

# BHP

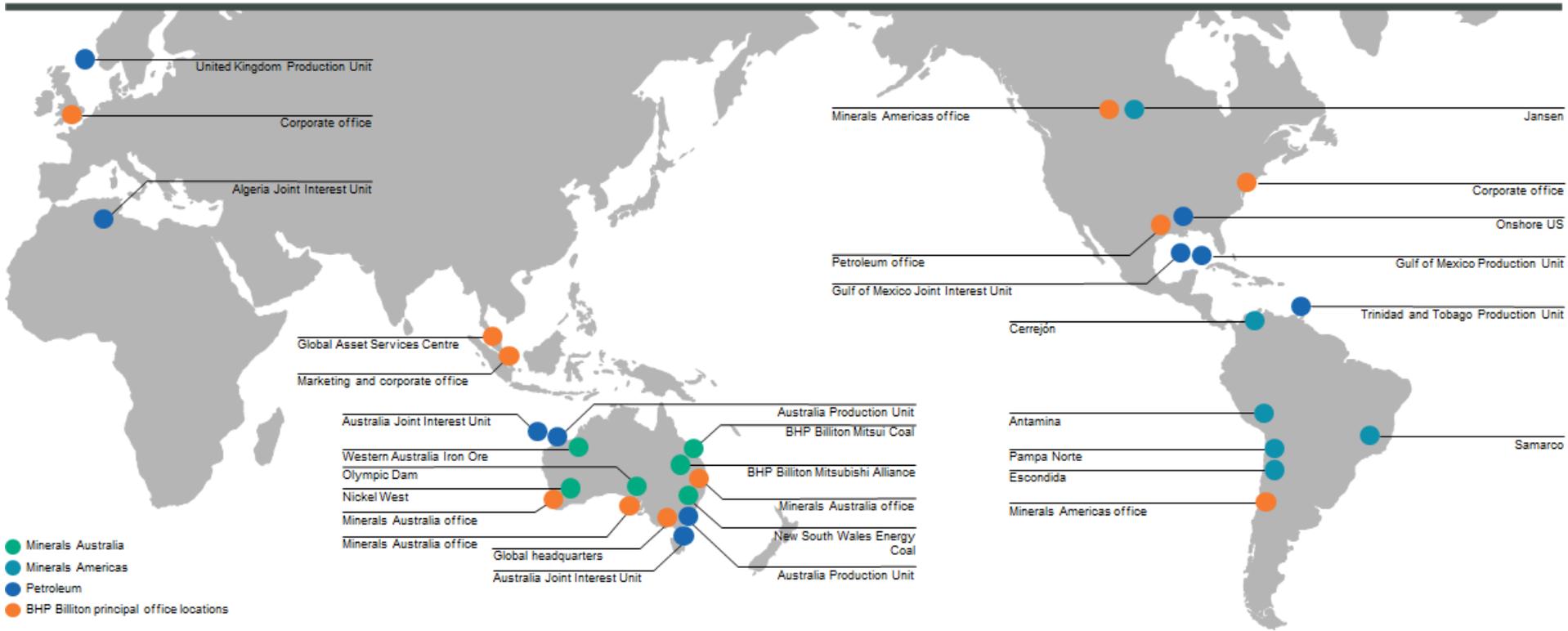
## BHP's approach to climate change risk management

