

2007 China Sustainability Report



中国可持续发展报告

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Commitment Letter

Within Alcoa, sustainability has been a long journey based on continuous improvement, and it now has become an unwavering, action-oriented focus on the end goals by every Alcoa employee in China.

Alcoa has a long-term commitment to China. We plan to aggressively grow our operations in the future, but we will do so in a manner that aligns our values with society's values to ensure long-term success for Alcoa and all of our stakeholders. Guiding our development will be 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; build trust with our community stakeholders; and grow profitably and safely.

The health and safety of our employees, contractors, and the communities in which we operate are the most important aspects of our operations. We are striving to do better in China, implementing a process to integrate Alcoa's stringent health and safety standards and culture into new locations while also improving upon our performance at existing locations.

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

Within China, the challenge is to minimize our use of energy, water, and materials and reduce our emissions while simultaneously increasing production volume. To help us measure our progress, we look at the data per metric ton of product produced—the intensity level. Using this measure, our existing locations remained steady in energy use and posted reductions for all emissions in 2007.

In 2007, we completed a US\$360,000 project at Alcoa Shanghai Aluminum Products to improve wastewater treatment. The location also installed dust catchers for four melting furnaces that boosted particle removal efficiency to more than 90% and reduced annual particle emissions by 42 metric tons. In addition, our Bohai plant reduced water consumption by 55% and our Kunshan plant by 56%.

To further reduce greenhouse gas emissions, our Bohai plant shut down its coal-fired boilers in July 2007 and replaced them with modern gas-fired boilers for heating in winter. A solar heating system was also installed for employee summer showers. Both improvements are expected to reduce annual coal consumption by 8,000 metric tons, with anticipated emission reductions of 95% for sulfur dioxide, 83% for nitrogen oxide, 96% for dust, and 54% for carbon dioxide.

Other major developments in 2007 included the following:

- We initiated and sponsored the Leadership in Sustainability Conference in Beijing. This conference brought together U.S. business leaders in China with government officials and scientists to look for greater cooperation and a platform for future collaboration and more informed decision making on sustainability issues by industry, governments, and communities.
- ♦ We continued efforts to strengthen our ties with the community. Eight locations conducted community projects, and more than 500 employees volunteered during Alcoa's Month of Service event in October.
- We organized the Aluminum Gallery in Beijing and Shanghai, providing an interesting and informative platform for children as well as adults to better understand aluminum. More important, the gallery helped increase children's awareness of environmental protection and energy conservation and raised their interest in science and innovation.



对美铝公司来说,可持续发展是建立在不断改进基础上的一个漫长旅程。现在它已经 成为美铝中国每一位员工对最终目标的不懈追求和积极行动。

美铝公司致力于在中国的长期发展。我们计划在未来积极地扩充业务,并在这一过程中使我们的价值观与社会的价值观协同一致,以此确保美铝公司和全体涉众的长期成功。 环境、社会与经济效益是引导我们事业可持续发展的三条基线。可持续性效益是一项长期投资,因此,我们会努力把我们的运营对环境的影响降到最低,吸引、培养并任用最优秀的人才,与社区涉众建立信任关系,实现盈利、安全地发展。

我们的员工、承包商和社区的健康与安全,是我们运营中的重中之重。我们在中国正全力以赴,争取做得更好。在继续改善现有企业绩效的同时,我们正在实施将美铝公司严格的健康和安全标准及文化融入到新企业的过程。

我们正在采取步骤,确保能够实现美铝2020年可持续发展战略框架所制定的环境目标。制定降低耗煤量、排放以及烟尘的方案,实施美铝的环境、健康和安全管理系统和进行法规符合审计是我们工作的主要方向。

我们在中国的挑战是如何在提高产量的同时,最大限度地减少能源、用水量和材料消耗以及降低排放。美铝通过核查每吨产成品的能源消耗量 – 单位能耗,来衡量我们取得的进展。按照这一指标衡量,我们在中国的现有企业2007年的能耗保持稳定,各项排放均有所下降。

2007年,我们在美铝(上海)铝业有限公司完成了一项投资36万美元的项目,用于改善公司的废水处理。该公司还为4台熔化炉安装了除尘装置,使除尘效率提高到90%以上,并使每年的颗粒物排放减少了42吨。此外,美铝渤海铝业有限公司和美铝(昆山)铝业有限公司分别实现了耗水量降低55%和56%。

为进一步降低温室气体排放,美铝渤海铝业有限公司于2007年7月关闭了燃煤锅炉,用现代化的燃气锅炉进行冬季供热。该工厂还安装了太阳能热水系统供员工夏季淋浴。这两项改造每年可减少耗煤量8,000吨,同时使二氧化硫、氮氧化物、烟尘和二氧化碳的排放分别降低95%、83%、96%和54%。

在2007年取得的其他主要进展包括:

- ◆ 我们在北京发起并资助了"引领可持续性发展论坛"。在华美国企业的代表们与中国政府官员和科学家们齐聚一堂,探讨开展更广泛的合作,谋求建立未来合作的平台,使行业、政府和社区在可持续发展问题上的决策更加透明。
- ◆ 我们继续加强与社区的联系。有8家企业开展了社区项目,500多名员工参加了10 月份的"美铝服务月"活动。
- ◆ 我们在北京和上海举办了"铝殿堂"科普展,向儿童和成人提供了一个既富知识性又富趣味性的平台,使他们对铝有了更深入的了解。更重要的是,"铝殿堂"帮助孩子们提高环保和节能意识并激发了他们对科学和创新的兴趣。







Commitment Letter

- ♦ We partnered with the China Forum of Environmental Journalists to help China's environmental protection volunteers improve upon their professional skills and, in turn, raise the public's awareness of environmental protection.
- We helped farmers in Qinhuangdao build water tanks that can collect rainwater for their cropland. The water tank project helped the farmers with their harvest, increasing their income and improving their lives.
- ♦ Alcoa Electrical and Electronic Solutions (Shanghai) Co., Ltd. received a special recognition from the Shanghai municipal government for its contributions to the Special Olympics held in Shanghai in early October.
- ♦ We worked with Yutong Bus Company on using aluminum to partly replace steel in buses. When a bus is built in accordance with Alcoa's design, its weight is about 1,100 kilograms (2,425 pounds) less, or 15% of total bus weight, compared to a steel-only bus. This weight deduction helps eliminate more than 25 metric tons of greenhouse gas emissions and saves more than 11,000 liters (2,900 gallons) of gasoline during the 400,000-kilometer (250,000-mile) designed lifetime of the bus.
- ♦ We invested more than US\$300 million in our Bohai plant, which is the largest foreign investment in the Chinese aluminum industry. We overcame many difficulties, and Bohai will be in a much stronger and better position to provide substitutes for many imported aluminum products and supply China and the global markets with can body sheet, lithographic sheet, transportation sheet, and surface-quality sheet for the electronics industry.
- We created an employee assistance program (EAP) for our employees in China to help them better balance work and life. The EAP services include: professional, confidential mental health counseling service for personal or workrelated problems; seminars, training, and workshops on stress management, self development, and other topics that improve work and life balance; and assistance to help employees deal with a psychological crisis at work or in their personal lives.
- ◆ We provided scholarships to female science and engineering undergraduate students to encourage more female students to study science and engineering and achieve further accomplishments in those fields.

In early 2008, Alcoa announced that it was partnering with the Aluminum Corporation of China (Chinalco) to acquire 12% of the UK common stock of Rio Tinto plc. Alcoa will contribute up to US\$1.2 billion to the total investment.

Honors Alcoa has earned around the world—including being named one of the world's most sustainable and ethical corporations and being listed on the Dow Jones Sustainability Indexes—inspire our expanding operations in China and fuel us to reach the world-class level of sustainability that is expected of companies recognized in the top echelon of performance.

Jinya Chen President Alcoa Asia Pacific

- ◆ 我们与中国环境新闻工作者协会合作,帮助中国环境新闻工作者提高其专业技能,进而提高公众环境保护意识。
- ◆ 我们帮助秦皇岛当地农民修建蓄水池、收集来的雨水可用来灌溉农田。蓄水池项目帮助农民们提高收成、增加收入并改善生活条件。
- ◆ 上海奇线汽车电气系统有限公司因其10月初为上海夏季特奥会提供志愿服务,得到了上海市政府的特别表彰。
- ◆ 我们与宇通客车合作,在客车上用铝材部分取代钢材。与仅用钢材的客车相比,应用美铝公司的设计可使每辆客车减重约1,100公斤(2,425磅),即客车总重的 15%。在车辆40万公里(25万英里)的设计运营周期中,上述减重可减少25吨以上的温室气体排放,并节省1.1万升(2,900加仑)以上的汽油。
- ◆ 我们在美铝渤海铝业有限公司投资超过3亿美元,成为中国铝工业最大的投资 者。我们克服了重重困难,美铝渤海也将以更强大、优秀的姿态,为中国乃至全 球市场提供罐料、印刷板材、运输板材以及用于电子市场的要求表面质量高的铝 板、为中国提供大量的进口替代产品。
- ◆ 我们为中国员工创建了员工辅助计划(EAP),帮助他们更好地平衡工作与生活。员工辅助计划的服务内容包括:提供专业且保障隐私的心理咨询及辅导,帮助解决工作和生活中面临的问题;举办有关压力管理、自我发展以及其他改善工作与生活平衡的主题研讨会、培训和讲座;帮助员工处理工作和生活中的危机事件等。
- ◆ 我们为在校理工科女生提供奖学金,鼓励更多的女生选择科学和工程专业并取得 更多成就。

2008年初,美铝宣布与中国铝业公司联合获得了力拓的英国上市公司12%的现有股份,美铝在此项目上的投资达12亿美元。

美铝在世界各地获得广泛赞誉,包括被评为世界最具可持续发展性的公司以及全球最具商业道德典范公司之一,被列入道琼斯可持续发展指数等。这些荣誉鼓舞着美铝公司继续扩大在中国的业务,并激励着我们向作为最佳绩效公司所应该达到的世界级可持续发展的水平而继续努力。

美铝亚太区总裁 陈锦亚





Alcoa in China 6		
Sustainability & Alcoa		
Environment10		
Energy14		
Water 16		
Emissions 18		
Waste20		
Health & Safety22		
Our People 26		
Community30		
Economic34		
Awards & Recognition3		

