

# Alcoa China Sustainability Report

美铝中国可持续发展报告



# Jinya Chen President Alcoa Asia Pacific

Since Alcoa's entry into China in the 1980s, we have rapidly grown our operations and brought economic and social benefits to the communities in which we operate while steadfastly adhering to our values and the Alcoa 2020 Strategic Framework for Sustainability.

The global economic crisis resulted in the price of aluminum dropping drastically. Some of our core industrial and commercial markets in China cut back on their orders, bringing challenges that affected our global business performance and financial results in 2008. In response to the downturn, we took swift measures to ensure our liquidity and financial stability. These included reducing procurement costs, reducing capital expenditures, and calling upon our people to share their suggestions on cost saving, efficiency, communication improvement, and more.

Guiding our operations is our environmental, social, and economic performance—the triple bottom line of sustainability. Sustainable performance is a long-term investment, and we will work to minimize the impact of our operations on the environment; attract, develop, and retain the best people; strengthen ties with our community stakeholders; and grow profitably and safely.

The health and safety of our employees, contractors, and the communities in which we operate remains one of the most important aspects of our daily operations. We continue to rely on Alcoa's stringent health and safety standards as the building blocks for integrating the Alcoa culture into our new locations, while at the same time continually improving upon our performance at existing locations.

At our Bohai facility, for example, we have focused on engaging our employees to recognize and report potential health, safety, and environmental risks. In 2008, they identified 3,974 potential opportunities to improve health and safety, and more than 99% were rectified. We spent approximately RMB4,165,000 (US\$595,000) on incident prevention and employee health and safety related projects during the year.

We are taking steps to ensure we meet the environmental goals outlined in the Alcoa 2020 Strategic Framework for Sustainability. Leading our efforts are projects to reduce our coal consumption and emissions, minimize our dust emissions, improve our environmental, health and safety management system, and conduct compliance audits.

#### The following are a few of the environmental achievements in 2008:

At our Bohai facility, we invested RMB35,040,000 (US\$5 million) to switch the fuel for

four furnaces from diesel to natural gas. This improvement reduced nitrogen oxide emissions by 41% and sulfur dioxide emissions by 98%.

- Replacing the Bohai plant's coal-fired boilers with both modern gas-fired boilers for heating in winter and a solar heating system for employee showers in the summer reduced coal consumption by 3,072 metric tons, or 46%, in 2008. In addition, the plant achieved emission reductions of 54% for sulfur dioxide, 53% for nitrogen oxide, and 98% for dust.
- We initiated a RMB10 million (US\$1.4 million) project to switch from diesel to natural gas for four furnaces at Alcoa Shanghai Aluminum Products in Minhang. Once completed, the project is expected to save 1,035 tons of coal and more than RMB6 million (US\$857,143) annually.
- At the Kunshan facility, a newly implemented waste recycling program resulted in the reuse of 1,380 tons of cladding scrap for a savings of RMB1,380,300 (US\$197,186). In addition, a newly installed water treatment facility in the casting house achieved zero discharge of phosphorus wastewater. The location also implemented an energy saving program that reduced electricity costs for the hot mill furnace by more than RMB1.38 million (US\$197,143).

Another major environmental achievement in 2008 was contributing to China's commitment to a "green" Olympics by providing lightweight aluminum for transportation systems that were used during the games. Our aluminum composite material was also included on several new venues constructed especially for the event.

In the economic area, our investment in the Bohai plant is the largest foreign investment in the Chinese aluminum industry. The hot rolling mill's load test began in December 2008, and the entire expansion project initiated trial production in January 2009. This investment will enable China to produce the highest quality aluminum sheet, such as printing industry-use digital plate stocks, hard alloy transportation sheet, high surface-quality sheet for the electronics industry, and can body stock.

We worked closely with China Aviation Industry Corporation, providing several Alcoa-developed high-performance alloys and products produced from Alcoa operations worldwide for China's first regional jet, the ARJ21-700. We also joined with Aluminum Corporation of China (Chinalco) to acquire, through an investment in a special purpose vehicle, 12% of the UK common stock of Rio Tinto plc. In February 2009, Alcoa announced that it was exiting the special purpose vehicle formed with Chinalco to purchase the Rio Tinto plc shares.

During the year, we began building the infrastructure to facilitate the launch of a human resources transformation program to allow our HR professionals to focus more on business results instead of administrative work. We also continued our work in succession management planning, and we again provided scholarships to female science and engineering undergraduate students. In addition, we hired 29 university graduates as part of our commitment to, and strategy of, developing local talent.

In 2008, we continued to strengthen our ties with the community. Seven locations conducted community projects, and more than 290 employees volunteered during Alcoa's Worldwide Month of Service in October. We also organized a series of environmental protection campaigns in Qinhuangdao, Shanghai, and Kunshan. In addition, Alcoa Foundation and our employees donated more than RMB1,954,000 (US\$279,143) in disaster relief to areas hit by earthquakes and RMB1,750,000 (US\$250,000) to communities in south China affected by snow storms.

Inspired by the numerous honors Alcoa earned in 2008, including again being named one of the world's most sustainable corporations at the World Economic Forum, our operations in Qinhuangdao, Kunshan, Shanghai, and Hong Kong aim to reach a world-class level of sustainability. All received external recognition in 2008 for their practices and achievements in environment, health, and safety; employment relations; and business development.

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# **Forward-Looking Statements**

Certain statements in this report relate to future events and expectations and, as such, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include those containing such words as "anticipates," "believes," "estimates," "expects," "hopes," "targets," "should," "will," "will likely result," "forecast," "outlook," "projects," or similar expressions. All statements that reflect Alcoa's expectations, assumptions or projections about the future other than statements of historical fact are forward-looking statements, including, without limitation, forecasts concerning aluminum industry growth or other trend projections, anticipated financial results or operating performance, and statements about Alcoa's strategies, objectives, goals, targets, outlook, and business and financial prospects. Forward-looking statements are subject to a number of known and unknown risks, uncertainties, and other factors that may cause Alcoa's actual results to differ materially from those expressed or implied in the forward-looking statements. Alcoa disclaims any intention or obligation to update publicly any forward-looking statements, whether in response to new information, future events or otherwise, except as required by applicable law.

