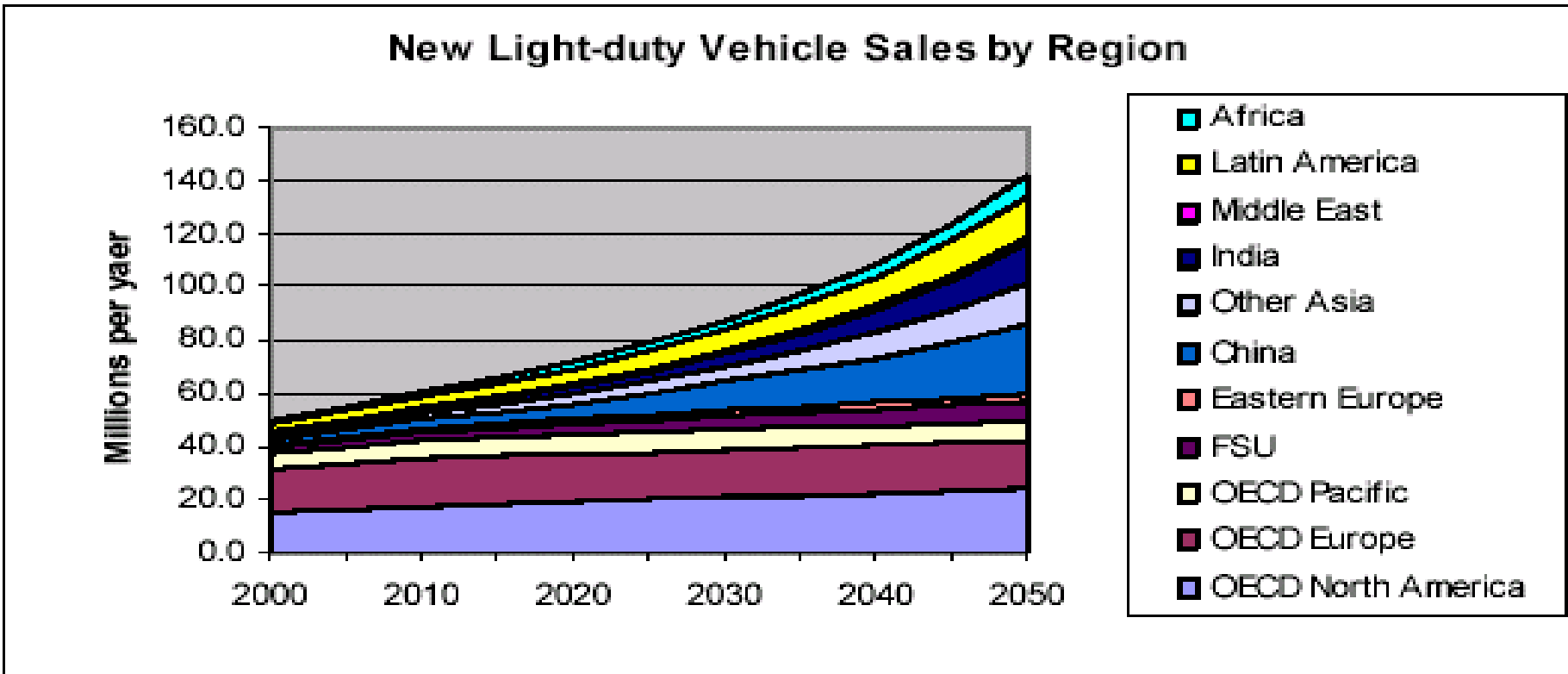


USA



BP Statistical Review

Growth Of Cars And Light Trucks



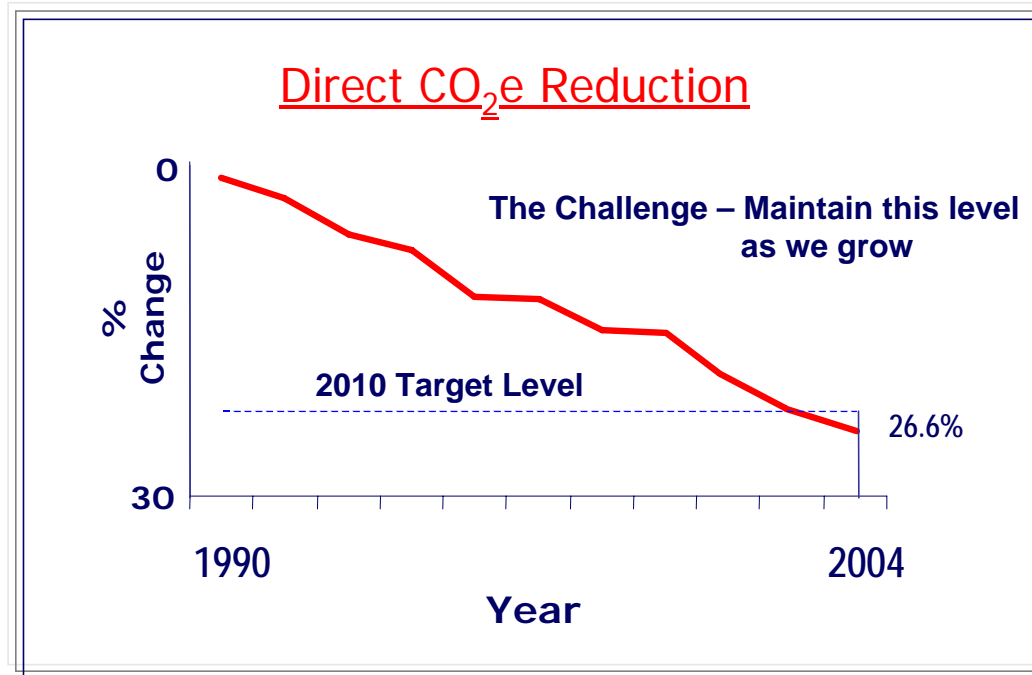
(International Energy Agency 2004)

- Alcoa has concluded that available evidence indicates Greenhouse Gas (GHG) emissions from human activities affect climate, making it an issue requiring action.
- Alcoa, a global company, is committed to playing its part in an efficient and cost effective global response in cooperation with national governments and relevant international agencies.

Commitments Areas Moving Forward



- Global warming
- Light-weighting vehicles
- Recycling
- Water
- Energy efficiency
- Become increasingly “part of the solution”.....



- Maintain 25% GHG reduction
- Education and advocacy
- Legislative / regulatory solutions

Automobiles: Emphasis On Lightweighting And Fuel Efficiency

Aluminum Benefits to Transport



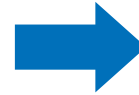
- **Lightweighting**
 - **Six to eight percent fuel savings can be realized for every 10 percent reduction in weight.**
 - **The typical aluminum part is 40 to 50 percent lighter than a comparable steel part.**



