RTCA Climate Change Plan

RTCA is committed to addressing climate change at our operations. This document outlines RTCAs approach, vision and commitments to integrate climate change into the business, particularly in the areas of -

- researching and promoting clean coal technologies
- improving energy use
- designing our projects to recognise climate change risks and opportunities; and
- raising awareness amongst key stakeholders groups.

Contents

1. Introduction

Rio Tinto's position on climate change recognises action needs to occur to reduce emissions from our operations; develop low emission pathways for our products and engage with government. In February 2006 the Rio Tinto Executive Committee endorsed a climate change plan, which includes the requirement for business units and product groups to have documented three year work programmes addressing risks and opportunities and each of the three climate change themes by 31 October 2006. The Rio Tinto themes are -

- **Reducing emissions from our operations** Group targets for greenhouse gas emissions and energy use set short term operational direction. Longer term our targets must evolve to achieve greater reductions in global emissions.
- **Understanding and developing low emission product pathways** by working with others on supply chain emissions and on breakthrough technologies. Our products must be part of the solution, not the problem.
- **Engaging with governments**, directly and indirectly, by establishing strong relationships and through various multi-lateral fora. Engagement will be within a Group framework, coordinated nationally, but often at business level.

This document outlines RTCAs commitments for addressing the three themes. The commitments point to a dynamic process that will position the business to continue to review and adopt new information, technologies and policies as they evolve in the short and medium term. The plan is designed to develop a whole of business process that enables us to -

- meet our short term objectives
- integrate into existing processes
- understand how we can improve in the future
- capture the changes we are doing in a manner that promotes collaboration across each of our operations, globally in Rio Tinto and our community and provide a record of past achievements.

Approach

The approach for developing the plan is demonstrated in Figure 1. The plan is centred on a vision for what we wish to achieve and clear actions to demonstrate our commitment to everyone associated with our business.

The vision and programmes that support it have been developed from the priorities identified in the risk assessment.

Each programme has clearly identified accountabilities and is supported by detailed work plans.

The RTCA Climate Change Plan integrates climate change into our business processes and identifies links and collaboration opportunities within the Energy Product Group and other Rio Tinto business programmes. The RTCA climate change work programme is aligned with Rio Tinto's value creation vision covering operational performance, innovation, discipline, organisation, systems, culture, reputation and teams.

RTCA climate change report structure

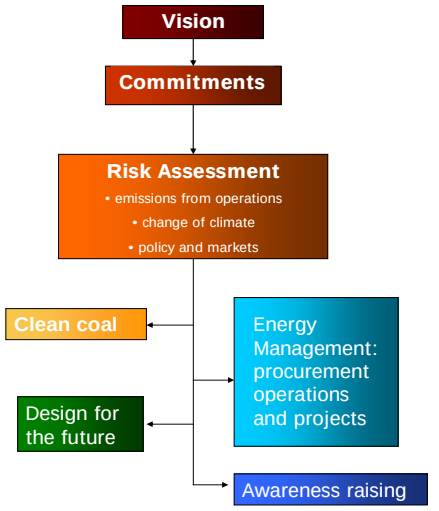


Figure 1

RTCA Climate Change strategy

Vision -
Our people, products and operations contribute to the solution for the challenge of climate change

Objectives -

Clean Coal: Actively researching and promoting technologies that reduce CO_2 emissions from the use of coal.

Energy Management: Improving energy use at our operations, projects, supply chain and embedding the process into RTCA systems.

Designing for the Future: Designing our projects, recognising risks from a changing climate and opportunities in a changing policy environment.

Raising Awareness: Raising awareness with our employees, the communities where we operate, our customers, governments, suppliers and industry, that this is an issue that requires us all to change how we currently operate.

Current Actions -

Pay a levy per tonne of coal to fund clean coal demonstration (based on 2005 production this would be $12 – 15 million per year).

Include a minimum of **five energy improvement projects for each site** in 2007 plan.

Adopt a **Project Centre** to capture all energy projects and savings.

Adopt **metering measurement and reporting** for all buildings and significant energy using equipment.

Set all building **air conditioners at 23°C.**

Create a **dedicated role for climate change** in RTCA.

