

Alcoa Inc. – “Sustainability”



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Presentation Outline

- Alcoa Inc.
- Design and Rationale for Sustainability Initiatives
- Progress to Date
- Tools for Success
- Recognition/ Challenges Ahead



Alcoa at a glance

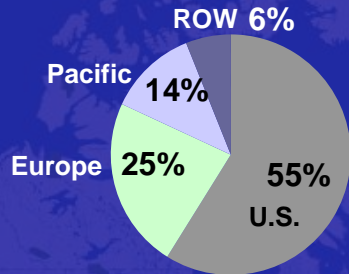
- Leading aluminum products company
 - Primary aluminum and alumina (Al_2O_3)
 - Flat-rolled aluminum and hard-alloy extrusions
- Active in all major segments of the industry:
 - Technology
 - Smelting
 - Mining
 - Fabricating
 - Refining
 - Recycling

Products serving the aerospace, automotive, commercial transportation, packaging, building and construction, and industrial markets.



Global organization

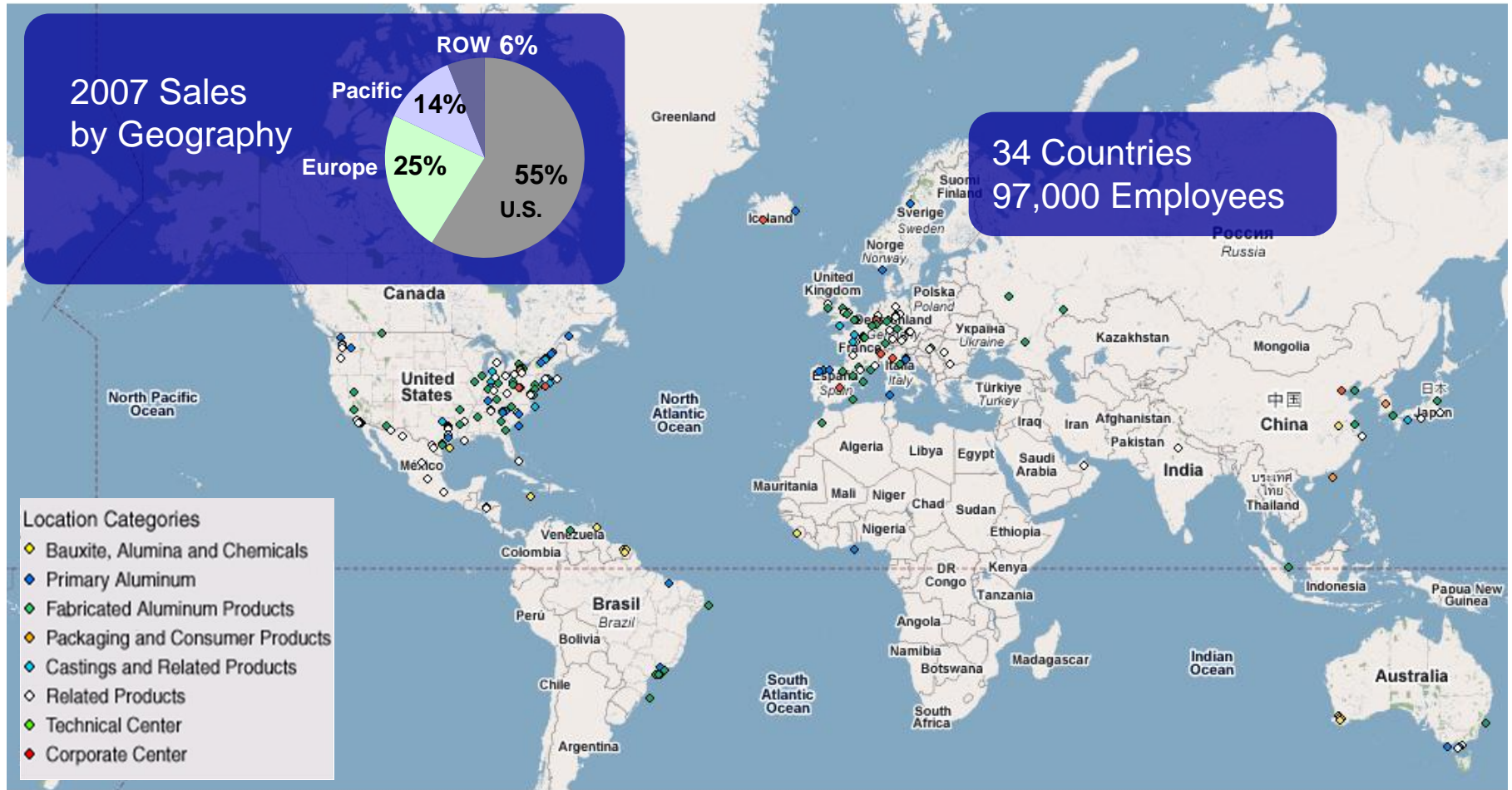
2007 Sales
by Geography



34 Countries
97,000 Employees

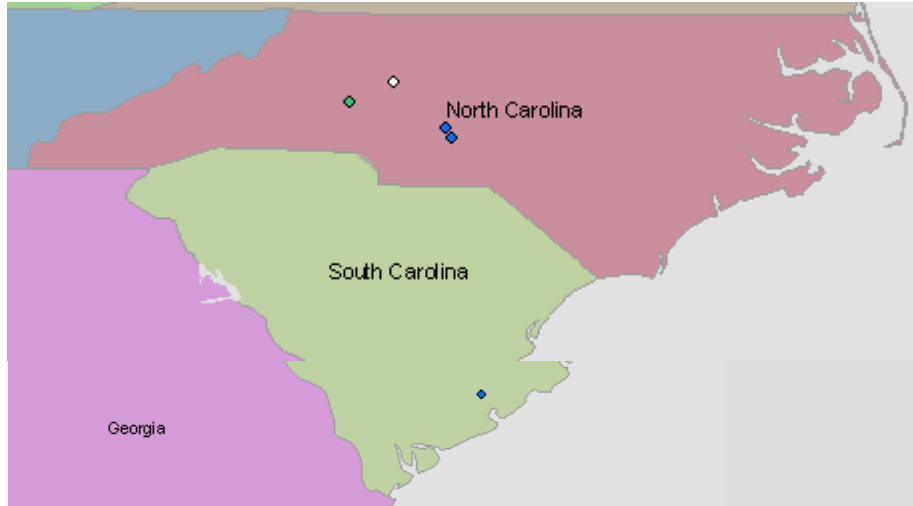
Location Categories

- ◆ Bauxite, Alumina and Chemicals
- ◆ Primary Aluminum
- ◆ Fabricated Aluminum Products
- ◆ Packaging and Consumer Products
- ◆ Castings and Related Products
- ◇ Related Products
- ◆ Technical Center
- ◆ Corporate Center