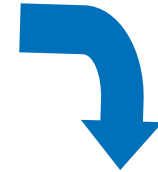
Aluminum Benefits to Transport



Reduced Mass



Better Fuel Economy



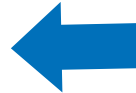
Improved Performance



Improved Safety



Less Emissions



Near 100% Recycle

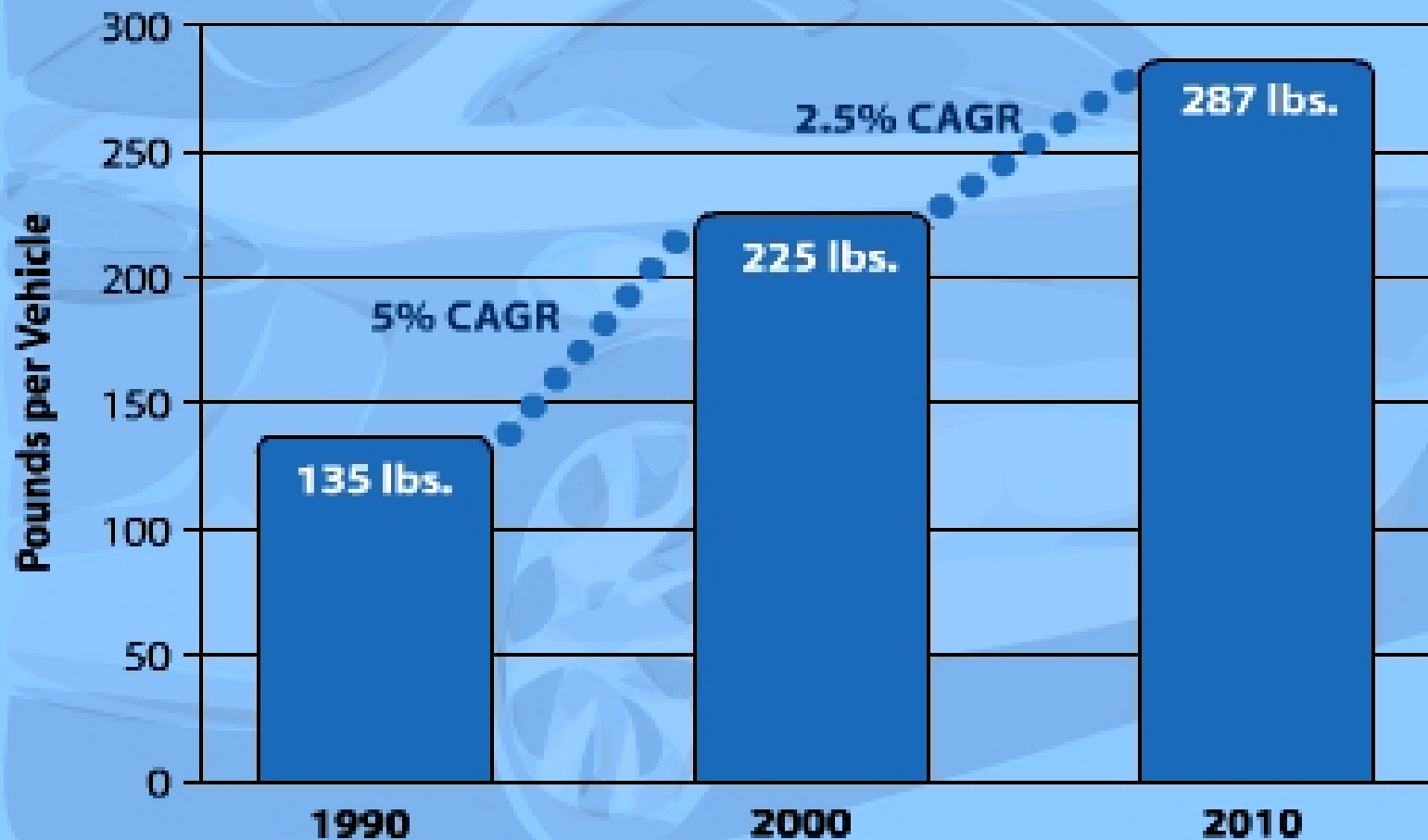


Steve Larkin – Aluminum Assoc.

Aluminum Content Growth



Weighted Average Light Vehicle Aluminum Content for North America, Europe & Japan



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

Source: Ducker Research Company, Inc.