3. Risk Assessment

Objective
To identify priority areas for action within the RTCA business from three areas of risk and opportunity; actions required over next 25 years to manage weather related climate risks and opportunities; risks from the production process; and market related climate risks.

Commitment
Risk assessment profile for each of the areas of weather, operational and market / policy risk will need to be regularly reviewed and risk assessment updated when new baseline information becomes available. All RTCA major project teams to include a climate change risk assessment in project risk assessment process.

Description of process
For the three areas of study it was determined that a base case needed to be identified for use.

- For weather related risks, a report which identified the potential weather impacts on our operations and our market destinations was used. The information from this study on impacts was then assessed against the total supply chain.
- For impacts at the operations the profile of our emissions type was used and a cost of carbon dioxide of A$11.50/$CO_{2\text{-}e}$ tonne nominated.
- For market related risk, a base case for the future market risk was difficult to identify due to the high level of uncertainty surrounding the possible scenarios. This conclusion leads to the identification of the priority action for this aspect of the risk assessment.

Critical risk areas
A critical risk was summarised as a, "Risk high enough to require constant management and action planning (to secure opportunity or prevent a loss)".

Rating	Identified Risk	Proposed Action
IV	*Weather* Decreased rainfall in RTCA areas of operation, decreasing water security with potential to either close mine(s) or impact production.	▪ Assume reduced water supply in new projects. ▪ Include water impacts on capital requests and within BIP. ▪ Utilise the RTCA Business Improvement Process to identify, undertake and track projects
IV	*Operational* Coal Seam Gas accounts for 65 per cent of operation emissions. No practical means known to reduce. Cost exposure to operation >A$22 per million / year.	▪ Investigating opportunity with Macquarie Generation to capture CSM from Hunter Valley mines, including former underground mine for co-firing Liddell coal fired power station. ▪ Investigate mitigation options eg Hybrid gas and coal turbine for Kestrel Mine Extension (KME). ▪ Continue ACARP research into quantification of CSM emissions.
IV	*Operational* Energy metering, monitoring and reporting at operations not substantial enough to allow prioritisation of energy use and therefore potential improvements.	▪ Implement metering programme across all operations with common monitoring architecture. ▪ Utilise the RTCA Business Improvement Process to identify, undertake and track energy management projects.
IV	*Market* Future government policies will impact coal use. The risk of a reduction in coal sales depends on detail of policy. The risk of no coal business in the next 25 years is very low.	▪ Continue research in clean coal and carbon capture and storage technologies. ▪ Commission a project to understand at what point a price on carbon would impact our business in a material manner. Use this information to guide policy engagement with governments.

Accountability
Climate Change Steering Committee

Supporting material
Climate Change Risk Assessment - Attachment 1
The Price of Carbon Dioxide - Attachment 2
Future Climate Predictions for RTCA - Attachment 3

4. Clean Coal

Objective
Actively researching and promoting technologies that reduce CO_2 emissions from the use of coal.

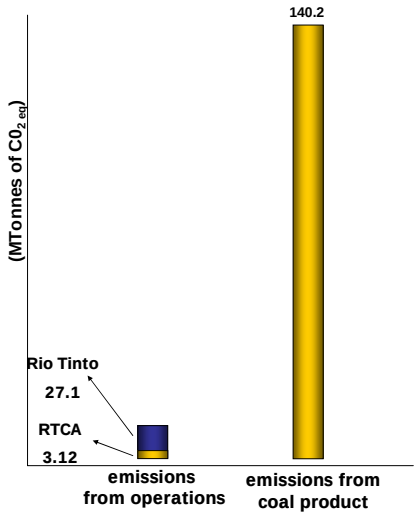
Commitment
Pay a levy per tonne of coal to support the demonstration of clean coal technologies - using 2005 production figures this would be A$12 to A$15 million per year.

Description
Consumption of coal is the major contributor of greenhouse gas emissions in the coal supply chain. Greenhouse gas emissions from the use of our product are approximately 50 times more the emissions from producing the coal.

The scale of the problem illustrates the importance of developing technologies to reduce emissions from coal fired power stations. As producers of coal, the challenge is to be able to encourage and support our customers in the development and adoption of these new technologies.

