



australia's aluminium



together we can
make an impact

ALCOA IN AUSTRALIA - 2006 SUSTAINABILITY REPORT

COVER PHOTO Alcoa Kwinana Refinery Manager Arnaud Soirat and his family are successfully cutting their household greenhouse emissions by reducing energy use, using power from renewable sources and shopping locally so they can leave the car in the garage.

Even the garden is playing its part. Using deciduous trees, the Soirats have made their house 'solar passive' and reduced heating and cooling bills.

"Anyone can become carbon neutral," says Arnaud pictured here with daughter Tiffany. "By making small changes in our home and daily habits, we can all minimise our environmental footprint."

Arnaud is one of many Alcoa employees who are reducing their own environmental footprint through Alcoa's Make An Impact program which provides tools and tips for reducing energy, water consumption and waste.

For more information on Make An Impact, turn to Page 6.



FURTHER INFORMATION AND FEEDBACK

For copies of this report, further information or feedback, please contact Alcoa's Corporate Affairs Department or refer to the websites listed below.

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We value feedback on this report and every aspect of our performance. If you have any comments, please email them to sustainabilityreport@alcoa.com.au

Alcoa of Australia Limited
 ACN 004 879 298

Alcoa Australia Rolled Products Pty Limited
 ACN 069 853 229

ALCOA WORLD ALUMINA AUSTRALIA IS THE TRADING NAME OF ALCOA OF AUSTRALIA LIMITED. ALCOA OF AUSTRALIA LIMITED IS OWNED BY ALCOA INC. (60%) AND ALUMINA LIMITED (40%).

SCOPE OF THIS REPORT

This report covers the activities of Alcoa of Australia, trading as Alcoa World Alumina Australia, and Alcoa Australia Rolled Products. The report covers the 2006 calendar year but also includes developments that have occurred in 2007. Financial figures are in Australian dollars unless specified otherwise.

Contents



Managing Director's overview	2
Organisational profile	5
Sustainability	6
Corporate governance	10
Economic	12
Social - our people	16
Social - partnering stronger communities	20
Environment	24



Anglesea Kindergarten received a playground makeover thanks to the volunteer spirit of Alcoa Anglesea employees and an ACTION grant from the Alcoa Foundation.



Alcoa's commitment to sustainability is integrated into all aspects of our business, embracing not just our own operations but also the communities where we operate.

Sustainability is a key success factor in every aspect of our business at Alcoa of Australia.

From ground-breaking greenhouse research to community strengthening partnerships, Alcoa's sustainability values influence our decisions and actions throughout our business.

We apply the same values to growth projects to ensure they deliver social and environmental dividends along with economic sustainability, and in the workplace to create safe and inclusive working environments where employees are empowered to improve the way we operate.

Our people

Health and safety continues to be a key priority for Alcoa. While we are still some way from achieving our goal of zero injuries, Alcoa of Australia remains committed to this challenging goal and we are working hard to achieve it by creating a strong safety culture and supporting it with robust systems and tools.

Alcoa employees have played an active part in all of the initiatives covered by this report. They are the foundation of our success and I take this opportunity to thank them for their contribution to Alcoa and their own communities.

Our employees' contribution to Alcoa's success is never more evident than in the new suggestion scheme which allows employees to put forward their ideas for improving the business. This scheme has delivered many safety, environmental and efficiency improvements in its first year and its remarkable success in Western Australia has seen it extended to our Victorian operations.

Investing in growth

One of our highlights in 2006 was the completion of the Pinjarra refinery efficiency upgrade – a project that demonstrates how major growth projects deliver a range of sustainability dividends.

In addition to creating the equivalent of 1500 fulltime jobs during the construction period, this project was structured to ensure that local communities shared in the employment and business opportunities.

And while it has reinforced our longterm economic viability in Australia by increasing production capacity and efficiency, it also improved environmental performance and reduced Pinjarra's greenhouse intensity by 13%.

In 2006 we were also given the green light to commence the engineering and design phase of the Wagerup Unit 3 project, a project that would create over 1500 construction jobs as well as 3000 direct and indirect ongoing jobs.

We have committed to implementing the expansion with no increase in noise, dust or odour impacts.

Climate change

Climate change has been one of the most important sustainability issues for the global aluminium industry for many years and Alcoa has a long held commitment to reduce its greenhouse footprint.

One of our innovative Australian greenhouse projects has developed carbon capture technology that locks up carbon dioxide by mixing it with bauxite residue, a waste from the alumina refining process. This not only captures large amounts of a greenhouse gas, it also reduces the alkalinity of the residue and opens the way for it to be re-used.

Managing Director Wayne Osborn and other senior Alcoa executives supported the KIDS Foundation's Injury Free Day by helping students with safety activities at North Parmelia Primary School in Western Australia. For more information about our partnership with KIDS Foundation, see page 22 of this report.



This is an exciting project which sets a new benchmark for the global alumina industry. Our first carbon capture plant is now fully operational at Kwinana and similar plants are planned for our other refineries in Australia and around the world.

Our employees play a vital role in reducing greenhouse emissions across all our sites and we are supporting their environmental commitment to reduce their personal greenhouse footprint with the Make An Impact program.

Developed through our partnership with Greening Australia, Make An Impact provides employees and their families with an information kit, an internet-based greenhouse calculator and other advice on reducing energy and water consumption and waste at home and in their everyday lives.

With households producing one-fifth of Australia's greenhouse gases, we can all make a difference but together we can make an impact.

Environmental and community partnerships

Alcoa of Australia has been working in partnership with Greening Australia for 25 years on many ambitious projects. One of our current shared initiatives is the River Recovery alliance which is bringing together government, industry, communities and scientists to protect and restore the health of rivers across Australia.

The Fairbridge organisation in Western Australia is another valued long-term partner. This partnership was awarded the 2006 Prime Minister's Award for Community Business Partnerships, recognising how it has strengthened local communities and created opportunities for young people in Western Australia.

And Alcoa's Point Henry operation in Geelong has extended its 14-year relationship with the Kommercial organisation which provides employment for people with disabilities. Kommercial employees have long worked in various roles at the smelter but they are now managing the canteen as well. This outstanding initiative has not only made our workplace more diverse and inclusive; it has also vastly improved the culinary fare of the canteen.

All of these partnerships have evolved and changed over the years to meet changing community priorities and we continue to form new partnerships to address emerging needs.

Along with climate change, water conservation has emerged in recent years as a concern for communities across Australia. In 2006, we forged three new partnerships to tackle this issue with the Barwon Water and Wannon Water authorities in Victoria and the WA Department of Agriculture and Food.

This report outlines a diverse array of initiatives and achievements, all of which are built on partnerships, whether with employees, neighbours, community organisations, scientific researchers or business partners. On behalf of Alcoa, I'd like to thank all of our stakeholders for their contribution to sustainability.

Wayne Osborn
Managing Director
Alcoa of Australia

Australia's aluminium



Alcoa's Australian operations make up an integrated aluminium industry which includes mines, refineries, smelters, rolled products plants and a recycling operation - adding value to Australia's resources at every stage.

Alcoa of Australia operates the mines, refineries and smelters while Alcoa Australia Rolled Products operates the rolled products plants. Together, these two businesses directly employ around 6280 people.

Alcoa of Australia is 60% owned by Alcoa Inc. and 40% by Alumina Limited.

The aluminium production process starts in Western Australia where Alcoa operates the Huntly and Willowdale mines in the Darling Ranges south of Perth, supplying bauxite to Alcoa's refineries at Kwinana, Pinjarra and Wagerup.

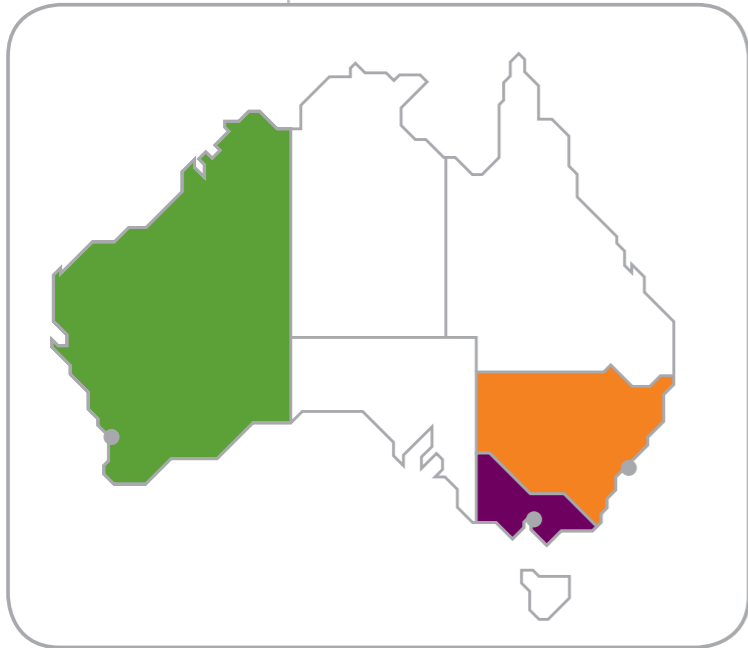
Alcoa operates two aluminium smelters in Victoria, at Point Henry in Geelong and Portland. Portland Aluminium is a joint venture with CITIC Resources Australia Pty Ltd and Marubeni Aluminium Australia Pty Ltd. Our Victorian operations also include a brown coal mine and power station at Anglesea which supply electricity to the Point Henry smelter and rolled products plant.