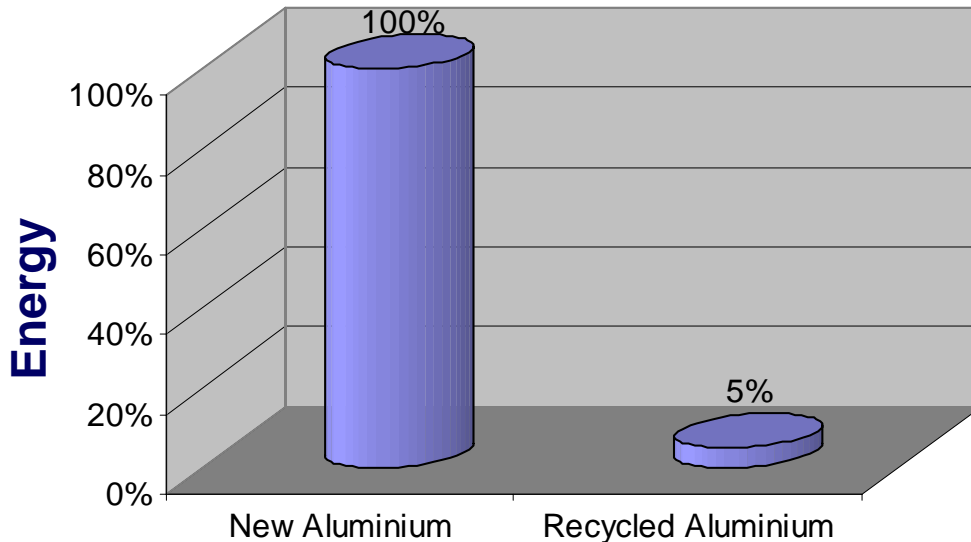
- We believe that expanded use of aluminum in automobiles and light trucks is good for the environment, energy independence, communities, and business
- We will work in the industry to promote advanced automotive design that leverages the environmental and other advantages of aluminum.

Recycling

