

ENVIRONMENTAL IMPROVEMENT PLAN PRINTED IN 08

# status report

Q2 2009 Summary



australia's aluminium

# anglesea

# contents





air management	3
SO <sub>2</sub> .....	3
Greenhouse Gas (GHG).....	4
Particulate Stack Emissions .....	5
Fugitive Dust.....	5
PAH, VOCs, etc.....	5
water management	6
Water Use and Discharge.....	6
Groundwater.....	8
land management	9
Mine Rehabilitation .....	9
Mining Area and Freehold Land.....	11
waste management	12
Waste to Landfill .....	12
Asbestos.....	12
environmental management	13
Environmental Management.....	13
community engagement	14
Community Engagement .....	14

# air management

Alcoa's aim is to reduce all air emissions and to continue to improve station efficiency.

SO <sub>2</sub>		
Action	Status	Comment
Formally document and continue to review the Air Management Plan, including current and future activities and continue investigations into long term plans to reduce SO <sub>2</sub> emissions (Q2 2008)	Completed	Air Management Plan was developed and submitted to EPA in January 2008, with further development of the Air Quality Control System for SO <sub>2</sub> conducted.
Further refine the load reduction protocol (End 2009)	Completed	The Load Reduction Protocol was updated twice during 2008 with the trigger point lowered to 80 ppb over a 30 minute rolling average. The Air Quality Control System for SO <sub>2</sub> has been reviewed for implementation.
Investigate additional meteorological and emissions modelling (End 2009)	Completed	An additional meteorological station was implemented north of the station at the Forest Road Basin site. This information is fed back into the Station via direct telemetry and will aid the Air Quality Control System for SO <sub>2</sub> management.
Continue annual vegetation surveys (End 2008 & 09)	Completed	Annual Vegetation Assessment completed by consultant Q4 2008.
Continue to progress investigations into clean coal and other emerging technologies that meet triple bottom line objectives (End 2009).	Ongoing	Anglesea Power Station continues to review emerging technologies for SO <sub>2</sub> . Work has progressed in Q2 on the Air Quality Control System implementation for sulphur dioxide emissions.

Targets	
Zero measurable exceedances of the Air Quality Objective for 1 hourly average (200 ppb)	
Stack SO <sub>2</sub> emissions are not to exceed licence limits.	

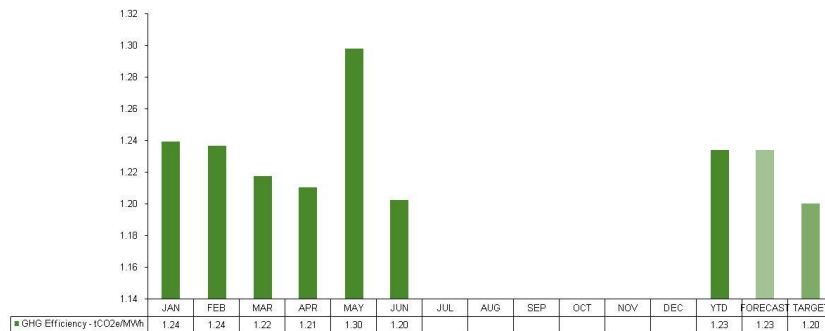
# air management

Alcoa’s aim is to reduce all air emissions and to continue to improve station efficiency.