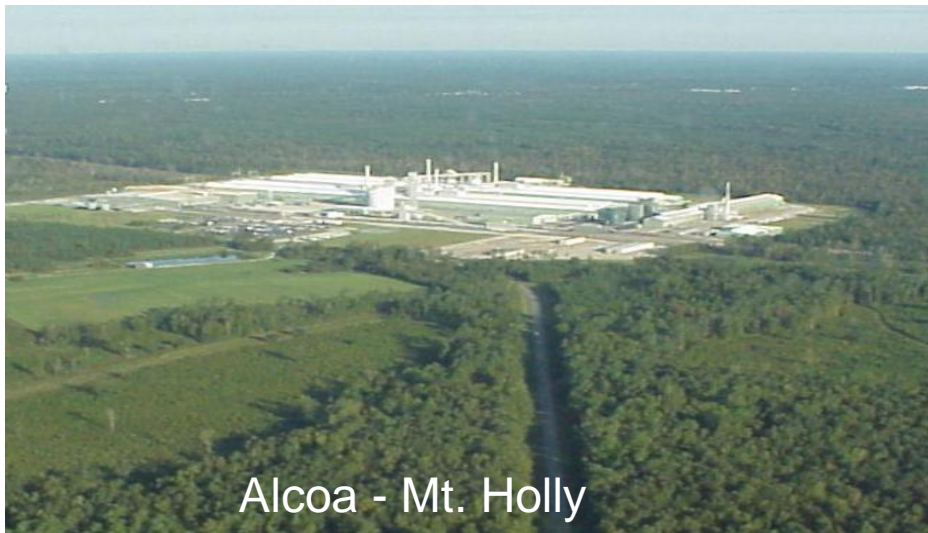




Alcoa in the Carolinas



Badin Works



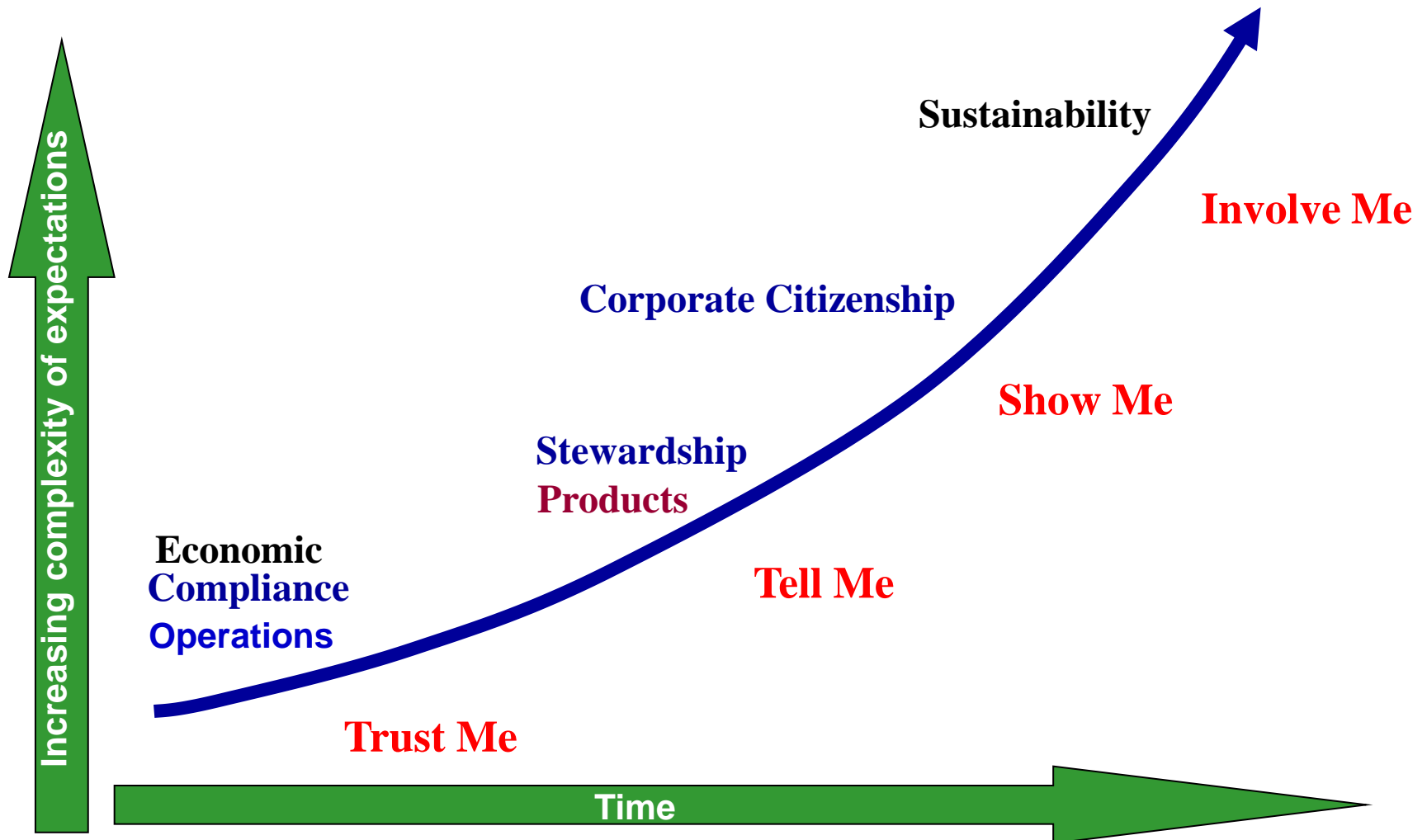
Alcoa - Mt. Holly



APGI - Yadkin



Changing Stakeholder Expectations





Sustainability Initiative - Process

- Current Condition
 - Who we are
 - Metals producer
 - Values driven company
 - Where we were at
 - Compliance focus
 - Voluntary partnerships
- Future State
 - Beyond moving target of compliance
 - Credible with external stakeholders
 - Full Integration into Business Planning
 - Participate in global commodities boom





Sustainability Initiative - Process

- Why Sustainability ?