Some of the important factors that could cause actual results to differ materially from those in the forwardlooking statements include: uncertainties regarding the duration or severity of the current global economic downturn and their impact on Alcoa; material adverse changes in aluminum industry conditions generally. including global supply and demand conditions and fluctuations, including sustained declines or further deterioration, in London Metal Exchange-based prices for primary aluminum; material adverse changes in the markets served by Alcoa, including the transportation, building, construction, distribution, packaging, industrial gas turbine, and other markets; Alcoa's inability to achieve the level of cash conservation, cash generation, cost reductions, debt-to-capital ratio, return on capital or productivity improvements, or earnings or revenue growth anticipated by management; significant increases in power or energy costs (e.g., electricity, natural gas and fuel oil), or interruption or unavailability of energy supplies; significant increases in the costs of other raw materials, including carbon products, caustic soda and other key inputs, or significant lag effects for decreases in commodity- or LME-linked costs of production; continued volatility or deterioration in the financial markets, or the failure of financial institutions to fulfill their commitments to Alcoa under committed credit facilities; further downgrades in Alcoa's credit ratings, material increases in Alcoa's cost of borrowing or an inability to access the credit or capital markets; operating factors such as supply disruptions, labor disputes or failure of equipment or processes to meet specifications; Alcoa's inability to successfully implement its Brazilian growth projects or portfolio streamlining strategy, including divestitures of non-core businesses, as planned or to realize expected benefits; political and economic risks associated with foreign activities, including fluctuations in foreign currency exchange rates or changes in the laws or governmental regulations or policies in the countries in which Alcoa operates; significant legal proceedings or investigations, changes in law or other contingencies that cannot be predicted with certainty; adverse effects or uncertainties regarding the impacts of climate change, climate change regulations or greenhouse effects; significant costs and liabilities associated with numerous complex and increasingly stringent environmental laws and regulations; adverse changes in Alcoa's relationships with, or a significant downturn in the business or financial condition of, key customers or suppliers; and the other risk factors summarized in Alcoa's Annual Report on Form 10-K for the year ended December 31, 2008 and other SEC reports.

# **ALCOA IN CHINA**

Active in all major aspects of the aluminum industry, Alcoa is the world leader in the production and management of primary aluminum, fabricated aluminum, and alumina combined. More information about our global operations can be found at www.alcoa.com.

We first entered China through a technology relationship with China Non-ferrous Corporation (now Sino Metals) in the 1980s. In the following two decades, we opened sales offices and manufacturing facilities while also pursuing joint venture relationships.

We view and treat China with high priority, as the country represents a major growth opportunity for all major aluminum companies. In 2008, we reinforced our footprint in the country while also assisting Chinalco—a large-scale, state-owned aluminum enterprise in China—in its efforts to go global.

We are the largest multinational investor in the aluminum industry in China. It is through our commitment to China and the country's aluminum industry that we will continue our leadership position in this market. As a global leader within the aluminum industry and on the climate change issue, we will bring new world-class technologies, energy consumption practices, and environmental standards to the country.

At the end of 2008, we had 16 locations employing 1,880 people in China. Products produced include foil, sheet, fasteners, automotive components and construction products. One of our China Rolled Products manufacturing facilities—the Bohai plant in Qinhuangdao—is the largest foil producer and exporter in China.

We divested our closure systems locations in Tianjin and Hangzhou and food packaging sales office in Shanghai in early 2008 as part of Alcoa's sales of the packaging and consumer businesses to New Zealand's Rank Group. As planned, our warehousing service in Shanghai was closed in 2008, and our Architectural Products location in Suzhou is still in the process of deregistration.

Within our China operations, we steadfastly adhere to our values, principles, and human rights statements (all available on www.alcoa.com) while acknowledging the country's unique regulatory environment and social-economic circumstances. We are a member of the China Business Council for Sustainable Development (CBCSD) and the China Association of Enterprises with Foreign Investment (CAEFI).

# **Alcoa China Businesses**

Location	Name	Products
Beijing	Alcoa (China) Investment Company Limited	Regional Management and
		Resources
Beijing	Alcoa (Beijing) Trading Company Limited	Trading and Distribution
Beijing	Alcoa Asia Limited Beijing Representative Office	Sales Liaison
Guangzhou	Alcoa (Beijing) Trading Co., Ltd. Guangzhou Branch	Sales Liaison
Hong Kong	Alcoa International (Asia) Ltd.	Sales
Kunshan	Alcoa (Kunshan) Aluminum Products Co., Ltd.	Brazing Sheet
Qinhuangdao	Alcoa Bohai Aluminum Industries Company Limited	Sheet and Foil
Qinhuangdao	Alcoa (China) Investment Company Limited Qinhuangdao Branch	Shared Services
Shanghai	Alcoa (China) Investment Company Limited Shanghai Branch	Shared Services
Shanghai	Alcoa Asia Limited Shanghai Representative Office	Administration, Sales Liaison, and Sourcing
Shanghai	Alcoa (Shanghai) Aluminum Products Co., Ltd.	Foil Products
Shanghai*	Alcoa Electrical and Electronic Solutions (Shanghai) Co., Ltd.	Automotive Electrical and Electronic Solutions
Shanghai	Alcoa Fastening Systems (Shanghai) Co., Ltd.	Logistic Center, Marketing and Sales for Aerospace Fastening Systems
Shanghai	Alcoa (Beijing) Trading Co., Ltd. Shanghai Branch	China Flat Roll Products Sales
Suzhou	Alcoa Fastening Systems (Suzhou) Co., Ltd.	Commercial and Aircrafts Fastening systems
Suzhou	Alcoa Architectural Products (Suzhou) Co., Ltd.	Pre-coated Aluminum Sheet for Architectural Application

<sup>\*</sup>This location was divested in June 2009



# SUSTAINABILITY & ALCOA

At Alcoa, sustainability is defined as using our values to build financial success, environmental excellence, and social responsibility through partnerships in order to deliver net long-term benefits to our shareowners, employees, customers, suppliers, and the communities in which we operate.

Our commitment to sustainability has a long history and is evident every day—from the way we live our values to our strategic framework for sustainability supported by clear targets for measuring progress toward achievement of our vision for 2020.

Developed in 2000 by an internal worldwide team that analyzed environmental and social trends since 1990 and looked 20 years into the future, Alcoa's 2020 Strategic Framework for Sustainability has since evolved into a comprehensive roadmap for our businesses and locations to integrate all aspects of sustainability into their day-to-day operations.

#### The framework is built around six focus areas:

- Economic benefit;
- Respect and protect people: employees;
- Respect and protect people: communities;
- Safe and sustainable products and processes;
- Meet the needs of current and future generations through efficient resource use; and
- Accountability and governance.

Included are long-term targets and short- and long-term metrics for each focus area that were agreed upon with the business leaders and technical experts throughout the company. These targets are very aggressive and are designed to stretch the organization to think differently to drive optimum performance, as opposed to conservative objectives that we would be fairly certain we would meet.

On a global basis, we have met or exceeded several of these very aggressive targets, but we have also fallen, or will fall, short of some of the targets, especially those regarding resource efficiency. Where we have or expect to fall short of our goals, we are revising our strategy and/or modifying the goals or timeline to achieve them in light of technical challenges and the current economic conditions that will limit funds for research and development.



The 2020 framework and enhancements to our data-collection systems allow us to focus employee attention on sustainability, make everyone aware of the importance of the issues, and demonstrate management commitment to getting the job done right. It also helps employees do the right things by clearly stating what these "things" are and how best to go about doing them.

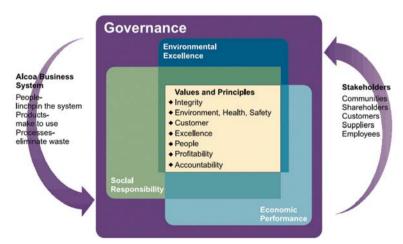
For a complete listing of the goals, indicators, and targets, visit the Sustainability section on our website at (www.alcoa.com).

# Sustainability in China

In China, we use the corporate sustainability goal and framework, together with our values, as our guiding principles. We demonstrate Alcoa's leadership in sustainability through various initiatives and partnerships that are discussed throughout this report. In addition, we are a member of the China Business Council for Sustainable Development and the China Association of Enterprises with Foreign Investment.