Greenhouse Gas (GHG)		
Action	Status	Comment
Implement a Boiler cleaning schedule.	Ongoing	In Q2, the major maintenance shutdown of the station was conducted including a comprehensive boiler clean.
Complete the action plan detailed in the Generator Efficiency Standard program.	Completed	The Generators Efficiency Standard report was submitted to the Australian Greenhouse Office in 2008. The action for the HP Heater was completed in 2008, with its recommissioning.
Continue the use of environmentally friendly diesel for mine fleet (End 2009).	Behind Schedule	The use of biodiesel for Mine fleet continued in the early 2008, but ceased due to biodiesel supply issues. Work progressed in Q2 with Alcoa’s Procurement department in sourcing potential suppliers of biodiesel, with a supplier now chosen.
Investigate the use of environmentally friendly diesel for light vehicles (End 2009).	Ongoing	Work progressed in Q2 with Alcoa’s Procurement department in sourcing potential suppliers of biodiesel, with a supplier now chosen. An assessment for the use in light vehicles will be undertaken once the new supply is received.
Continue investigations into clean coal technologies (End 2009).	Ongoing	
Investigate improvements in combustion tuning methods (End 2009).	Ongoing	
Participate in relevant Australian Greenhouse Gas Office or Alcoa Greenhouse Gas audits (end 2009).	Ongoing	An internal energy efficiency opportunities audit was conducted in May 2008, with improvements identified and work continuing. Data collation for the National Greenhouse and Energy Reporting Scheme commenced for the 2008-09 financial year.

## Targets

Annual GHG Emissions not to exceed 1.2 t CO<sub>2</sub>/MWh.



# air management

Alcoa's aim is to reduce all air emissions and to continue to improve station efficiency.

## Particulate Stack Emissions

Action	Status	Comment
Continue stack emissions monitoring program, to meet licence requirements (ongoing)	Ongoing	Quarterly monitoring conducted in Quarter 2 2009 post the maintenance shutdown.
Analyse data obtained from the pilot ambient dust program and determine future improvement options	Ongoing	2008 data has been collated and reviewed. Further review of data due in H2 2009 with ongoing data collection continuing.

## Targets

Particulate Stack Emissions not to exceed 0.25 g/m3 based on 10 minute averaged data (during normal operations). 

## Fugitive Dust

Action	Status	Comment
Continue annual monitoring program for fugitive dust emissions.	Ongoing	2008 data has been collated and reviewed. Further review of data due in H2 2009 with ongoing data collection continuing.
Analyse data obtained from the pilot ambient dust program and determine future improvement options (End 2008).	Ongoing	Pilot program results analysed with a further evaluation to be undertaken during Q2 2009 on the options moving forward.

## PAH, VOCs, etc

Action	Status	Comment
Implement monitoring program in order to develop future licence limits (Q1 2008).	Completed	Continued quarterly monitoring of additional emissions to air conducted.

# water management

Alcoa's aim is to continue to improve the efficient use of our natural resources, including water.