These operations produced 8.49 million tonnes of alumina and 530,368 tonnes of aluminium in 2006. This represents around 47% of Australia's alumina production and 30% of aluminium production.

Alcoa owns 20% of the Dampier Bunbury Natural Gas Pipeline and operates dedicated port facilities in Western Australia and Victoria.

Alcoa Australia Rolled Products has operations at Point Henry in Victoria and Yennora in Western Sydney, producing rolled aluminium products for food and drink packaging, pharmaceutical packaging, building materials, road signs and boats. The Yennora plant is Australia's largest aluminium recycling facility.

Alcoa's other operations in Australia are Alcoa Wheel Products Australia which distributes aluminium truck wheels and Alcoa Fastening Systems Australia which manufactures and distributes specialist fasteners.



Principal Alcoa operations in Australia

Western Australia

- Huntly Mine
- Willowdale Mine
- Kwinana Refinery/Port
- Pinjarra Refinery
- Wagerup Refinery
- Bunbury Port
- Dampier Bunbury Pipeline (20% ownership)

Victoria

- Portland Aluminium Smelter (55% ownership)
- Anglesea Power Station
- Point Henry Smelter, Geelong
- Alcoa Australia Rolled Products, Geelong
- Alcoa Wheel Products, Melbourne
- Alcoa Fastening Systems, Oakleigh

New South Wales

- Alcoa Australia Rolled Products, Yennora



Fighting climate change on the home front

Alcoa employees are taking climate change into their own hands through a household greenhouse footprint reduction program.

In a first for Australian industry, Alcoa has teamed with Greening Australia to develop the Make An Impact program to help Alcoa employees and their families reduce household greenhouse emissions.

Make An Impact is helping families reduce their own greenhouse emissions by providing an internet-based greenhouse calculator and information about ways to reduce energy and water consumption and manage waste more effectively.

Alcoa employees across Australia are reducing their own environmental impact by car-pooling, using energy-efficient light bulbs and water-saving fittings and sending kitchen scraps to the compost bin. WA mining environmental scientists Peter de San Miguel, Alex Ruschmann, Anika Wall and John Koch (above) are reducing their emissions by car-pooling.

Launched in 2006, Make an Impact is funded by the Alcoa Foundation and supported by the Australian Greenhouse Office.

SUSTAINABILITY

Strong governance, environmental excellence and social responsibility are the cornerstones of Alcoa's sustainability

Sustainability framework

One of our key mechanisms for managing and improving sustainability is the Strategic Sustainability Framework which was developed in 2000 to guide Alcoa's management of key sustainability issues.

The Strategic Sustainability Framework sets clear and challenging goals for improving Alcoa's performance, including:

- Zero fatalities and lost work day or recordable injuries
- 25% reduction in greenhouse gas emissions by 2010, compared to the base year of 1990
- 10% reduction in energy intensity by 2010, compared to 2000
- 70% reduction in process water use by 2010, compared to 2000
- 50% of Alcoa's fabricated aluminium output produced from recycled metal by 2020
- 40% of Alcoa employees contributing to their communities through volunteering

The full Strategic Sustainability Framework, including Alcoa's progress to date, can be found at www.alcoa.com/sustainability.

Climate change

Alcoa has maintained a sustained focus on reducing greenhouse emissions for over two decades, achieving significant reductions in our greenhouse intensity.

Our Australian smelters have reduced direct greenhouse intensity by 60% since 1990, while the refineries have reduced greenhouse intensity by 9.5% and the rolled products plants have reduced by 5.5% on 1990 levels.

These greenhouse intensity improvements have been achieved through improving energy efficiency, reducing emissions and optimising productivity to reduce greenhouse intensity, that is the amount of greenhouse emissions produced per tonne of alumina or aluminium.

Total direct and indirect greenhouse emissions in 2006 were 16.5 million tonnes, down marginally on 2005. Total greenhouse emissions in 2006 were slightly below 1990 levels, despite production increases over that period.

Point Henry and Portland Aluminium smelters achieved a 3.3% improvement in emission intensity and a 1.7% reduction in total greenhouse emissions in 2006.

This was achieved by improving energy efficiency and reducing perfluorocarbon (PFC) emissions. PFC emissions are produced by process control disturbances in the smelting process and are a key focus of our climate change strategy. Since 1990, Alcoa's Australian smelters have reduced PFC emissions by over 85% and are working to further reduce them through continuing improvements in process control and equipment.

Our alumina refineries improved their greenhouse intensity by 2% although total emissions increased by 2.7% as alumina production increased.

We have implemented a number of significant greenhouse reduction projects in recent years including innovative technology which combines carbon dioxide with refinery residue to lock up the CO₂ while also reducing the residue's alkalinity to levels where it can be re-used.

Our first residue carbon capture plant is operating at the Kwinana refinery and will lock up 70,000 tonnes of CO₂ a year, the equivalent of taking 17,500 cars off the road.

After operating as a trial facility for several years, the Kwinana carbon capture plant is now able to carbonate all of Kwinana's residue, following the completion of a pipeline to supply waste CO₂ from a nearby ammonia plant which would otherwise emit it to the atmosphere.

We plan to install carbon capture processes at other Alcoa refineries around the world, using CO₂ from our refinery powerhouses.

Pinjarra refinery's greenhouse intensity has been reduced by around 13% through two cogeneration power plants and the Pinjarra refinery efficiency upgrade which has improved energy efficiency and increased production.

The gas-fired cogeneration power plants are delivering major greenhouse benefits by supplying waste heat to Pinjarra refinery instead of discharging it. By re-using this heat in the refinery process and our own power station, we are reducing steam production from our own boilers, cutting greenhouse emissions by 270,000 tonnes a year.

The first cogeneration plant at Pinjarra has been operating since the end of 2005 and the second unit began operating in early 2007. The cogeneration power plants supply power into the WA electricity grid and have been built in a partnership with Alinta Limited which has commenced construction of another two power plants at Wagerup refinery.

The Pinjarra efficiency upgrade, completed in 2006, has also significantly improved greenhouse intensity by upgrading heat exchange systems and increasing the alumina yield from the refining process.

Improving the efficiency of heat management systems in the refineries is a key greenhouse priority because this significantly reduces energy consumption. We have completed many improvements in heat management systems over the last decade and the value of this focus is demonstrated by a 2006 project at Kwinana to install new technology to clean the inside of heat exchange tubes more effectively.

This will reduce Kwinana's greenhouse intensity by 1.7% by ensuring heat is re-used as efficiently as possible. This has delivered an equivalent greenhouse gas reduction of approximately 46,000 tonnes of CO₂ in 2006, with a similar reduction expected in 2007.

