

# BHP

## Sustainability Report 2019





## Our Charter

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

### **Our Purpose**

To bring people and resources together to build a better world.

### **Our Strategy**

Our strategy is to have the best capabilities, best commodities and best assets, to create long-term value and high returns.

### **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.

A handwritten signature in black ink that reads "Andrew S Mackenzie".

**Andrew Mackenzie**  
Chief Executive Officer

May 2019

# In this Sustainability Report

BHP at a glance	2
Chief Executive Officer's Review	3
About this Sustainability Report	5
Our FY2019 sustainability performance	8
<b>Our sustainability approach</b>	<b>9</b>
Samarco	18
Tailings dams	22
<b>Health and safety</b>	<b>25</b>
<b>Environment</b>	<b>32</b>
<b>Climate change</b>	<b>37</b>
<b>Water</b>	<b>44</b>
<b>Society</b>	<b>58</b>
<b>People</b>	<b>70</b>
<b>Ethics and business conduct</b>	<b>74</b>
<b>Appendix</b>	<b>77</b>
Performance data – Environment	78
Performance data – Climate change	80
BHP water sensitivity assessment	83
Detailed significant water-related risks	84
Performance data – Water	87
BHP asset-level water data summary	90
Performance data – Society	91
Performance data – People	91
<b>EY Assurance statement</b>	<b>93</b>
<b>BHP Locations</b>	<b>94</b>
<b>Corporate directory</b>	<b>96</b>

# BHP at a glance

We employ over  
**72,000**  
 employees and contractors<sup>(1)</sup>

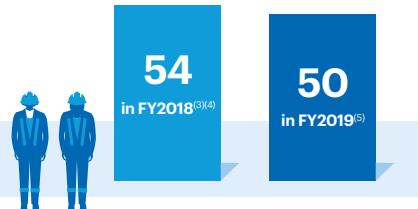


Who work in over  
**90**  
 locations worldwide



## Safety is our top priority

The number of high-potential injury events<sup>(2)</sup> declined by  
**7%** compared to FY2018<sup>(3)(4)</sup>



## We created value for the community

We made a social investment of  
**US\$93.5 million**  
 to communities around the world<sup>(6)</sup>



## We continued to take action on climate change

We are investing  
**US\$400 million**  
 into a Climate Investment Program  
 to accelerate our efforts to address  
 climate change



## We are minimising our water impact

Fresh water withdrawal<sup>(7)</sup>  
 reduction  
**1% lower**  
 compared to FY2017<sup>(8)</sup>



## Our Operating Model

### Assets



#### Minerals Australia Coal, copper, iron ore, nickel

**Operated assets**  
 Western Australia Iron Ore  
 Queensland Coal (BMA and BMC)  
 New South Wales Energy Coal  
 Olympic Dam  
 Nickel West



#### Minerals Americas Coal, copper, iron ore, potash

**Operated assets** Escondida  
 Pampa Norte  
 Jansen  
**Non-operated assets** Antamina  
 Cerrejón  
 Samarco

#### Petroleum Petroleum

**Operated assets** Shenzi  
 Angostura  
 Pyrenees  
 Macedon  
**Non-operated assets** Atlantis  
 Mad Dog  
 Bass Strait  
 North West Shelf

### Commercial Functions Centres of Excellence Leadership

- (1) Data includes Continuing operations and Discontinued operations (Onshore US assets).
- (2) Includes recordable injuries and first aid cases where there was the potential for a fatality.
- (3) FY2018 data includes Continuing and Discontinued operations (Onshore US assets).
- (4) FY2018 data has been readjusted due to reclassification of an event after the reporting period.
- (5) FY2019 data includes Discontinued operations (Onshore US assets) to 28 February 2019 and Continuing operations.
- (6) FY2019 social investment figure includes Discontinued operations (Onshore US assets) to 31 October 2018 and Continuing operations.
- (7) Where 'withdrawal' is defined as water withdrawn and intended for use (in accordance with 'A Practical Guide to Consistent Water Reporting', ICMM (2017)). 'Fresh water' is defined as waters other than sea water, waste water from third parties and hypersaline ground water. Fresh water withdrawal also excludes entrained water that would not be available for other uses. These exclusions have been made to align with the target's intent to reduce the use of fresh water sources subject to competition from other users or the environment.
- (8) The FY2017 baseline data has been adjusted to account for the materiality of the strike affecting water withdrawals at Escondida in FY2017 and improvements to water balance methodologies at WAIO and Queensland Coal and the divestment of our Onshore US assets in FY2019. Discontinued operations (Onshore US assets) have been excluded.