Business Case

- Commodities Boom
- Need for access to
 - Land
 - Resources
 - Markets
 - Capital
 - People

- Enablers

- Cross Functional, cross business team
- Management Buy-in
- Stakeholder Engagement
- Metrics
- Global Data Systems



Sustainability Framework



**Respect and Protect
People: Communities**



**Meet the needs of current
and future generations
through efficient resource use**



Economic Benefit



**Safe and Sustainable
Products**



**Accountability and
Governance**



**Respect and Protect
People: Employees**





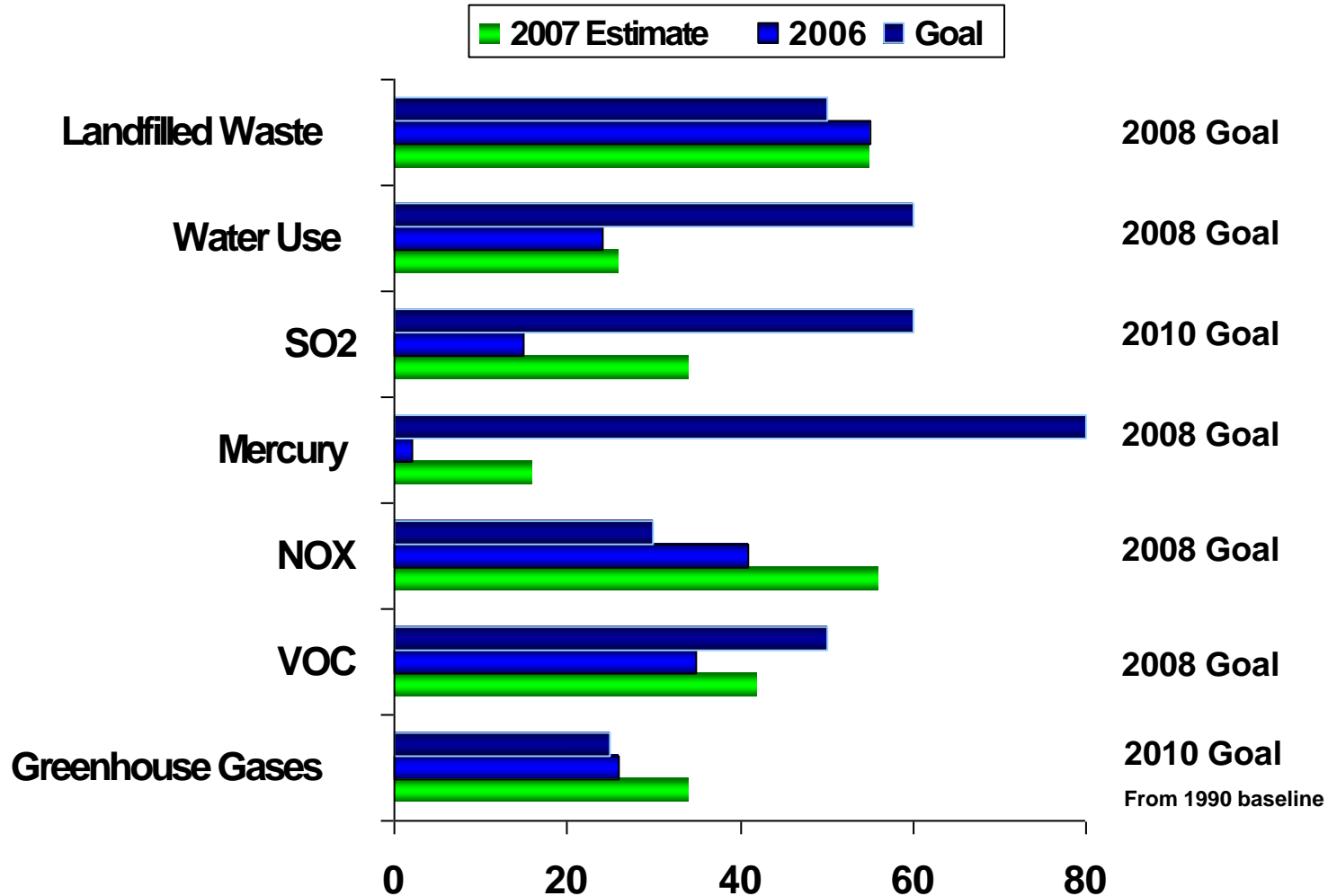
Ambitious Goals - Environmental

- From base year 2000:
 - 60% reduction sulfur dioxide by 2010
 - 50% reduction volatile organic compounds by 2008
 - 30% reduction nitrogen oxides by 2007
 - 80% reduction mercury emissions by 2008
 - 50% reduction landfill waste by 2007
 - Reduce energy intensity 10% by 2010
 - 60% reduction in process water use and discharge by 2009
- From base year 1990:
 - 25% reduction in greenhouse gas emissions by 2010.