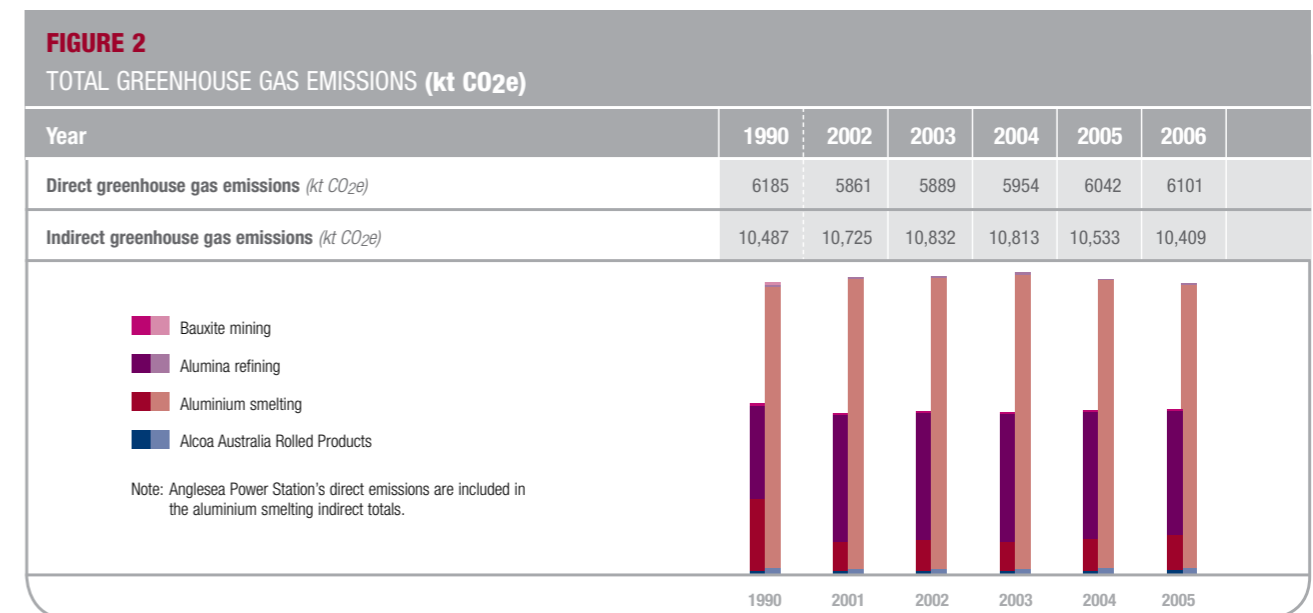
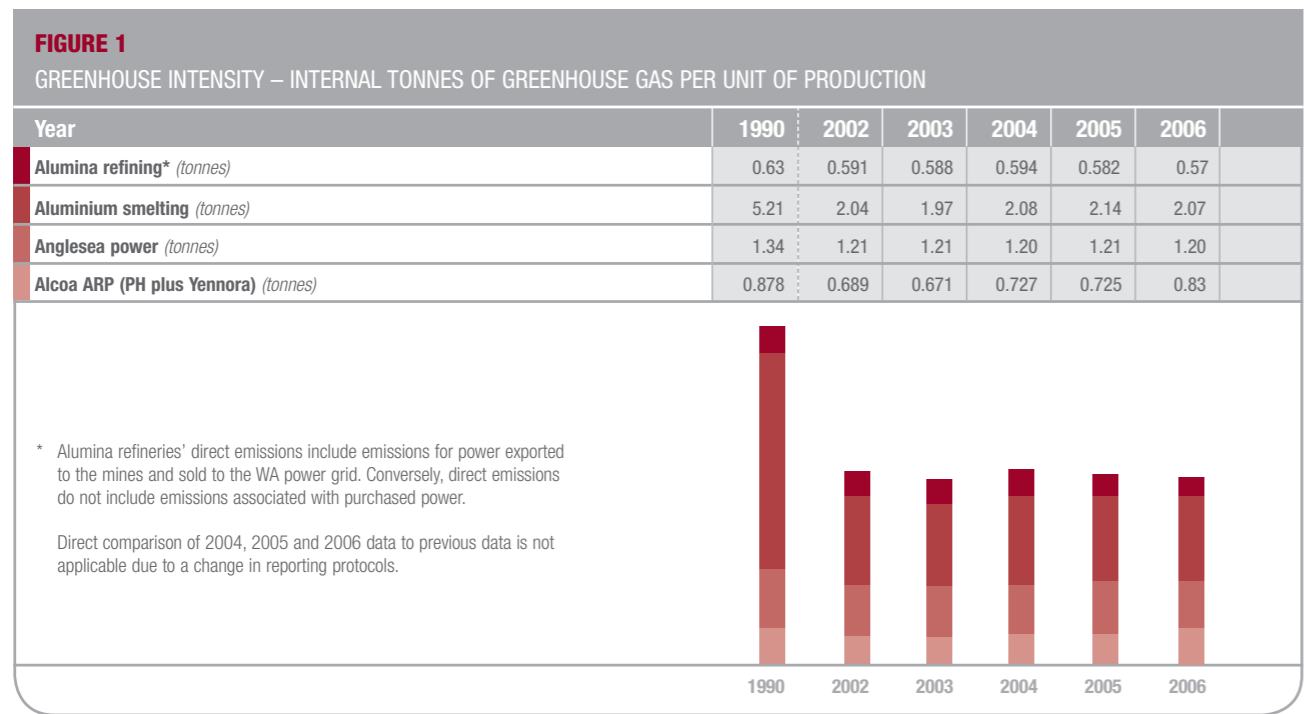
The rolled products plants at Point Henry and Yennora are continuing to focus on modernisation of furnaces to improve energy efficiency.

We are also supporting employees to reduce their own greenhouse footprint through the Make An Impact program, outlined on page 6

Alcoa is contributing to the development of Australian greenhouse policy by participating in policy-making processes including the Prime Minister's Task Group on Emissions Trading. Alcoa has made a submission to the task group supporting an emissions trading scheme that includes all major emitters and sectors and allows Australian industry to grow. Alcoa's submission also advocates recognition of early action and the importance of technology solutions, linkages to other national schemes and provisions to address the realities of the international market place. Alcoa has also advocated a transitional program prior to the full implementation of an emissions trading scheme.

Alcoa is also a member of the Australian Government's Greenhouse Challenge Plus program.

At the global level, Alcoa has joined with leading businesses and environmental organisations to form the US Climate Action Partnership.



Conservation and sustainability partnerships

Alcoa has a long track record of conservation and sustainability partnerships that bring individuals and community groups together to tackle environmental issues.

Water conservation is of great importance to the community and Alcoa, and we have formed new partnerships with Wannon Water and Barwon Water in Victoria and the WA Department of Agriculture and Food to address this issue.

The health of Australia's rivers is another environmental priority that we are helping to address through community partnerships. In 2005, Alcoa became a founding member of the River Recovery alliance, established by Greening Australia to bring together individuals and groups from government, science, business and the community to restore and protect Australia's rivers. River Recovery achievements in 2006 included the removal of over 300 hectares of weeds, establishment of 22,000 seedlings, fencing to protect stream banks, changes to irrigation practices and community water monitoring programs.

Alcoa is supporting breakthrough research in Australia and globally through the US\$8.6 million Alcoa Foundation Conservation and Sustainability Fellowship program. Through the Alcoa Foundation Fellowships, researchers from Curtin University of Technology in Western Australia are conducting research into ecosystem fragmentation, biomass-based energy technologies, sustainability implications of demographic change and the integration of sustainability into public policy and governance.

Importantly, the fellowship program is also helping them share their knowledge with other sustainability researchers around the world.

The Swan Alcoa Landcare Program has provided vital funding to help WA community groups carry out over 600 conservation projects throughout the Perth metropolitan area. Alcoa has supported this program since 1998 and in 2006 announced a further three-year commitment, taking total funding to \$2.8 million.

Our partnerships with Sustainability Victoria, Clean Up Australia and local waste management groups promote community awareness of recycling.

The Woody Yaloak Catchment Group and Corangamite and Glenelg Catchment Management Authorities in Victoria and the Tammin Alcoa Landcare Education Centre in WA all play an important role in sharing knowledge and bringing land users and communities together to improve land management. Alcoa also supports community land management projects through the Alcoa Landcare Community Group Award, presented in partnership with Landcare Australia.

Alcoa Frog Watch is an environmental education and research partnership with the WA Museum. Alcoa's support for a research program to study frogs and biodiversity in the Kimberley region of WA has helped discover a new species of frog, while community workshops and exhibitions raise environmental awareness.

The heathlands around the Alcoa Anglesea Power Station are managed through a unique partnership between Alcoa, the Victorian Government, Parks Victoria and local communities. Alcoa also funds a park ranger and environmental projects officer to implement the Anglesea Heath Management Plan.

CORPORATE GOVERNANCE

Alcoa aspires to be the best company in the world, and our corporate values and strong governance structures play a fundamental role in achieving this vision.

Australian business units

Alcoa's operations in Australia include a number of business units, each with a separate corporate governance structure.

Alcoa of Australia Limited, trading as Alcoa World Alumina Australia, is 60% owned by Alcoa Inc. and 40% by Alumina Limited.

Other Alcoa business units in Australia are Alcoa Australia Rolled Products, Alcoa Wheel Products Australia and Alcoa Fastening Systems Australia, which are owned 100% by Alcoa Inc.

Corporate governance

Our governance structures include:

- Business conduct policies which apply to all employees, directors and officers
- A global ethics and compliance program to ensure all employees understand and comply with our corporate policies and the laws and regulations that govern our business
- An ethics and compliance line which provides a channel for employees and others to raise ethical concerns or seek clarification of our policies
- An independent global audit department which conducts financial, information technology, environmental and health and safety audits

Strong corporate values

Alcoa's corporate values are the foundation of our business, guiding behaviour at every level.

Integrity

Alcoa's foundation is integrity. We are open, honest and trustworthy in dealing with customers, suppliers, co-workers, shareholders and the communities where we have an impact.

Environment, health and safety

We work safely in a manner that protects and promotes the health and well-being of the individual and the environment.

Customer

We support our customers' success by creating exceptional value through innovative product and service solutions.

Excellence

We relentlessly pursue excellence in everything we do, every day.

People

We work in an inclusive environment that embraces change, new ideas, respect for the individual and equal opportunity to succeed.

Profitability

We earn sustainable financial results that enable profitable growth and superior shareholder value.

Accountability

We are accountable – individually and in teams – for our behaviour, actions and results.