# Chief Executive Officer's Review



Thank you for downloading BHP's Sustainability Report 2019.

This Report tracks our progress against a range of health, safety, environmental and community measures that we voluntarily disclose as part of our commitment to greater transparency.

Though the Report covers our performance in FY2019, sustainability has long been hardwired into all the decisions we make, the actions our people take and the processes adopted by our business across the globe.

Global shifts in investor, political and community sentiment amid the rapid pace of change inspired us to refresh our purpose and contribution to society. Our profits must have a purpose and a socially responsible purpose generates greater shareholder value. Our updated purpose is: to bring people and resources together to build a better world. It acknowledges people as the driving force behind our ability to deliver sustainable and commercial outcomes.

This is an intrinsic part of how we build social value, which is our contribution to our people, the environment and communities. It informs the way in which we provide resources, achieve commercial success and make our workplace safe.

## Health and safety

Safety will always be our top priority. Last December, one of our colleagues, Allan Houston, died at work at BMA's Saraji Mine in Queensland. I extend my deepest sympathies to Allan's family, friends and colleagues impacted by this tragic incident. In response, we have redoubled our efforts to make sure our people go home safely each day.

Throughout the year, our leaders held safety engagements with contractors and employees across the business. The success of our safety programs helped reduce the number of events with the potential to cause a fatality by 7 per cent, which is a critical indicator of our future safety performance across our business. However, we had a slight rise in total recordable injury frequency to 4.7 per million hours worked. Though we are encouraged by the success of our safety leadership program, we know we have more to do to make our workplace safer.

This year, we introduced significant changes to the way we engage and manage contractors given they comprise two-thirds of our workforce. We also took a leadership role within the International Council on Minerals and Metals to strengthen the health and safety performance of our contract suppliers.

## Tailings dams

Nothing is more important than the safety of our people and communities. That's why we significantly increased the rigour of our assessment and management of tailings facilities since the tragic failure of the Fundão dam at Samarco in 2015. In FY2019, building on the work we did in 2016, we initiated dam safety reviews at significant active, inactive and closed tailings facilities across BHP. The reviews assessed dam design, construction, operations, emergency response and governance to determine the current level of risk and make sure the controls we have in place are adequate and effective.

The tragic failure of Vale's Brumadinho tailings dam in Brazil in January 2019 shows we all must act with even greater urgency to make sure these incidents do not happen. That's why we are working closely with industry to achieve more consistent disclosure. We established a Tailings Taskforce to oversee improvement and assurance for our operated tailings dams and we will participate in setting new international and independent tailings management standards.

## Environment

The environmental challenges we face are complex and unprecedented. They demand concerted and collective action to reduce impacts to water resources and biodiversity and curb carbon emissions. We acknowledge our responsibility to take action on climate change to reduce our greenhouse gas (GHG) emissions as a major producer and consumer of fossil fuels.

We remain committed to our five-year target to maintain total operational GHG emissions at or below FY2017 levels. In FY2019, our operational GHG emissions were 3 per cent below our target baseline. We know we must do more. In line with the Paris Agreement, our long-term goal is to achieve net-zero emissions from our operations in the latter half of this century and next year we will establish an additional medium-term target.

In July, we announced we had set up a five-year US\$400 million Climate Investment Program to find the best technologies and other solutions to reduce GHG emissions from our business and across our value chain.

This year, we launched our Water Stewardship Position Statement that outlines our vision for a water secure world by 2030. It sets out our actions to improve water management within our operations and contribute to more effective water governance beyond our business. Since 2011, BHP contributed more than US\$75 million towards conservation to improve biodiversity, climate and water outcomes.