Dr. Fiona Wild

Vice President, Sustainability and Climate Change

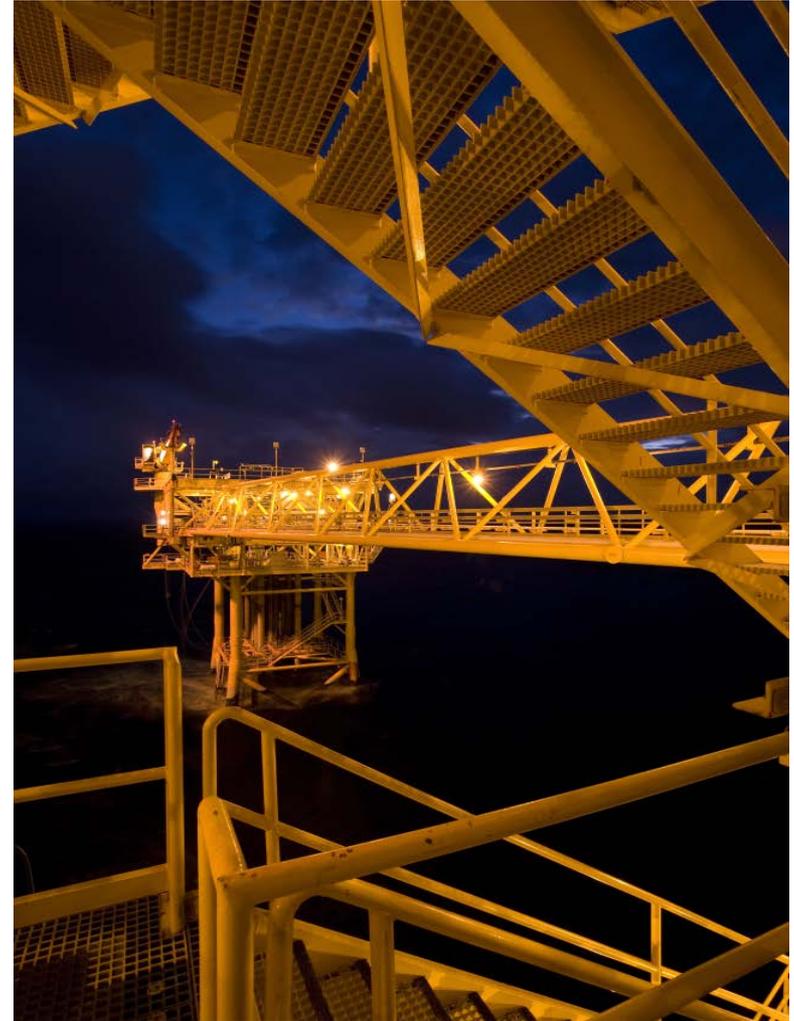


# BHP global locations



# 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

## Minerals Australia



Western  
Australia IO



Queensland Coal



NSW Energy Coal



Olympic Dam

## Minerals Americas



Escondida



Pampa Norte



Jansen



Antamina



Cerrejón



Samarco

## Petroleum



Onshore US



Shenzi



Angostura



Pyrenees



Macedon



Atlantis



Mad Dog



Bass Strait



North West  
Shelf

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.



## Our Charter

**We are BHP Billiton,  
a leading global resources company.**

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

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

**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.

**We are successful when:**

- Our people start each day with a sense of purpose and end the day with a sense of accomplishment.
- Our teams are inclusive and diverse.
- Our communities, customers and suppliers value their relationships with us.
- Our asset portfolio is world-class and sustainably developed.
- Our operational discipline and financial strength enables our future growth.
- Our shareholders receive a superior return on their investment.

*Andrew Mackenzie*  
**Andrew Mackenzie**  
Chief Executive Officer

September 2016

# Total economic contribution



Suppliers

**US\$14.0b**

Employees

**US\$3.6b**

Shareholders, lenders and investors

**US\$5.2b<sup>3</sup>**

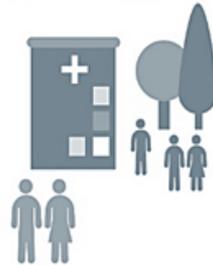
Total payments to governments



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

**US\$3.7b**

Social investment<sup>1</sup>



**US\$178.7m**

Total economic contribution

**= US\$26.7b<sup>2</sup>**

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.