Aluminum Recycling and Alcoa GHGs



Opportunity



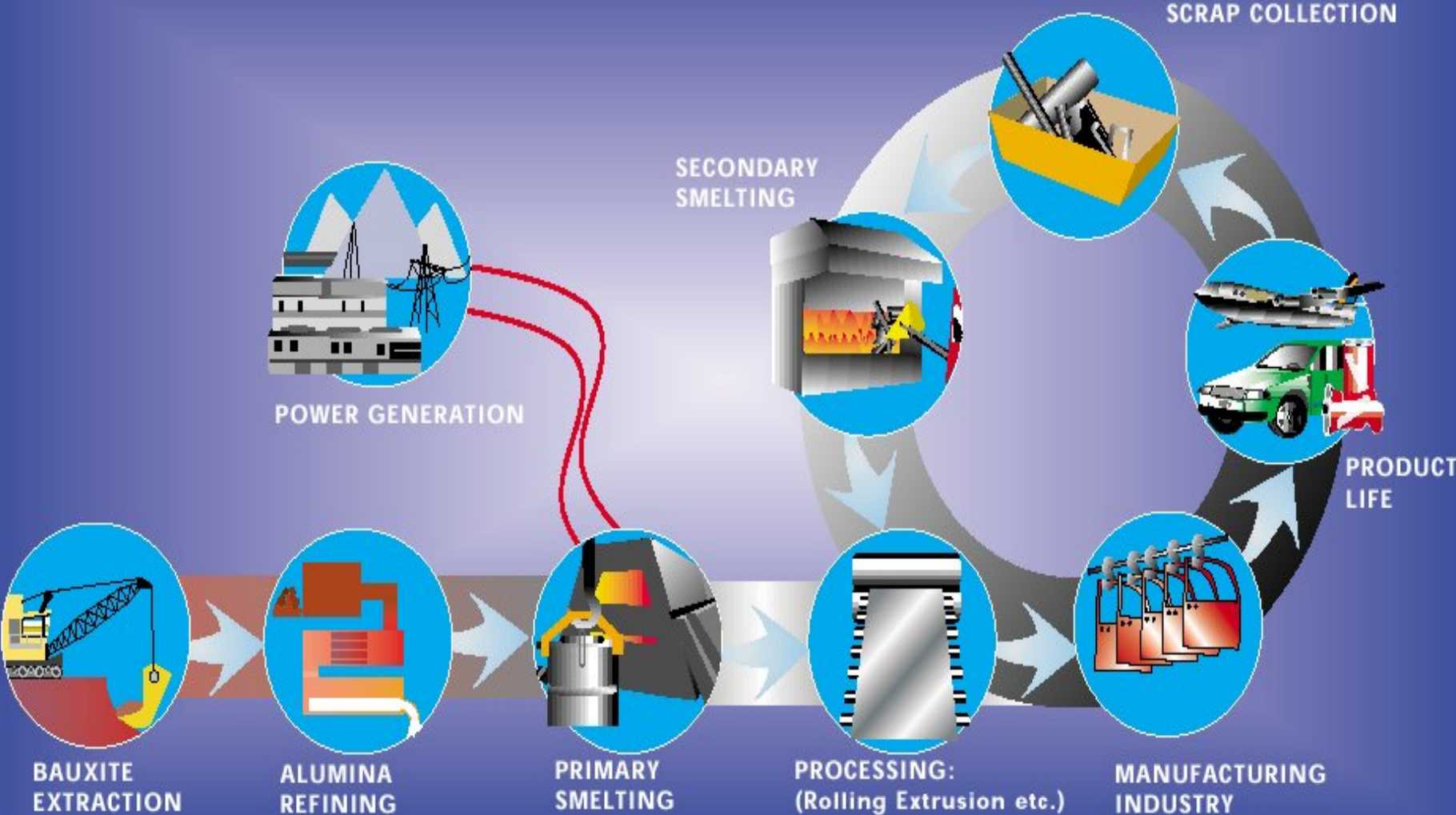
- Re-melting recycled metal consumes only 5% of the energy as primary production and is far less GHG intense (0.6 MT CO₂ per MT of Al with negligible indirect emissions)
- Alcoa utilizes about 20% recycled metal for fabricated products