Progress to Date

% Reduction from 2000 Baseline





More Sustainable Processes

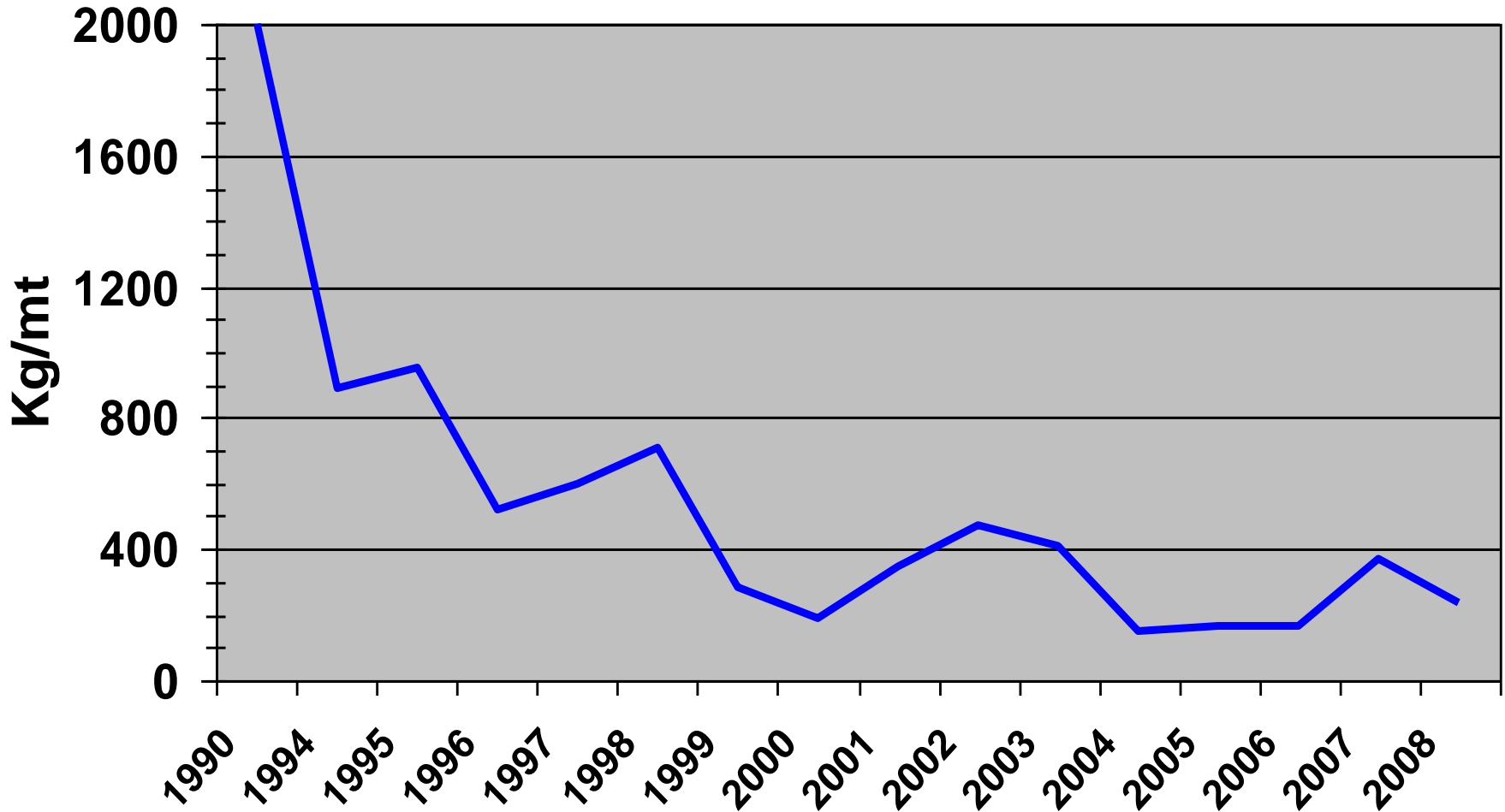
Emissions Management

- Operational excellence in aluminum smelting process
- Consistent, stable reaction
- 33% reduction in CO_{2e} emissions, since 1990
- Exceeded target 5 years ahead of schedule
- 75% reduction in PFC emissions since 1990
- Concurrent energy savings
- Best practices shared across the Alcoa system
 - Mount Holly, South Carolina





GHG Emission Reductions Mount Holly S.C. Smelter





More Sustainable Processes- Breakthrough Technologies

Carbon Free Smelting

- Possible next-generation process
- Replaces most CO₂ emissions with O₂ emissions
- Reduces operating costs
- Eliminates all sulfur and carbon emissions from anodes



CO₂ Neutralization and Sequestration of Bauxite Residue



More Sustainable Energy Quebec Hydropower

- Energy secured for three smelters through 2040
- \$1.2 billion upgrade/expansion for Baie-Comeau to 548,000 mtpy
- Reduce GHG emissions by 40%
- \$540 million added to the Quebec economy during the project
- Additional \$470 million/year long-term benefits
- \$1.8 billion in economic spin-offs





Sustainable Energy US Hydropower

Massena, New York

- 30-year NYPA agreement through 2043
- 10-year extension option
- \$600 million upgrade investment through 2012
- 70% emissions reduction
- 19,000 mtpy capacity increase to 274,000 mtpy

Wenatchee, Washington