# 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.

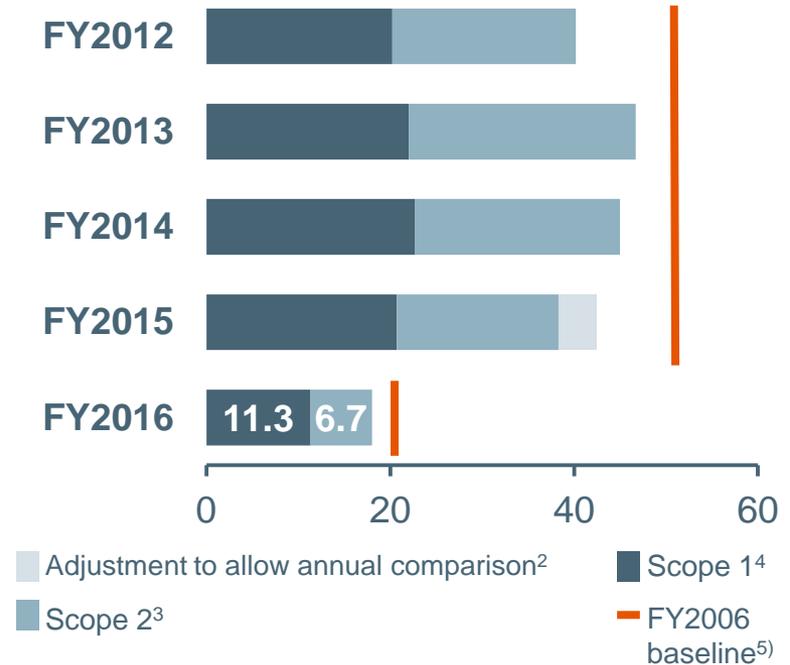


# Mitigation

## Reducing our operational GHG emissions

- Our target is to keep total operational emissions below FY2006 baseline in FY2017.
- In FY2016, total emissions were 18 MtCO<sub>2</sub>-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 KtCO<sub>2</sub>-e of annual abatement at our operations.

## Greenhouse gas emissions<sup>1</sup> (million tonnes of CO<sub>2</sub>-e)



1. Measured according to the World Resources Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol.  
 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+<sup>12</sup> 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.