- Alcoa has committed to 50% of fabricated products from recycled metal by year 2020
- New technology in scrap melting efficiency
- New technology in separating aluminum foil from cardboard
- Expanding Alcoa's recycling capacity and flexibility

Aluminum Products



ALUMINIUM PRODUCTION AND LIFE CYCLE



Alcoa Recycling Commitments



- Expand our recycling capabilities
- Employee / community education
- Technology advancements in Brazil and Spain
- Industry leadership and collaboration

Water Reduction



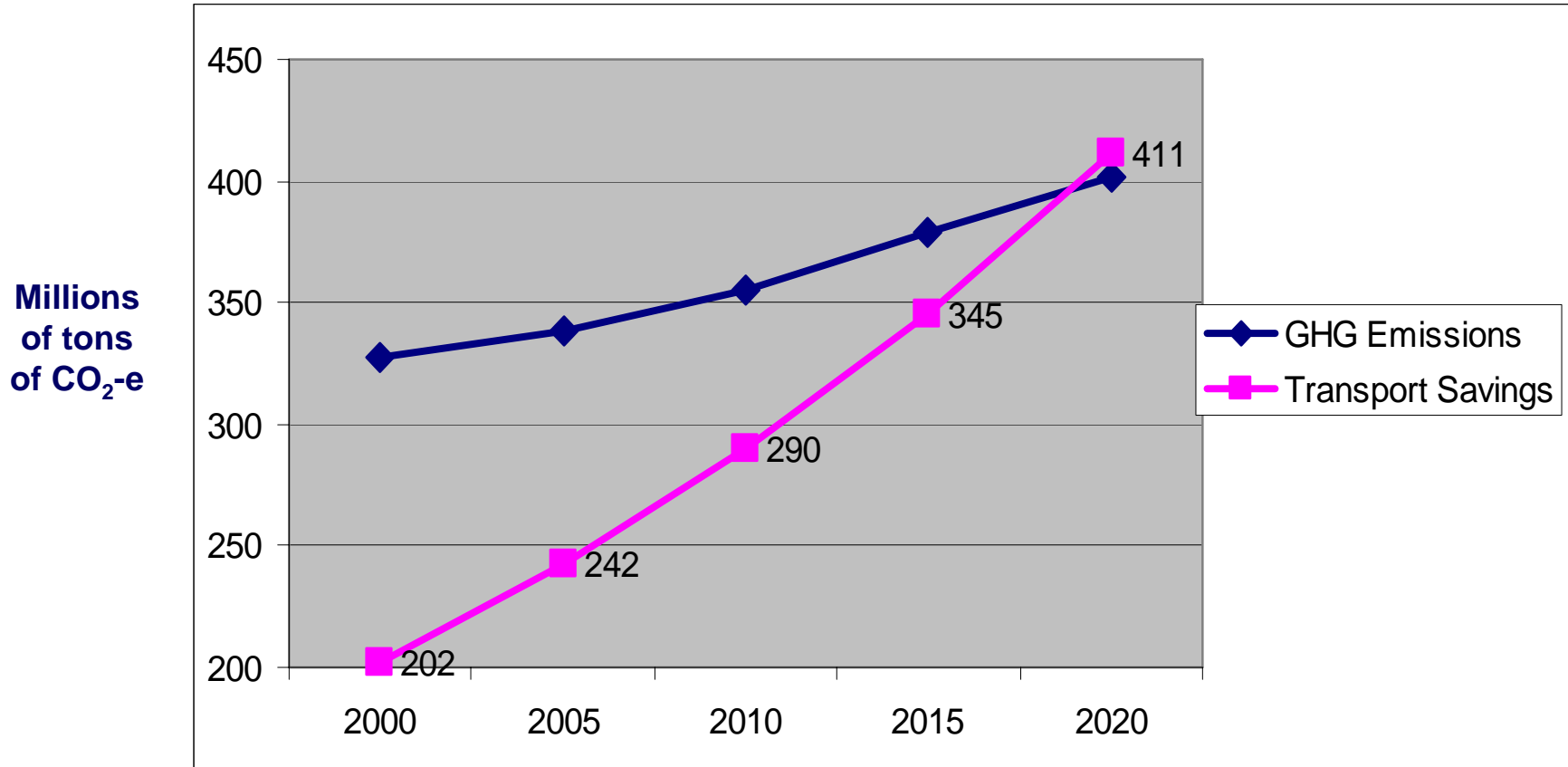
- Alcoa usage reduced 17%
- Committed to 60% reduction by 2008

- Founding member of Green Power Development Group
- Participated in U.S. largest Renewable Energy Certificate purchase
- More efficient hydropower



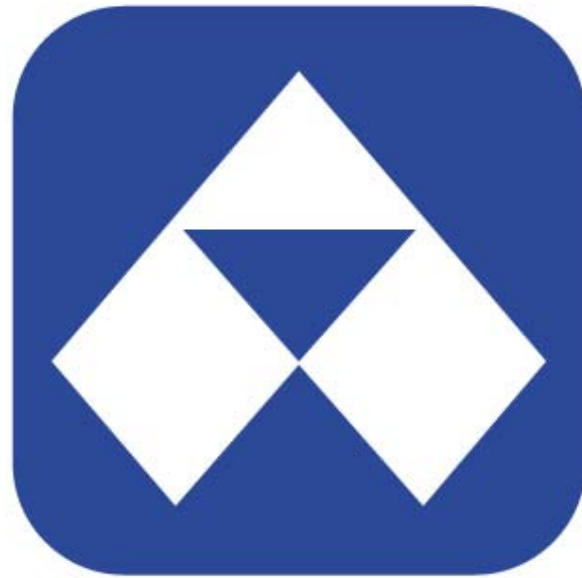
Climate Neutral

Aluminum Can Be GHG Neutral by 2017



Potential Emissions Savings From Transport Growing Faster Than Aluminum Production Emissions

- Embracing the challenge
- Transportation efficiency
- Recycling and waste stream reduction
- Energy efficiency
- Internal and external communication
- Being an ever-increasing “part of the solution”



ALCOA