可持续发展与美铝公司9
环境11
能源15
水17
排放19
废物21
健康与安全23
员工27
社区 31
经济35
表彰与荣誉37

Forward-Looking Statements

Certain statements in this report relate to future events and expectations and, as such, constitute forwardlooking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. Forwardlooking statements also include those containing such words as "anticipates," "believes," "estimates," "expects," "hopes," "targets," "should," "will," "will likely result," "forecast," "outlook," "projects," or similar expressions. Such forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause actual results, performance, or achievements of Alcoa to be different from those expressed or implied in the forward-looking statements. Alcoa disclaims any intention or obligation, other than as required by law, to update or revise any forward-looking statements. Some of the important factors that could cause actual results to differ materially from those in the forward-looking statements include: material adverse changes in economic or aluminum industry conditions generally, including global supply and demand conditions and prices for primary aluminum, alumina, and other products; material adverse changes in the markets served by Alcoa, including the transportation, building, construction, distribution, packaging, industrial gas turbine, and other markets; the company's inability to mitigate impacts from rising energy and raw material costs, employee benefit costs, or other cost inflation; the company's inability to achieve the level of cost savings, productivity improvements, or earnings or revenue growth anticipated by management; 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 or the disposition of current proceedings or investigations other than as anticipated by Alcoa's management; adverse effects on Alcoa's operations or markets or the global economy as a result of climate change and climate change regulations; significant costs and liabilities associated with numerous complex and increasingly stringent environmental laws and regulations; 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 Form 10-K for the year ended December 31, 2007 and other U.S. Securities and Exchange Commission reports.

前瞻性陈述

美铝公司在中国

本报告中对未来事件和预期的类似描述,可能构成前瞻性陈述并符合《1995年美国私人证券诉讼改革法案》 之含义。这些前瞻性陈述还可能包括"预期"、"相信"、"估计"、"期望"、"希望"、"目标"、"应 该"、"将要"、"将可能导致"、"预计"、"展望"、"计划"或类似的用词表述。由于此类陈述与未来 事件和预期相关,且涉及已知和未知风险并受不确定因素的影响,所以美铝公司的实际结果、绩效或成果可能 与此类前瞻性陈述中表述或暗指的内容存在差异。美铝公司放弃法律要求之外的,对前瞻性陈述更新或修订 的要求或义务。可能致使实际结果与前瞻性陈述出现实质性偏差的一些重要因素包括: 经济上或铝业的基本条 件,包括全球对原铝、氧化铝和其他产品供给与需求条件和价格的实质性不利变化;美铝所提供服务的市场, 包括运输业、建筑业、结构建造、分销、包装、工业燃气装置和其他市场中发生的重大不利变化;公司所无法 减轻的由于能源和原材料成本上涨、员工福利成本或其他成本上涨所造成的影响;公司无法实现管理层所预期 的利润或收入的增长,或无法实现削减成本及提高劳动生产率的目标;与外国行为相关的政治与经济风险,包 括美铝公司开展业务活动的国家出现的外汇汇率波动与法律或政府规定及政策的变化等; 美铝公司管理层所预 料之外的重大法律诉讼或调查、或当前诉讼或调查中出现的处置;由于气候变化或有关气候变化的规章对美铝 的业务或市场或全球经济所产生的不利影响;与大量复杂的、日益严格的环境法规相关的巨额成本和负债;美 铝公司与关键客户或供应商的关系发生变化,或者这些关键客户或供应商的业务或财务状况出现重大的低迷; 以及美铝公司对结束于2007年12月31日的年度所完成的10-K表中总结的、及其他向美国联邦证券交易委员会 提交的报告中所总结的其他风险因素。

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 on 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. As the largest multinational investor in the aluminum industry in China, we have invested more than RMB7.3 billion (US\$1,028 million) in the country since we opened our first office in 1993.

Total world consumption for aluminum grew by 10% in 2007, and demand is expected to double by 2020 from the year 2005. By 2020, China will consume as much aluminum as the rest of the world does today.

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 2007, we had 18 locations employing 2,190 people in China. Products produced include foil, fasteners, automotive components, construction products, plastic closures, and decorative sheet. One of our seven manufacturing facilities—the Bohai plant in Qinhuangdao—is the largest foil producer and exporter in China

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. This has resulted in Alcoa locations like Alcoa (Shanghai) Aluminum Products, Alcoa (Kunshan) Aluminum Products, and Alcoa Bohai Aluminum Products being considered model plants recognized by local authorities for their environmental, health, and safety practices and achievements.

Alcoa China Businesses

Location	Name	Products
Beijing	Alcoa (China) Investment Company Limited	Regional Management and Resources
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Beijing	Alcoa (Beijing) Trading Company Limited	Trading and Distribution
Beijing	Alcoa Asia Limited Beijing Representative Office	Sales Liaison
Qinhuangdao	Alcoa Bohai Aluminum Industries Company Limited	Sheet and Foil
Tianjin ¹	Alcoa Closure Systems International (Tianjin) Co., Ltd.	Closures
Kunshan	Alcoa (Kunshan) Aluminum Products Co., Ltd.	Brazing Sheet
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 Parts
Shanghai	Alcoa Fastening Systems (Shanghai) Co., Ltd.	Aerospace and Commercial Fastening Systems
Shanghai ¹	Reynolds Metals (Shanghai) Ltd.	Food Packaging Sales
Shanghai ²	Alcoa Warehousing Services (Shanghai) Co., Ltd.	Aerospace Materials and Services
Shanghai	Alcoa (Beijing) Trading Co., Ltd. Shanghai Branch	China Flat Roll Products Sales
Suzhou	Alcoa Fastening Systems (Suzhou) Co., Ltd.	Rolling Stock and Civil Aircrafts Fastening Systems
Suzhou ²	Alcoa Architectural Products (Suzhou) Co., Ltd.	Precoated Aluminum Sheet for Architectural Application
Hangzhou ¹	Alcoa Closure Systems (Hangzhou) Co., Ltd.	Closures
Guangzhou	Alcoa (Beijing) Trading Co., Ltd. Guangzhou Branch	Sales Liaison
Hong Kong	Alcoa International (Asia) Ltd.	Sales

^{1.} These locations were divested in early 2008 as part of Alcoa's sale of the packaging and consumer businesses to New Zealand's Rank Group.

美铝公司在中国

美铝公司活跃于铝工业的各主要领域,是世界领先的氧化铝、电解铝和铝加工产品的生产商。关于我们全球业务的更多信息可见于美铝公司网站 www.alcoa.com.

上世纪80年代,我们通过与中国有色金属工业总公司 (现在的中国五矿集团公司)的技术合作进入中国。在随 后 20 多年的时间里,在继续开拓合资机会的同时,我们 还在各地建立了自己的销售办事处和生产厂。

我们将中国放在优先发展的位置,因为对所有大型铝业公司来说,中国代表着巨大的增长机会。作为中国铝工业最大的跨国投资者,我们自1993年开办第一家代表处以来,已经在华投资了73亿人民币(10.28 亿美元)。

2007年,全世界的铝消费总量增长了10%。以2005年为基准,到2020年,全世界的铝消费总量有望翻番。届时,中国的铝消费量将相当于目前中国以外所有国家的铝消费总量。

我们致力于中国和中国铝工业的长期发展,所以我们 将继续保持在该市场中的领先地位。作为铝工业和应对气 候变化的全球领先者,我们将把最新的世界级的技术、能 耗实践和环保标准带到中国。

截至2007年底,我们在中国有18家企业,2,190名员工。产品主要包括铝箔、紧固件、汽车部件、建筑产品、塑料密封件和装饰板。我们的7家生产企业之一——美铝渤海铝业有限公司,是中国最大的铝箔制造商和出口商。

在中国的运营中,我们在尊重当地特有的法律法规和社会经济环境的同时,坚定不移地遵守着我们的价值观、原则和人权政策(所有内容均可见于美铝网站)。所以,美铝在中国各地的一些公司如美铝(上海)铝业有限公司、美铝(昆山)铝业有限公司和美铝渤海铝业有限公司因其在环境、健康和安全方面的表现和成绩,被当地政府评为模范企业。

美铝在中国的业务分布

城市	机构名称	产品/职能
北京	美铝(中国)投资有限公司	地区管理及支持
北京	美铝(北京) 贸易有限公司	贸易与分销
北京	美国美铝亚洲有限公司北京代表处	销售联络
秦皇岛	美铝渤海铝业有限公司	板材与铝箔
天津1	美铝国际瓶盖系统(天津)有限公司	瓶盖
昆山	美铝(昆山)铝业有限公司	钎焊铝板
上海	美国美铝亚洲有限公司上海代表处	管理、销售与采购
上海	美铝 (上海) 铝业有限公司	铝箔产品
上海	上海奇线汽车电气系统有限公司	汽车零件
上海	美铝紧固件系统(上海)有限公司	航空与商用紧固件系统
上海1	雷诺兹金属(上海)有限公司	食品包装的销售
上海2	美铝仓储服务(上海)有限公司	航空材料与服务
上海	美铝(北京)贸易有限公司上海分公司	中国压延产品销售
苏州	美铝紧固件系统(苏州)有限公司	民用航空器铁路机车紧固件系统
苏州2	美铝建筑产品(苏州)有限公司	建筑行业用预滚涂铝材料
杭州1	美铝瓶盖系统(杭州)有限公司	瓶盖
广州	美铝(北京)贸易有限公司广州分公司	销售联络
香港	美铝国际(亚洲)有限公司	销售

^{1.} 这些企业作为美铝公司向新西兰兰科集团出售的包装与消费业务的一部分,已于2008年初从美铝剥离。



^{2.} These locations will close in 2008.

^{2.} 这些企业将于2008年关闭。

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. In addition, our metrics system was expanded to collect the data needed to measure performance against the goals and targets on an annual

The framework and enhancements to the 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.

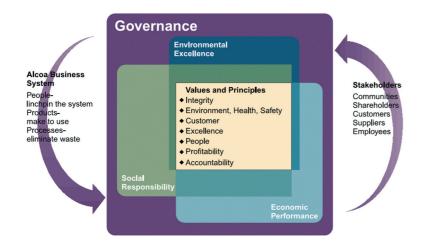
For a complete listing of the goals, indicators, and targets, visit the Sustainability section on our website at

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 Executive 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; educating employees on our sustainability goals; working with the communities where we operate on local issues; and encouraging employee volunteerism in community-related activities.