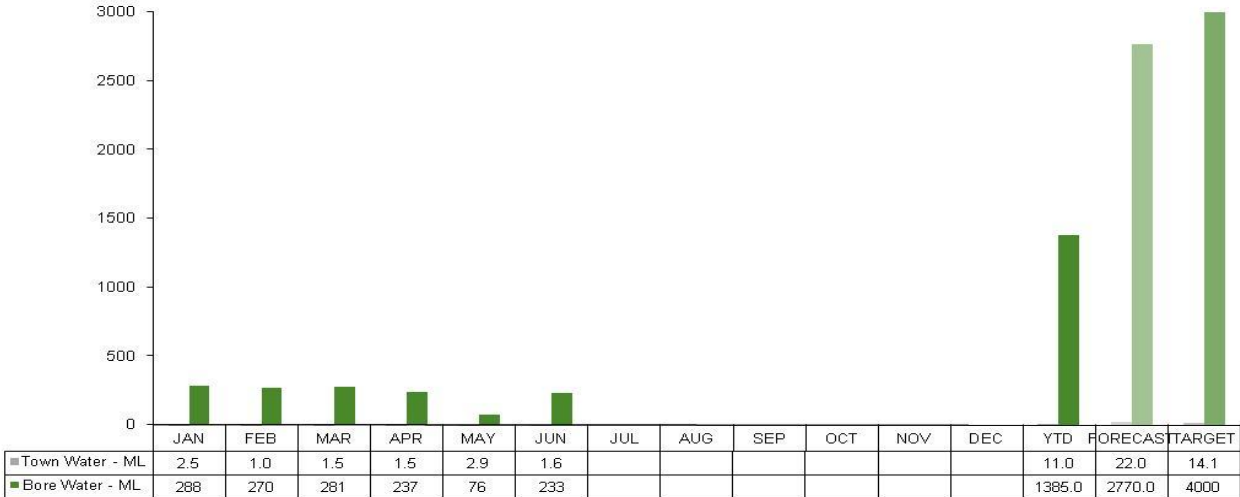
Water Use and Discharge		
Action	Status	Comment
Investigate the installation of further water recycling infrastructure.	Ongoing	On going with Water Lead Team, with an engineering project for rainwater capture commenced. Rain water tank now installed in Mine office for seedling watering.
Develop strategic long term water management plan including surface water discharge reduction targets (Q2 2008).	Completed	Water Management Plan developed in Q2 2008.
Initiate investigations into ways of eliminating mine water discharges in to the Anglesea River (end 2009).	Ongoing	No Mine water has been discharged into the Anglesea River in 2009 YTD.
Implement a maintenance strategy for surface water channels to optimum flow and minimal erosion of waterways (End 2008).	Ongoing	Strategy under development.
With appropriate partners, continue projects relating to the Anglesea catchment: · Healthy Waterways Project with Corangamite Catchment Management Authority, Surf Coast Shire and Environmental Protection Authority. Includes Ecological Risk Assessment on the Anglesea River (partnership with EPA) · Estuary Entrance Management Decision Framework with Deakin University and Western Coastal Board · Anglesea River Masterplan Project with Surf Coast Shire	Ongoing	Partnership work continued.
Improve water metering around the station.	Ongoing	Opportunities reviewed as part of quarterly Water Lead Team meetings, and issues management.
Continue to review and refine the Alcoa Anglesea Water Management Plan (End 2009).	Ongoing	A Water Management Plan was developed in 2007 with the site WaterMAP plan submitted in 2007 depicting the site's strategy. A WaterMAP progress report to Barwon Water was submitted in December 2008.
Continue the water loss minimisation strategy that involves the condenser vacuum breaker valve (boiler water) and the water associate panel cooling tank (general service water).	Ongoing	

# water management

Alcoa’s aim is to continue to improve the efficient use of our natural resources, including water.

## Targets

Using a 2000 baseline:  
 70% reduction in town water usage by 2010. ■



# water management

Alcoa's aim is to continue to improve the efficient use of our natural resources, including water.

Groundwater		
Action	Status	Comment
Continue to investigate opportunities for reducing bore water use (end 2009).	Ongoing	A Bore Lead Team has been created to review ongoing maintenance of bores. Water Lead team looks at opportunities to reduce consumption.
Perform a gap analysis against the Hydrogeological assessment (Groundwater Quality) Guidelines (End 2008).	Completed	A gap analysis against the Hydrogeological assessment guidelines was completed in 2008.
Receive and share complete report from Tim Tutt PhD study – "Monitoring and Modelling Hydrogeochemical Interactions with Groundwater: Implications for Mine Dewatering on Groundwater, River and Lake Chemistry".	Completed	Thesis completed with a presentation to the Station provided.
Continue projects relating to the Anglesea Catchment: <ul style="list-style-type: none"> <li>• Anglesea Borefield project with Barwon Water</li> <li>• Southern Rural Water licencing of Groundwater</li> </ul>	Ongoing	This project has continued with Anglesea Power Station planning with BW for the receipt of development water for the Anglesea Bore field Project.
Investigate automating the sand filter back wash system to reduce water use and enhance overall water quality (End 2008).	Completed	The sand filter back wash system' has been investigated and determined that this project was not viable.

# land management

Alcoa's aim is to establish a diverse heathy woodland ecosystem with mine rehabilitation whilst identifying and protecting archaeological sites; protecting healthy vegetation from *Phytophthora cinnamomi*; continuing existing vegetation protection strategies; improving habitat and restoring native vegetation within the mining area.