## Chief Executive Officer's Review continued

### Community

BHP's success depends on healthy, prosperous and engaged global communities. Success is measured by the value communities place on our presence and whether we achieve environmental and economic sustainability. We have made good progress in meeting our five-year community targets that tackle a number of sustainable development challenges.

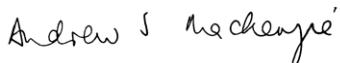
This Report also examines progress towards our 2025 aspiration of gender balance. This includes our push for more flexible ways of working and a respectful culture that boost our inclusivity and diversity.

As part of our social value commitment, we publicly endorsed the Uluru Statement from the Heart in January 2019, which calls for a greater voice and constitutional recognition for Indigenous Australians. Our partnerships with Traditional Owners of the land on which we operate are important to us and critical to our business so we support their actions to elevate Indigenous voices.

In FY2019, our voluntary social investment totalled US\$93.5 million, including US\$55.7 million in direct community development projects and donations. This was up from US\$77.1 million in FY2018.

We are committed to transparency and must never lose sight of the importance of delivering meaningful gains for our stakeholders today as we pursue long-term value.

To meet our sustainability challenges and stay at the forefront of change, we must continue to invest in a workforce that is genuinely inclusive and diverse because our people will move us towards a more sustainable and successful future. I thank them for their hard work and dedication.



**Andrew Mackenzie**  
Chief Executive Officer

## About this Sustainability Report



This Sustainability Report lays out an overview of BHP's long-term and ongoing commitment to sustainability, which is underpinned by *Our Charter* values and our company purpose: to bring people and resources together to build a better world.

This Report provides an opportunity for engagement with our stakeholders, who we know are more concerned than ever about our short-term delivery and long-term performance in sustainability. This includes our investors, our communities and our people. As such, we have endeavoured to provide within this Report a balanced picture of our progress to date as well as key areas for improvement. We voluntarily disclose data to be transparent and keep ourselves accountable.

The data and information published in this Report serve as an important record of how BHP is performing from year-to-year around themes that are critical to a sustainable future. These themes are both global in nature (such as how we can respond to the impacts of climate change) and more locally focused (such as rehabilitating the natural environment and supporting the communities in which we operate). All case studies in this Report are available online at [bhp.com](http://bhp.com).

For ease of reference, data is presented in this Report in the following sections:

- **Our sustainability approach** (page 9) gives an overview of our actions and strategy, as well as responding to issues of public interest, such as our response to the Fundão tailings dam failure in Samarco in 2015 and our subsequent steps toward rehabilitation of the area and resettlement of the community. In this section, we also disclose our approach to tailings dam management.
- **Health and safety** (page 25) discloses data around the health and safety of our workforce. Safety is always our top priority.

- **Environment** (page 32) shows how we work to minimise environmental impacts from our operations, tracks our environmental performance and tells how we look beyond our own operations to support conservation, the sustainable use of natural environments and how we contribute to resilient natural ecosystems for future generations.
- **Climate change** (page 37) discloses data on GHG emissions and how we manage climate-related risk.
- **Water** (page 44) discloses data on our water use, performance and interactions, which follows on from our inaugural BHP Water Report in 2018.
- The closing three sections of our Report focus on fostering ethical and respectful relationships with our people; and the communities, small businesses, Indigenous peoples and governments of the regions in which we operate. These sections are:
  - **Society** addresses community concerns, respecting human rights, our social investment and recognising the traditional rights of the Indigenous peoples who are the custodians of the land on which we operate.
  - **People** tells how we support our global workforce's wellbeing and promote an inclusive and diverse corporate culture. We show how we are tracking against our aspirational goal of gender balance by 2025 and outline the steps we are taking to ensure women, Indigenous peoples and LGBT+ people want to work in the resources sector.
  - **Ethics and business conduct** reinforces our commitment to transparency and outlines governance of *Our Code of Conduct*, including anti-corruption compliance.

## About this Sustainability Report continued

### Our reporting approach

We pride ourselves on voluntarily and transparently disclosing data using sustainability guidelines, standards and recommendations informed by external sources. This year, for the first time, we report data on our tailings dams.