## Closed Doors

National self-interest drives economic policy leading to low growth



## Global Accord

Unified focus on limiting climate change



## A New Gear

Innovation delivers step-change growth in developed economies

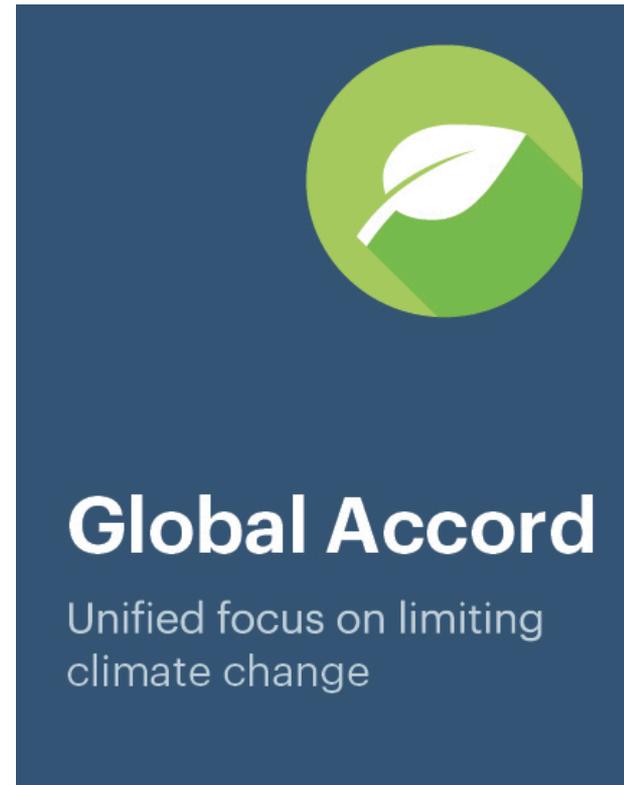


## Two Giants

US and China-led hubs drive technology-enabled growth

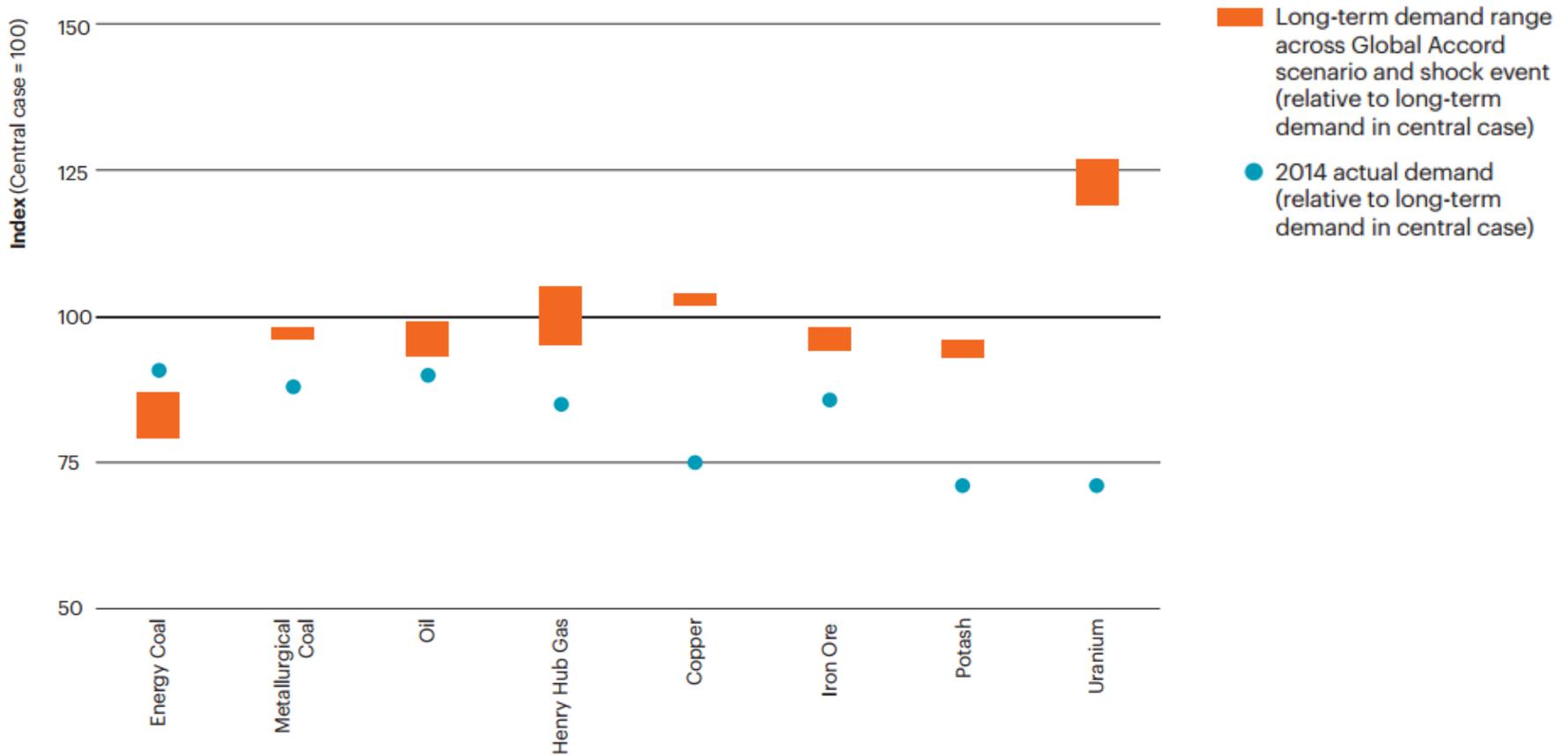
# Global Accord

- **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<sup>1</sup>;
  - ✓ 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'

# Portfolio Analysis

**In September 2015, we released our Climate Change: Portfolio Analysis. This report:**

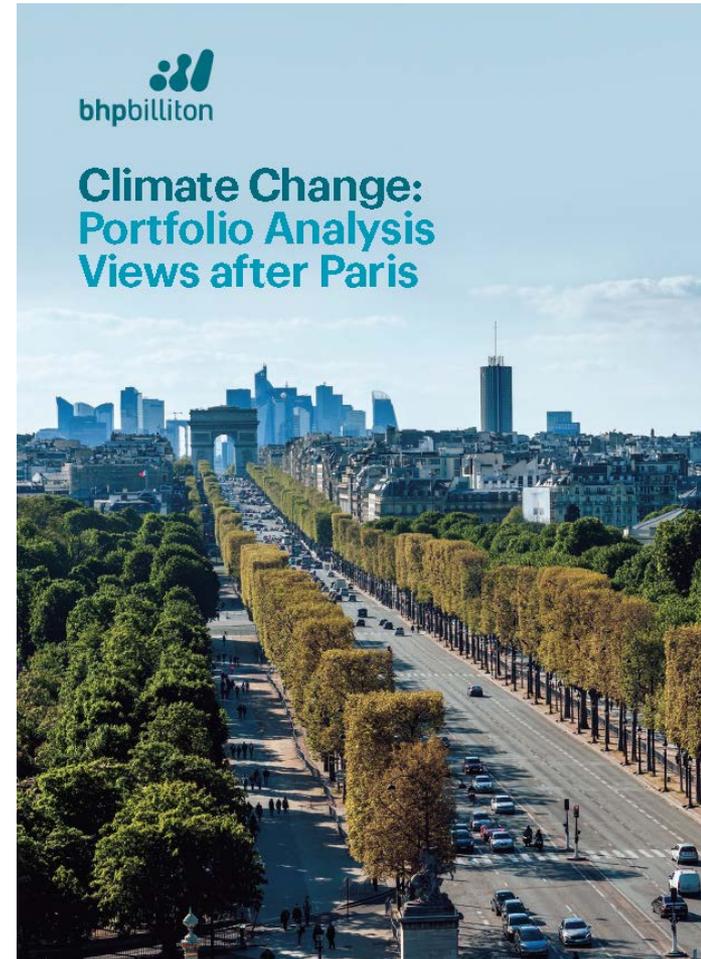
- Provides insight into our approach to scenario analysis.
- Explores the potential implications for our company of both an orderly and a more rapid transition to a 2 degree world.
- Shows that in these scenarios our diverse portfolio is resilient because of its high quality resources, low costs of production 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



# TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)

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.**”

## Industry Led and Geographically Diverse Task Force

The Task Force’s 32 international members, led by Michael Bloomberg, include providers of capital, insurers, large non-financial companies, accounting and consulting firms, and credit rating agencies.



# CLIMATE-RELATED RISKS AND OPPORTUNITIES

Type	Climate-Related Risks	Type	Climate-Related Opportunities		
Transition Risks	<b>Policy and Legal</b>	Resource Efficiency	<ul style="list-style-type: none"> <li>– Use of more efficient modes of transport</li> <li>– More efficient production and distribution processes</li> <li>– Use of recycling</li> <li>– More efficient buildings</li> <li>– Reduced water usage and consumption</li> </ul>		
	<ul style="list-style-type: none"> <li>– Increased pricing of GHG emissions</li> <li>– Enhanced emissions-reporting obligations</li> <li>– Mandates on and regulation of existing products and services</li> <li>– Exposure to litigation</li> </ul>		Energy Source	<ul style="list-style-type: none"> <li>– Lower-emission sources of energy</li> <li>– Supportive policy incentives</li> <li>– Emergence of new technologies</li> <li>– Participating in carbon market</li> <li>– Energy security and shift towards decentralization</li> </ul>	
	<b>Technology</b>	<ul style="list-style-type: none"> <li>– Substitution of existing products and services with lower emissions options</li> <li>– Unsuccessful investment in new technologies</li> <li>– Upfront costs to transition to lower emissions technology</li> </ul>		Products and Services	<ul style="list-style-type: none"> <li>– Develop and/or expand low emission goods and services</li> <li>– Climate adaptation and insurance risk solutions</li> <li>– R&amp;D and innovation</li> <li>– Diversify business activities</li> <li>– Shifting consumer preferences</li> </ul>
	<b>Markets</b>	<ul style="list-style-type: none"> <li>– Changing customer behavior</li> <li>– Uncertainty in market signals</li> <li>– Increased cost of raw materials</li> </ul>			Markets
	<b>Reputation</b>	<ul style="list-style-type: none"> <li>– Shift in consumer preferences</li> <li>– Stigmatization of sector</li> <li>– Increased stakeholder concern or negative stakeholder feedback</li> </ul>	Resilience	<ul style="list-style-type: none"> <li>– Participate in renewable energy programs and adopt energy-efficiency measures</li> <li>– Resource substitutes/diversification</li> </ul>	
Physical Risks	<b>Acute</b>				
	<ul style="list-style-type: none"> <li>– Increased severity of extreme weather events such as cyclones and floods</li> </ul>				
	<b>Chronic</b>				
	<ul style="list-style-type: none"> <li>– Changes in precipitation patterns and extreme weather variability</li> <li>– Rising mean temperatures</li> <li>– Rising sea levels</li> </ul>				