Independent research indicates, "Cost effective, large scale CO_2 capture and storage is the key technology requirement" (Battelle, 2006).

RTCA coal greenhouse gas emission profile (2005)

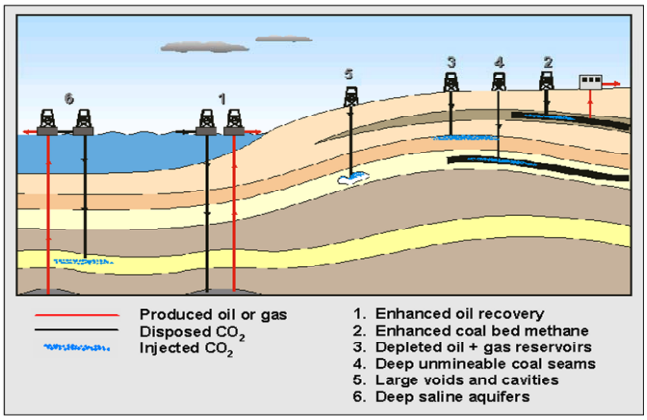


Programmes
Our programmes centre around -

- Research to identify new technologies.
- Uptake of the technology to change the way coal is burned.
- Supporting a policy environment to enable this change.

Programmes include COAL21, which is an initiative of the Australian Coal Association aimed at reducing greenhouse gas emissions arising from the use of coal in electricity generation in Australia. It is a collaborative, consensus-building programme involving participants from federal and state governments, the coal and electricity industries and research organisations.

CO_2 Storage
The enabling technology for all coal use options



Accountability
Energy Services and Energy Technology Group
Supported by RTCA, eg presence on Board of CO_2CRC; Board of Otway Group

Supporting Material
Energy Services and ETG research programme - Attachment 4

5. Energy Management

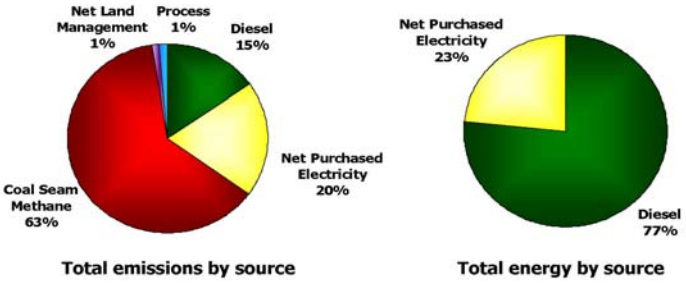
Objective
Improving energy use at our operations, projects and supply chain, and embedding the process into RTCA systems.

Commitment
Improving energy efficiency at our operations and through our supply chain -

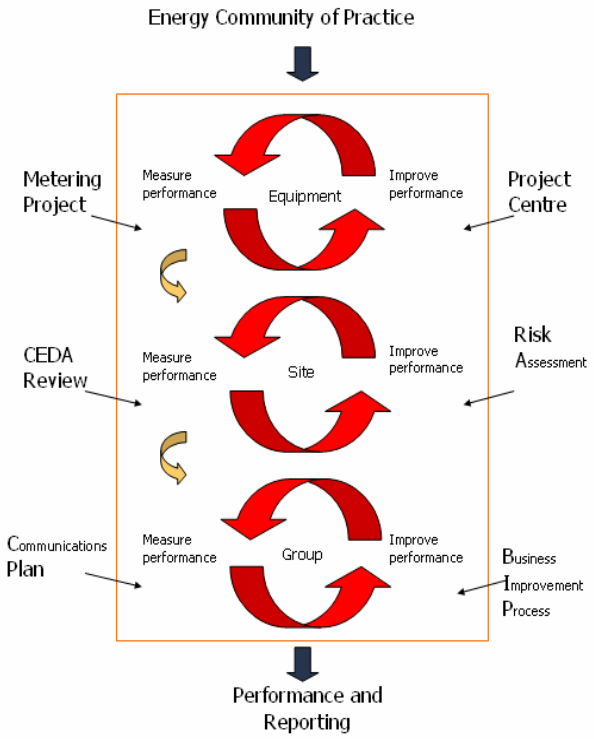
- Create a dedicated role for climate change at RTCA.
- Include a minimum of five energy improvements projects per site in 2007 plan.
- Adapt Project Centre to capture all energy projects and savings.
- Adopt metering measurement and reporting for all equipment / fleets that use at least 10 per cent of sites diesel consumption.
- Adopt metering measurement and reporting for all buildings / equipment that use at least 10 per cent of sites electricity consumption.