Alcoa of Australia Board of Directors

Alcoa of Australia Limited is an unlisted public company with a Board of Directors dedicated to managing the company responsibly on behalf of shareholders. The Board members at May 30, 2007 were:

Wayne Osborn

Chairman and Managing Director
Alcoa of Australia

Anthony (Tom) Adams

Executive Director, Finance & Business Services
Alcoa of Australia

Raphael Costa

Vice President Operations,
Alcoa Global Refining Australia-Asia

John Marlay

Chief Executive Officer
Alumina Limited

Ken Dean

Chief Financial Officer
Alumina Limited

Alcoa Australia Rolled Products directors

Alcoa Australia Rolled Products is a wholly owned subsidiary of Alcoa Inc. The board members at May 30, 2007 were:

Mike McKinstry

Managing Director
Alcoa Australia Rolled Products

Lloyd Jones

President
Alcoa Asia Pacific

Graham Allen

General Manager Sales
Alcoa Australia Rolled Products

Glenn Garnaut

Finance Manager
Alcoa Davenport

Senior executives

Alcoa's senior executives at May 30, 2007 were:

Wayne Osborn

Chairman and Managing Director
Alcoa of Australia

Mike McKinstry

Managing Director
Alcoa Australia Rolled Products

Anthony (Tom) Adams

Executive Director, Finance and Business Services
Alcoa of Australia

Kim Horne

Director, Human Resources and
Environment Health and Safety
Alcoa of Australia

Bill Reid

Director, Business Development
Alcoa of Australia

Raphael Costa

Vice President Operations
Alcoa Global Refining Australia-Asia

Dave Olney

Vice President, Technology and
Alcoa Business Systems
Alcoa of Australia

Craig Walkemeyer

Director, Projects, Australia and Asia
Alcoa Global Primary Products Growth

Paula Benson

General Manager, Corporate Affairs
Alcoa of Australia

Angela Mullany

General Counsel
Alcoa of Australia

Graham Allen

General Manager Sales
Alcoa Australia Rolled Products

Rod Armstrong

Finance and Administration Manager
Alcoa Australia Rolled Products



Walking the flow path, three in a row

The “three-in-a-row flow path walk” might sound like a line-dancing routine but it is actually one of the management tools that has helped Kwinana refinery increase production by 15% in the last two years.

The three-in-a-row flow path walk was adopted at Kwinana to bring together at least three levels of management with operators in each area to review the area’s performance on a regular basis and work together to solve problems. These meetings can involve up to five levels of management and are a weekly event in all operations centres.

They build upon and reinforce the importance of Kwinana’s other business improvement initiatives including daily visual management systems.

Coupled with a high level of employee engagement, these management tools have helped to achieve a remarkable turnaround in the refinery’s performance including increased production, reduced costs and significant improvements in environment, health and safety performance.

Our photo shows senior equipment carer, Bill Playle outlining maintenance issues to production manager David Honey, equipment care group leader Jim Menzies, operations centre manager John Quartermaine and maintenance supervisor Patrick Biddle.

ECONOMIC

Through economic success, Alcoa shares sustainability dividends with shareholders, employees, customers and communities.

Sharing the benefits of success

Alcoa makes a significant contribution to the strength of Australia’s economy, sharing the benefits of economic success through jobs, business opportunities, taxes, shareholder dividends and community partnerships.

Alcoa is a major exporter with export sales of over \$4.26 billion in 2006, representing around 88% of Alcoa of Australia revenues.

Around 80% of total revenue remains in Australia through wages, local purchasing, taxes, capital investment and dividends to Australian shareholders. In 2006, this amounted to over \$3.66 billion reinvested in the Australian economy.

Alcoa directly employed around 6280 people in 2006 and provided the equivalent of 1500 full-time contractor jobs.

Our longstanding commitment to training is another benefit that flows from our strong economic performance, creating opportunities for young people through our own apprentice and traineeship programs and support for training organisations in the community.

Alcoa’s strong economic performance also underpins our commitment to health and safety, environmental excellence and community partnerships.

Strong financial performance

Strong production results and global demand helped Alcoa of Australia achieve record revenues and profits in 2006.

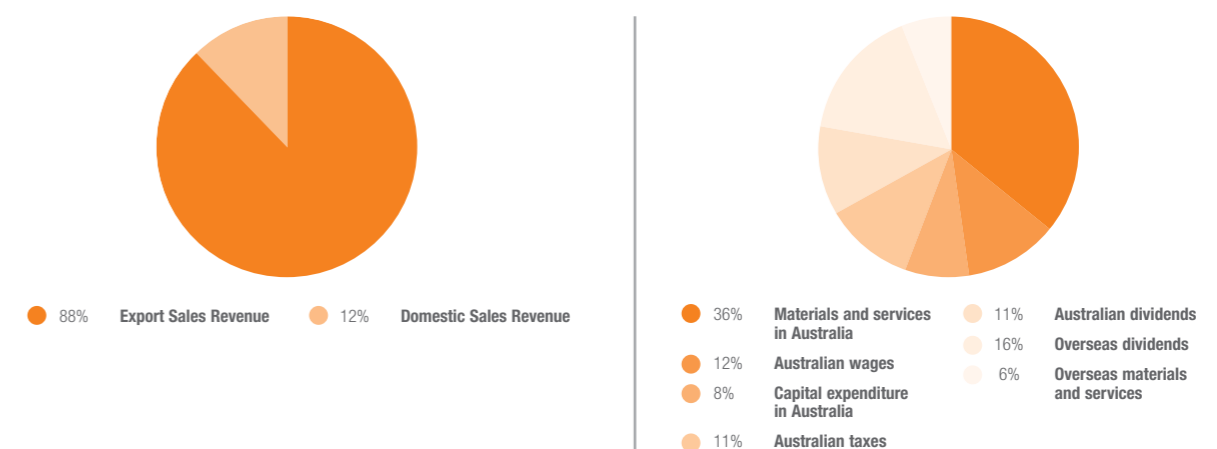
Profit increased by 68% to \$1.28 billion, while revenue increased 31% to \$4.86 billion.

These record results were underpinned by strong production performance but the key factor driving them was a significant increase in alumina and aluminium prices.

The two shareholders in Alcoa of Australia, Alcoa Inc. and Alumina Limited, were paid fully franked dividends of \$1277 million.

These financial results apply to Alcoa of Australia Limited and do not include Alcoa Australia Rolled Products.

FIGURE 3
EXPORTS AND RE-INVESTMENT EXPENDITURE CONTRIBUTE TO AUSTRALIA’S ECONOMY



NOTE: sales and expenditure data applies to Alcoa of Australia.

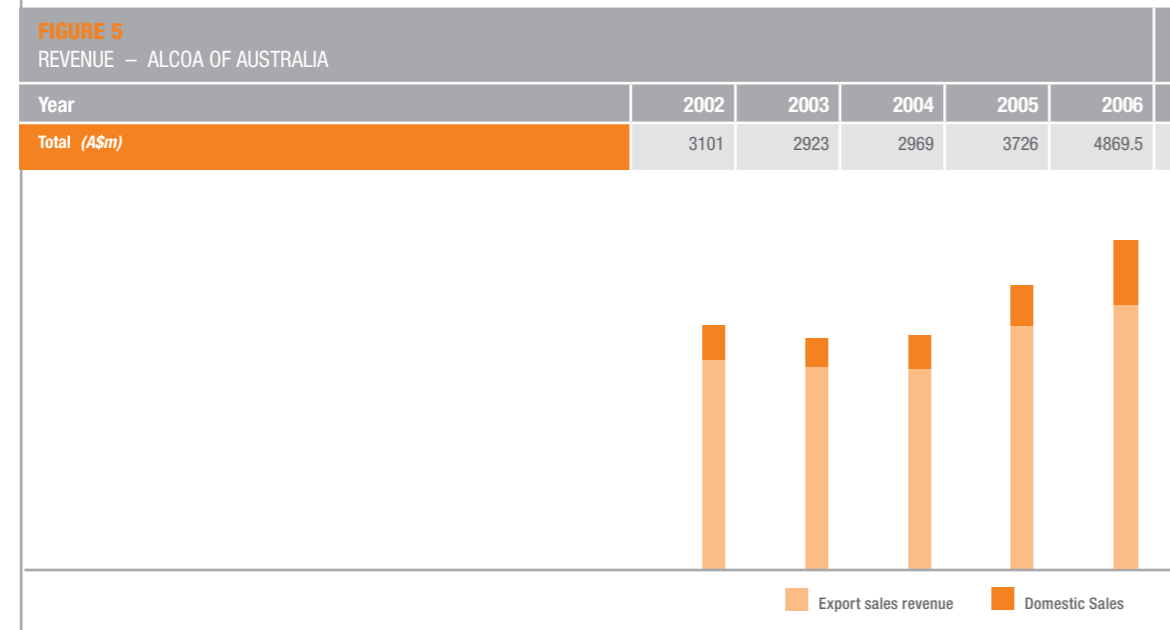
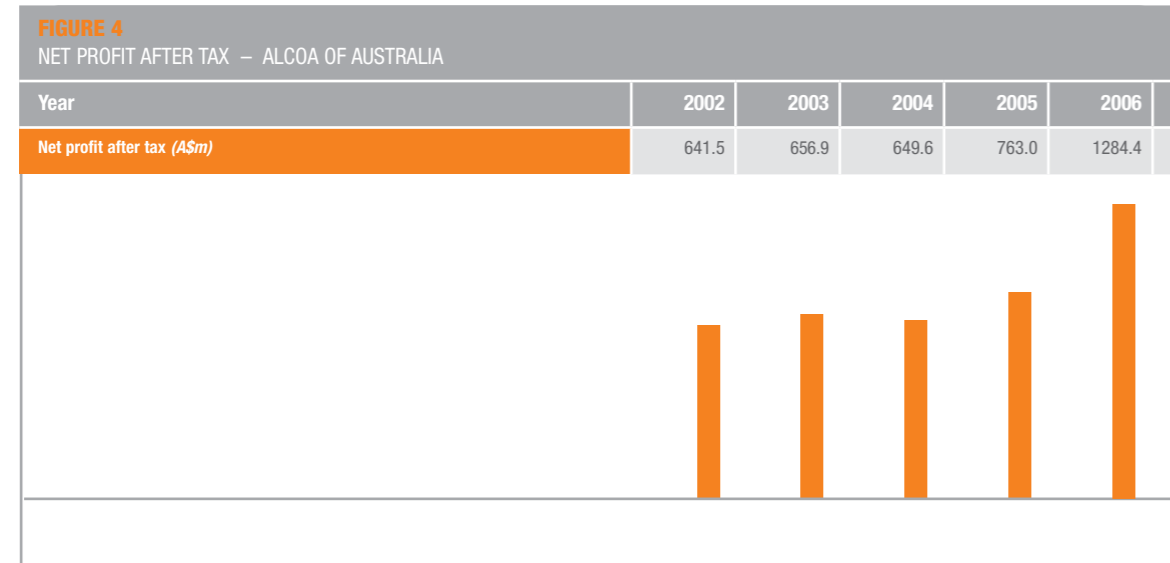


