Managing water risk in mining operations

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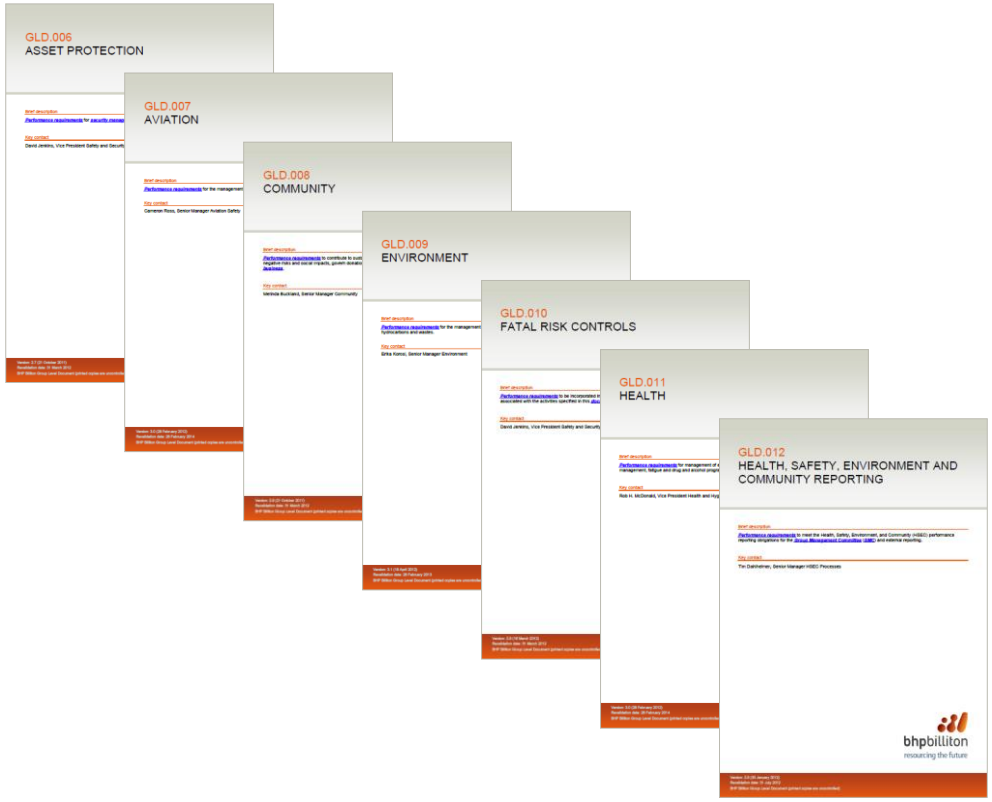
A place at our core

HSEC

Our Charter

Seven HSEC Group Level Documents

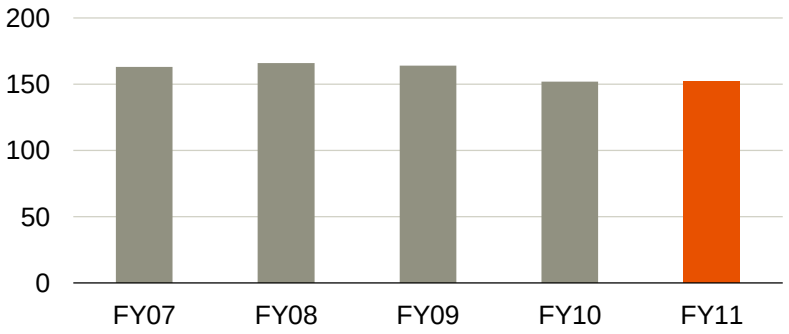


Water management

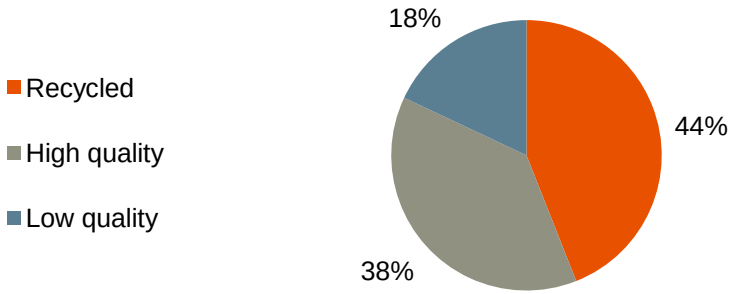
Water management is a global issue

- Addressing water stress and quality through:
  - Water abatement cost curves
  - Water management plans across all operations
- Actively encouraging improved transparency and accountability through participation in the inaugural CDP Water Disclosure Project and development of the Water Accounting Framework
- Managing land rehabilitation and mine closures with water as a priority

High quality water use
(gigalitres)



Water use by classification
(FY11, %)



Why does water matter?

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An essential resource for our operations

Processing and transport of ores, management of wastes and dust, power generation, health and wellbeing of our employees and communities

Ten sites account for 80% of our annual water consumption of 150 gigalitres

Meeting our needs is becoming increasingly difficult

Increased competition for water, due to population growth, urbanisation and industrialisation

Climate change is making the patterns and cycles of water flows less predictable

There is increasing stakeholder interest in how we manage water:

Recognition of social, cultural, environmental, ecological and economic values of water has increased dramatically with greater scrutiny and expectations from our stakeholders, for example CDP Water Disclosure

What are our material risks around water?

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It's not just about lack of water

Risks and impacts associated with water usage at our operations vary from region to region and from site to site, with some sites facing multiple and conflicting risk types.

A number of material water risks can be identified:

- Water scarcity, excess, quality
- Cumulative impacts
- Biodiversity and community
- Closed operations
- Expansions and new operations
- Climate change

Our approach to water management

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Our priority areas include consideration of:

- How to address linkages between water management objectives and other material environmental issues, for example climate change, biodiversity, land management and materials stewardship
- Management of all water-related material risks, rather than just water scarcity
- The local and regional context of water within target setting and policy development
- Increased engagement with stakeholders to inform the development of good water practice at local, regional, national and international levels
- Methods to improve measurement, reporting and verification of water data

Case Study – Olympic Dam mine, Australia

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Overview

- Australia's largest underground mine
- World's fourth largest copper and gold resource and largest uranium resource
- In production since 1988

Key Water Risks

- All water sourced from Great Artesian Basin (GAB)
- Our consumption must not affect other users or natural springs
- Springs feature internationally recognised rare and endangered species



Olympic Dam – Achieving water savings in the Great Artesian Basin (GAB)

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Understanding the GAB

Assessing how water transmits to the GAB's springs

Monitoring natural spring flows and ecological communities along the margin of the GAB

Improving water efficiency

Substituting high quality water with saline groundwater for dust suppression

Improved covering to limit evaporation from open water storages

Direct water savings in the GAB

Helping landholders rehabilitate flowing bores and improve pipe networks

Purchased pastoral properties and shut down several free flowing bores

Olympic Dam – Achieving water savings in the Great Artesian Basin (GAB)

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Summary of water management efforts

- Achieved a 15% improvement in industrial water efficiency: 2,250 megalitres per year
- Additional opportunities from water use reduction cost curve process : 450 megalitres per year
- Contributed US$2.2 million to the Great Artesian Basin Sustainability Initiative (GABSI)
- Savings from GABSI efforts to improve management of flowing bores: 13,000 megalitres per year
- Savings from shutdown of free flowing bores in pastoral lands: 1,800 megalitres per year

Total savings from all initiatives = 17,500 megalitres per year

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