- Sustainable power through 2028
- New third potline, add jobs
- 42,000 mtpy capacity increase





Sustainable Energy Regional Hydropower

- More than a century of hydropower expertise
 - new technology improving yield of existing projects – LIHI certification
 - Tapoco – the largest LIHI-certified hydropower project on the East Coast
 - Yadkin – currently going thru the relicensing process



Calderwood Dam, Tennessee



Tapoco, North Carolina



Sustainable Growth in Iceland

Alcoa Fjardaal

- 344,000 mtpy capacity
- Compliant with Iceland's stringent environmental requirements

North Iceland

- Possible second smelter site in Bakki
- Phase 2 feasibility study
- Geothermal power under consideration





Sustainable Growth – Iceland Deep Drilling Project

- Significant supply of sustainable geothermal energy
- Supercritical temperatures at 4-5 km depth (2x current geothermal well depth)
- Drilling begins 2008
- Pilot plant 2015
- 40-50 MW
- Alcoa partnering with 3 Icelandic power companies





More Sustainable Products

More Efficient Engines

GENX engine - 787



Kawneer - Efficient Aluminium-Glass-Facades



Solar Energy



Tenn UBC Remelting

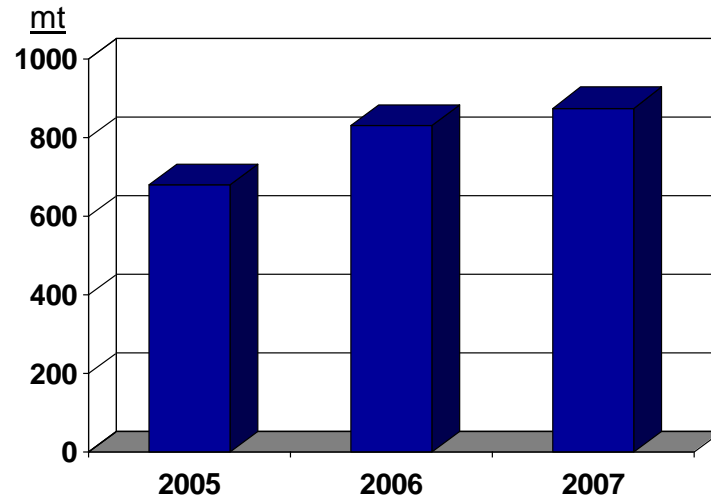


Improving the Sustainability of Transport





Energy conservation: recycling



Growth in recycled content -- 2005-2007

Currently Alcoa uses nearly 900,000 mt/year of recycled aluminum – nearly 25% of primary production