Key issues that we are facing on our sustainability journey in China include complying with corporate and local environment, health, and safety standards to achieve zero non-compliance; educating our employees on our sustainability goals and instilling the discipline necessary to achieve them; and implementing the Alcoa Community Framework in our communities.

# Alcoa Business Sustainability Model



# **ENVIRONMENT**

Operating in a manner that protects and promotes the health and well-being of the environment is one of Alcoa's most important core values. As such, we are in pursuit of environmental excellence in the operation of our production facilities in China.

Our overall strategy of pursuing maximum efficiency and minimum environmental impact is core to the Alcoa Business System (ABS) objectives:

- All wastes are eliminated;
- Environmental care is integrated into business plans; and
- Improvement goals are established, and progress is monitored.

Our first priority at our operating locations is to ensure that the facility is in compliance with all applicable laws, regulations, and permits. We continue to conduct thorough compliance audits at our existing locations, employing the services of independent local experts to conduct these audits and assist in the development of timely corrective action plans, including liaison with relevant authorities as appropriate.

A key strategy for the achievement of sound environmental performance continues to be the implementation of the Alcoa environment, health, and safety (EHS) management system at each location. This system is consistent with ISO 14001 and ensures that environmental issues are managed in a comprehensive, systematic, and accountable manner. Existing locations are regularly audited against these requirements, and newly acquired locations undergo a gap analysis in the first six months of operations to identify deficiencies and establish corrective action plans and priorities.

Other components of our EHS strategy include the following:

- Training of our EHS professionals on Alcoa standards and processes.
- Continuous improvement of the EHS process that:
  - o Is led by the EHS professionals;
  - Uses a modeling and coaching approach to rapid-start new locations;
  - Has frontline management owning and deploying the EHS processes;
  - o Engages employees;
  - Standardizes communication, training, and documentation; and
  - Uses a self-assessment process.
- EHS management systems that include a professional and comprehensive EHS program, hundreds of global EHS standards, and synergistic improvement.

Helping guide our locations in their environmental efforts are the following global reduction targets from Alcoa's 2020 Strategic Framework for Sustainability.

# From base year 1990

- Greenhouse gas emissions
  - o 25% reduction by 2010
  - Assuming success with inert anode technology, 50% by 2010

# From base year 2000

- Energy intensity
  - o 10% by 2010
- Process water
  - o 60% by 2009
  - o 70% by 2010
- Landfill waste
  - o 50% by 2007
  - o 75% by 2010
  - o 100% by 2015
- Sulfur dioxide (SO2) emissions
  - o 60% by 2010
- Volatile organic compounds (VOCs) emissions
  - o 50% by 2008
  - o 60% by 2010
- Nitrogen oxides (NOx) emissions
  - o 30% by 2007
  - o 50% by 2010
  - o 85% by 2015

Our environmental efforts earned external recognition in 2008. Alcoa Kunshan received the Environmental Protection Excellence award from the Kunshan municipal government. Our Bohai plant received the 2007 Green Project Excellence award from the Qinhuangdao Haigang District government, while Alcoa Shanghai Aluminum Products in Minhang earned the Emission Reduction Excellence award from the Minhang Environmental Protection Bureau.

# **Environmental Incidents**

The reporting and investigation of environmental incidents are important components of our continuous improvement strategy. The Alcoa environmental incident management system requires the reporting and investigation of all incidents in the following categories:

- Non-compliance with laws or regulations;
- Non-compliance with Alcoa standards;
- Spills greater than 20 liters (outside a designed containment area);
- Complaints;
- Flora or fauna damage;
- Transport incidents; and
- Other incidents.

Our 2008 incident rate increased due to audits in our Kunshan plant and Alcoa Shanghai Aluminum Products in Minhang that were initiated by Alcoa and conducted by an external auditor. These audits uncovered 10 non-compliance and five potential non-compliance items. By the end of 2008, the plants had rectified 11 items.

We will continue to implement environmental management practices and establish the Alcoa environmental management system at all of our locations to help achieve Alcoa's global goal of zero non-compliance incidents. In 2008, our Alcoa Electrical and Electronic Solutions Shanghai plant met this goal. The location also achieved ISO14001 recertification and consolidated its ISO environmental system with the Alcoa environmental system during the year.

#### **Environmental Incident Rate**

	Excluding New Locations	Including New Locations
2000	1.5	
2003	10.0	
2004	3.0	
2005	5.3	7.2
2006	2.3	6.7
2007	1.0	1.2
2008	3.4	Not applicable

The environmental incident rate is the total number of reported incidents divided by the number of reporting Alcoa locations. The rate includes all categories of incidents reported into the Alcoa Environmental Incident Management System. There were no newly acquired locations in 2008.

# **Energy**

Our overall energy consumption decreased in 2008, but our energy intensity increased due to the sale of two closure system facilities that consumed significantly less energy than our rolled products operations.

We have an aggressive effort in place to reduce energy consumption in our operations. Our Bohai plant, for example, initiated cleaner production and an energy savings audit to reduce both emissions and energy consumption. The plant switched from coal to natural gas for its boilers and from diesel to natural gas for four furnaces. As a result, overall energy consumption declined 30% in 2008 based on tons of equivalent coal.

Our Kunshan plant formed an electricity savings committee consisting of engineering and finance employees to introduce scientific management to the hot mill furnace and increase operator awareness of potential electricity savings in the furnace's daily operations, such as electricity rates being lower at night. Changes to the furnace's operation schedule saved RMB1.38 million (US\$197,143) in electricity costs in 2008.

Alcoa Shanghai Aluminum Products in Minhang implemented three major energy savings projects in 2008. An RMB10 million (US\$1.4 million) project to switch four furnaces from diesel to natural gas saved more than RMB6 million (US\$857,143) and 1,035 tons of equivalent coal annually. An air compressor renovation project saved 337 tons of equivalent coal and RMB550,000 (US\$78,571) annually, and a microcomputer electricity measurement and control management system saved 612 tons of equivalent coal and RMB1 million (US\$142,857).

In 2008, our Alcoa Electrical and Electronic Solutions plant in Shanghai implemented air conditioner temperature controls and office lighting control procedures. Additionally, the plant invested in new energy efficient soldering equipment for low-volume production.

# Energy Use Intensity

## Gigajoules per metric ton of product produced

	Excluding Newly Acquired Locations	Including Newly Acquired Locations
2000	22.0	
2003	20.0	
2004	19.1	
2005	20.0	
2006	20.1	28.0
2007	15.5	23.0
2008	25.3	Not applicable

There were no newly acquired locations in 2008. Changes from prior year were due to data corrections.

# **Energy Consumption**

# Gigajoules equivalent

	Excluding Newly Acquired Locations	Including Newly Acquired Locations
2000	518,279	
2003	588,602	
2004	627,222	
2005	710,808	
2006	753,234	2,022,492
2007	377,257	2,228,625
2008	2,058,114	Not applicable

There were no newly acquired locations in 2008. Changes from prior year were due to data corrections.

## Water

We continued to pursue the goals of reducing our water consumption, increasing water efficiency, and ensuring our water discharges met all government and Alcoa standards.