Alcoa Business Sustainability Model



可持续发展与美铝公司

的价值观取得成功的财务、卓越的环境和履行社会责 任、以确保我们的股东、员工、客户、供应商以及我们所 在的社区长期受益。

每一天,我们通过实际行动来履行对可持续发展的长 期承诺-无论是扎根于我们的价值观,还是遵循可持续发 展战略框架, 我们通过清晰的目标来衡量2020年愿景的 实施讲展。

2000年,美铝内部的一个全球小组在分析了1990 年以来经济和社会趋势、展望了未来20年的发展方向之 后,制定了美铝2020年可持续发展战略框架。该框架 已经成为美铝各业务部门和各地机构的综合路线图, 使 其能够将可持续发展的各个方面纳入到公司的日常运作

框架体现以下6项核心内容:

- ◆ 经济效益;
- ◆ 对人的尊重与保护: 员工;
- ◆ 对人的尊重与保护: 社区;
- ◆ 安全与可持续的产品和流程;
- ◆ 通过有效的资源利用满足当前和后代的需要;
- ◆ 责任制与治理。

我们对每项核心内容制定了短期和长期的量化目标,

在美铝,可持续发展被定义为通过合作,运用我们 这些目标得到了公司上下业务领导和技术专家的一致赞 同。此外,我们还扩充了计量体系,每年都采集数据与年 度目标和任务讲行对照。

> 上述框架的制定以及对数据采集系统的扩充,使我们 能够让员工关注可持续发展和意识到问题的重要性, 同时 也体现出管理层致力于正确实现目标的决心。所有这些工 作使我们的员工能够清楚地了解其在可持续发展方面要做 的工作,做到有的放矢。

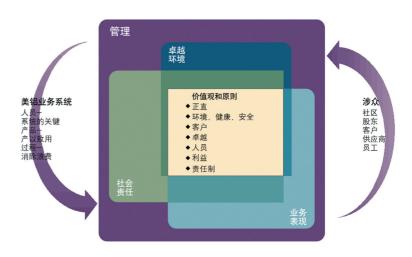
> 关于上述目标、指标和任务的完整说明,请参阅美铝 网站中关于可持续发展部分的阐述 (www.alcoa.com)。

在中国的可持续发展

在中国, 我们将公司可持续发展的目标和框架与我们 的价值观共同作为我们的指导方针。通过本报告中详述的 美铝所倡导的各种活动与合作,我们展现了美铝在可持续 发展方面的领先地位。此外,我们是中国可持续发展工商 理事会和中国外商投资企业协会的成员。

我们在中国的可持续发展道路上面对的主要问题包 括: 遵守公司与当地的环境、健康和安全标准; 对员工进 行可持续发展目标的教育; 与公司所在社区共同解决当地 的问题;鼓励员工参与社区服务的志愿精神。

美铝可持续发展模型



At Alcoa, we understand that sustainable development is not an option but a condition of continued growth. This challenge requires environmental excellence in the operation of our production facilities.

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 and newly acquired 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:
 - 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;
 - 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
 - 25% reduction by 2010
 - Assuming success with inert anode technology, 50% by 2010

From base year 2000

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

These goals will be challenging for our operations in China, as production volume continues to grow significantly. In 2007, for example, our total production output, excluding new locations, grew by 46% overall.

Our environmental efforts earned external recognition in 2007. Alcoa Kushan received the Environmental Protection Excellence Company award from the Kunshan government, while Alcoa Shanghai earned the Pollution Reduction Excellence Company award from the Minhang Environmental Protection Bureau.

在美铝,我们认为可持续发展不是一种选择,而是 实现持续增长的条件。这一挑战要求我们的企业在运营 中保持卓越的环境。

我们追求最大效率和最小环境影响的总体战略是美 铝业务系统目标的核心:

- ◆ 消除一切浪费;
- ◆ 把爱护环境纳入到业务计划中;
- ◆ 建立改进的目标并对过程监督。

我们的工厂在运营中的第一要务就是确保生产设施符合所有的相关法律、规定和许可。我们继续对现有的和新收购的企业进行彻底的法规符合审计,聘请当地独立的专家进行评估,并协助制定及时的纠正行动计划,包括在合适的时候与相关主管部门沟通。

实现卓越的环境绩效的关键战略仍然是在各地企业实施美铝环境、健康和安全管理系统。这一系统与ISO14001一致,确保环境问题以全面、系统且责任落实的方式得到解决。现有的企业定期按照这些要求接受法规符合审计,新收购的企业在运营的头6个月进行差距分析,找出不足并建立纠正行动计划和重点。

我们的环境、健康和安全(EHS)战略的其他组成部分包括:

- ◆ 按照美铝的标准和流程培训EHS专业人员。
- ◆ 对EHS流程的如下方面进行持续的改进:
- 由EHS专业人员领导;
- 采用榜样与帮教的方式在新企业快速开展工作;
- 一线管理人员掌控并部署EHS流程;
- 员工参与;
- 实现沟通、培训和文档的标准化;
- 使用自我评估流程。
- ◆ 涵盖专业性及综合性的EHS计划,数百个全球 EHS标准以及协同改进的EHS管理系统。

2020年可持续发展战略框架中的以下全球减排目标,为我们的企业在环境方面的努力指出方向:

以1990年数字为基准

- ◆ 温室气体排放
- 到2010年降低25%
- 如果惰性阳极技术取得成功,到2010年降低 50%

以2000年数字为基准

- ◆ 单位产品能耗
- 到2010年降低10%
- ◆ 耗水量
- 到2009年降低60%
- 到2010年降低70%
- ◆ 掩埋废物
- 到2007年降低50%
- 到2010年降低75%
- 到2015年降低100%
- ◆ 二氧化硫排放
- 到2010年降低60%
- ◆ 挥发性有机化合物排放
- 到2008年降低50%
- 到2010年降低60%
- ◆ 氮氧化物排放
- 到2007年降低30%
- 到2010年降低50%
- 到2015年降低85%

由于产量持续显著增长,上述目标将是我们在中国运营的挑战。例如,在2007年,公司不包括新企业的总产量整体增长了46%。

2007年,我们在环保方面付出的努力得到了来自社会的表彰。美铝(昆山)铝业有限公司被昆山市政府授予"环保优秀企业奖",美铝(上海)铝业有限公司被上海市闵行区环保局授予"优秀减排企业奖"。

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 2007 incident rate again improved as a result of the focus we placed on environmental management and the attention we gave to establishing the Alcoa environmental management system at our locations.

On December 5, 2007, Alcoa Bohai received an "excellent" score in a clean production audit conducted by the Environmental Bureau of Hebei Province.

Environmental Incident Rate

	Excluding New Location Compliance Audit Findings	Including New Location Compliance Audit Findings
2000	1.5	
2003	10.0	
2004	3.0	
2005	5.3	7.2
2006	2.3	6.7
2007	1.0	1.2

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.

环境事故

对环境事故的报告与调查是我们持续改进战略的重要组成部分。美铝环境事故管理 体系要求对以下类别的所有事故进行报告和调查:

- ◆ 不符合法律或规定;
- ◆ 不符合美铝标准;
- ◆ 遗洒超过20升(在指定围护区域外);
- ◆ 投诉;
- ◆ 对动植物群落的伤害;
- ◆ 交通事故;
- ◆ 其他事故。

我们 2007 年事故率的进一步降低是我们的企业以环境管理为核心和注重建立美铝 环境管理系统的结果。

2007年12月5日,在河北省环保局组织的清洁生产检查中,美铝渤海铝业有限公司获得"优秀"的佳绩。

环境事故率

	不包括对新企业的法规符合 审计发现项	包括对新企业的法规符合 审计发现项
2000	1.5	
2003	10.0	
2004	3.0	
2005	5.3	7.2
2006	2.3	6.7
2007	1.0	1.2

环境事故率的计算方法是将上报事故总数除以上报工厂总数。事故率包括上报到"美铝环境事故管理系统"中所有类别的事故。

Energy

Energy use intensity in 2007 declined for both our existing and new locations due to aggressive efforts to reduce energy consumption.

At Alcoa Bohai, more than 10 initiatives reduced electricity consumption per metric ton of product produced by 12.6% in 2007, saving the location RMB6.3 million (US\$875,000). Examples of these initiatives include the following:

- Installing automatic light control systems;
- Using proper working loads to reduce the dissipation of the transformer;
- Improving maintenance of the water pipes and compressed air pipes to reduce leakage and save energy;
- Using energy-saving products, such as energysaving lamps replacing incandescent and inductance lamps;
- Grouping like-products for production to reduce both waiting times and roller changes:
- Increasing quality to reduce the reject and return rates;
- Implementing preventive maintenance to enhance the reliability of equipment and reduce accidental downtime; and

 Communicating the issue to employees through a supplementary employee newsletter focused on energy saving and a competition to solicit energy-saving ideas.

To improve its power efficiency, Alcoa Shanghai conducted real-time surveillance on its electricity consumption via an electricity management computer system. The location replaced its low-efficiency air compressor to increase power efficiency and save electricity. It also optimized the intermediate annealing furnace and stretch-bending machine to reduce electricity consumption.

Since Alcoa and Shanxi Yuncheng Engraving Group established the joint venture Alcoa (Kunshan) Aluminum Products Company in 2006, the business has taken an active role in energy savings and emission reductions to meet its development needs and satisfy national environmental and energy regulation requirements. Actions have included engaging employees through knowledge sharing and skill training and modifying relevant equipment.

In 2007, Alcoa Kunshan replaced some permanent lighting in the plant area with sound-controlled, energy-saving lighting based on the required light level. The location also improved the power management of its air conditioning system and instituted procedures to turn off lighting and other equipment when not required.

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	18.8

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	318,375

New locations are included after the first full calendar year of operation.

