BHP

BHP’s approach to climate change risk management

Dr. Fiona Wild
Vice President, Sustainability and Climate Change
BHP global locations
About BHP

• We are a leading global resources company.

• Our purpose is to create long-term shareholder value through the discovery, acquisition, development and marketing of natural resources.

• Our strategy is to own and operate large, long-life, low-cost, expandable, upstream assets diversified by commodity, geography and market.
Our portfolio

Large, long-life, low-cost, expandable, upstream assets diversified by commodity, geography and market

Note: Represents BHP Billiton's core portfolio.
Our Charter

Our Values

- **Sustainability** – Putting health and safety first, being environmentally responsible and supporting our communities.

- **Integrity** – Doing what is right and doing what we say we will do.

- **Respect** – Embracing openness, trust, teamwork, diversity and relationships that are mutually beneficial.

- **Performance** – Achieving superior business results by stretching our capabilities.

- **Simplicity** – Focusing our efforts on the things that matter most.

- **Accountability** – Defining and accepting responsibility and delivering on our commitments.
Total economic contribution

1. Community contribution includes cash and administrative costs (US$123.7 million) and funds transferred to BHP Billiton Foundation (US$55 million). Includes payments made by equity accounted investments.

2. The total economic contribution made during FY2016 of US$26.7 billion is determined by combining total payments to governments of US$3.7 billion (determined on a cash basis), payments to suppliers of US$14.0 billion, employee expenses of US$3.6 billion, distributions to shareholders and investors of US$5.2 billion (determined on an accrual basis) and community contribution of US$178.7 million.

3. Shareholders and investors includes US$4.2 billion of dividends attributable to members of the BHP Billiton Group and US$1.0 billion of interest expense.

Total payments to governments

- Suppliers: US$14.0b
- Employees: US$3.6b
- Shareholders, lenders and investors: US$5.2b

Social investment

- Income taxes
- Royalty-related income taxes
- Royalties
- Other payments to governments

Total economic contribution

US$178.7m = US$26.7b
Our approach to climate change

At BHP Billiton:

• Climate change is a critical, Board-level, governance and strategic issue.

• We accept the IPCC’s assessment of climate change science.

• We believe the world must pursue the twin objectives to limit climate change and provide access to reliable and affordable energy.

• We don’t prioritise one of these objectives over the other – both are essential to sustainable development.
Our actions

• **We are committed to taking action on climate change by:**

  • Reducing our emissions.
  
  • Adapting to the physical impacts of climate change.
  
  • Working in partnership to accelerate the development and deployment of low emissions and renewable technologies.
  
  • Working with others to enhance the global response.
  
  • Testing and building the resilience of our portfolio.
Mitigation

Reducing our operational GHG emissions

• Our target is to keep total operational emissions below FY2006 baseline in FY2017.

• In FY2016, total emissions were 18 MtCO2-e, 13 per cent lower than the baseline.

• Performance was driven by emissions reduction projects and improved productivity.

• Projects implemented since FY2013 have delivered more than 950 KtCO2-e of annual abatement at our operations.

Greenhouse gas emissions
(million tonnes of CO2-e)

<table>
<thead>
<tr>
<th>Year</th>
<th>FY2012</th>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
<th>FY2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>scope 1</td>
<td>11.3</td>
<td>6.7</td>
<td>5.8</td>
<td>4.2</td>
<td>3.6</td>
</tr>
<tr>
<td>scope 2</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

2. In order to compare the total GHG emissions in FY2015 to prior financial years, GHG emissions (estimated) from South32 assets between the date of demerger and 30 June 2015 have been added to FY2015 GHG emissions as shown above.
3. Scope 2 refers to indirect GHG emissions from the generation of purchased electricity and steam that is consumed by operated assets (calculated using the market-based method).
4. Scope 1 refers to direct GHG emissions from operated assets.
5. Our FY2006 baseline is adjusted as necessary for material acquisitions and divestments based on asset GHG emissions at the time of the applicable transaction.
Mitigation

Reducing emissions from deforestation and forest degradation

- Developed guide to REDD+ governance with Baker and McKenzie.
- Made US$5 million commitment to Alto Mayo in Peru, managed by Conservation International and protecting around 182,000 hectares of globally-significant, threatened forests.
- Supported the world’s first Forests Bond, which could stimulate the global market by enabling investors to receive interest in cash or REDD+ credits.