Our total water consumption declined from 570,778 kiloliters in 2007 to 491,562 kiloliters in 2008—a 14% reduction that was mainly due to a water-saving project at our Kunshan plant. However, we experienced an increase in water-consumption intensity in 2008 due to the sale of two closure system plants that used significantly less water than our rolled products operations.

Our Kunshan plant started up a newly installed water treatment facility in its casting house, helping the location achieve zero phosphorus wastewater discharge and conform to China's newly issued water discharge standard in Tai Lake Basin. This initiative resulted in a 2008 savings of 14,700 tons of water and RMB29,400 (US\$4,200).

# Water Consumption Intensity Kiloliters per metric ton of product produced

	Excluding Newly Acquired Locations	Including Newly Acquired Locations
2000	6.48	
2003	5.09	
2004	5.02	
2005	3.80	
2006	4.42	8.70
2007	4.92	5.56
2008	6.04	Not applicable

There were no newly acquired locations in 2008.

# Total Water Consumption

# Kiloliters

	Excluding Newly Acquired Locations	Including Newly Acquired Locations
2000	152,561	
2003	150,202	
2004	164,668	
2005	134,743	
2006	165,271	627,066
2007	528,437	570,778
2008	491,562	Not applicable

There were no newly acquired locations in 2008. Changes from prior year were due to data corrections.

# **Emissions**

Our total emissions decreased in 2008 due to key energy-saving and emission-reduction programs conducted at our locations.

Our Bohai plant's RMB35,040,000 (US\$5 million) investment to switch four furnaces from diesel to natural gas reduced the furnaces' nitrogen oxide emissions by 41% and sulfur dioxide emissions by 98%.

The replacement of the Bohai plant's coal-fired boilers with both modern gas-fired boilers for heating in winter and a solar heating system for employee showers in the summer reduced the emission of dust by 98%, nitrogen oxide by 53%, and sulfur dioxide by 54%.

Once completed, the project at Alcoa Shanghai Aluminum Products to switch four furnaces from diesel to natural gas is expected to reduce annual carbon dioxide emissions by 2,580 tons, or 5.6%. At the end of 2008, the plant already had achieved emission reductions of 3.7% for carbon dioxide, 6.3% for sulfur dioxide, and 5.9% for nitrogen oxides.

#### Air Emissions

#### Metric tons

	Direct CO2	SO2	NOx	VOCs
2000	9,974	32.0	7.7	647.0
2003	10,365	33.7	8.1	555.4
2004	8,804	30.5	7.3	701.4
2005	9,407	32.8	7.9	857.1
2006	9,834	32.1	7.8	726.7
2007	38,696	92.6	236.3	1,662.2
2006 (including new locations)	48,165	116.2	104.1	1,246.7
2007 (including new locations)	60,312	94.8	240.3	1,666.2
2008	28,720	45.0	41.0	1,310.7

# Air Emissions Intensity

# Kilograms per metric ton of product produced

	Direct CO2	SO2	NOx	VOCs
2000	423.6	1.36	0.33	27.5
2003	351.6	1.14	0.27	18.8
2004	268.4	0.93	0.22	21.4
2005	265.1	0.92	0.22	24.2
2006	263.0	0.86	0.21	19.4
2007	203.6	0.51	0.39	9.3
2006 (including new locations)	667.9	1.61	1.44	17.3
2007 (including new locations)	577.0	0.45	0.40	7.8
2008	353.2	0.55	0.50	16.1

Increase in the SO<sub>2</sub>, NOx, and VOC intensity in 2008 was due to the sale of two closure system plants that had significantly less emissions than our rolled products operations.

# Waste

Reduction of waste generated in our production processes is an important objective to conserve resources and reduce costs, and each of our locations has waste reduction strategies integrated into their business plans.

The aluminum alloy casting process, like that used at our Kunshan plant, produces significant amounts of scrap. In the past, we sold this scrap to waste recycling companies. Through continuous experiments, our Kunshan plant successfully implemented a waste recycling program to reuse 1,380 tons of cladding scrap in 2008—equal to RMB1.38 million (US\$197,143)—without compromising product quality. This helped us achieve a slight decline in our total solid waste generated in 2008.

#### Solid Waste

	Total Solid Waste Generated Metric tons	Solid Waste Generated Intensity Kilograms per metric ton of product produced
2000	1,460	62.0
2003	2,044	69.3
2004	2,168	66.1
2005	2,239	63.1
2006	2,934	78.5
2007	6,680	58.0
2006 (including new locations)	7,506	104.1
2007 (including new locations)	12,761	79.2
2008	12,608	155.0

Increase in the intensity of solid waste generated in 2008 primarily was due to the 2007 collection of scrap aluminum at the Kunshan plant that was sold, and therefore reported, in 2008.

# Landfilled Waste

	Total Landfilled Waste Metric tons	Landfilled Waste Intensity Kilograms per metric ton of product produced
2000	600	25.5
2003	450	15.3
2004	391	11.9
2005	307	8.7
2006	516	13.8
2007	782	12.0
2006 (including new locations)	847	11.7
2007 (including new locations)	928	9.3
2008	933	11.5

Increase between 2007 and 2008 was due to waste from the hot mill expansion project at the Bohai plant.

# Alcoa Kunshan Sponsors Community Environmental Knowledge Competition

As part of its ongoing effort to raise community awareness of environmental protection, Alcoa Kunshan sponsored and organized the month-long Alcoa Cup Environmental Knowledge Competition in September 2008.

Aimed at fostering the green Olympics concept and promoting energy savings and emission reductions, the competition was co-organized by the Kunshan Environmental Protection Bureau and the Huaqiao Economic Development Zone Management Committee.

For the competition, Alcoa employees and community members had the opportunity to complete an environmental questionnaire that was published by the local newspaper. Topics included water resources, energy efficiency, biodiversity protection, national environmental laws and regulations, and energy and natural resource habits at home and in the workplace.

Approximately 500 people entered the competition, with 135 receiving gifts that ranged from RMB1,000 (US\$143) to RMB30 (US\$4) based on the percentage of questions answered correctly.

"This competition once again proved our determination to implement sustainable development in the community where we operate," said Gao Min, general manager of Alcoa Kunshan. "It provided an easy and broad platform for local people to get access to environmental knowledge and raise their awareness on protecting the environment."

Beyond the competition, Alcoa Kunshan continued its efforts to educate primary and middle school students on environmental protection. For the 2008 National Science Popularization Day, Li Xin, environment engineer for Alcoa Kunshan, gave a speech on China's resources and environment to nearly 100 local students. He also shared energy saving tips and distributed related books with the assistance of other Alcoa volunteers.

Kunshan also responded to the local government's call for clean manufacturing and material recycling, earning an RMB150,000 (US\$21,429) reward from the government.



# **HEALTH & SAFETY**

At Alcoa, we believe that successful safety systems are built on a foundation of values and principles, with the cornerstones being anchored in place by people, trust, and production-system stability. Zero work-related injuries and illnesses has been our long-standing goal, and we believe production without injury or illness is achievable.

Because we value human life above all else, we manage risk accordingly through a focused fatality prevention effort that seeks to build a safety culture that reinforces no business objective or customer requirement is more important than the well-being of our employees.