能源

由于我们在降低能耗方面的积极努力,我们的现有企业和新企业在2007年的单位产品能耗都有所下降。

2007年,美铝渤海铝业有限公司发起并实施了10多个项目,将吨产品电耗降低了 12.6%,为企业节省开支 630万人民币(87.5万美元)。项目的主要内容包括:

- ◆ 安装自动照明控制系统;
- ◆ 使用合适的工作载荷,降低变压器损耗;
- ◆ 加强水管和压缩空气管路的维护,减少泄漏,实现节能;
- ◆ 采用节能产品,例如用节能灯替换白炽灯和感应 灯·
- ◆ 统筹安排同类产品的生产持续时间,缩短生产等 待时间,减少换辊的次数;
- ◆ 提高成品率,降低废品率和减少退货率;
- ◆ 加强预检修管理,提高设备的可靠性,减少故障 停机时间;

◆ 通过以节能和节能创意大赛为主题的员工补充刊物. 与员工沟通节能问题。

为提高能源效率,美铝(上海)铝业有限公司通过电力管理计算机系统对电耗进行实时监控。公司更换了低效率的空气压缩机来提高用电效率和降低电耗,并对中间退火炉和拉弯桥进行优化改造,以降低电耗。

美铝公司与山西运城制版集团的合资企业——美铝(昆山)铝业有限公司自2006年成立以来,一直积极地开展节能减排,力求在满足自身发展需要的同时,达到国家有关环保和能源法规的要求。采取的措施包括通过知识交流与技术培训使员工参与到节能活动中,对相关设备进行节能改造。

2007年,美铝(昆山)铝业有限公司根据实际需要的 亮度水平,选用声控节能灯替代了厂区的一些长明灯。该 公司还改进了空调系统的电源管理,并制定了关闭不需要 的照明和设备的程序。

单位产品能耗

10 亿焦耳/吨产成品

10 12点子/元/ 沙太阳		
	不包括新收购企业	包括新收购企业
2000	22.0	
2003	20.0	
2004	19.1	
2005	20.0	
2006	20.1	28.0
2007	15.5	18.8

能源消耗

10亿焦耳当量

不包括新收购企业	
2000 518,279	
2003 588,602	
2004 627,222	
2005 710,808	
2006 753,234 2,022,492	
2007 377,257 318,375	

新公司成立满一年后将收入到相关数据表中。

Water

Both our total water consumption and water consumption intensity increased in our existing facilities in 2007 due to locations acquired in 2006 being included for the first time in the existing locations data. However, the volume of water used by these 2006 acquisitions and the existing locations declined almost 16% between 2007 and 2006 (627,066 kiloliters in 2006 compared to 528,437 in 2007).

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

In 2007, Alcoa Bohai saved 157,158 kiloliters of water and reduced water consumption per metric ton of product produced by 55% compared to 2006. This was accomplished by modifying the water recycle system in the cold rolling mill, shutting down the coal-fired boilers for the shower rooms in the summer and using a solar-heating system, and replacing shower equipment and toilets with water-saving devices. The location also renovated its boiler slag bath and added a submersible pump to the caisson at Dongmen flyover to irrigate the plant's landscaping with water from the caisson.

Alcoa Shanghai tapped its water efficiency potential by conducting its first water-balance measurement at the end of October 2007 and addressing the issues that were revealed. As a result, average monthly water consumption declined from 16,249 kiloliters to 10,824—a 33% reduction. Water consumption per metric ton of product produced declined 28%, from 6.52 kiloliters per ton to 4.68.

Modifications also were made to Alcoa Shanghai's sewage treatment facilities. A new wastewater equalization tank was built to neutralize and treat all of the plant's wastewater and decrease the discharge density of its chemical oxygen demand (COD) and other pollutants.

At Alcoa Kunshan, the water recycling utilization rate has been improved by strengthening the management of the water recycling system, improving the water replenishing system, and adding water sub-meters and flow meters. The location reduced its water consumption per metric ton of product produced from annual average of 22.1 kiloliters per metric ton of product produced in 2006 to 9.7 in 2007—a 56% reduction.

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

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	619,817

Higher water consumption for various years due to fluctuations in production volume. Increase between 2006 and 2007 due to locations acquired in 2006 being included for the first time in the existing locations data. New locations are included after the first full calendar year of operation.

水

由于我们在2006年收购的企业被首次收入到现有企业的数据中,我们现有企业2007年的总耗水量和单位产品水耗都有所上升。但是,这些2006年收购的企业和现有企业的用水量在2006至2007年间下降了将近16%(2006年为627,066吨,2007年为528,437吨)。

我们正在继续努力朝目标前进:降低耗水量、提高水的利用率并确保废水排放完全达到政府和美铝的各项标准。

与2006年相比,美铝渤海铝业有限公司在2007年节约了157,158吨水,将吨产成品水耗降低了55%。这一成绩是通过对冷轧机的水循环系统进行改进,在夏季用太阳能加热系统替代浴室的燃煤锅炉,以及用节水设施替换浴室和厕所设备等措施实现的。该公司还对其锅炉的冲渣池进行了改造,在东门立交桥沉淀水井中安装了一台抽水泵,用沉淀水井中的水浇灌厂区的绿地。

美铝(上海)铝业有限公司在2007年10月底进行了首次水平衡测试,并着手解决测试中发现的问题,从而进一步挖掘了用水效率的潜力。他们将月平均耗水量从16,249吨减少到10,824吨,降低了33%。吨产成品水耗也下降了28%,从6,52吨减少到4,68吨。

美铝(上海)铝业有限公司还对其废水处理设施进行了改造。公司新建了一座废水平衡池,对工厂排出的全部废水进行中和处理,从而降低了化学需氧量(COD)和其他污染物的排放浓度。

美铝(昆山)铝业有限公司通过强化对水循环系统的管理、改良补水系统,以及增加分水表和流量表等措施提高了水的循环利用率。该公司将吨产成品水耗从2006年的年度平均值22.1吨减少到2007年的9.7吨,降低了56%。

单位产品水耗

千升/吨产成品

	不包括新收购企业	包括新收购企业
2000	6.48	
2003	5.09	
2004	5.02	
2005	3.80	
2006	4.42	8.70
2007	4.92	5.56

总耗水量

千升

171		
	不包括新收购企业	包括新收购企业
2000	152,561	
2003	150,202	
2004	164,668	
2005	134,743	
2006	165,271	627,066
2007	528,437	619,817

各年度中较高的耗水量是由于产量的波动造成的。2006年至2007年总耗水量的增长是由于在2006年收购的企业首次被收入到现有企业的数据中。新公司成立满一年后将收入到相关数据表中。

Emissions

Our total emissions increased between 2006 and 2007 due to increased production and locations acquired in 2006 being included for the first time in the existing locations data. However, most of our emissions per metric ton of product produced decreased.

At Alcoa Bohai, the summer shutdown of coal-fired boilers reduced coal consumption by 1,865 metric tons, sulfur dioxide (SO₂) by 13.2 metric tons, nitrogen oxide (NO_X) by 19.95 metric tons, and dust emissions by 7.1

metric tons. The location plans to upgrade its current purification devices for cold mill oil mist in 2008 to reduce VOC emissions.

Two low-pressure pulse bag dust filter systems were constructed at Alcoa Shanghai in 2007 to treat the flue gas from the melting furnaces. This initiative reduced the discharge density of dust, NO_X, and SO₂ at the discharge ports by around 11%.

Air Emissions

Metric tons

	Direct CO ₂	SO ₂	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

Increase in VOCs between 2003 and 2005 due to product mix change. Increase in all emissions between 2006 and 2007 due to increased production and locations acquired in 2006 being included for the first time in the existing locations data. New locations are included after the first full calendar year of operation.

Air Emissions Intensity

Kilograms per metric ton of product produced

	Direct CO ₂	SO ₂	ΝΟχ	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	7.82

Increase in VOC intensity between 2003 and 2005 due to product mix change. New locations are included after the first full calendar year of operation.

排放

2006年至2007年总排放量的增长是由于在2006年收 现有的冷轧机油雾净化装置进行升级改造,以降低挥发性 购的企业首次被收入到现有企业的数据中。但是,大多数有机化合物排放。 吨产成品排放量有所下降。

少了13.2 吨、19.95吨和7.1吨。该公司计划在2008年对 低了约 11%。

2007年,美铝(上海)铝业有限公司安装了2个低压 美铝渤海铝业有限公司在夏季关闭燃煤锅炉, 使煤耗 脉冲布袋式除尘系统, 对熔化炉燃烧废气排放进行处理。 降低了1,865吨, 二氧化硫、氮氧化物和烟尘排放分别减 这一措施使排放口的烟尘、氮氧化物和二氧化硫的排放降

废气排放

	直接二氧化碳	二氧化硫	氮氧化物	挥发性有机化合物
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 (包括新	企业) 48,165	116.2	104.1	1,246.7
2007 (包括新	企业) 60,312	94.8	240.3	1,666.2

2003年至2005年之间挥发性有机化合物排放的增高是产品组合变化的结果。2006年至2007年总排放量的增高是由于在2006年收购的 企业首次被收入到现有企业的数据中。新公司成立满一年后将收入到相关数据表中。

单位产品废气排放量

千克/吨产成品

	直接二氧化碳	二氧化硫	氮氧化物	挥发性有机化合物
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 (包括新企业)	667.9	1.61	1.44	17.3
2007 (包括新企业)	577.0	0.45	0.40	7.82

2003年至2005年之间挥发性有机化合物单位产品排放的增高是产品组合变化的结果。新公司成立满一年后将收入到相关数据表中。

Waste

Reduction of waste generated in the 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.

Overall, our solid waste increased in 2007 due to locations acquired in 2006 being included for the first time in the existing locations data, as well as increased waste from Alcoa Kunshan because of frequent testing and lower rates of finished product. Locations not acquired from 2006 onward maintained their solid waste volume despite increases in production. We also achieved a 26% reduction in our solid waste generated per metric ton of product produced.

Alcoa Kunshan reduced its discharge of hazardous wastes by installing an oil skimmer on the hot rolling emulsion collection box. This skimmer helps eliminate waste hot rolling oil and other impurities floating on the emulsion, thus prolonging the utility life of the emulsion. The location also modified the sealing ring in the cold rolling gearbox, doubling the efficiency of the rolling oil.