Mine Rehabilitation		
Action	Status	Comment
Continue to experiment and refine rehabilitation techniques (ongoing).	Ongoing	
Continue to implement the botanical monitoring program to assess post-2000 rehabilitation areas (ongoing; review ongoing requirement Q1 2009).	Ongoing	2008 botanical monitoring complete
Continue seed dormancy and mine rehabilitation research for recalcitrant plants (Depth & Quantification of Topsoil Reserves in the Anglesea Heath Vegetation (Q3 2008)).	Completed	Report has been received and updated our practice accordingly.
Further refine rehabilitation targets in line with Department of Sustainability and Environment's Native Vegetation Framework guidelines (Q4 2009)	Ongoing	
Formally document rehabilitation procedures (Q4 2009)	Ongoing	

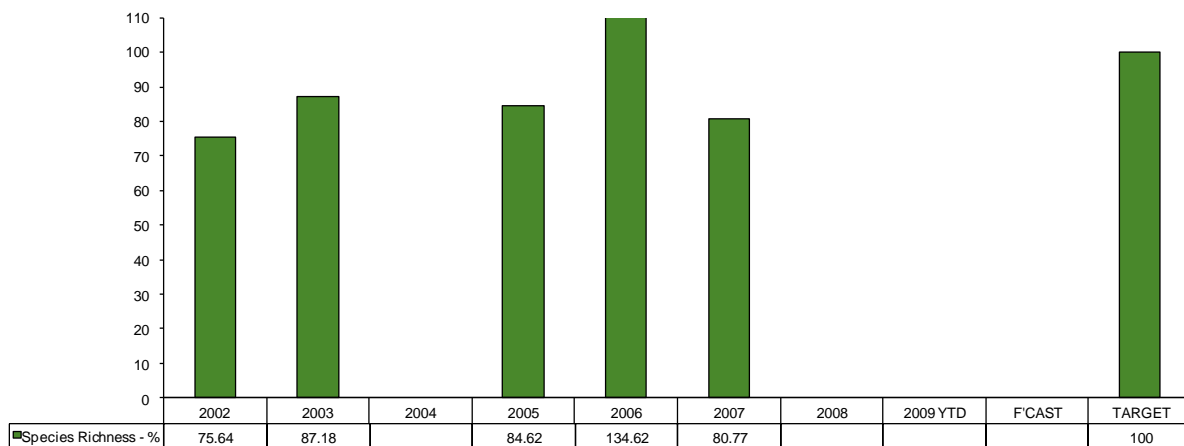
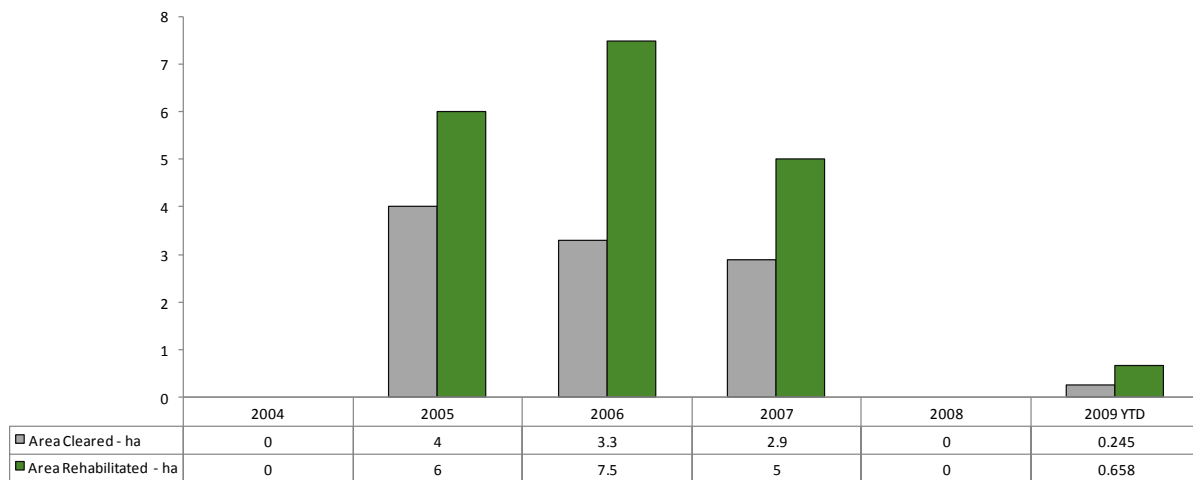
# land management

Alcoa’s aim is to establish a diverse heathy woodland ecosystem with mine rehabilitation whilst identifying and protecting archaeological sites; protecting healthy vegetation from *Phytophthora cinnamomi*; continuing existing vegetation protection strategies; improving habitat and restoring native vegetation within the mining area.