FIGURE 6
PRODUCTION RESULTS AND ALUMINIUM PRICES

	2002	2003	2004	2005	2006
Alumina – smelter grade alumina and chemicals (million tonnes)	7.76	7.87	7.83	8.05	8.49
Aluminium – Portland and Point Henry (tonnes)	535,618	544,719	546,117	533,655	530,368
Rolled Products (tonnes)	155,517	164,333	181,177	185,767	180,000
London Metal Exchange average aluminium price	1355	1432	1716	1898	2569

Alcoa Australia Rolled Products

Alcoa Australia Rolled Products operates manufacturing plants at Point Henry in Geelong and Yennora in Western Sydney, producing aluminium sheet, foil and common alloy for use in a range of products including packaging, building materials, signage and aluminium foil.

Around half of its sales are to export markets, predominantly to customers in the Asian region.

The Yennora plant has commissioned two additional manufacturing lines. One produces can end sheet for high quality products such as food cans and screw caps for wine bottles, while the other produces aluminium sheet and coil for a range of products.

The Yennora plant is Australia’s largest aluminium recycling facility and recycled around 72,000 tonnes of aluminium in 2006, representing about 40% of Alcoa Australia Rolled Products’ output.

Record-breaking production

Production increased to record levels in most of our Australian operations in 2006.

The Western Australian refining operations achieved record alumina production of 8.49 million tonnes in 2006, an increase of about 5.5% on 2005.

All three refineries achieved production records through continued improvements in efficiency and operational stability.

The WA mining operations increased bauxite production by 5.8% to 31 million tonnes, also achieving a new production record.

Point Henry smelter achieved record production of 190,331 tonnes.

Combined production from the Point Henry and Portland Aluminium smelters was 530,368 tonnes of aluminium, down 0.6% from 2005 because of the impact of a power outage at Portland Aluminium in November 2005. The smelter was returned to full capacity by September 2006.

Alcoa Australia Rolled Products produced around 180,000 tonnes of aluminium products.

Growth projects

Alcoa has a long history of investing in the longterm sustainability of our Australian operations through growth projects.

The Pinjarra refinery efficiency upgrade project was completed in 2006, increasing the refinery’s production capacity by around 17% or 657,000 tonnes a year. The full impact of the upgrade will be seen in 2007. The Pinjarra upgrade has also significantly reduced greenhouse intensity through improvements in energy efficiency and alumina yield.

A proposed major expansion of Wagerup refinery reached an important milestone in September 2006 when it received environmental approval from the Western Australian Government. A pre-feasibility study is underway and will be followed by feasibility studies on engineering and execution planning. The proposed expansion will increase Wagerup refinery’s production capacity to up to 4.7 million tonnes per annum.

Alcoa has also been engaged in discussions with the Victorian Government about the sustainability and potential growth of the Victorian operations.



Diversity is on the menu at Point Henry

For 14 years, Alcoa's Point Henry operations have been providing jobs and opportunities for people with disabilities, through a unique partnership with the Kommercial organisation.

The partnership started in 1993 with a mail delivery round but over the years, it has grown to provide hospitality, landcare, gardening, administration support and packaging services. Today, Kommercial has around 35 people working at Point Henry.

The newest frontier in the Alcoa-Kommerical partnership is the Point Henry canteen which has been relaunched as the Kommercial Cafe, creating a smorgasbord of new employment opportunities for Kommercial employees.

The Kommercial Cafe was launched by celebrity chef Tobie Puttock and Federal Minister for Community Services Senator Nigel Scullion, pictured above with Alcoa's Warren Sharp and canteen workers, Melissa McCullan, Maree Sayle, Liza Novak, Barry Cruger and Annie Penetito.

Kommerical is funded through the Federal Government to help people with disabilities obtain employment. It was formerly known as MLI Services.

In addition to reflecting Alcoa's commitment to a diverse and inclusive workplace, this partnership has also been a catalyst for Alcoa's active involvement with other initiatives to support people with disabilities including the Celebrate All Abilities Festival.

SOCIAL - OUR PEOPLE

People are the foundation of Alcoa's success and we aim to give them a work environment that embraces new ideas, respect for the individual and equal opportunity to succeed.

Our people

Alcoa is a major employer with around 6280 employees in Australia. Of these, about 5460 are employed by Alcoa of Australia and 820 by Alcoa Australia Rolled Products. In addition, Alcoa creates employment for a large contractor workforce, equivalent to around 1500 full-time positions.

Over 60% of our employees have worked for Alcoa for more than 10 years. Portland Aluminium's 20th anniversary celebrations in 2006 included 97 employees who have been with the company since the smelter commenced operations.

Women made up around 11% of Alcoa's workforce in 2006, and accounted for 13% of professional roles and 15% of management positions.

The Equal Opportunity for Women in the Workplace Agency has named Alcoa as an Employer of Choice for Women for the last six years.

Alcoa promotes workplace diversity and equal opportunity through a range of initiatives including:

- Flexible working arrangements
- The Alcoa Women's Network which supports the development and advancement of women in leadership roles in Alcoa
- The Future Women of Industry program which encourages female secondary students to consider careers in manufacturing and heavy industry
- Our partnership with Kommercial to employ people with disabilities
- Scholarships and support for programs to attract women into engineering.

We also create opportunities for young people through apprenticeships and a graduate employment program. At the start of 2007 we took on 37 apprentices and 32 graduates. Across Australia, Alcoa has about 140 apprentices in training.

Achieving excellence through people - one by one

One of Alcoa's key human resources goals is to create an environment that empowers every employee to contribute to our success. As part of our strategy to achieve this, we are making a fundamental change in the way we manage every person in our organisation. Alcoa supervisors are managing and supporting their teams using a people management approach that recognises the uniqueness of every person and focuses on individual solutions. We are also committed to ensure that every job provides the four basic requirements of individual engagement and excellence:

- Understanding the meaning and value of the job
- The ability to influence how the job is organised and planned
- The ability to solve problems that affect performance
- Obtaining periodic feedback on outcomes

This approach is based on our underlying belief that our excellence as a company is the synergy of the excellence of every individual in the organisation.

Employee engagement is actively promoted in all areas. In safety management, for example, employees conduct safety observations and coach fellow workers. Suggestion schemes are delivering improvements in safety, environmental performance, energy efficiency, productivity and waste minimisation at all sites. In WA, employees submitted 5384 suggestions in 2006, 2956 of which were accepted for implementation.

Employees are also involved in social responsibility initiatives through committees which make decisions about local community partnerships. And employee recognition schemes reward employees and highlight the value of their contributions. The WA Operations Awards for Excellence were introduced in 2006, with awards for employee suggestions, safety and environmental improvements, people development, business improvement and community involvement. In addition, 58 Australian employees were recognised by global Alcoa awards for exceptional performance.

Health and safety

Alcoa's key safety goal is to have zero fatalities, lost work day injuries or recordable injuries. Although there were no fatalities again in 2006, we did not achieve the target of zero lost work day or recordable injuries. However, lost work day injuries were reduced from eight in 2005 to four in 2006.

On total recordable injuries, Alcoa Australia Rolled Products achieved a 19% reduction, the Victorian operations were stable and WA operations recorded a 15% increase. Nationally, total recordable injuries increased by 7% in 2006.

We are continuing to aim for zero injuries through:

- Visible safety leadership by managers and supervisors
- Development of a safety culture built around an acceptance that everyone is accountable for safety
- A strong focus on behavioural safety
- Standardisation of routine work to specify the safest methods for each task
- Pre-task risk assessments for non-routine work
- Robust investigation procedures to understand causes and contributing factors for every incident and ensure corrective actions are implemented.

Alcoa has a range of occupational health programs in place to reduce ergonomic risks and exposure to airborne contaminants and noise.

Since 1994, Alcoa has supported one of the largest occupational health research programs ever conducted in Australia. Conducted by independent researchers from the University of WA and Monash University, the Healthwise research program is examining cancer incidence and mortality rates and the respiratory health of Alcoa employees in Australia.