The volume of our landfilled waste increased in 2007 due to waste from the employee dormitory being included for the first time in the data. The amount of waste landfilled per metric ton of product produced declined 13%

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	79.24

Without demolition and construction waste from a facility undergoing major renovation, 2006 numbers would have been 2,525 metric tons and 7.6 kilograms per metric ton, respectively. Increase between 2006 and 2007 due to locations acquired in 2006 being included for the first time in the existing locations data, as well as increased waste from Alcoa Kunshan. New locations are included after the first full calendar year of operation.

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

Increase between 2006 and 2007 due to waste from the employee dormitory being included for the first time in the data. New locations are included after the first full calendar year of operation.

废物

减少生产过程中产生的废物是保护资源和降低成本的 一个重要手段,我们的每个工厂都已将减少废物的战略 纳入其业务计划。

总体上看,2007年固体废物的增长是由于在2006年收购的企业首次被纳入到现有企业的数据中,此外美铝(昆山)铝业有限公司频繁的产品测试和较低的成品率也是造成2007年固体废物增长的原因之一。非2006年收购的企业尽管提高了产量,其固体废物量仍保持稳定。我们还将吨产成品固体废物降低了26%。

美铝(昆山)铝业有限公司在热轧乳化液回收箱安装了撇油器,降低了有害废物的排放。撇油器有助于清除废热轧油和漂浮在乳化液上的其他杂质,从而延长乳液的使用寿命。该公司还改进了冷轧机齿轮箱中的密封环,使冷轧油的效率提高了一倍。

2007年掩埋废物量的增加是由于员工宿舍产生的废物首次被计入到数据中。每吨产成品的掩埋废物量降低了13%

固体废物

	固体废物生成总量 <i>吨</i>	单位产品固体废物生成量 <i>千克/吨产成品</i>
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 (包括新企业)	7,506	104.1
2007 (包括新企业)	12,761	79.24

如果不考虑一个大型翻建项目设施中的拆建废物,2006年的数字将分别为2,525吨和7.6千克/吨。2006年至2007年之间总量的增加是由于在2006年收购的企业首次被收入到现有企业的数据中,以及美铝(昆山)铝业有限公司的掩埋废物量有所增长。新公司成立满一年后将收入到相关数据表中。

掩埋废物

	掩埋废物总量 <i>吨</i>	单位产品掩埋废物生成量 <i>千克/吨产成品</i>
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 (包括新企业)	847	11.7
2007 (包括新企业)	928	9.3

2006年至2007年之间掩埋废物量的增加是由于员工宿舍产生的废物首次被计入到数据中。新公司成立满一年后将收入到相关数据表

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 2007. In addition, our Bohai Hot Mill construction project achieved more than 1 million hours without experiencing a lost workday.

Unfortunately, our lost workday and total recordable rates in our China operations as a whole increased during the same timeframe due to an increase in hand injuries. As a result, we are deploying a comprehensive safety campaign and hand injury prevention program throughout 2008.

To achieve zero illnesses and injuries in China, we must continue to improve our implementation of the following initiatives:

- A field personal exposure sampling process to determine the likelihood of potential occupational illnesses affecting our employees;
- Segregation of mobile equipment (vehicles and cranes) from pedestrians by secured barriers to minimize vehicle/pedestrian contact;
- Process to isolate energy sources before allowing operators to adjust or repair equipment;
- ◆ Implementation of fall prevention and protection

devices to existing and new equipment and construction activities;

- A confined space entry process that requires a risk assessment, a risk management plan, an entry procedure, emergency response instructions, energy isolation instructions, an entry/non-entry rescue risk assessment, and a work permit;
- A contractor safety management program that includes a contractor safety screening process, an EHS review for each project, training, and field controls:
- Electrical safety procedures that include clear labeling (code, description, up-stream supply, safe arc flash boundary, personal protective equipment rate, and more);
- Comprehensive health and safety awareness and skills training and communication.

Our efforts on creating a safe and supportive work environment have been widely recognized across China and within Alcoa. In 2007, Alcoa Electrical and Electronic Solutions (Shanghai) Co., Ltd. earned recognition within Alcoa as the "Most Improved Location in EHS" for achieving the zero safety target—zero recordable incidents, lost workdays, and environmental issues.

Qinhuangdao Quality & Technology Supervision Bureau recognized Alcoa Bohai for its safety management on special equipment. The location was also named a model company for safety and health by the Hebei Safety Bureau and Trade Union. In addition, Alcoa Kunshan earned the AnKang Cup safety recognition from the Kunshan Labor Union.

We also take our health and safety focus into the community, with many of our employees participating in these events. In 2007, for example, our employees participated in blood drives and helped the disabled.

New Website Gives Employees Easy Access to EHS Information

Critical environment, health, and safety information is just a mouse click away for employees at Alcoa Electrical and Electronic Solutions (Shanghai) Co., Ltd. thanks to a new website launched in May 2007.

Designed to manage the location's EHS management system, the website gives employees fast and easy access to the information they need to work safely. The goals of the EHS website include the following:

 Provide easy access to a central EHS data source;

- Permit centralized control of EHS documents;
- Consolidate the documentation systems required by Alcoa EHS protocols, ISO 14001, and OHSAS 18001;
- Share best practices and EHS development information across the business and other Alcoa locations;
- Enhance EHS communication, drive EHS engagement, and improve employee satisfaction.

The EHS website has played a significant role in helping the business achieve improved EHS performance, earn Alcoa's "First-Time Audit" corporate award, and complete ISO 14001 certification in 2007.

健康与安全

在美铝,我们相信成功的安全体系建立在价值观与 原则的基础之上,员工、信任与生产系统的稳定性是奠 定这一安全体系的基石。无工伤和无职业病是我们的长 期目标,我们相信可以在生产中将其实现。

我们认为人的生命高于一切,因此我们一直致力于预防死亡事故来加强对风险的管理,以期建立这样一种安全文化——没有任何业务目标或客户要求比我们员工的康宁更为重要。

2007年,美铝在中国的企业未发生员工或承包商的死亡事故。此外,我们的渤海热轧厂建设项目还取得了超过 1百万小时无损失工作日的佳绩。

不幸的是,由于手部伤害事故的增加,从整体上看, 美铝中国的损失工作日和有记录事故率有所上升。因此, 我们正在开展和实施贯穿2008年全年的综合性安全活动 以及预防手部伤害计划。

为了实现在中国无职业病和无工伤的目标,我们必须 进一步推动以下工作的实施:

- ◆ 通过现场个人卫生暴露采样,确定导致员工职业 病的潜在风险;
- ◆ 安装护栏将移动设备(车辆与吊车)与行人隔 开,减少车辆与行人的接触;
- ◆ 在切断动力源之后,方可允许操作人员调节或修 理设备;
- ◆ 对现有和新设备以及在建筑活动中实施坠落防护,落实防护设施;

- ◆ 密闭空间准入要有风险评估、风险管理计划、进入程序、紧急反应指南、能源隔离指南、进入/非进入救援风险评估,以及工作许可;
- ◆ 实施承包商安全管理计划,包括承包商安全检查 流程,每个项目的环境、健康和安全审核、培训 以及现场控制;
- ◆ 电气安全程序,包括明确的标识 (标号、名称、 上游供电、电弧安全区、个人防护等级等);
- ◆ 综合性的健康与安全知识、技术的培训和沟通。

我们为创建安全与支持性的工作环境所付出的努力得到了中国社会和美铝内部的广泛赞誉。2007年,上海奇线汽车电气系统有限公司被美铝评为"在环境、健康和安全方面进步最大的公司",以表彰其在实现零安全目标——零有记录事故率、零损失工作日和零环境问题方面的成绩。

秦皇岛市质量技术监督局表彰了美铝渤海铝业有限公司在特种设备安全管理方面的突出表现。该公司还被河北省安全生产监督管理局和工会命名为安全与健康模范公司。此外,美铝(昆山)铝业有限公司还获得了昆山市总工会颁发的安康杯。

我们还把对健康与安全的关注延伸到社区,我们的许多员工都参与了社区活动。例如,在2007年参加了献血和帮助残疾人的活动。

新网站使员工们能够便捷地了 解环境、健康和安全信息

2007年5月,上海奇线汽车电气系统有限公司的新网站发布后,员工们只需轻点鼠标,就可查看重要的环境、健康和安全(EHS)信息。

新网站可以管理该企业的EHS管理系统,员工们可以快捷方便地查到他们安全工作所需的信息。EHS网站的目标包括:

- ◆ 提供易于查询的中央EHS数据源;
- ◆ 允许对EHS文档进行集中控制;

- ◆ 统一美铝EHS协议、ISO 14001和OHSAS 18001所需的文档系统;
- ◆ 实现该企业和其他美铝企业间最佳实践和 EHS开发信息的共享;
- ◆ 加强 EHS沟通,增进对EHS的参与,提高员工满意度。

2007年,EHS网站在帮助该企业提高EHS绩效, 赢得 "一次通过审计"公司奖和完成ISO 14001认证 中发挥了重要作用。

Health & Safety

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

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). New locations are included after the first full calendar year of operation.

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

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). New locations are included after the first full calendar year of operation.

Increased Focus on Safety Cuts Lost Workday Rate in Half at Alcoa Bohai

At Alcoa Bohai, capital investments and various initiatives helped the location reduce its lost workday rate in half compared with 2006.

In 2007, Alcoa Bohai invested RMB6.5 million (approximately US\$900,000) to improve the safety of its production environment. Initiatives included fall prevention, fire control, mobile equipment safety control, and electrical safety.

For example, fall prevention projects covered modifications to the overhead crane escape passage; the installation of lifelines, rails, and a standard rolling ladder to the roof; and protective fencing on the roof around a skylight.

The location continued to encourage its employees to report injury-free accidents to investigate the injury potential and implement strategies to mitigate or eliminate any risks. In 2007, employees reported 1,933 injury-free incidents, with 99.7% of

them resulting in modifications.

To push the safety management to a higher level, Alcoa Bohai implemented peer safety review in May 2007. By December 2007, 25% of the employees had participated in a peer review and helped contribute to the identification and elimination of injury risks.

After an aluminum liquid explosion in a factory in Shandong—not an Alcoa operation—Alcoa Bohai established a melted aluminum explosion prevention team. The team focused its work on the production process, equipment, infrastructure, and employee training.