# DISCLOSURE RECOMMENDATIONS

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	Strategy	Risk Management	Metrics and Targets
<p>Disclose the organization's governance around climate-related risks and opportunities.</p>	<p>Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</p>	<p>Disclose how the organization identifies, assesses, and manages climate-related risks.</p>	<p>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.</p>
Recommended Disclosures	Recommended Disclosures	Recommended Disclosures	Recommended Disclosures
<p>a) Describe the board's oversight of climate-related risks and opportunities.</p>	<p>a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.</p>	<p>a) Describe the organization's processes for identifying and assessing climate-related risks.</p>	<p>a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.</p>
<p>b) Describe management's role in assessing and managing climate-related risks and opportunities.</p>	<p>b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</p>	<p>b) Describe the organization's processes for managing climate-related risks.</p>	<p>b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.</p>
	<p>c) Describe the potential impact of different scenarios, including a 2° c scenario, on the organization's businesses, strategy, and financial planning.</p>	<p>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.</p>	<p>c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.</p>

# 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

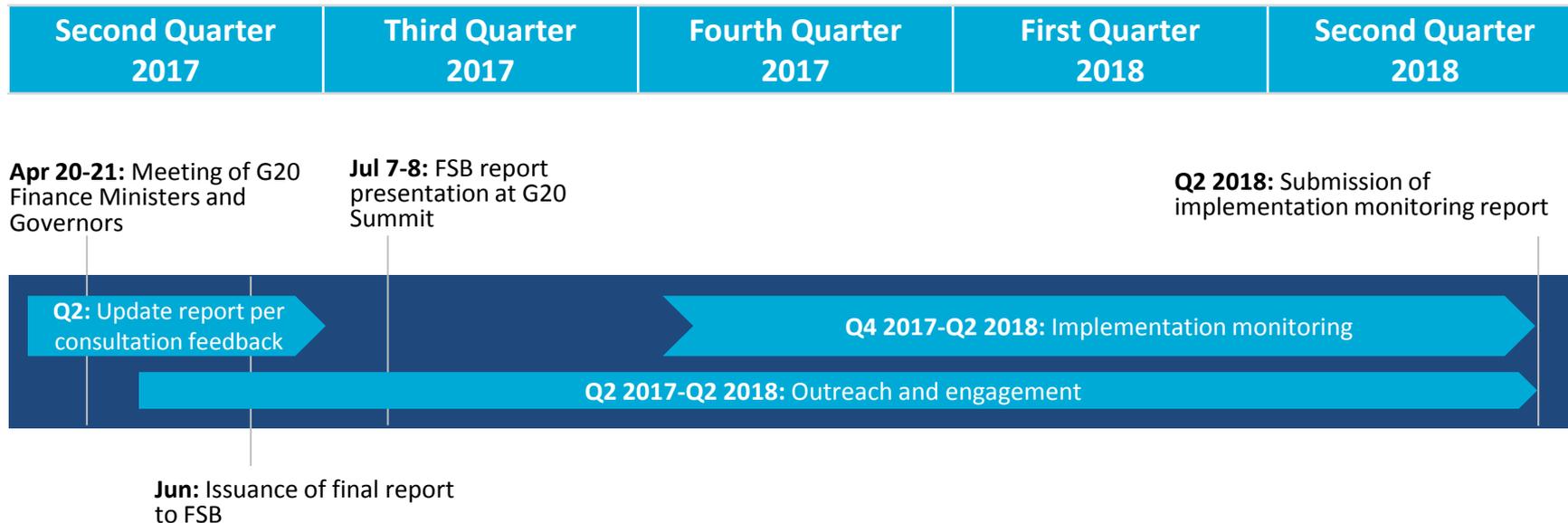
Organizations should describe how their strategies are likely to perform under various forward-looking, climate-related scenarios (e.g., potential effects under different scenarios) and any resulting changes to their strategies and financial plans, risk management activities, or targets/metrics to mitigate risks and take advantage of opportunities.

# NEXT STEPS

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



# 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.

**BHP**

# 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

### Denise Pavarina

Vice-Chair  
Managing Officer  
Banco Bradesco

### Graeme Pitkethly

Vice-Chair  
Chief Financial Officer  
Unilever

### Christian Thimann

Vice-Chair  
Group Head of Strategy,  
Sustainability and Public  
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AXA

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### Matt Arnold

Managing Director and  
Global Head of Sustainable  
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### Jon Williams

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Former Group Chief Accounting Officer  
HSBC