Description
Coal seam methane, followed by electricity and diesel, are the dominant contributors to RTCA's emission profile. Coal seam methane's contribution is determined by a mandatory emissions factor. Addressing this requires adoption of new technology whose economic or technical feasibility is still unclear. Changes to current mining operations cannot address this issue. . Electricity is a quarter of our energy use but has proportionally higher contributions to the GHG emissions profile than diesel.

RTCA Greenhouse gas emissions and energy source (2005)



RTCA energy management approach



Accountability
Energy Community of Practice

Programmes
Our energy management program is designed to address, understand, prioritise and reduce our energy use. The first step was undertaking **energy audits** at each operation. Each operation has a list of identified energy projects which have been consolidated into a **master list**, to enable group sharing and collaboration.

The ongoing energy reduction program is supported by a number of enabling programmes. These include **the utilisation of the Business Improvement Process**. The BIP **Project Centre system** has been amended to enable the capture and reporting of energy savings from all projects from **metering, monitoring and reporting** that will allow RTCA to better understand and therefore manage its energy use. The business-wide programme of metering for all equipment / facilities that use 10 per cent or more electricity or diesel will be developed. Common monitoring and reporting architecture will streamline management prioritisation. Other business systems, such as **capital requests,** are being amended to capture energy savings

Supporting Material
Roles and Accountabilities - Attachment 5
Business Improvement Process - Attachment 6
Energy Projects Master List - Attachment 7
Project Centre - Attachment 8
Metering, Monitoring and Reporting - Attachment 9
Revised CEDA Form - Attachment 10
Tracking of performance - Attachment 11

6. Designing for the Future

Objective
Design our projects, recognising risks from a changing climate and opportunities in a changing policy environment

Commitment
Revise business model to -
- Include a price on carbon (currently A$11.50 and rising by 2030 in today's dollars.)
- Review the capital approval procedures to explicitly include consideration of climate change impacts and energy efficiency.
- Enhance product delivery approach to include energy and water consumption.

Change business policies to -
- Drive purchasing behaviour consistent with long term reduction of GHG emissions.
- Adopt leading energy efficiency practices in building and process design and operation.

Description
The way we do business in the future will be different - changes to the weather will impact the design of our operations; changes in the policy environment will impact the costs to our business and international changes in policy will influence our markets and customers costs.

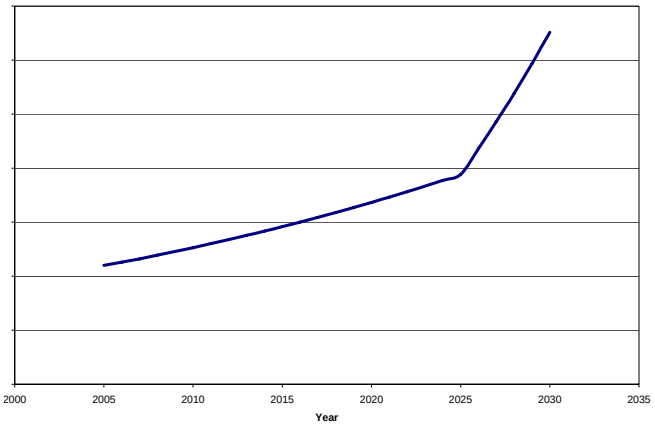
It is a reasonable expectation there will be a price on carbon in the future. Research into the current 'international wisdom' indicates a price for CO_2 up to A$30 by 2030 is a pragmatic expectation that will deliver adoption of new technologies (refer Battelle GTSP project). The policy environment to address climate change is highly uncertain and likely to be irrational in the near term. Long-term analysis indicates that coal has an important role in the worlds continued energy supply. Positioning our business to be a valued long-term contributor of minable energy requires changes to our business model and policies.