This Sustainability Report aligns with the International Council on Mining and Metals (ICMM) Sustainable Development Framework and is prepared in accordance with the Global Reporting Initiative (GRI) Standards comprehensive-level reporting.

As signatories to the principles of the United Nations Global Compact (UNGC), this Sustainability Report serves as our UNGC Communication on Progress on implementation of the principles and support for its broader development objectives.

More information is available online at [bhp.com](http://bhp.com) and we invite readers to access case study information and topic-specific detail via this platform. We have obtained external limited assurance over our Sustainability Report disclosures. Refer to EY's assurance report for the full assurance statement.

### Reporting boundary and scope

This Sustainability Report covers BHP's assets (including those under exploration, projects in development or execution phases, sites and closed operations) that have been wholly owned and/or operated by BHP and assets that have been owned as a joint venture<sup>(1)</sup> operated by BHP (referred to in this Sustainability Report as 'assets', or 'operated assets' or 'operations') during the period from 1 July 2018 to 30 June 2019. Our functions are also included.

On 28 September 2018, BHP completed the sale of 100 per cent of the issued share capital of BHP Billiton Petroleum (Arkansas) Inc. and 100 per cent of the membership interests in BHP Billiton Petroleum (Fayetteville) LLC, which held the Fayetteville assets, for a total cash consideration of US\$0.3 billion.

On 31 October 2018, BHP completed the sale of 100 per cent of the issued share capital of Petrohawk Energy Corporation, the BHP subsidiary which held the Eagle Ford (being Black Hawk and Hawkvill), Haynesville and Permian assets, for a total cash consideration of US\$10.3 billion (less preliminary customary completion adjustments of US\$0.2 billion).

While the effective date at which the right to economic profits transferred to the purchasers was 1 July 2018, the Group continued to control the Onshore US assets until the completion dates of their respective transactions. In addition, the Group provided transitional services to the buyer, which ceased in July 2019.

As such, information and data in this Sustainability Report relating to the Group (other than FY2019 safety performance data) has been presented on a Continuing and Discontinued operations basis to include the contribution from Onshore US assets prior to completion of their sale, unless otherwise stated. FY2019 safety performance data in this Sustainability Report has been presented on a Continuing and Discontinued operations basis to include the contribution from Onshore US assets to 28 February 2019.

Continuing operations means the assets, operations and entities that are owned and/or operated by BHP, excluding Onshore US and assets, operations and entities included in the demerger of South32. For FY2014 to FY2019, Discontinued operations includes the assets, operations and entities that were owned by and/or operated by BHP during FY2019 and sold as part of our Onshore US sale, which was announced on 27 June 2018. For FY2014 to FY2015, Discontinued operations also includes assets, operations and entities that were owned and/or operated by BHP during FY2015 and demerged into a new company (South32) on 25 May 2015.

On 14 May 2019, BHP announced we would fully integrate Nickel West into the BHP Operating Model. During FY2019, Nickel West was not fully integrated into our Operating Model. Accordingly, it was granted exemptions from certain *Our Requirements* standards, including the requirements to conduct a human rights impact assessment every three years, and have a quantified water balance model (unless required by a material risk). Statements in this Sustainability Report concerning these matters do not apply to Nickel West. It is expected that Nickel West will be fully integrated into our Operational Model in FY2020.

BHP also holds interests in assets that are owned as a joint venture but not operated by BHP (referred to in this Sustainability Report as 'non-operated joint ventures' or 'non-operated assets'). Our non-operated joint ventures are not included within the scope of this Sustainability Report, unless otherwise stated. Data for non-operated joint ventures is not presented in this Sustainability Report, unless otherwise stated. Comparative information includes divested assets unless otherwise stated.

(1) References in this Sustainability Report to a 'joint venture' are used for convenience to collectively describe assets that are not wholly owned by BHP. Such references are not intended to characterise the legal relationship between the owners of the asset.

## About this Sustainability Report continued continued

### Forward looking statements

This Sustainability Report contains forward looking statements, including statements regarding plans, strategies and objectives of management; closure or divestment of certain assets, operations or facilities; and regulatory developments.