FIGURE 7
LOST-WORK-DAY INJURY RATE – ALCOA EMPLOYEES

Year	2003	2004	2005	2006
Victoria <i>(rate/million person hours)</i>	0.63	0.63	1.26	0.74
Western Australia <i>(rate/million person hours)</i>	0.64	0.62	0.12	0.12
Alcoa Australia Rolled Products <i>(rate/million person hours)</i>	0.55	1.67	1.70	0.58

NOTE: Previous data may have changed due to case reclassification

Safety culture change

A wide-ranging program has been implemented at Wagerup refinery to strengthen the safety culture at all levels of the business.

The aim of the Safety Culture Change program is to eliminate injuries and incidents by developing a strong safety culture with an emphasis on individual accountability for safety.

The program was launched in late 2006 and has significantly reduced injury rates in the first half of 2007.

The key elements of the program are:

- Active engagement and empowerment of work crews to address their own safety issues
- Strong safety leadership and increased management interaction with safety management
- Clearly defined safety expectations for employees at all levels
- Daily visual management systems to maximise visibility and awareness of safety issues and maintain the commitment to improvement
- Identification of best practice approaches that are already being used by Wagerup crews and can be deployed throughout the refinery.

Early outcomes includes monthly safety development days for each crew and restructuring of daily toolbox meetings to put more emphasis on safety aspects of the day's work.

More than 200 safety projects have been identified in crew safety plans and are now underway. Visual display boards have been installed in all Operating Centres to raise awareness of safety management by displaying safety plans, progress on addressing issues and performance indicators.

FIGURE 8
TOTAL RECORDABLE INJURY RATE – ALCOA EMPLOYEES

Year	2003	2004	2005	2006
Victoria <i>(rate/million person hours)</i>	10.12	8.21	10.43	12.14
Western Australia <i>(rate/million person hours)</i>	17.34	30.39	12.70	14.36
Alcoa Australia Rolled Products <i>(rate/million person hours)</i>	11.56	10.58	11.90	9.82

NOTE: Previous data may have changed due to case reclassification

Employee volunteering

The volunteer spirit of Alcoa employees is helping to strengthen communities around Australia and Alcoa supports their generosity and community spirit through employee volunteering programs.

ACTION (Alcoans Coming Together In Our Neighbourhood) is an Alcoa Foundation program that provides funding and volunteers for community projects where 10 or more Alcoa employees volunteer their time. In 2006, 48 community projects received ACTION grants totalling \$187,000 and hands-on support from around 480 Alcoa volunteers.

Employees who volunteer more than 50 hours to a community organisation can receive a US\$250 grant for that organisation through the Alcoa Foundation's Bravo! program. In 2006, 769 employees obtained Bravo! grants totalling over \$230,000 for their nominated community organisations.

Alcoa also promotes employee volunteering through the Worldwide Month of Service, a month-long program of activities to encourage and celebrate volunteering by employees around the world. In the 2006 Month of Service, employees at all levels including senior management worked on a wide range of community projects.

The Point Henry, Anglesea and Portland Aluminium operations support volunteering through Making The Link, a program which allows employees to use one work day a year for volunteering. The program is co-ordinated by BAC-Links, a community partner which facilitates volunteering by identifying community needs and building links between business and community organisations.

Pandemic planning

Alcoa has established pandemic preparedness teams to begin planning for the possibility of a global influenza pandemic.

An Australian pandemic preparedness working group was established in 2006 to develop strategies and systems to manage the business impacts of an influenza pandemic, care for employees and align with government pandemic management plans. This work is continuing in 2007.



Volunteers go back to school

Alcoa supports many volunteering programs, both in our own workforce and the wider community.

Helen Grainger (above) was one of the first volunteers to sign up for the Holroyd Alcoa Timehelp Program which matches retired volunteers with schools in Western Sydney.

With her husband Colin, Helen is a regular visitor to Yennora Public School, assisting teachers with classroom activities and spending time with the children. Many of the children at this school are recent migrants without grandparents in Australia, so Timehelp also enriches their lives by allowing them to spend time with older people.

The Holroyd Alcoa Timehelp Program is a partnership between Alcoa Australia Rolled Products, the Alcoa Foundation, Holroyd City Council and the Charities Aid Foundation.

Timehelp was started in Geelong with support from the Alcoa Foundation and Alcoa retirees and currently has 35 volunteers working with 12 local schools. In an independent evaluation of the Geelong program in 2006, teachers reported that students' social skills and learning outcomes had improved through their interaction with the Timehelp volunteers. They also felt the program was building stronger relationships between schools and their communities.

SOCIAL - PARTNERING STRONGER COMMUNITIES

Partnerships are the cornerstone of Alcoa's approach to social responsibility and our partnerships with community organisations are helping to strengthen communities across Australia.

Capacity building

Alcoa has a long-established commitment to community partnerships that strengthen communities and improve their sustainability.

We are also working with community organisations to help them develop their own capacity and improve their sustainability.

In 2006, the Alcoa Foundation supported the development of a governance training program for staff and committee members of community organisations. The four-day program was developed by Our Community and the Australian Institute of Community Practice and Governance. Alcoa also funded scholarships for 73 community representatives to complete the training program and take part in the Communities In Control conference.

The Alcoa Foundation has also supported the development of a public relations training program to help community organisations raise their profile and broaden their support base. Twenty Victorian community organisations took part in the first two-day workshops in 2006 and WA community groups completed the training in March 2007. The program and a manual entitled "Media on a Shoestring" were developed by Media Team Australia, a non-profit organisation that works with community organisations.

In another capacity-building initiative, Alcoa sponsored managers from two community partners, Fairbridge WA and KIDS Foundation, to attend an intensive training program on managing sustainable cross-sectoral partnerships. We also provided scholarships to help five representatives of environmental groups attend the International Landcare Conference in Melbourne.

Strengthening communities

Alcoa's approach to social responsibility is built on a firmly-held belief that partnerships hold the key to strengthening communities.

Ranging from national organisations to local committees, our partners are all working hard to make their communities a better place to live. They include the following organisations.

- The Barwon Inclusive Events Planning Committee supports people with disabilities to participate fully in all aspects of community life.
- The Wagerup Sustainability Fund has been established by Alcoa to increase community involvement in decision-making about Alcoa's community contributions.
- BAC-Links brings businesses and community groups together to work in social partnerships in Geelong and Portland.
- The WA Community Foundation helps small community organisations by providing a legal and administrative framework for fund-raising foundations.
- Winda Mara Aboriginal Corporation's Lake Condah project is developing a community strategy for sustainable development in south-west Victoria.
- The Alcoa Research Centre for Stronger Communities at Curtin University of Technology conducts research into sustainability issues affecting Australian communities.

Community partnerships

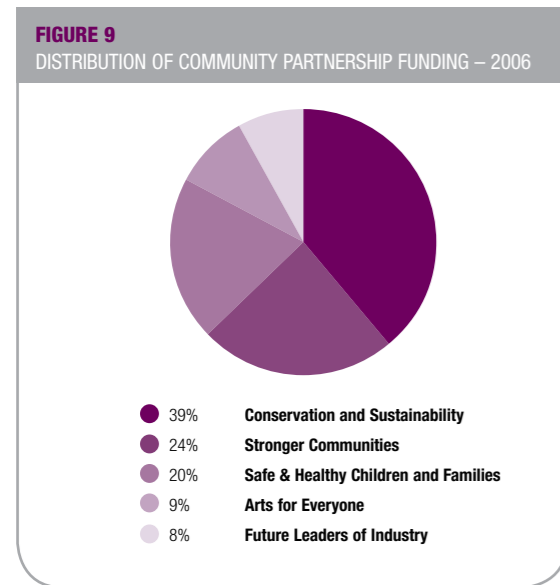
Alcoa's support for community partnerships is funded both directly from our Australian operations and the Alcoa Foundation.

The Alcoa Foundation is a philanthropic foundation which supports positive community projects around the world and promotes volunteering by Alcoa employees.

Alcoa's community partnerships are focused on:

- Strengthening communities
- Safe and healthy children and families
- Developing future leaders of industry
- Promoting community access to the arts
- Conservation and sustainability

Conservation and sustainability partnerships are covered in the Sustainability section at the front of this report.



Safe and healthy children and families

Alcoa supports a wide range of community initiatives to promote the safety and health of children and families.

The Kwinana Early Years program teaches children how to manage situations like bullying, domestic violence, drug and alcohol abuse and sexual exploitation. It also supports teachers and helps them assist children in these situations. Our support allows a part-time educator to run workshops at seven Kwinana primary schools, reaching over 520 children and teachers in 2006.

The KIDS (Kids in Dangerous Situations) Foundation works with schools across Australia to prevent serious childhood injuries by educating children about safety. In 2006, Alcoa's support helped promote a national Injury Free Day, involving 10,000 children in 250 schools and Alcoa employees, including senior managers, who assisted with safety awareness activities. Alcoa also sponsored 22 safety field days in 2006.

The KIDS Foundation partnership is integrated with workplace safety through a scheme where our Victorian operations make additional donations for every week without recordable injuries. In 2006, this amounted to over \$113,380.

Alcoa's support for the Anglesea Surf Life Saving Club is helping to improve beach safety and increase community involvement in its activities.

Mission Australia's Kickstart program provides vocational skills and assistance with drug and alcohol issues for young people in Bunbury.

Life Education delivers drug education to 85 primary schools in the Geelong area, reaching 17,500 students each year.