## Targets

100% Species richness in post 2000 mine rehab areas ■

Area of land rehabilitated per annum > area of clearing per annum. ■



# land management

Alcoa's aim is to establish a diverse heathy woodland ecosystem with mine rehabilitation whilst identifying and protecting archaeological sites; protecting healthy vegetation from *Phytophthora cinnamomi*; continuing existing vegetation protection strategies; improving habitat and restoring native vegetation within the mining area.

Mining Area and Freehold Land		
Action	Status	Comment
Maintain MOU with the Wathaurong Aboriginal Cooperative for identification and protection of archaeological sites in Mining Area (ongoing)	Ongoing	Continued engagement of the Wathaurong Aboriginal Cooperative.
Continue to monitor and manage phytophthora in the mining and freehold areas (ongoing).	Ongoing	
Continue fire management program on freehold parcels and mining area (ongoing).	Ongoing	Completed slashing program in December 2008.
Continue extensive environmental weed removal program within the Mining Area and freehold parcels and revegetate with indigenous species (ongoing).	Ongoing	Special focus in Q4 08 in burnt area along Coalmine Road to reduce weed and fuel hazard potential.
Targets		
To manage the freehold and mining area; to compliment land management works in the adjacent lease and private freehold. <span style="float: right;">■</span>		

# waste management

Alcoa's aim is to reduce waste to landfill and reduce the production of waste by our processes. The program for removing asbestos and other hazardous materials from the power station will continue.

Waste to Landfill		
Action	Status	Comment
Investigate options for disposing of prescribed waste ie. Oily water	Ongoing	Review commenced with Pt Henry for options of oily water at Anglesea Power Station.
Continue to find reuse or recycling options for wastes and educate employees on new procedures (end 2009).	Ongoing	Targeted Waste Area auditing conducted during the Maintenance Shutdown in Q2 2009 for contractor employees and Alcoa employees. Audit targets and results communicated daily throughout the shutdown period in the Newsletter.
Continue to actively manage the rehabilitation of contaminated soils and refine associated management procedures (end 2009).	Ongoing	Ongoing work with the site Land farm for soil rehabilitation.
Continue to refine and implement the waste oil management education program.	Ongoing	January 08 Environmental Angle Report focused on Waste Oil disposal methods for the site. This report is circulated plant wide.

Asbestos		
Action	Status	Comment
Continue to remove asbestos from the plant where appropriate, using licenced contractors for disposal to landfill in compliance with EPA licence conditions (end 2009)	Ongoing	Work has continued with licensed removalists on asbestos removal around the site. Removal increased in Q2 due to the station maintenance shutdown, which included asbestos removal tasks.
Continue the education program for employees regarding transport of asbestos waste offsite (end 2009).	Ongoing	Asbestos Awareness training undertaken in Q3 2008.
Review and consider licence requirements for asbestos landfill rehabilitation plan (and site closure plan) (end 2008).	Completed	The Site closure plan now refers to the Asbestos Landfill Rehabilitation Plan for the management of the Landfill.