1. Reducing Emissions from Deforestation and Forest Degradation, as well as conservation, sustainable management of forests and enhancement of forest carbon stocks.
2. Image supplied by Conservation International.
Adaptation

Focusing on the future

- Our assets are long-lived, therefore we must take a robust, risk-based approach to adapting to the physical impacts of climate change.
- We require all our operations to assess the potential physical impacts of climate change.
- We are already taking action to build the resilience of our operations.
- We also consider ways to build community and ecosystem resilience to climate impacts.
Low emissions technology

BHP Billiton SaskPower CCS Knowledge Centre

- In 2014, SaskPower’s Boundary Dam became the first post-combustion, coal-fired power station with CCS.
- BHP Billiton founded the International CCS Knowledge Centre in February 2016 to share knowledge and learnings from the project.
- It now has significant international profile and engagement with project developers.

Peking University and partners – steel sector CCS

- BHP Billiton, Peking University and the National Centre for Climate Change Strategy and International Cooperation agreed in June 2016 to establish a collaborative centre.
- The centre is focused on addressing policy, economic and technical barriers to the application of CCS to the steel sector.

Lakeland Solar and Storage

- Batteries offer potential to deliver baseload renewable power.
- We are partnering to develop a 13 megawatt solar photovoltaic power plant.
- Incorporates 5.3 megawatt hours of lithium-ion battery storage at a ‘fringe of grid’ location in Australia.
Portfolio evaluation

• We have been testing the resilience of our portfolio for many years

• We develop forecasts based on detailed analysis.

• We have a robust scenario planning process to test the resilience of our portfolio against a range of scenarios and shock events.

• We use signposts to help us understand which scenario is becoming more dominant.
Global Accord

• **Global Accord describes:**
  
  • Robust global economic growth.
  
  • Unified action to address climate change – high cooperation and commitment to limit emissions.
  
  • Breakthroughs in low emission and renewable technologies.
  
  • There is an orderly transition to a 2°C world.
Demand for BHP Billiton commodities remains strong

Long-term commodity demand range in a 2°C world
Our portfolio is resilient

• **Portfolio Resilience**

  • Our analysis shows that BHP Billiton will continue to create substantial value for shareholders under both an orderly and a more rapid transition to a 2°C world:
    ✓ Diversified portfolio;
    ✓ Low cost assets;
    ✓ High quality products;
    ✓ Growth options of ~20% IRR\(^1\);
    ✓ Scenario planning and future optimisation.

  • We will continue to adapt and evolve to strengthen the portfolio and deliver long term shareholder value.

---

1. Based on the project pipeline in both the Global Accord scenario and shock event. Refer to BHP’s 2015 report ‘Climate Change - Portfolio Analysis’
In September 2015, we released our Climate Change: Portfolio Analysis. This report:

• Provides insight into our approach to scenario analysis.

• Explores the potential implications for our company of both an orderly and a more rapid transition to a 2 degree world.

• Shows that in these scenarios our diverse portfolio is resilient because of its high quality resources, low costs of production and rapid payback periods.
Views After Paris

Views after Paris provides:

• A tangible demonstration of how we monitor the external environment.

• An explanation of how we identify and track signals which provide timely insights into potential impacts on our portfolio.

• An insight into how these inform our strategic decision-making at the highest levels of our company.

• An update on our actions, as part of our integrated approach to climate risk management, over the past 12 - 18 months.
Stakeholder engagement

- **Stakeholder engagement**
  - Published CEO COP21 Statement.
  - Signed UNFCCC’s Paris Pledge.
  - Joined Energy Transitions Commission.
  - Recognised in CDP’s Climate Disclosure Leadership Index.
  - Participated in the Financial Stability Board’s Task Force on Climate-related Financial Disclosures
The Financial Stability Board (FSB) established the Task Force on Climate-related Financial Disclosures (TCFD) on December 4, 2015 to develop recommendations for more efficient and effective climate-related disclosures that:

- could “promote more informed investment, credit, and insurance underwriting decisions” and,

- in turn, “would enable stakeholders to understand better the concentrations of carbon-related assets in the financial sector and the financial system’s exposures to climate-related risks.”
## CLIMATE-RELATED RISKS AND OPPORTUNITIES