Alcoa's health research partners include the Telethon Institute for Child Health Research in WA, the Garvan Institute in NSW and the Royal Women's Hospital in Victoria. Alcoa is supporting the Peel Health Campus in WA to raise funds for a paediatric unit, while our employees at Yennora have supported fundraising events for the tissue dysplasia clinic at the Westmead Children's Hospital.

Developing future leaders

Alcoa supports a wide range of youth training and development programs, providing opportunities for young people through partnerships and our own programs.

As well as delivering benefits to the participants and their communities, these programs and partnerships contribute to Alcoa's sustainability by encouraging young people to consider careers in heavy industry. This supports future recruitment and we are already finding that an increasing number of new apprentices, graduates and other recruits have participated in these programs.

Our partnership with the Geelong Regional Vocational Education Council provides work experience and structured workplace learning programs for over 500 senior secondary students annually with a range of employers in the Geelong region.

In addition, Alcoa's Future Leaders of Industry program provided 25 Geelong and Portland secondary students with work experience, mentoring, information about further education and scholarships. In WA, over 30 female secondary students took part in the Future Women of Industry program which provides similar opportunities.

Work experience programs are offered at all of our operations. For example, the Work@9 program at Wagerup refinery provided work experience for 36 Year 9 students in 2006 including three students with physical disabilities.

Alcoa took on 37 new apprentices in 2006. In total, we have around 140 apprentices in training across Australia.

In WA, Alcoa has a longstanding partnership with the Fairbridge organisation which provides development and training opportunities for disadvantaged young people. The value of this partnership was recognised in 2006 by a Prime Minister's Award for excellence in Community Business Partnerships.

Alcoa's other youth development partners include the following organisations.

- Beacon Foundation works with secondary students in WA and Victoria, encouraging them to remain in school and helping them develop attributes that will help them gain employment.
- Millennium Kids has an environmental leadership program for young people.
- The Graham Polly Farmer Foundation supports high-achieving indigenous students.

Arts for everyone

The arts strengthen our communities by enriching community life and bringing people together. Alcoa's support for the arts is directed towards partnerships that increase community access to the arts.

Two of Alcoa's arts partnerships were recognised by national awards in 2006. We won a national award from the Australian Business Arts Foundation (AbaF) for our "In the Community" partnership with Fremantle Arts Centre. This program enables communities to work with professional artists to produce public artworks for their town. Over the last nine years, 57 artworks have been created by WA communities through this program.

Alcoa's 25-year partnership with the Geelong Performing Arts Centre won a state-level AbaF award. This partnership creates opportunities for people to enjoy the arts through an annual theatre season and a children's education program which includes the acclaimed Poppykettle Festival.

Other arts partnerships include:

- The arts2go touring program is a partnership with Regional Arts Victoria to bring the arts to 65,000 students in 400 Victorian schools.
- Disability in the Arts, Disadvantage in the Arts Australia (DADAA) creates opportunities for people with disabilities to enjoy and participate in the arts.
- The National Gallery of Victoria (NGV) introduces children to the arts through its NGV Kids program.
- Support from the Alcoa Foundation has helped to reinvigorate the WA Symphony Orchestra Chorus by funding the employment of a Chorus Director and Associate Chorus Director.
- Sculpture by the Sea is a free public sculpture exhibition, held annually on Cottesloe Beach in Perth and Bondi Beach in Sydney.
- Alcoa's support for the Perth International Arts Festival helps bring diverse artistic experiences to WA.



Unlocking the reproductive secrets of the jarrah forest

Researchers at Alcoa's Marrinup laboratory and nursery in Western Australia are playing a vital role in mine rehabilitation, using tissue culture and other techniques to propagate plants that are difficult and often impossible to grow from seed.

By unlocking the reproductive secrets of these plants, Robert Woodward (above) and the Marrinup team are helping to pursue Alcoa's goal of re-establishing 100% of the species and functions of the jarrah forest after mining.

Progress toward this goal is measured by comparing rehabilitated areas with nearby unmined areas. Since 2000, the rehabilitation program has achieved an annual average of 93% species richness, compared to a 78% average in the 1990s. We have achieved the 100% target once in 2001 and recent monitoring shows that 2005 rehabilitation activity achieved 90% species richness.

Alcoa has a rehabilitation program at the Anglesea coal mine in Victoria. The 2006 rehabilitation program focused on clearing and replanting an area that was originally rehabilitated in the 1970s with non-indigenous species.

ENVIRONMENT

We are reducing our environmental footprint through cleaner production, energy efficiency, waste management and conservation of resources.

Water conservation

Alcoa's water management strategy is focused on reducing overall consumption and using low quality water instead of potable water.

Alumina refining is the most water-intensive part of the aluminium production process but around half of the water used in the WA alumina refineries is low quality water. Wagerup refinery uses low quality agricultural drainage water while Pinjarra refinery uses treated wastewater from the Pinjarra sewage plant.

Alcoa is working to tap into other large sources of wastewater and low quality water for the refineries. We are in negotiations with the Water Corporation of WA to replace two-thirds of the Kwinana refinery's water allocation with recycled waste water and are examining other options to tap into other sources of wastewater and low quality water for the Pinjarra and Wagerup refineries.

In addition, the WA refineries are conducting detailed water audits to identify opportunities to reduce water consumption.

The WA mining operations have reduced total water use by 22% since 2000 while also increasing waste water recycling and storm water capture.

In Victoria, the Point Henry smelter and rolled products plant and Anglesea power station have committed \$1 million to water conservation initiatives since 2004, including a water conservation and efficiency audit and installation of water meters throughout the Point Henry plant to identify water-intensive areas and highlight opportunities for reducing consumption.

The Point Henry operations have reduced water consumption by 60% since 1990, and engineering investigations are now underway on projects to further reduce consumption and increase the use of recycled water and stormwater. Point Henry's target is to reduce its potable water use by 70% by 2010, using 2000 as the baseline.

Anglesea Power Station has also significantly reduced domestic water consumption including washing, showers and toilets through the installation of low-flow showerheads, flow restrictors, waterless urinals and converting toilets to low grade water.

FIGURE 10
WA MINE REHABILITATION

Year	2000	2001	2002	2003	2004	2005	2006
Species richness. Percentage of jarrah forest species (mean including planting)	97.4	101.4	97.4	88.7	96.0	90.0	*2006 data will be available in 2007
Area cleared (ha)	583.4	545.9	520.9	637.3	584.7	626.8	599.1
Area Rehabilitated (ha)	705.0	929.0	597.0	489.9	490.0	430.2	604.2
Area still to be rehabilitated	2605.0	2248.0	2128.0	2336.4	2431.1	2627.7	2622.6

Portland Aluminium and the Wannon Water authority are investigating options for a reverse osmosis system to reduce the smelter's potable water consumption. A reverse osmosis system would significantly reduce the smelter's water consumption because it would supply purified water which can be re-used more times than local water which can cause scale build-up in the cooling systems. The investigation is also examining whether the reverse osmosis system can use treated sewage or cooling water from the smelter instead of potable water.

In NSW, the Yennora rolled products and recycling plant has reduced water consumption by 20% since 2003. Further significant savings will be delivered by the re-building of the plant's largest cooling tower, which is the largest water user on the site. The re-building – scheduled for completion in 2007 – will reduce the tower's water consumption by 20%.

We are also working with community partners to support water conservation beyond our operations. The Alcoa Foundation and Point Henry, Anglesea and Portland operations have committed \$150,000 to support water saving initiatives in local communities. This includes assistance with water tanks and irrigation improvements at local sporting grounds, recycling water from Barwon Health's kidney dialysis unit to water the hospital grounds, household water audits to identify water saving opportunities and research into behavioural strategies to reduce water use.

Non-compliance incidents

The following environmental non-compliance incidents occurred in 2006.

In July 2006, a calciner dust concentration monitor at Pinjarra refinery was shut down for maintenance, but a maintenance delay meant there was a failure to continuously monitor dust as required by the environmental licence. The Department of Environment and Conservation was informed.

The volume of groundwater abstracted at the Pinjarra refinery in 2006 exceeded the nominal annual allowance. In September 2006, Alcoa applied to the Department of Water for an additional allowance under the drought provisions of the licence and approval was given in January 2007.

Alcoa failed to submit a report to the National Pollutant Inventory (NPI) for the first cogeneration power plant at Pinjarra refinery by the due date of 30 September 2006. This was an oversight which occurred because Alcoa took over the licence for this facility only 17 days before the end of the 2005/06 NPI reporting period. A report was submitted on 23 January 2007.

A surface water sample was collected from one of the Wagerup sampling locations in September 2006 instead of between October and November as required by the licence. While the sample was collected outside the specified period, the results are considered to be representative of the licensed period and there has been no loss of data. Corrective actions have been implemented to prevent a recurrence.

In late 2006, groundwater monitoring bores were constructed at the Wagerup refinery without prior written approval from the Department of Water. The Department of Water has since been informed.

Predictive modelling, supported by monitoring, has indicated the Wagerup refinery is likely to exceed allowable noise limits during some meteorological conditions. A noise abatement program was developed and implemented in January 2005. An application for a variation of assigned noise levels has been lodged with the Department of Environment and Conservation and is being assessed.