No employee or contractor fatalities occurred at Alcoa locations in China during 2008. In addition, our Bohai hot rolling mill construction project achieved more than 4 million hours without experiencing a recordable incident.

Overall, the lost workday and total recordable rates in our China operations decreased in 2008 due to the deployment of a comprehensive health and safety awareness and training campaign. In addition, the Bohai plant launched a hand injury prevention campaign that included a video, the identification of hand injury hazards, and 957 suggestions raised by employees, with 76% being implemented. The number of hand injuries at Bohai decreased by 53% compared to 2007, with the recordable hand injury cases decreasing 56%.

To achieve zero illnesses and injuries in China, we must focus our improvement efforts on the following:

- Continue to implement the fatality prevention program to identify and mitigate fatality risks in a timely manner;
- Prevent mobile equipment and employee interface through physical barriers and enforcement of the one-meter rule, which prohibits a person from coming within one meter of a piece of mobile equipment unless eye contact is made with the operator and the operator confirms that the individual is within one meter of the equipment;
- Reinforce energy isolation and tagging;
- Improve and maintain the existing fall prevention and protection system;
- Comply with the existing confined space entry procedures;
- Strictly enforce the contractor management program;
- Implement the similar exposure group tracking system to bring occupational illness risk factors under control; and
- Continue to train, reinforce, and test employees on health and safety issues.

There was a wide variety of other actions conducted within our plants during 2008 beyond the previously mentioned focus on engaging our employees at the Bohai facility to recognize and report potential health, safety, and environmental risks.

At our Kunshan facility, we established a health and safety management framework and database, provided training, improved personal protective equipment, and continued to improve the plant by investing RMB616,000 (US\$88,000) on eight engineering projects to address identified ergonomic risks. These projects included setting

up a new rewinding machine to eliminate the manual removal of cold rolling scrap strips, installing transformer inspection platforms, and converting a manual coil car to an electrical one.

To help prevent heat stress, Alcoa Shanghai Aluminum Products in Minhang purchased three air conditioners, additional fans, and an air-conditioned forklift. The location also converted the annealing furnace railcar into an air-conditioned room.

Our efforts at creating a safe and supportive work environment have been widely recognized across China and within Alcoa. In 2008, our Kunshan plant passed an internal EHS audit with an "excellent" grade. Three plants—Alcoa Shanghai Aluminum Products in Minhang, Bohai, and Kunshan—earned the AnKang Cup award for safety, health, and labor relations from their local governments. In addition, the Bohai plant's EHS management was recognized as a benchmark by other companies in the community, which sent their EHS personnel to visit the location.

We remain committed to complying with both Alcoa and local health and safety standards and regulations. We continue to educate our employees on our health and safety sustainability goals, including the importance of promoting and enabling health and safety initiatives that improve the communities where we operate. In 2008, for example, 18 volunteers from our Kunshan plant participated in four community health promotion events that were organized by the local Center for Disease Control and Prevention.

Internally, our current efforts continue to be focused on improving the environment, health, and safety (EHS) management system by using the Alcoa Self Assessment Tool as a daily work tool. This means that we are working to develop an EHS management system that is integrated into the daily work of the EHS professionals and the line personnel so they are managing all their EHS issues and risks as part of their daily jobs.

#### Lost Workday Rate

	Excluding Newly Acquired Locations	Including Newly Acquired Locations
2003	0.00	
2004	0.00	
2005	0.14	
2006	0.15	0.35
2007	0.32	0.26
2008	0.23	Not applicable

Lost workday rate represents the number of injuries and illnesses resulting in one or more days away from work with or without days of job transfer or restrictions per 200,000 work hours (equals approximately 100 full-time workers). There were no newly acquired locations in 2008. Alcoa Bohai employees working on the Bohai expansion project have been included in the statistics.

#### Total Recordable Rate

	Excluding Newly Acquired Locations	Including Newly Acquired Locations
2003	0.99	
2004	0.67	
2005	1.41	
2006	0.60	0.91
2007	1.30	1.35
2008	0.79	Not applicable

Total recordable rate represents the number of injuries and illnesses resulting in days away from work, job transfer or restriction, medical treatment, or other recordables per 200,000 work hours (equals approximately 100 full-time workers). There were no newly acquired locations in 2008. Alcoa Bohai employees working on the Bohai expansion project have been included in the statistics.



# **OUR PEOPLE**

Our vision is to be the best company in the world—not only in the eyes of our customers, shareholders, and communities, but also our people. We provide an environment based on equality and safety that also embraces the engagement of, and contributions from, individuals and teams.

Our business development in China demands ever-increasing focus on our talent acquisition, development, and retention, as well as robust people systems.

Since 2006, with concerted effort from business leaders and human resources (HR) teams, we have built a capable recruitment team and have been providing efficient shared recruitment services for all business units present in China. Through expanding and diversifying recruiting channels, we have shortened the lead time of filling vacancies from an average of 115 days in 2006 to 83 days in 2008.

We continued the launch of our Campus Recruitment Program to develop local talent. By developing and strengthening recruiting partnerships with targeted universities, we have made a consistent effort to build a reputation among our target schools as a preferred employer for students.

Through career performance coaching and a specially-designed training program called New Graduate Orientation, we helped 29 new graduates find their niche within Alcoa in 2008. In addition, we also rewarded 63 female students from Central South University through the Alcoa Scholarship Program for Excellent Female Students in Science and Engineering. This program encourages female students to study science and engineering and achieve further accomplishments in those fields.

We have invested significant effort in building our people capabilities through coaching, mentoring programs, succession planning, on-the-job training, regional leadership training programs, monthly knowledge sharing programs, multi-skill training programs, cross-functional projects, and more. These initiatives have resulted in improved management effectiveness and a capable local workforce. For example, local leaders accounted for 73% of our leadership team in 2008 compared to 40% in 2006.

Alcoa has very diversified products and customers globally, and one of our talent strategies is to develop a diversified workforce to better serve our customers and local communities.

In China, we have focused on improving our gender representation and employee awareness of diversity. Initiatives aimed at the former include promotions, retention, and the implementation of a tracking process to determine the percentage of females hired. At the end of 2008, 25% of our leaders were female compared to 16% in 2007 and 16% throughout China in 2007 (most recent data available).

In 2008, promoting diversity became one of the key performance indicators in the calculation of our leadership's annual bonus. The 60-member Asian chapter of the Alcoa Women's Network (AWN) also continued to serve as the catalyst to accelerate the development of Alcoa female leaders in the region. Both of these efforts helped increase the percentage of female leaders.

Our effort to develop a human resources service delivery model continued in 2008. This model is designed for HR professionals to leverage HR enablers (process, organization, technology, and people) to reduce administrative work and focus on business strategies and results. Our goal is to transfer our current HR teams in China to one of three groups—Center of Excellence, Shared People Services, and Business-Based Human Resources. To achieve this, we must standardize processes and deploy systems.

We standardized eight core processes in 2008. We also completed phase 1 of our payroll outsourcing project, identifying a preferred vendor after a thorough selection process. We continued to implement our Oracle people system, having available assignment data for approximately 1,600 employees at the end of 2008. We plan to launch three additional modules via this system once the economic situation improves.