<table>
<thead>
<tr>
<th>Type</th>
<th>Climate-Related Risks</th>
<th>Type</th>
<th>Climate-Related Opportunities</th>
</tr>
</thead>
</table>
| **Transition Risks** | - **Policy and Legal**  
- Increased pricing of GHG emissions  
- Enhanced emissions-reporting obligations  
- Mandates on and regulation of existing products and services  
- Exposure to litigation  
- **Technology**  
- Substitution of existing products and services with lower emissions options  
- Unsuccessful investment in new technologies  
- Upfront costs to transition to lower emissions technology  
- **Markets**  
- Changing customer behavior  
- Uncertainty in market signals  
- Increased cost of raw materials  
- **Reputation**  
- Shift in consumer preferences  
- Stigmatization of sector  
- Increased stakeholder concern or negative stakeholder feedback | **Resource Efficiency**  
- Use of more efficient modes of transport  
- More efficient production and distribution processes  
- Use of recycling  
- More efficient buildings  
- Reduced water usage and consumption | **Energy Source**  
- Lower-emission sources of energy  
- Supportive policy incentives  
- Emergence of new technologies  
- Participating in carbon market  
- Energy security and shift towards decentralization | **Products and Services**  
- Develop and/or expand low emission goods and services  
- Climate adaptation and insurance risk solutions  
- R&D and innovation  
- Diversify business activities  
- Shifting consumer preferences | **Markets**  
- New markets  
- Public-sector incentives  
- New assets and locations needing insurance coverage | **Resilience**  
- Participate in renewable energy programs and adopt energy-efficiency measures  
- Resource substitutes/diversification |
| **Physical Risks**    | - **Acute**  
- Increased severity of extreme weather events such as cyclones and floods  
- **Chronic**  
- Changes in precipitation patterns and extreme weather variability  
- Rising mean temperatures  
- Rising sea levels |

**IEEJ June 2017 © IEEJ2017**

**TCFD**

**TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES**
The four recommendations are supported by **specific disclosures** organizations can include in financial filings to provide decision-useful information about their climate-related risks and opportunities.

**Governance**
- Disclose the organization’s governance around climate-related risks and opportunities.

**Strategy**
- Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.

**Risk Management**
- Disclose how the organization identifies, assesses, and manages climate-related risks.

**Metrics and Targets**
- Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

**Recommended Disclosures**

**Governance**
- a) Describe the board’s oversight of climate-related risks and opportunities.
- b) Describe management’s role in assessing and managing climate-related risks and opportunities.

**Strategy**
- a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.
- b) Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.
- c) Describe the potential impact of different scenarios, including a $2^\circ$ C scenario, on the organization’s businesses, strategy, and financial planning.

**Risk Management**
- a) Describe the organization’s processes for identifying and assessing climate-related risks.
- b) Describe the organization’s processes for managing climate-related risks.
- c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization’s overall risk management.

**Metrics and Targets**
- a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
- b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
- c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.
## Scenario Analysis

Scenario analysis is an important and useful tool for understanding the strategic implications of climate-related risks and opportunities.

The Task Force recommends that organizations describe the potential impact of different scenarios, including a 2°C scenario, on their businesses, strategy, and financial planning.

### Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.

### Recommended Disclosure

| c) | Describe the potential impact of different scenarios, including a 2°C scenario, on the organization’s businesses, strategy and financial planning. |

### Guidance for All Sectors

Organizations should describe how their strategies are likely to perform under various forward-looking, climate-related scenarios (e.g., potential effects under different scenarios) and any resulting changes to their strategies and financial plans, risk management activities, or targets/metrics to mitigate risks and take advantage of opportunities.
The Task Force is in the process of evaluating feedback and potential changes to the report, which is scheduled to be finalized and released in June 2017.

The FSB has extended the Task Force through mid-2018 to support and monitor adoption.