Monitoring at Portland Aluminium smelter showed volatile organic compound and polycyclic aromatic hydrocarbon emissions above permit limits. The key sources of these emissions are the anode baking furnace and green mill. Maintenance was undertaken on the anode baking furnace in 2006 and engineering design work commenced for proposed capital works on the furnace and green mill.

Rotary furnace emissions at the Yennora rolled products plant exceeded licence opacity limits in August 2006. The Environmental Protection Authority was notified and deemed the incident minor. Changes have since been made to the process control system and operating procedures.

In December 2006, smoke escaped the rotary furnace building at Yennora when established procedures were not followed. The Department of Environment and Conservation issued a \$1500 penalty infringement notice.

An administrative oversight resulted in an item being omitted from a quarterly waste report by the Yennora plant. Although Yennora had received no industrial, hazardous or Group A waste in the reporting period, this was not specifically noted on the waste report.

Yennora's dangerous goods inventory for 2006 was out-of-date because the map did not include a new salt slag storage area. The map and documentation have since been updated.

Although Anglesea Power Station had no non-compliances of its EPA licence, it recorded four exceedances of the state environment protection policy for ground level concentrations of sulphur dioxide. The Anglesea operation continues to refine load management practices and its investigation of engineering options to improve the management of sulphur dioxide emissions.

Air quality

Air quality is one of Alcoa's key environmental priorities and the focus of numerous current and recent capital projects.

Point Henry smelter is rebuilding the anode baking plant which bakes carbon anodes that are used in the aluminium smelting process. The anodes, made of pitch and coke, must be baked in a furnace before they can be used in the smelting process. This project will replace the refractory lining of the furnace and refurbish the scrubber system to improve emission management and ensure more efficient combustion of volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAH), which are released from the anodes.

In another project at Point Henry, an engineering study is examining options for a new scrubber to capture emissions from the green mill where the anode materials are mixed prior to baking. Portland Aluminium is conducting engineering design work on similar projects in its anode baking plant and green mill.

Portland Aluminium has modified operating practices and upgraded monitoring systems to reduce fluoride air emissions, following an increase in 2006. These changes have significantly reduced fluoride emissions in the first half of 2007.

In other air quality improvement initiatives:

- Regenerative thermal oxidisers were installed on the Wagerup and Kwinana liquor burners, the Pinjarra oxalate kiln and Pinjarra digestion plant.
- Two low NOx burners were installed in the Pinjarra power house to reduce emissions of oxides of nitrogen (NOx)
- Upgrading of the dust suppression sprinkler network commenced at the Kwinana and Wagerup residue storage areas in 2006, with work commencing at Pinjarra in 2007.

Alcoa's Australian operations report emissions to the National Pollutant Inventory, a Federal Government database which reports emissions from a variety of sources.

Greenhouse reduction initiatives are covered in the Sustainability section at the front of this report.

FIGURE 11
SMELTER FLUORIDE EMISSIONS

Year	2000	2001	2002	2003	2004	2005	2006
Point Henry (Kg F/t Al)	1.47	1.58	2.10	0.98	0.51	0.53	0.58
Portland (Kg F/t Al)	0.33	0.40	0.38	0.34	0.34	0.32	0.50

NOTE: Historical data amended to account for minor rounding errors for Point Henry smelter.

Waste management

Waste minimisation is a key element in reducing Alcoa's environmental footprint and we are successfully converting waste products into re-usable resources.

One of the key waste products from aluminium smelting is the lining material from the smelting pots. Known as spent pot lining (SPL), it is made of carbon and refractory materials and absorbs some of the chemicals used in smelting. Previously, it has been stored in specially designed facilities.

An innovative treatment plant at the Point Henry smelter is processing the SPL to produce mineral products and a fuel with reduced emissions for the cement industry.

Another by-product of the smelting process is dross which is treated at our Yennora plant in Western Sydney to recover the aluminium, other metals and salts that it contains. Since 2003, a competitor has been challenging the Yennora plant's right to process dross from Alcoa's Point Henry rolled products plant. In 2006, the Court of Appeal of the NSW Supreme Court dismissed this challenge and ruled in Alcoa's favour. This matter is now on appeal to the High Court.

The Yennora plant is Australia's largest recycler of aluminium, recycling around 72,000 tonnes of aluminium in 2006. Aluminium recycling delivers two significant environmental benefits because it diverts waste from landfill and also reduces greenhouse emissions because the recycling process uses just 5% of the energy required to produce the same amount of aluminium through refining and smelting.

In the refineries, the main waste product is bauxite residue, an alkaline mixture of minerals that are left behind after the alumina is removed from the bauxite. Alcoa scientists in Australia have developed a process that reduces the alkalinity, opening the way for re-use of the residue.

In 2006, a pipeline was built to deliver carbon dioxide from a nearby ammonia plant to Alcoa's first residue carbon capture plant at Kwinana. The completion of the pipeline has increased the supply of CO₂, allowing all of Kwinana's residue to be carbonated.

The process is known as residue carbon capture because it mixes carbon dioxide into the residue to neutralise the alkalinity and locks up this greenhouse gas which would otherwise be emitted. In a full year, the Kwinana carbon capture plant will lock up around 70,000 tonnes of CO₂, the equivalent of taking 17,000 cars off the road.

Alcoa is working with the Centre for Sustainable Resource Processing in WA to evaluate whether sand in bauxite residue can be used in road building and other areas to replace mined sand.

The success of residue carbon capture has allowed the development of another innovative waste treatment process for breaking down sodium oxalate in the residue by using natural bacterial activity. A bio-remediation plant is under construction at the Kwinana residue storage area in 2007.

Alcoa also has recycling systems for paper, gloves, scrap metal, ink cartridges and kitchen waste.

Community engagement

Alcoa has a range of forums to share information with neighbours, employees, community and government stakeholders and seek their input.

Each of our Australian operations works with external stakeholders to develop Environmental Improvement Plans (EIPs) which set out targets and actions for improving environmental performance. These plans also allow stakeholders to measure Alcoa's performance against these targets because the EIP process includes detailed progress reports.

The Western Australian and Yennora, NSW operations published their first Environmental Improvement Plans in 2006, building on the experience of the Victorian operations which were already producing these plans. The plans and progress reports can be found at www.alcoa.com/australia/en/info_page/EIP.asp

Our operations also have community consultative groups which meet regularly to discuss issues relating to Alcoa's operations and the local community.

Anglesea power station has been conducting additional consultation as part of a review of future mining options. This included establishing a drop-in centre in the town of Anglesea in the summer of 2006-2007 to ensure visitors to this popular holiday area were consulted.

Environmental excellence

Alcoa was recognised in the Western Australian Government's 2006 Golden Gecko awards for environmental excellence in the resources industry, receiving Certificates of Merit for the residue carbon capture process and the new McCoy facilities at the Huntly Mine.

The McCoy mining facilities were designed and constructed in accordance with sustainability principles to minimise environmental impacts during construction, operation and eventual closure. They were also designed to maximise water harvesting and conservation and include best practice storage and management systems for oil and fuels.

The residue carbon capture process locks up carbon dioxide in bauxite residue. This locks up a greenhouse gas emission and reduces the alkalinity of bauxite residue. The carbon capture project also received two Engineering Excellence awards in 2005 and is explained in more detail in the Sustainability section of this report.

Production data summary – 2006

		Mining	Alumina Refining	Smelting	Anglesea Power	Alcoa ARP
Inputs						
electricity – imported	MWh		108,581	7,996,317	400	182,576
natural gas	Tj		94,630	1088		2401
diesel and fuel oil	kl	21,502	10,222	934	2199	707
LPG	kl	132		44	19	298
coal – as mined	kt				1094	
bauxite dry	kt		28,632			
alumina	kt			1014		
aluminium	kt					228
water – fresh	ML	574	11,769	902	14.9	297
water – poorer quality	ML	192	10,557	0	3979	0
land cleared for bauxite	ha	599				
Product outputs						
smelter grade alumina	kt		8,224			
alumina chemicals	kt		264			
aluminium	kt			530		180
bauxite produced	kt	30,996				
electricity – exported	MWh		134,825		1,237,892	
land rehabilitated	ha	604				
Waste outputs						
CO ₂ equiv – indirect	kt	21	50	10,125	0.5	213
CO ₂ equiv – direct	kt	68	4790	1098	1491*	145
bauxite residue stored	kt		16,275			
bauxite residue used	t		2358			
oxalate to storage	t		32,439			
fly ash stored	t				22,130	
spent pot lining to storage	t			3292		
spent pot lining recycled	t			5854		
recycled waste	t	1085	6270	25,978	1165	26,878
landfilled waste	t	3333	62,783	436	55	4742

* Anglesea direct greenhouse emissions also included in indirect emissions total for smelters.

Alcoa of Australia Limited and Alcoa Australia Rolled Products Pty Limited lodge their annual financial statements with the Australian Securities and Investments Commission where they are publicly available.

The annual financial statements for Alcoa of Australia Limited are consolidated to include the following wholly-owned subsidiaries:

A.F.P. Pty Ltd

Hedges Gold Pty Ltd

ACAP Australia Pty Ltd

Alcoa Portland Aluminium Pty Ltd

Eastern Aluminium Pty Ltd

Eastern Aluminium (Portland) Pty Ltd



australia's aluminium

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