# **Engaging Our People**

We believe that engaging our employees at all levels is the key to the success of our businesses.

In 2008, we dramatically improved our communication channels, which now include monthly employee communication meetings, an intranet site, email bulletins, newsletters, and suggestion programs. This effort has resulted in transparent, frequent, and regular communication between the regional management and employees.

In the face of the current financial crisis, our employee suggestion systems at key locations became a valuable tool to help dramatically reduce costs and drive significant improvements. Our employees generated more than 270 suggestions in 2008, with most being implemented. This active involvement in improving our processes continues to demonstrate the strong sense of ownership among our employees.

We also measure employee engagement through Alcoa's annual employee survey—Global Voices, One Company. In 2008, the survey response rate for our employees in China reached a record high of 99.88%. Employee engagement also improved from 54% in 2007 to 63% in 2008, and eight additional dimensions were among the Alcoa best-in-class designation.

Our people drive our success, and their dedication and achievements deserve recognition. In 2008, 12 teams representing 75 employees were honored at Alcoa's Asia Impact Awards ceremony. In addition, 31 employees earned You Make A Difference awards for their outstanding contributions.



Alcoa Asia Impact Awards, an annual gala to recognize the employee teams in Asia

# **Creating a Fair and Safe Work Environment**

In 2008, we continued to build upon the October 2007 launch of our employee assistance program, which helps our employees better deal with family crises and stress and learn to balance their work and personal lives.

Through the program, we conducted several training sessions in 2008 that were designed to help employees release their stress. We also organized regular team sport activities and outdoor outings to provide opportunities for our employees to relax, network, and stay healthy.

We have taken every effort to ensure our employment processes and policies are in compliance with China's new Employee Contract Law. Since the enactment of this law in January 2008 and the subsequent Employment Contract Law Implementation Rule in September 2008, we have reviewed our employee handbook to ensure compliance with the new regulations. We also involved all of our employees in discussions regarding the handbook's content.

As in past years, we contributed all required social insurance, pension, and housing funds for all of our employees. We also continued implementing our benefits harmonization program, which provides supplemental life and medical benefits to our employees. About 1,580 employees benefitted from this program in 2008, and their feedback about the program has been very positive.

The 760-member Bohai Trade Union, which was established in 2007, organized various activities with the support of Bohai management in 2008. These included the Qinhuangdao International Walking Race to support the Beijing Olympics.

# Employees in China

2003	670
2004	780
2005	1,710
2006	2,110
2007	2,190
2008	1,880

Numbers reflect employees under Alcoa management. Decline in employees in 2008 was due mainly to the divestiture of the packaging businesses.

# **Labor Costs**

# Millions

	RMB	US Dollars
2003	87	11
2004	116	14
2005	175	22
2006	315	40
2007	335	47
2008	329	47

Includes salaries plus employee expenses for external training, transfer and relocations, expatriate costs, workers' compensation, travel, recognition and rewards, medical expenses, meals, recruitment, transportation, education, work clothes, and other employee-related expenses. Excludes contract and temporary labor. Exchange rate varied from 8.1 for 2003 through 2005; 7.9 for 2006; 7.2 for 2007; and 7.0 for 2008.

# People Systems Establishment

	Locations with Established Performance Management Process	Locations with Standard Alcoa Job Grades
2003	2	1
2004	4	3
2005	6	7
2006	11	12
2007	14	14
2008	14	14

# **COMMUNITY**

The communities in which we operate are fundamental to our success, and the primary objective of our community efforts is to contribute to their sustainable development.

Our community programs are aligned with our business goals of developing the aluminum industry and achieving integral and sustained growth in China.

We have initiated and implemented community programs in China using more than RMB47 million (US\$6 million) in Alcoa Foundation grants since 2004. In 2008, Alcoa Foundation awarded RMB9,708,034 (US\$1,386,862) in grants for 16 projects in China that focused on building partnerships with leading environmental and education organizations to strengthen conservation and increase access to education. Grants also provided disaster relief to meet the immediate needs of millions affected by severe earthquakes and storms.

Employee volunteerism remained an important focus of our community efforts in 2008. More than 290 employees at our China locations volunteered during Alcoa's Worldwide Month of Service in October 2008 for projects focused on environmental protection, caring for the elderly and the physically and mentally challenged, EHS training, and more. We also awarded eight ACTION grants for employee team volunteerism during the year. More information on the framework, Month of Service, and ACTION programs can be found at www.alcoa.com/community.

To embrace Alcoa's goal of 100% of manufacturing locations implementing the Alcoa Community Framework by 2010, we plan to systematically introduce and

implement the framework at each location in China in the near future as a tool to evaluate our approaches to communities and strengthen our ties with our community stakeholders.

Major 2008 activities and grants included the following:

- Community Engagement
  - We mobilized our Asian employees to donate more than RMB330,000 (US\$47,143) to earthquake stricken areas in Wenchuan and Panzhihua, Sichuan Province, for disaster relief and reconstruction.
  - Our Bohai plant funded and organized an environmental protection campaign in Qinhuangdao
     Park and encouraged more than 1,000 citizens to sign a pledge to be a responsible citizen in maintaining a green environment.











More than 290 Alcoa volunteers participated in Alcoa Month of Service in October 2008

- o Our Kunshan plant sponsored and organized an environmental protection knowledge competition.
- We published 12 monthly columns on the energy page of the China Business Weekly of China Daily, sharing our approaches, programs, actions, and best practices on sustainability with global readers.
- Our Hong Kong office received a special award from the Hong Kong Council of Social Service for continued financial support and volunteerism.

#### Major Alcoa Foundation Grants

- Partnered with Tsinghua University's Department of Science and Engineering, which plays a key role as one of five academic partners in Alcoa Foundation's RMB64.4 million (US\$9.2 million) sixyear Conservation and Sustainability Fellowship program. In 2008, seven fellows at the university conducted research to find solutions to the problems of sustainable development in rural areas in China and to propose an integrated pattern for raising the environmental, economic, and social sustainability of these areas.
- Awarded RMB336,700 (US\$48,100) for a program that provided scholarships to 63 outstanding female undergraduate and masters' students in engineering at Central South University to recognize their academic achievements and broaden their career prospects in a field that is largely the domain of male students in China.
- Donated RMB1,750,000 (US\$250,000) to aid victims affected by severe snow storms in South China.
   Contributed RMB1,050,000 (US\$150,000) and RMB259,000 (US\$37,000) to earthquake stricken areas in Wenchuan and Panzhihua, Sichuan Province, for disaster relief. A grant of RMB315,000 (US\$45,000) will be used to rebuild a primary school in Panzhihua that was significantly destroyed in the earthquake.
- Provided an RMB1,400,000 (US\$200,000) grant to sponsor the Philadelphia Orchestra's 35th Anniversary Tour of Asia to commemorate the orchestra's historic 1973 trip to China, when it became the first American orchestra to perform in that country. The tour was a collaboration between Alcoa, the China Association for International Friendly Contact, the Beijing Music Festival Arts Foundation, and Chinalco.
- Donated RMB175,000 (US\$25,000) to the high school affiliated with the Beijing Normal University for exhibition and cultural activities for students and the community.
- Continued working, through Alcoa (Shanghai) Aluminum Products Co., Ltd., with the Jane Goodall Institute in Shanghai to provide environmental training and materials to new and ongoing student groups in the institute's Roots & Shoots program.