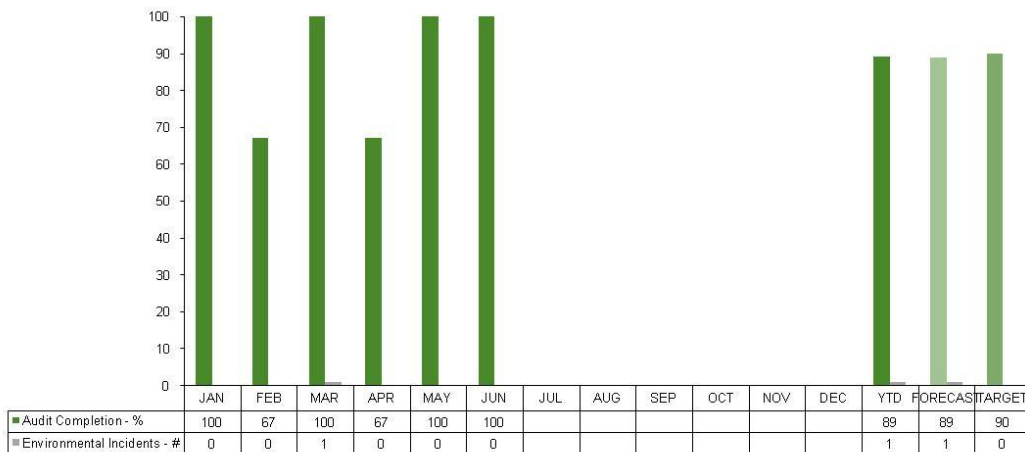
# environmental management

Alcoa’s aim is to continually improve our environmental management processes. This would be demonstrated by a reduction in the number of environmental incidents occurring at the site and by receiving external recognition of our efforts.

Environmental Management		
Action	Status	Comment
Continue to strategically plan for and allocate funds to Alcoa Anglesea’s Environmental Management Program.	Ongoing	Environmental budget developed for 2009.
Investigate new or alternative measuring systems for environmental management/ incident performance (Q2 2008).	Completed	A new target for reporting of Environmental Near Miss incidents was developed. Progress posted via monthly Env Reports.
Continued focus on encouraging employees to report ‘Environmental Near Miss’ incidents.	Ongoing	Environmental Near Miss continued to be reported into the site Incident Management System during Q2 2009.
Maintain ISO 14001 accreditation for the Alcoa Anglesea Environmental Management System (continuous).	Ongoing	In Q4 2008, that station underwent a reassessment, with continued certification granted to ISO14001. All actions from the audit have been addressed.
Maintain environmental auditing process at Level 5 (Good) (End 2009).	Ongoing	In Q4 2008, Anglesea underwent an Integrated Audit and was rated at Level 5 (Good)
Continue discussions with EPA and other regulatory authorities on licence conditions to ensure shared understanding of environmental management systems (continuous).	Ongoing	

## Targets

Complete all EHS Management System and Environmental Audits as per Alcoa auditing schedule (90% compliance to monthly schedule, 100% completion in the annual and two yearly cycles).



# community engagement

Alcoa's aim is to communicate openly with interested community members on its environmental management.

Community Engagement		
Action	Status	Comment
Continue to produce quarterly EIP progress reports against the actions documented in this EIP (published on the internet and distributed via email). (every Quarter).	Completed	Annual Status Report for 2008 produced with quarterly updates planned for 2009.
Continue to produce the Alcoa Anglesea Monthly Environment Report (published on the internet and distributed via email) and formally document production procedure (Monthly and documentation by Q1 2009).	Completed	Monthly Environment Reports completed and posted on the website.
Continue Community Consultation Network meetings as a public forum for Alcoa to engage with local community members (continuous).	Ongoing	CCN bi-monthly meetings ongoing.
Investigate new ways of engaging with people in the local community who are interested in Alcoa Anglesea's environmental management (End 2009).	Ongoing	In 2008, the consultation process was reinvigorated via Alcoa Anglesea News mail out, advertorials posted in local paper, website upgrade, community posters

**Alcoa Anglesea**

Camp Road  
Anglesea 3230  
Victoria

03 5263 3209  
[www.alcoa.com.au/anglesea](http://www.alcoa.com.au/anglesea)

anglesea environmental management contacts

**Chris Rolland**

Mine Manager

**Lisa Mills**

Mine Environmental Scientist

**Nicci Marris**

Environmental Scientist

**Anthea Doran**

Community Relations Officer

**Maryann Thorp**

Station Chemist



australia's aluminium