In 2007, Alcoa Bohai earned the "Unit of Excellence on the Safety Management of Special Equipment" award from the Quality and Technology Supervision Bureau in Qinhuangdao City. The location also received the excellence award in the AnKang competition organized by the Supervision and Administration Bureau on Safety Production in Hebei Province. In addition, an EHS audit conducted by Alcoa corporate in May 2007 resulted in a "good" rating.

损失工作日比率

	不包括新收购企业	包括新收购企业
2003	0.00	
2004	0.00	
2005	0.14	
2006	0.15	0.35
2007	0.32	0.26

损失工作日比率指的是每20万工作小时(相当于大约100位全职员工)中因受伤及疾病导致的离开工作岗位1天或多天时的工伤及疾病的数量,不论是否有转换岗位或工作受限的情况。新公司成立满一年后将收入到相关数据表中。

有记录事故率

	不包括新收购企业	包括新收购企业
2003	0.99	
2004	0.67	
2005	1.41	
2006	0.60	0.91
2007	1.30	1.35

有记录事故率指的是每20万工作小时(相当于大约100位全职员工)中因工伤及疾病导致的离开工作岗位多天、转换岗位或工作受限,进行治疗或其他需要记录的情况时的数量。新公司成立满一年后将收入到相关数据表中。

美铝渤海铝业有限公司将安全 放在更重要的核心位置,使损 失工作日比率下降一半

美铝渤海铝业有限公司通过投资改造及各种项目,与2006年相比,损失工作日比率下降一半。

2007年,美铝渤海铝业有限公司投资了650万人 民币(约90万美元)改善其生产环境的安全性。具体 项目包括坠落防护、消防、移动设备安全保障和电气 安全

例如,坠落防护项目包括改进桥式起重机的逃生 通道,在顶部安装救生索、栏杆和标准的滚动梯,在 顶部天窗周围安装防护围栏。

该企业一直鼓励员工报告无工伤事故,以便在此基础上对可能造成伤害的风险进行调查,实施降低或消除风险的战略。2007年,员工们报告了1,933件无

工伤事故,其中99.7%随后进行了改进。

为了将安全管理工作推向更高的水平,美铝渤海铝业有限公司在2007年5月实施了同事安全平行互审机制。2007年12月,25%的员工已经参加过同事平行互审,帮助发现并消除事故风险。

在山东一家工厂发生了铝液爆炸事故(非美铝企业)之后,美铝渤海铝业有限公司组建了液铝爆炸预防团队。该团队的工作重点放在生产过程、设备、基础设施和员工培训。

2007年,美铝渤海铝业有限公司荣获秦皇岛市技术监督局颁发的"特种设备安全管理先进单位"奖。该企业还在河北省安全生产监督管理局组织的"安康杯"竞赛中获得优秀奖。此外,该企业在2007年5月美铝公司进行的环境健康安全审计中获得"良好"评级。

Our People

Our people are our most valued asset, and we believe our actions underscore the importance we place on providing a fair and safe work environment where individuals are afforded the respect and opportunities for growth that they deserve.

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

Since 2006, with concerted effort from business unit leaders and human resources, 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 diverse recruiting channels, we are filling jobs, on average, in 101 days versus 115 days in the prior year.

We began piloting our Campus Recruitment Program in October 2006 and fully launched the program in 2007 to realize Alcoa's commitment to, and strategy of, developing local talent. By developing and strengthening recruiting partnerships within targeted universities, we had 24 new graduates join Alcoa China in August 2007 and another 23 planned for the summer of 2008. We have developed a one-year training program for these new graduates, helping us build a reputation among our target schools as a preferred employer for students.

We launched the first phase of our Oracle people system in August 2007, and assignment data for about 1,600 employees are now available on the system. We will continue to deploy compensation management and performance management modules in 2008.

We are still facing the challenge of talent competition in this dynamic market. Tremendous effort has been made to build our people capabilities through coaching, mentor programs, on-the-job training, regional leadership training programs, overseas training, and special assignments. This effort has resulted in improved succession management for, and an increased pipeline of, local talent in technical and managerial positions in the organization.

Engaging Our People

We believe that engaging our employees at all levels is the key to the success of our businesses. In 2007, the Asia region achieved an excellent 87% participation rate in Alcoa's "Global Voices" annual employee survey. The employee engagement index result for our Asia regional offices was 58% versus 48% in the prior year, while the result for the China Rolled Products business unit was 60% versus 58%. Actions to improve engagement results include setting up the Asia portal (intranet site), holding monthly employee communication meetings, conducting team development activities, and enhancing performance management.

Suggestion and reward and recognition systems have been rolled out in all key locations and businesses, including Alcoa Electrical and Electronic Solutions (Shanghai) Co., Ltd. and our plants in Bohai, Shanghai, and Kunshan. These systems encourage and recognize the active participation and involvement of employees at all levels to provide creative ideas to improve our business performance.

Creating a Fair and Safe Work Environment

To help our employees better deal with family crises and stress and to balance their work and personal lives, Alcoa China launched an employee assistance program (EAP) in October 2007.

The program aims to provide assistance to employees and their direct family members who have personal problems that may be disrupting an employee's life at home and/or work performance. Under this program, these individuals have access to free, professional, and confidential face-to-face counseling in five major cities—Beijing, Shanghai, Kunshan, Qinhuangdao, and Hong Kong. Telephone counseling is available nationwide.

We also have taken every effort to ensure our employment processes and policies are in compliance with the new China Contract Law. We contribute all required social insurance, pension, and housing funds for all of our employees. In mid-2007, we launched a benefits harmonization program to provide supplemental life and medical benefits to our employees. This program will enhance employee engagement and retention and ensure consistent benefits across all Alcoa China entities.

我们的员工是公司最宝贵的财富。我们相信,我们所 采取的措施注重为员工提供公平与安全的工作环境,使每 位员工都得到应有的尊重和事业发展机会。

我们在中国业务的持续增长要求我们更加重视员工系统,以及人才的招聘、培养和任用。

2006年以来,在各业务单位领导和人力资源部门的 共同努力下,我们已经建立了一支业务精湛的招聘团队, 并且为中国的各个业务单位提供了有效的招聘共享服务。 通过拓展和丰富招聘渠道,我们的职位平均招聘周期已经 从前一年的115天缩短到101天。

我们从2006年10月开始尝试"校园招聘计划",并在2007年全面启动了这一计划,以实施美铝的人才战略、实现对培养本地人才的承诺。通过与选定的大学建立并加强招聘合作,24名应届大学毕业生已于2007年8月加入了美铝中国,另外23名毕业生将于2008年夏入职。我们为这些应届大学毕业生设计了一项为期一年的培训计划,使我们在这些大学里得到好评,成为学生们喜爱选择的公司。

2007年8月,Oracle人才系统一期启动,现在系统中已经收入了约1,600名员工的任职数据。2008年,我们将继续推广薪酬管理和绩效管理模块。

瞬息万变的市场使我们仍面临着人才竞争的挑战。通过辅导、导师计划、在职培训、区域领导力培训项目、海外培训和特殊任命等形式,我们为提高员工能力付出了极大的努力,改善了人才接班人管理,为公司的技术与管理职位培养了更多高水平的本地人才。

员工敬业度

我们相信,各级员工的敬业度是我们事业成功的关键。

2007年,在美铝进行的"全球之声"年度员工调查中,美铝亚洲区出色地达到了87%的参与率。亚洲区办公室的员工敬业度从前一年的48%增长到58%;中国压延产品集团的员工敬业度也从前一年的58%上升到60%。公司采取了多项措施提高员工的敬业度,包括建立美铝亚洲内部网站,每月召开员工沟通会,举办团队建设活动以及强化绩效管理等。

所有核心企业和业务单位,包括上海奇线汽车电气系统有限公司以及我们在渤海、上海和昆山的工厂,均启动了合理化建议与奖励表彰机制。这些机制鼓励并奖励各级员工积极参与献计献策,提出改善业务绩效的创新性建设。

创建公平与安全的工作环境

为帮助我们的员工更好地对待家庭事务和压力,使他们在工作和个人生活之间达成平衡,美铝中国在2007年10月启用一套员工辅助计划(EAP)。

员工及其直系亲属的个人问题可能影响员工的家庭生活和(或)工作绩效,这项计划旨在为这些员工和他们的直系亲属提供所需的帮助,使他们能够在5个主要城市——北京、上海、昆山、秦皇岛和香港,获得免费、专业且私密的面对面咨询,而且在全国范围内都可以进行电话咨询。

我们尽力确保我们的聘用过程和政策符合中国新《劳动法》的规定。我们为所有的员工按规定交纳了社会保险、养老和住房基金。2007年中期,我们实施了一项综合保险福利计划,为我们的员工提供补充人寿和医疗福利保险。这项计划将有助于提高员工的敬业度和凝聚力,并确保在所有美铝中国运营单位中福利的一致性。



员 工

The program coverage includes:

- Group life and accidental death and dismemberment insurance:
- Inpatient and outpatient services;
- Maternity insurance;
- ◆ Children's medical services;
- Mutual pool insurance;
- ◆ Critical illness insurance; and

◆ A hospital allowance.

About 1,500 employees benefit from this program, which has had a very positive impact on employee morale.

In 2007, the Bohai Trade Union was established with the support of Bohai management. The union, which includes 740 of our employees, organized various activities that 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

Numbers reflect employees under Alcoa management.

Labor Costs

Millions

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

Includes salaries plus employee expenses for external training, transfer and relocation, expatriate costs, workers' compensation, travel, recognition and rewards, medical expenses, meals and 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; and 7.2 for 2007.