1. Alcoa President & CEO Klaus Kleinfeld is with Mr. Li Zhaoxing, the former Chinese Foreign Minister and Mr. Lang Lang, the world class pianist on the Philadelphia Orchestra concert

<sup>2.</sup> A granting ceremony of Alcoa Scholarship Program was held in Central South University

<sup>3.</sup> Alcoa Foundation donated to earthquake stricken areas in Panzhihua, Sichuan province

- Gave an RMB105,000 (US\$15,000) in ACTION grants to Shanghai Pudong Special Education School to recognize the volunteer efforts of employees from Alcoa Electrical and Electronic Solutions (Shanghai) Co., Ltd.
- Helped develop greenhouse gas policies and programs in China in coordination with Tsinghua University's Low Carbon Energy Laboratory through a three-year partnership with the World Resources Institute.
- extended an ongoing global partnership with the World Wildlife Fund (WWF) to include implementation of the organization's Education for Nature program in Yunnan Province. WWF began convening local environmental non-governmental organizations, government agencies, businesses, and academics to discuss current policies regarding sustainability and development. The goal is to build awareness of priority areas for biodiversity conservation in Yunnan and facilitate understanding of the roles and responsibilities of different stakeholders for future cooperation. In 2008, WWF convened 40 workshops involving close to 1,600 participants. Outcomes included the development of new approaches to ecological construction, mechanisms conservation enforcement agencies can use in their efforts to control the illegal trade in wildlife, and village-based forest management plans designed to ensure the sustainability of forest resources.
- Continued funding an ongoing partnership between Temple University's School of Law and the National Judicial College of the People's Republic of China to facilitate dialogue and exchange on key rule of law principles, such as judicial accountability and transparency, through a training program for Chinese judges. The partnership is in its third year.

# Alcoa Foundation China Community Giving

	RMB	US Dollars
2004	1,437,750	177,500
2005	2,616,300	323,000
2006	18,771,553	2,376,146
2007	14,781,600	2,053,000
2008	9,708,034	1,386,862

2006 and 2007 figures include direct and third-party funding to projects in China by Alcoa Foundation as a whole. Exchange rate varied from 8.1 for 2004 and 2005; 7.9 for 2006; 7.2 for 2007; and 7.0 for 2008.

## **China ACTION Grants**

	2005	2006	2007	2008
Number of Grants	3	7	8	8
RMB value	72,900	165,900	172,800	168,000
US Dollar Value	9,000	21,000	24,000	24,000
Number of Hours	384	1,402	2,614	964.5
Number of Employee Volunteers	96	359	539	380
Average Number of Hours per Project	4	4	4	2.5

Not all employee volunteer activities are covered by ACTION grants. Exchange rate varied from 8.1 for 2005; 7.9 for 2006; 7.2 for 2007; and 7.0 for 2008.



# Judicial Education Program Trains Chinese Judges in Rule of Law

Since 2006, an ongoing collaboration between Alcoa Foundation and universities in the United States and China is facilitating dialogue and exchange on key rule of law principles through a training program for Chinese judges.

The Judicial Education Program is founded on a partnership between Alcoa Foundation and the Temple University Beasley School of Law based in Philadelphia and Beijing, in collaboration with the National Judicial College of the Supreme People's Court of the People's Republic of China in Beijing.

More than 70 ranking judges from geographically diverse regions of China—including western China, which has large minority populations—have participated in the program through an RMB1,470,000 (US\$210,000) grant from Alcoa Foundation.

The training covers the U.S. legal system, including civil and commercial law, judicial ethics, legal system neutrality, rules of evidence, and best practices in court administration for improved judicial efficiency. The program benefits the community and businesses by strengthening institutional and judicial capacity in key areas of governance, rule of law, human rights protections, procedural fairness, judicial ethics, and court administration.

"The success of the Judicial Education Project is a fine example of how educational institutions and businesses can work together to drive positive change," said Professor John Smagula, director of Asian Programs for the Temple University Beasley School of Law. "The judges from China consistently report that this program is useful in teaching them how to use U.S. law as a significant reference where gaps in Chinese law exist, inspire them to a higher level of participation and professionalism in the courts, provide contacts with their court peers in the United States for ongoing dialogue, and help them implement procedural safeguards in their courts so all parties have access to the same norms and procedures."



and the subsequent economic contraction that took hold in the last months of 2008.

We rapidly took measures to ensure our liquidity and financial stability, and this included postponing some of our expansion initiatives in China. Along with other far-sighted primary aluminum operators in China, our worldwide primary operations were among the first to begin curtailing capacity to meet new demand levels at the end of 2008.

Despite the economic challenges at year's end, we continued to pursue our growth strategy in China during 2008.

From a rolled products perspective, our growth strategy has focused on our Kunshan and Bohai plants. Our most significant investment is at our Bohai facility, where we are installing a hot rolling mill and lithographic sheet lines. The hot rolling mill's load test began in December 2008, and the entire expansion project initiated trial production in January 2009. The Bohai investment will enable China to produce the highest quality aluminum sheet, such as printing industry-use digital plate stocks, hard alloy transportation sheet, high surface-quality sheet for the electronics industry, and can body stock.

We strengthened our partnership with Yutong Bus to apply world-class structural design, materials, and manufacturing technologies to develop a new generation of energy-efficient, environmentally friendly buses for China's growing commuting public and for the 2008 Olympics in Beijing.

We made significant progress in our upstream presence in China through our business development programs, disciplined execution, and the Alcoa advantage, as well as being an integral part of the Alcoa global primary strategy and securing long-term sustainability in energy and metal supplies.

From an engineered products perspective, our growth strategy in China has focused on our new greenfield site in Suzhou, which makes high-specification industrial and aerospace fasteners. In the short term, industrial fasteners are intended for the expanding rail and commercial transportation markets. In the longer term, aerospace fasteners will serve the expanding China market, as well as provide product for export. The Suzhou facility moved from pilot stage to production in 2008 and will ramp up its volumes in 2009.

We continued to be a leader in a number of markets in China. For example, we are one of the largest suppliers of brazing sheet and foil, and we will be the largest domestic supplier of lithographic sheet after the Bohai line is operational. We are also one of the largest suppliers of can body sheet, and we are supplying most of the aluminum materials for the Chinese-made ARJ21 jet.

To maintain and strengthen our leadership position, we undertook a number of major business initiatives in 2008 that included the following:

- We completed the sale of Alcoa's global packaging and consumer businesses, including locations in Tianjin and Hangzhou, to New Zealand's Rank Group Limited.
- We contributed to China's commitment to a green Olympics by providing lightweight aluminum for transportation systems and aluminum composite material for several new venues constructed especially for the games.
- We worked closely with China Aviation Industry Corporation I (AVIC I), a major Chinese aircraft manufacturer, to provide several Alcoa-developed high-performance alloys and products produced at our operations worldwide for China's first regional jet, the ARJ21-700. This medium-range, 90-passenger aircraft is designed for decades of service.
- We enhanced cooperation with the Aluminum Corporation of China (Chinalco) through an investment in Shining Prospect Pte. Ltd., a special-purpose vehicle formed to purchase 12% of the UK common stock of Rio Tinto plc in February 2008. This allowed both parties to mutually benefit from developments in the aluminum sector. In early 2009, we announced that we were exiting the vehicle to improve our cash position and have a positive impact on our debt-to-capital ratio.