Grow US recycling to 75%

- Alcoa processed 14 *billion* cans in 2007
- 50% capacity expansion announced 12/07 at Tennessee
- \$22 million investment in new crusher and delacquering technology
- Expected completion 2009
- Alcoa goal: raise US recycling rate from 52% to 75% by 2015





Tools for Success

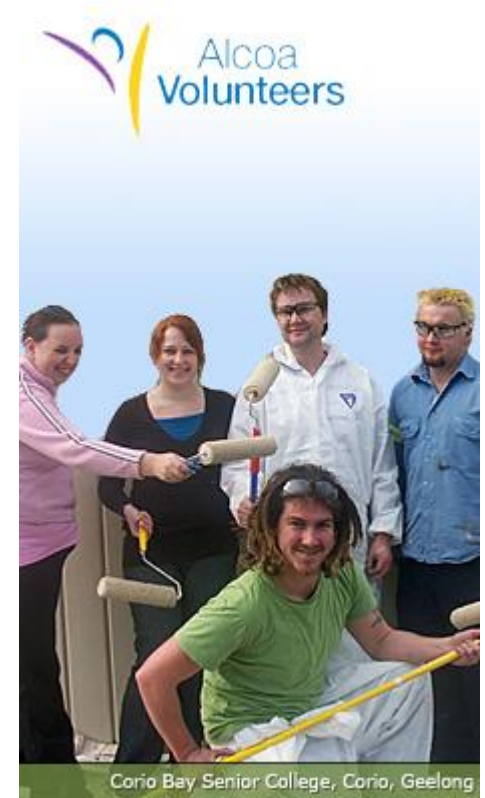
- Common EHS Management System
 - Compliance tracking
 - Strategic metrics
- Capital Review Process
 - Series of steps for major growth projects to assess baseline, potential impacts and community/ government acceptance
- Independent Biodiversity Rapid Assessment Program
 - Guinea
 - Ghana
 - Suriname



Stakeholder Engagements

Commitment to Communities - 2008

- Alcoa and Alcoa Foundation investments totaled \$49 million
- More than 634,000 volunteer work hours
- \$8.6 million six year investment in conservation & sustainability through Alcoa Foundation research fellowship program
 - Alcoa Foundation gave \$200,000 to SC Chapter of The Nature Conservancy for 2-year program on oyster bed restoration



Employee volunteers in Australia



United States Climate Action Partnership



- **Alcoa a founding member**
- **US Corporations and NGOs**
- **Slow, stop and reverse climate change**
- **A call for action to the US Government**
- **Founding principles**
 - Account for the global dimensions of climate change
 - Recognize the importance of technology
 - Be environmentally effective
 - Create economic opportunity and advantage
 - Be fair to sectors disproportionately impacted
 - Recognize and encourage early action
- **“I am convinced that we can build a global plan of action on climate change in ways that create more economic opportunities than risks.” (Alcoa CEO)**



Recognition

Sustainability

- One of the Global 100 Most Sustainable Corporations
- Most Sustainable Corporation / World Economic Forum in Davos
- Inclusion Dow Jones Sustainability Index



Climate Change

- Founding Reporter of the Climate Registry
- Top Green Company – BusinessWeek and the Climate Group
- Low Carbon Pioneer – CNBC European Business
- Carbon Disclosure Project Leadership Index (2008)





Challenges Ahead

- Long Term Growth in Aluminum Consumption is Expected to Nearly Double by 2020
- Competition for Resources
- Regulatory limits Getting Tighter Around the Globe
- Technical Complexities Associated with Some Environmental Issues
 - Despite a lot of improvements in efficiency and environmental impacts, there is no commercially viable alternative yet to the 100 year old process for making aluminum ...
 - but we're working on that!



End

Thank You