**Timeline**

<table>
<thead>
<tr>
<th>Second Quarter 2017</th>
<th>Third Quarter 2017</th>
<th>Fourth Quarter 2017</th>
<th>First Quarter 2018</th>
<th>Second Quarter 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apr 20-21</strong>: Meeting of G20 Finance Ministers and Governors</td>
<td><strong>Jul 7-8</strong>: FSB report presentation at G20 Summit</td>
<td></td>
<td></td>
<td><strong>Q2 2018</strong>: Submission of implementation monitoring report</td>
</tr>
<tr>
<td><strong>Q2 2017-Q2 2018</strong>: Outreach and engagement</td>
<td></td>
<td><strong>Q4 2017-Q2 2018</strong>: Implementation monitoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Jun</strong>: Issuance of final report to FSB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusion

**Addressing climate change is a priority for BHP Billiton**

- We have a clear and consistent position.
- Our integrated strategy address a range of climate-related risks and opportunities.
- Transparency is critical – more disclosure will help everyone make informed choices.
- We remain committed to taking action and supporting an effective global response.
## Task Force Members

### Chair and Vice-Chairs

- **Michael Bloomberg**
  - Chairman
  - Founder and President
  - Bloomberg L.P.

- **Yeo Lian Sim**
  - Vice-Chair
  - Special Adviser
  - Singapore Exchange

- **Graeme Pitkethly**
  - Vice-Chair
  - Chief Financial Officer
  - Unilever

### Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Role and Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Koushik Chatterjee</strong></td>
<td>Group Executive Director, Finance and Corporate Tata Group</td>
</tr>
<tr>
<td><strong>Stephanie Leaist</strong></td>
<td>Managing Director, Head of Sustainable Investing Canada Pension Plan Investment Board</td>
</tr>
<tr>
<td><strong>Neil Hawkins</strong></td>
<td>Corporate Vice President and Chief Sustainability Officer The Dow Chemical Company</td>
</tr>
<tr>
<td><strong>Diane Larsen</strong></td>
<td>Audit Partner, Global Professional Practice EY</td>
</tr>
<tr>
<td><strong>Mark Lewis</strong></td>
<td>Managing Director, Head of European Utilities Equity Research Barclays</td>
</tr>
<tr>
<td><strong>Ruixia Liu</strong></td>
<td>General Manager, Risk Department Industrial and Commercial Bank of China</td>
</tr>
<tr>
<td><strong>Eric Dugelay</strong></td>
<td>Global Leader, Sustainability Services Deloitte</td>
</tr>
<tr>
<td><strong>Udo Hartmann</strong></td>
<td>Senior Manager, Group Environmental Protection &amp; Energy Management Daimler</td>
</tr>
<tr>
<td><strong>Liliana Franco</strong></td>
<td>Director, Accounting Organization and Methods Air Liquide Group</td>
</tr>
<tr>
<td><strong>Thomas Kusterer</strong></td>
<td>Chief Financial Officer EnBW</td>
</tr>
<tr>
<td><strong>Eloy Lindeijer</strong></td>
<td>Chief, Investment Management PGGM</td>
</tr>
<tr>
<td><strong>Michael Wilkins</strong></td>
<td>Managing Director, Environmental Finance S&amp;P Global Ratings</td>
</tr>
<tr>
<td><strong>Jon Williams</strong></td>
<td>Partner, Sustainability and Climate Change PGGM</td>
</tr>
</tbody>
</table>

### Special Adviser

- **Russell Picot**
  - Chair, Audit and Risk Committee, LifeSight
  - Former Group Chief Accounting Officer
  - HSBC

- **Giuseppe Ricci**
  - Health, Safety, Environment and Quality Executive Vice President
  - ENI

- **Martin Skancke**
  - Chair, Risk Committee
  - Storebrand

- **Andreas Spiegel**
  - Head Group Sustainability Risk
  - Swiss Re

- **Steve Waygood**
  - Chief Responsible Investment Officer
  - Aviva Investors

- **Deborah Winshel**
  - Managing Director, Global Head of Impact Investing
  - BlackRock

- **Fiona Wild**
  - Vice President, Sustainability and Climate Change
  - BHP Billiton

### Wim Bartels
- Global Head, Sustainability Reporting and Disclosures
- KPMG

### Jane Ambachtsheer
- Partner, Chair – Responsible Investment
- Mercer

### David Blood
- Senior Partner
- Generation Investment Management

### Matt Arnold
- Managing Director and Global Head of Sustainable Finance
- JPMorgan Chase & Co.

### Bruno Bertocci
- Managing Director, Head of Sustainable Investors
- UBS Asset Management

### Richard Cantor
- Chief Risk Officer
- Moody's

### Ruixia Liu
- General Manager, Risk Department Industrial and Commercial Bank of China

### Masaaki Nagamura
- Head, Corporate Social Responsibility
- Tokio Marine Holdings