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

这项计划覆盖了:

- ◆ 一年定期寿险、意外事故死亡和意外残疾保 险:
- ◆ 住院与门诊医疗;
- ◆ 女性生育保险;
- ◆ 员工子女医疗服务;
- ◆ 公共保额;
- ◆ 重大疾病保险;

◆ 住院补贴。

大约 1,500名员工从这项计划中收益,这项计划对鼓舞员工的士气产生了非常积极的影响。

2007年,美铝渤海铝业有限公司在公司领导的支持下,成立了工会。公司中740名员工加入了这个工会。去年该工会组织了各种活动,其中包括为支持北京奥运会举办的"秦皇岛国际徒步大会"。

在中国的员工数量

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

此数字反映了美铝运营企业的员工数量。

劳动力成本

百刀

	人民币	 美元
2003	87	11
2004	116	14
2005	175	22
2006	315	40
2007	335	47

主要包括薪金和下列各项员工支出:外部培训、调动与异地安置、外派员工成本、员工补贴、差旅、表彰与奖励、医疗费、餐费、招聘、交通、教育、工作服和其他与员工相关的费用。未包括合同工和临时工。2003年至2005年的美元对人民币汇率为8.1 ,2006年的汇率变为7.9,2007年为7.2。

人事体系

	建立了绩效管理体系的企业	建立了美铝标准的岗位级别的企业
2003	2	1
2004	4	3
2005	6	7
2006	11	12
2007	14	14

Community

Building strong community relationships is critical to Alcoa's long-term success and growth in China. In addition, our commitment to social responsibility means helping instill in the community, where appropriate, the values that guide our actions not only in China but around the world.

Alcoa Foundation supports the growth not only of Alcoa but also that of the Chinese communities in which we have operations or businesses. The foundation's engagement in the country focuses on environmental improvement, education (specifically rural and child), health and safety, and community services.

Through six of our locations, Alcoa Foundation awarded more than US\$2 million in grants for 10 projects in 2007 that focused on aluminum education, environmental improvement, and education. The foundation also provided disaster relief grants to help Yunnan Province and the Menghai area rebuild facilities that were destroyed by an earthquake.

More than 500 employees volunteered during Alcoa's Month of Service in October 2007, and we awarded eight ACTION grants for employee volunteerism throughout the year. We also continued to roll out the Alcoa Community Framework at each location to further our engagement with community stakeholders. Background on the framework, as well as the Month of Service and ACTION program, can be found at www. alcoa.com/community.

Major 2007 activities and investments included the following:

- Community grants:
 - Alcoa (China) Investment Co., Ltd.—Worked with the China Forum of Environmental Journalists on a program to train environmental protection volunteers.
 - Alcoa (China) Investment Co., Ltd.—Donated US\$100,000 to the Red Cross Society of China's Yunnan Branch to help rebuild homes and facilities destroyed in an earthquake.
 - Alcoa (China) Investment Co., Ltd.—Provided a US\$160,000 grant in support of the "Aluminum Gallery" exhibition at the China Science and Technology Museum in Beijing and the Shanghai Science and Technology
 - Alcoa (Shanghai) Aluminum Products Co., Ltd.—Worked 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.
- Alcoa Closure Systems International (Tianjin)
 Co., Ltd.—Funded a program on safety and

health for children and their families.

- Alcoa Closure Systems (Hangzhou) Co., Ltd.—Continued financial support of an employment ability support program for students from poor families.
- Alcoa Bohai Aluminum Industries Company Limited—Helped build water tanks in the mountain area of Qinhuangdao to help farmers capture rainwater for use in the dry season to increase their income and improve their quality of life.
- Alcoa Bohai Aluminum Industries Company Limited — Continued to support the Qinhuangdao Bird Watching Association and Wild Birds SOS Center to nurse injured birds that are then measured, banded, and released into the wild.
- Alcoa (Kunshan) Aluminum Products Co., Ltd. — Provided funds to help the local community set up a rehabilitation center for disabled people.
- ◆ Leadership in Sustainability Forum—We initiated and sponsored the Leadership in Sustainability Forum in Beijing that brought together U.S. business leaders in China with government officials and scientists to look for greater cooperation and a platform for future collaboration and more informed decision making on sustainability issues by industry, governments, and communities.
- ◆ Special Olympics—Twenty-six employees from Alcoa Electrical and Electronic Solutions (Shanghai) Co., Ltd. volunteered for 10 days to support the 2007 Special Olympics World Summer Games in Shanghai in October 2007. The Shanghai municipal government gave special recognition to the business for its contributions.
- ◆ Major Alcoa Foundation investments:
 - Alcoa Foundation, along with Alcoa, sponsored the Solomon R. Guggenheim Foundation's exhibition, "Art in America: 300 Years of Innovation," which was exhibited in Beijing and Shanghai during 2007 and was viewed by almost 1 million people.
 - A two-year, US\$100,000 grant to support the Rule-of-Law Program at Temple University in Philadelphia allowed Temple, the Supreme People's Court of the PRC, and the National Judicial College to successfully carry out two Judicial Education Programs (JEPs), with components in China and the United States. Temple provided the participating judges with intensive instruction on judicial system topics, including transparency in legal proceedings, accountability in legal process, human rights norms, and decision drafting.

建立牢固的社区关系对美铝在中国的长期成功和增长 是至关重要的。此外,我们对社会责任的承诺意味着我们 不仅在中国,而且在世界各地任何适宜的时机,在社区中 灌输指导我们行动的价值观。

美铝基金会不仅支持美铝的成长,而且也支持我们所在的中国社区的成长。基金会在中国的工作重点是改善环境、教育(尤其是农村和儿童教育)、健康与安全以及社区服务。

2007年,美铝基金会通过美铝在中国运营的6家企业为10个项目资助了200多万美元。这些项目主要涉及铝的知识科普、环境改善和教育。美铝基金会还向云南省的勐海地区提供了救灾款,帮助他们重建在地震中毁坏的家园。

2007年10月,500多名员工成为"美铝服务月"的志愿者。我们员工的志愿者精神在去年获得了8项 ACTION 奖。我们还在各企业继续实施"美铝社区框架",进一步促进我们与社区涉众的融合。有关上述框架,以及"美铝服务月"和"ACTION"计划的背景,请参见 www.alcoa.com/community。

2007年的重要活动和捐赠包括:

◆ 社区资助:

- 美铝(中国)投资有限公司——与中国环境新闻工作者协会合作,实施了一项环保志愿者培训计划。
- 美铝(中国)投资有限公司——向红十字会中 国云南分会捐款10万美元,用于帮助重建在地 震中被毁坏的设施和家园。
- 美铝(中国)投资有限公司——提供16万美元资助在北京中国科技馆和上海科技馆举办的"铝殿堂"展览。
- 美铝(上海)铝业有限公司——与上海的珍·古道尔研究会合作,在该研究会的"根与芽"项目中为现有的和新成立的学生团体提供环境培训和材料。
- 美铝国际瓶盖系统 (天津) 有限公司——资助了 一项针对儿童和他们家庭的安全与健康计划。
- 美铝瓶盖系统(杭州)有限公司——继续为针 对来自贫困家庭的学生实施的就业能力支持计

划提供资助。

- 美铝渤海铝业有限公司——帮助秦皇岛市山区农民建造蓄水池,用来收集雨水供其在旱季使用。该项目增加了农民们的收入并提高了他们的生活质量。
- 美铝渤海铝业有限公司——继续支持秦皇岛观 鸟协会和野生鸟类救助中心照顾受伤的鸟类, 并对它们进行测量、环志和放飞。
- 美铝(昆山)铝业有限公司——为当地社区建 设残疾人康复中心提供资金。
- ◆ 引领可持续性发展论坛——我们赞助了在北京举办的"引领可持续性发展论坛"。这次论坛使在中国的美国企业领导们与中国政府官员以及科学家们齐聚一堂,探讨开展更广泛的合作,谋求建立未来的合作平台,使行业、政府和社区在可持续发展问题上的决策更加透明。
- ◆ 特殊奧林匹克运动会——2007年10月,10名来 自上海奇线汽车电气系统有限公司的员工作为志 愿者,为在上海举办的"2007年上海世界特殊奥 林匹克运动会"服务了10天。上海市政府对该公 司的贡献给予了表彰。

◆ 美铝基金会的重要捐赠:

- 美铝基金会与美铝公司共同赞助了古根汉姆基金会的展览——"美国艺术300年:适应与革新"。该展览2007年在北京和上海举办,观众近100万人。
- 出资10万美元,资助费城坦布尔大学的一项为期两年的"法制课程",该项目使坦布尔大学、中国最高人民法院和国家法官学院成功地开办了两期"司法教育课程"。该课程的内容在中美两地教授。坦布尔大学邀请的法官对包括法律诉讼中的透明度、法律程序中的问责制、人权准则和裁决的起草等司法问题做了细致的讲述。

社区

- Conservation International (CI) is using a
 US\$250,000 grant to: create a conservation
 plan for China's freshwater needs; determine
 the structure of a China Freshwater Fund;
 and accelerate community education efforts
 on the value of ecosystem health and the
 resources they provide.
- A US\$250,000 grant to The Nature Conservancy (TNC) is being used to assist with the establishment of national parks in northwestern Yunnan Province, in an area globally recognized as a biodiversity hot spot;
- adapt practices to reduce deforestation in the upper reaches of Asia's four great rivers; and promote sustainable solutions to the growing tourism industry in this region.
- Tsinghua University continued as an academic partner in Alcoa Foundation's six-year, US\$9.2 million Conservation & Sustainability Fellowship Program. The program is advancing knowledge in the field of conservation and sustainability through fellowships to outstanding academics and practitioners from non-governmental organizations.

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

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; and 7.2 for 2007.

China ACTION Grants

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

Not all employee volunteer activities are covered by ACTION grants.

Aluminum Gallery Raises Awareness of Environmental Protection

Through activities, pictures, and words, schoolchildren and adults in Beijing and Shanghai were introduced to the concepts of aluminum and sustainability through the "Aluminum Gallery" exhibit sponsored by Alcoa Foundation.

Opening in 2007 in Beijing and moving to Shanghai in early 2008, the exhibition provided age-appropriate activities—often conducted by Alcoa volunteers—to help diverse audiences gain a better understanding of the extensive use of aluminum in modern life. For example, younger students cut aluminum foil into shapes like animals, ships, and planes to learn about foil's capabilities in everyday life. Older children visited

a question-and-answer booth to help them digest what they had seen in the exhibition.

"I got to know Alcoa's name since Alcoa Shanghai held a free concert in my school last April," said Wang Dandan, a student from Minhang No. 4 Middle School in Shanghai. "At that time, I thought the company was giving us a good opportunity to better know the outside world. This time, Alcoa brings the Aluminum Gallery to all the children in Shanghai. The exhibit helps expand our vision and stimulates our interest in science. I really appreciate it."

Madam Zuo Huanchen, former mayor of the Shanghai Municipal Government and present vice chairman of the Shanghai 10th Committee of the Chinese People's Political Consultative Conference, praised the exhibit and its contribution in raising children's interest in science and innovation and their awareness of environmental protection and energy conservation.