Although the global economic downturn has impacted the timing of some growth plans, Alcoa continues to view China as a key market and a cornerstone of aluminum growth for the future. We expect to continue to grow and invest in the economic potential of our operations in China.

#### Sales in China

#### **Millions**

	RMB	US Dollars
2003	1,798	222
2004	3,929	485
2005	5,184	640
2006	3,752	475
2007	3,614	502
2008	4,768	681

Exchange rate varied from 8.1 for 2003 through 2005; 7.9 for 2006; 7.2 for 2007 and 7.0 for 2008.

# **Alcoa Commits to a Green Olympics**

During the Beijing 2008 Olympics Games, Alcoa provided lightweight aluminum for transportation systems and aluminum composite material for several new venues constructed especially for the games.

Visitors to the Olympic Village rode on electric buses using Alcoa polished forged aluminum wheels. We provided 350 wheels for 50 buses operated by the Beijing Public Transport Holding Ltd. (BPTC), a large state-owned public transport service.

The lightweight wheels provided significant weight savings over comparable steel wheels, shaving nearly 125 kilograms (275 pounds) from each bus, which, in turn, improved the overall operating efficiency of the electric buses. The aluminum wheels also proved to be both fuel efficient and cost effective during road testing conducted by BPTC.

In addition, environmentally friendly, aluminum-intensive buses jointly designed and built by Alcoa and Yutong Bus Company of China, the country's largest bus manufacturer, were road tested during the Olympics. The new aluminum-intensive bus body is nearly 50% lighter than a traditional body and features Alcoa spaceframe technology, Dura-Bright® forged aluminum wheels, aluminum side and roof panels, and fasteners.

The massive, aerodynamic roof of the Beijing Capital International Airport's new Terminal 3, which was built especially for the Olympics, uses 1,200 tons of Alcoa's Reynolux® coil-coated aluminum sheet finished in glaze yellow, an official color of the Olympics. In addition, nearly 95 tons of Reynolux® material was used for the roof of the newly constructed National Indoor Stadium, and 221 tons of the material were used on the roof of the multipurpose Shenyang Olympic Sports Center Stadium.



Alcoa building and construction products were used for the roof



Terminal 3, Beijing Capital International Airpor





Alcoa forged aluminum wheels were applied to electric buses for

# **AWARDS & RECOGNITION**

The following are some of the awards and recognition our operations in China received in 2008.

# Alcoa (Kunshan) Aluminum Products Co., Ltd.

- Harmonious Employment Relationship Enterprise (Kunshan) Kunshan Municipal Government
- Harmonious Employment Relationship Enterprise (Suzhou) Suzhou Municipal Government
- Safety Award, AnKang Cup Kunshan Health and Safety Bureau and Kunshan Union
- Level A Social Security Company (Kunshan) Kunshan Labor & Social Security Bureau
- Model Company in Recycling Economy Kunshan Economy & Trading Committee and Kunshan Environment Protection Bureau

# **Alcoa Bohai Aluminum Industries Company Limited**

- 2008 Hebei Province Top 100 Enterprise for Metallurgy and Rolling Operation Hebei Federation of Industrial Economics
- 2007 Excellent Company for Good Statutory Equipment Safety Management Qinhuangdao Bureau of Quality and Technology Supervision
- 2007 Green Project Excellence Qinhuangdao Haigang District Government
- 2007 Excellent Company in Public Hygiene Management Qinhuangdao Haigang District Health Bureau
- 2006-2007 Excellent Company in Occupational Health Management Qinhuangdao Health Bureau
- 2007 Top Ten Foreign Investment Company in Qinhuangdao Qinhuangdao Government
- Safety and Health Award, AnKang Cup Provincial Trade Union and Safety Monitoring Bureau

# Alcoa (Shanghai) Aluminum Products Co., Ltd.

- Emissions Reduction Excellence Award Minhang Environmental Protection Bureau
- Employee Relations Award, AnKang Cup Shanghai Municipal Trade Union Council and Shanghai Safety
   Bureau
- 2008 Shanghai Model Enterprise in Employee Relations Shanghai Municipal Trade Union Council

# Alcoa Electrical and Electronic Solutions (Shanghai) Co., Ltd.

- 2008 Top 10 Voluntary Service Projects in Pudong New Area Pudong New Area Spirit & Civilization Construction Committee
- 2007 Shanghai Foreign Investment Enterprise with Excellent Economic and Export Performance –
  Shanghai Foreign Economic Relations & Trade Commission, Shanghai Foreign Investment Commission,
  and Shanghai Association of Enterprises with Foreign Investment

# Alcoa International (Asia) Ltd.

2008-2009 Caring Company – Hong Kong Council of Social Service



## Yang Tianhai

Environment, Health, and Safety Manager, Alcoa Bohai Aluminum Industries Company Limited

"My understanding of sustainability is to achieve economic development so that the living standard can be improved without sacrificing the well-being of our descendants. This mainly includes two parts:

- 1 Environmental protection: Reduce air emissions, wastewater discharge, waste disposal volume, etc., so our environment will not be contaminated and will be suitable for future generations to live in.
- 2 Energy saving: Replace an energy-intensive production process with an energy-friendly process to reduce energy consumption levels, achieve economies of scale, and save every kilowatt hour of electricity by turning off the lights whenever practical.

At Alcoa Bohai, we voluntarily shut down the coal boilers and switched the furnace fuel from diesel to natural gas to reduce air pollutant emissions. We also conducted a cleaner production audit and an energy saving audit."



#### Peng Jianfei

Engineer, Alcoa (Shanghai) Aluminum Products Co., Ltd

"The world recession affects the economic performance of our company, and sustainability in a recession makes more sense than ever. Alcoans should bravely strive to overcome the difficulties and always make sustainable development the most important priority since it can be used to balance the needs of industry, society, and the environment."



## Wang Fulian

Alcoa Business System Coordinator, Alcoa (Kunshan) Aluminum Products Co., Ltd

"Our environment, knowledge, and ability are considered our resources. Sustainability is about using our resources wisely to achieve continual development."



## Cao Shaohua

Safety Engineer, Alcoa (Kunshan) Aluminum Products Co., Ltd

"Sustainability for safety personnel means working safely, improving employee safety awareness, promoting the overall safety of the location, and avoiding injury to employees and interruption of production. This is what my obligation is."



Kelvin Li

Director, Ground Transportation Market Sector, Alcoa China

"Sustainability is about the corporate responsibility committing in a long term business success harmonizing with a better environment, better community as well as better life for every individual. It is a strategic view but needing to do from everything we are doing today."

# Alcoa (China) Investment Company Ltd.

Unit 3701, China World Tower 1 1 Jianguomenwai Avenue Beijing 100004, China

Tel: +8610 5921 5000 Fax:+8610 5921 5050

Website: http://www.alcoa.com.cn

To provide feedback on Alcoa China Sustainability Report, please send an email to china.sustainability@alcoa.com or write to us at the address above.