Programmes
Projects: Capturing energy ideas from projects to share across the Group. This includes collaborating with Rio Tinto procurement, and projects group to link into ideas and leading practice from across Rio Tinto.
Updating weather risk profile to include latest credible information in projects.
Investigating new options to capture of coal seam methane from underground and open cut mines.

Markets: Continue research into clean coal and carbon capture and storage technologies. Refer to clean coal section.

Policy: Continue participation in Rio Tinto climate change policy initiatives and apply the detail to our business.

Price of CO_2 to increase in the future



Accountability
Climate Change Steering Committee

Supporting material
Price of Carbon Dioxide - Attachment 2
Future climate predictions for RTCA - Attachment 3
Capturing Energy in Projects - Kestrel Mine Extension (KME)- Attachment 12
Hybrid Coal and Gas Turbine System - KME Attachment 13
Suppliers, Contractors and Projects – attachment 14
Greenhouse Gas Abatement Cost Curves - Attachment 15

7. Awareness Raising

Objective
Raising awareness with our employees, the communities where we operate, our customers, governments, suppliers and the industry that this is an issue that requires us to change how we all currently operate.

Commitment
Climate Change Awareness Programme will be rolled out to all employees.

- An annual report will be prepared to update on the progress of the plan.
- Auditing will increase to help track our performance.

Provide knowledge for an individual to reduce their personal 'footprint'.

- Set all building air conditioners at 23^{o}C except where equipment dictates different temperature.
- Review corporate car policy to promote energy efficient car purchase.

Include energy and water efficiency in concept plans development for Lower Hunter Lands Project.

"Climate change is a concern for everyone. To do my bit I own a small car rather than a large 4WD and when I am ready to buy a new car I will seriously consider one of the new hybrid cars."
Christine Evans, Marketing Superintendent

"The recent presentation on climate change illustrated that this is a real issue. Solid scientific analysis now backs up claims of global warming."
Neil Conway, Manager Mining Services

"Addressing climate change on site is as important as any other management issue. At Mount Thorley Warkworth we have already taken steps to increase fleet efficiency and therefore reduce our emissions."
Nick Earner, CHPP Manager, Mount Thorley Warkworth

Climate change is an important issue that people need to take action on. Employees on site will need to be taught how they can improve their energy efficiency while improving safety standards.
Col Mackey, Manager Mine Technical Services, Kestrel Mine

Description
While 'climate change' is an often-heard term both inside and outside our business, there is considerable variance in understanding of the term and its criticality for RTCA as a business. In addition, the term is widely bandied about as an explanation or justification for many and varied societal issues and events.
Current research by CSIRO with the broad community concludes Australian society is at the tipping point with a major shift in national values and beliefs which may influence policy, regulation and the business environment for years to come. It is clear the public expects industry to act. The coal industry is indeed acting and has many good stories to tell, but has failed to tell them effectively or to shake off the image of self-interest.

Programmes
We are designing a programme that will provide consistent messages for all our employees, support the energy use reduction programmes and provide context for the broader societal issue. Demonstrating our commitment and actions to external audiences and seeking opportunities to work with them is an important part of awareness raising. Examples of programmes include -

- Support Newcastle Solar Cities programme.
- Internal awareness raising presentations.
- Internal communications programme including communications tools and regular features in *Mine Matters.*
- Consistent messaging at senior levels.
- Participation in Rio Tinto communications task force.
- Deliver 'what you can do' information to employees and communities.
- Engage with governments to develop an effective response to climate change.
- Seek opportunities to raise awareness with industry associations and customers.
- Support for COAL21 communication programme.
- Ad hoc discussions with analysts, journalists, etc on 'what is clean coal 'Develop external communication package of what RTCA is doing, including performance reporting and programmes.

Accountabilities
Communications and Sustainable Development Department

Supporting Material
Internal Communications Plan - Attachment 16
State Government Activities – Attachment 17
Newcastle Solar Cities Programme - Attachment 18
Energy Efficient Air Conditioners - Attachment 19