- 捐助给保护国际的25万美元正在用于:建立一项解决中国淡水需求的保护计划;确立中国淡水基金会的结构;推进对社区进行生态系统健康价值教育以及用于他们提供的其他资源。
- 向美国大自然保护协会捐助25万美元,用于支持在云南省西北部一块全球公认的生物多样性 热点地区建立国家公园;采取措施在亚洲四大河流的上游减少森林砍伐;在该地区不断发展

的旅游业推行可持续性解决方案。

 清华大学在美铝基金会的一项为期6年,出资 920万美元的"全球环境保护和可持续发展奖 学金计划"中,继续成为学术合作伙伴。该计 划通过向来自非政府组织的杰出学者和可持续 发展工作者提供奖学金,推进环境保护和可持 续发展领域的学术进展。

美铝基金会对中国社区的捐助

	人民币	美元
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

2006年和2007年的数字包括美铝基金会对中国的项目提供的直接和第三方资助的总和。2004年和2005年的美元对人民币汇率为8.1,2006年的汇率变为7.9,2007年为7.2。

中国"美铝牵手社区"项目资助

	2005	2006	2007
资助次数	3	7	8
人民币价值	72,900	165,900	172,800
美元价值	9,000	21,000	24,000
小时数	384	1,402	2,614
员工志愿者数量	96	359	539
各项目平均小时数	4	4	4

并不是所有的员工志愿者活动都申请了"美铝牵手社区"项目资助。

"铝殿堂"提高了人们的环保 意识

美铝基金会赞助的"铝殿堂"展览通过活动、图 片和文字向北京和上海的学生和成年人介绍了铝和 可持续发展的概念。

"铝殿堂" 2007年在北京开幕, 2008年初移师上海, 展览上安排了一些适合各个年龄段的活动 (通常由美铝志愿者进行组织), 帮助不同的观众 更好地了解现代生活中铝的广泛应用。例如, 低年级的学生们将铝箔剪成动物、轮船和飞机的形状, 使他们了解了铝箔在日常生活中的各种用途。较大一点的孩子通过在问答台前回答问题, 消化了他们

在展览中学到的知识。

"我知道美铝的名字,因为美铝上海去年4月在我们学校举办过一场免费音乐会,"上海闵行区第四中学的学生王丹丹说,"在那时,我就觉得这家公司给了我们一个更好地了解外部世界的机会。这次,美铝又把"铝殿堂"带给了上海的所有孩子。这次展览开阔了我们的视野,激发了我们对科学的兴趣。我非常感谢它。"

前上海市副市长,现任中国人民政治协商会议上 海市第十届委员会副主席左焕琛女士对此次展览以 及它在激发孩子们对科学和创新的兴趣,提高他们 的环保节能意识方面所做出的贡献表示赞赏。

Economic

By 2020, global demand for aluminum is projected to double from the year 2005, and China alone will consume as much aluminum as the rest of the world does today. With such opportunities available, we must explore our options in China so we can support and foster this growth.

From a rolled products perspective, our growth strategy in China has focused on our recently acquired Kunshan and Bohai plants. Our most significant investment is at our Bohai facility, where we are installing a hot mill, cold mills, and a lithographic sheet line. We are making great progress, especially with the hot mill.

We are also actively helping Chinese companies improve their technologies and management systems in the areas of environmental awareness and protection, health, and safety. We strongly believe that with our active participation in the Chinese aluminum industry, we will help the industry successfully move to the next stage and achieve higher productivity, less emissions, and improved energy efficiency.

Within China, Alcoa is a leader in a number of markets. 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 our leadership position and help China's aluminum industry progress, we are actively seeking additional business and investment opportunities in the country.

In 2007, our growth strategy for China consisted of the

following

- ◆ Implementing major flat-rolled product initiatives:
 - Building the new sheet mill (an approximately US\$300 million investment) at our Bohai foil mill in Qinhuangdao that will start production in 2008. The new mill, along with associated casting and finishing equipment, will produce products for several key markets in China, including lithographic sheet for the printing industry; can body sheet for the beverage packaging industry; transportation sheet for rail and commercial vehicles; and high-end surface-sensitive sheet for the electronics markets
 - Continuing to ramp up production at the Kunshan sheet mill. The focus will be on producing brazing sheet for the growing Asian automotive market.
 - Continuing to focus on and grow in the highend foil market segments at our foil mills in Shanghai and Qinhuangdao.
- Forming a partnership with Yutong Bus to apply world-class structural design, materials, and manufacturing technologies to develop a new generation of energy-efficient, environmentallyfriendly buses for China's growing commuting public and for the 2008 Olympics.
- Making significant progress in our upstream presence in China through our business 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.

到2020年,全球对铝的需求量将有望在2005年的基础上翻一番。那时中国的铝消费量将相当于目前中国以外全世界消费量。在这样的机会面前,我们必须探索美铝在中国的发展之路,支持和培育中国的这种增长。

从轧制产品的角度看,我们在中国增长战略的重点 是我们最近收购的美铝(昆山)铝业有限公司和美铝渤 海铝业有限公司。我们最大的一笔投资投在了渤海工 厂,在该厂安装了一台热轧机、几台冷轧机和一条印刷 板生产线。我们正在取得长足的进步,尤其是在热轧领 域。

我们正在积极地帮助中国公司在环境意识与环境保护、健康和安全方面改进他们的技术和管理系统。我们坚信,我们对中国铝工业的积极参与,将有助于这一产业成功地迈向新的阶段,实现更高的生产力、更低的排放和更高的能源效率。

在中国,美铝是多个市场上的领先者。例如,我们是最大的钎焊板和铝箔供应商之一,在美铝渤海铝业有限公司的生产线建成后,我们还将是国内最大的印刷板材供应商。我们也是最大的罐料供应商之一,此外,中国制造的ARJ21喷气客机的大部分铝材都是我们供应的。

为了保持我们的领先地位,以及为中国铝工业的发 展贡献力量,我们正在中国积极地寻找新的业务和投资 机会。

我们2007年的中国增长战略包括以下内容:

◆ 实施重要的轧制产品计划:

- 在秦皇岛的渤海铝箔轧制厂建设新的薄板轧机(投资将近3亿美元),该轧机将于2008年投产。这台新建的轧机与附属的铸造和精整设备将为中国的一些重要市场生产产品,包括用于印刷业的印刷板材、饮料包装业的罐料、铁路和商用车辆的运输板材、电子市场的高端表面灵敏板材。
- 继续提升昆山工厂薄板轧机的产量。重点放 在钎焊板的生产,以满足增长中的亚洲汽车 市场的需求。
- 我们在上海和秦皇岛的铝箔厂的重点将继续 放在细分的高端铝箔市场并提高产量。
- ◆ 与宇通客车公司结成伙伴关系,运用世界水平的结构设计、材料和生产技术,为中国日益增长的公共交通和2008年奥运会开发新一代的高能效环保客车。
- ◆ 通过我们的业务计划、严格贯彻执行和结合美 铝优势,使我们在中国产业上游的业务取得重 大进展,同时将其作为美铝全球基本战略不可 或缺的组成部分,确保我们在能源和金属供应 方面的长期可持续性。

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

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

在华销售额

百万

<u> </u>		
	人民币	美元
2003	1,798	222
2004	3,929	485
2005	5,184	640
2006	3,752	475
2007	3,614	502

2003年至2005年的美元对人民币汇率为8.1 , 2006年的汇率变为7.9 , 2007年为7.2 。



Awards & Recognition

The following are some of the awards and recognition our operations in China have earned in the last three years.

2007

Top Ten Exporting Enterprise Award—Government of Qinghuangdao

-Alcoa Bohai Aluminum Industries

Shanghai Minhang Green Enterprise in 2006—Minhang Environmental Protection Bureau

-Alcoa (Shanghai) Aluminum Products

Best Safety Performance Company-Huaqiao Government, Kunshan, Jiangsu

-Alcoa (Kunshan) Aluminum Products

2006

Harmonious Labor/Management Relationship Award—Personnel & Labor Bureau of Hangzhou Economic & Technology Development Area

-Alcoa Closure Systems International (Hangzhou)

2005

2005 Safety Production A Level Credit Green Model Company—Safety Committee of Minhang Jiang Chuan Street

-Alcoa (Shanghai) Aluminum Products

Community Co-Construction Civilization Model Company—Jiang Chuan Street, Minhang District

-Alcoa (Shanghai) Aluminum Products

China Foil Business Top 10—China Non-Ferrous Metal Manufacturing Industrial Association

-Alcoa (Shanghai) Aluminum Products

Shanghai High-Tech Enterprise—Shanghai Science & Technology Committee

-Alcoa (Shanghai) Aluminum Products

Shanghai Foreign Investment High-Tech Enterprise—Shanghai Committee of Enterprise with Foreign Investment Shanghai Foreign Economic Relation Committee

-Alcoa (Shanghai) Aluminum Products

Shanghai Model Unit-Shanghai Municipal Government

-Alcoa (Shanghai) Aluminum Products

下面列出了过去3年来我们在中国的企业所获得的部分表彰与荣誉。

2007

十强出口创汇企业——秦皇岛市人民政府

——美铝渤海铝业有限公司

2006年度闵行区绿色企业——上海市闵行区环保局

——美铝(上海)铝业有限公司

2006年度安全先进单位——江苏省昆山市花桥区政府

——美铝(昆山)铝业有限公司

2006

和谐人事劳动关系先进单位——杭州经济技术开发区人事劳动社会保障局——美铝瓶盖系统(杭州)有限公司

2005

2005 安全生产信用度A级绿标公司——上海市闵行区江川路街道安全委员会——美铝(上海)铝业有限公司

社区共建文明先进企业——上海市闵行区江川路街道

——美铝(上海)铝业有限公司

中国铝箔企业十强——中国有色金属加工工业协会

——美铝(上海)铝业有限公司

上海市高新技术企业——上海市科技委员会

——美铝(上海)铝业有限公司

上海市外商投资高新技术企业——上海市外商投资企业协会 上海对外经济委员会

——美铝(上海)铝业有限公司

上海市文明单位——上海市人民政府

——美铝(上海)铝业有限公司