Forward looking statements may be identified by the use of terminology, including, but not limited to, 'intend', 'aim', 'project', 'anticipate', 'estimate', 'plan', 'believe', 'expect', 'may', 'should', 'will', 'continue' or similar words. These statements discuss future expectations or provide other forward looking information.

These forward looking statements are not guarantees or predictions of future performance and involve known and unknown risks, uncertainties and other factors, many of which are beyond our control and which may cause actual results to differ materially from those expressed in the statements contained in this Sustainability Report. Readers are cautioned not to put undue reliance on forward looking statements.

Actual results may differ materially from those expressed in such statements as a result of a variety of factors, including our ability to profitably produce and transport the minerals, petroleum and/or metals extracted to applicable markets; the impact of foreign currency exchange rates on the market prices of the minerals, petroleum or metals we produce; activities of government authorities in the countries where we are exploring or developing projects, facilities or mines, including increases in taxes, changes in environmental and other regulations and political uncertainty; labour unrest; and other factors identified in the risk factors set out in our Annual Report 2019, available online at [bhp.com](http://bhp.com).

Except as required by applicable regulations or by law, BHP does not undertake to publicly update or review any forward looking statements, whether as a result of new information or future events.

Past performance cannot be relied on as a guide to future performance.

### A note on terminology

In this Sustainability Report, the terms 'BHP', the 'Company', the 'Group', 'our business', 'organisation', 'we', 'us', 'our' and 'ourselves' refer to BHP Group Limited, BHP Group Plc and, except where the context otherwise requires, their respective subsidiaries as defined in note 13 'Related undertakings of the Group' in section 5.2 of BHP's Annual Report 2019 on Form 20-F. Notwithstanding that this Report may include production, financial and other information from non-operated assets, non-operated assets are not included in the BHP Group and, as a result, statements regarding our operations, assets and values apply only to our operated assets unless otherwise stated.

The Boards of Directors of BHP Group Limited and BHP Group Plc are referred to collectively as 'the Board'.

### Voluntary initiatives and public commitments



CEO Water Mandate



# Our FY2019 sustainability performance

	<b>Target</b>	<b>Result</b>	
<b>People</b>	Zero work-related fatalities	Workplace fatalities <b>1</b>	FY2017: <sup>(1)</sup> 1 FY2018: <sup>(1)</sup> 2 <b>FY2019:<sup>(2)</sup> 1</b>
	Year-on-year improvement of total recordable injury frequency <sup>(3)</sup> (TRIF) per million hours worked	Total recordable injury frequency <b>4.7</b>	FY2018: <sup>(4)</sup> 4.4 <b>FY2019:<sup>(5)</sup> 4.7</b>
	50 per cent reduction in the number of workers potentially exposed <sup>(6)</sup> to our most material exposures of diesel particulate matter, respirable silica and coal mine dust as compared to our FY2017 <sup>(7)</sup> baseline by FY2022	Occupational exposures reduction <b>49%</b>	Adjusted FY2017 baseline: 4,266 <b>FY2019:<sup>(8)</sup> 2,192</b>
<b>Society</b>	Zero significant community events <sup>(9)</sup>	<b>0</b>	
	Not less than 1 per cent of pre-tax profits <sup>(10)</sup> invested in community programs that contribute to improved quality of life in host communities where we have a presence and support the achievement of the UN Sustainable Development Goals	Community investment spend <b>US\$93.5 million<sup>(11)</sup></b>	FY2017: <sup>(12)</sup> US\$80.1 million FY2018: <sup>(12)</sup> US\$77.1 million <b>FY2019:<sup>(13)</sup> US\$93.5 million</b>
	By FY2022, implement our Indigenous Peoples Strategy across all our assets through the development of Regional Indigenous Peoples Plans	<b>Regional Indigenous Peoples Plans</b> developed across all geographically relevant assets	
<b>Climate Change</b>	By FY2022, maintain operational (Scope 1 and 2) GHG emissions at or below FY2017 levels <sup>(14)(15)</sup> while we continue to grow our business	Greenhouse gas emissions <b>3%</b> below FY2017 baseline <sup>(14)</sup>	FY2018: <sup>(16)</sup> 16.5 million tonnes carbon dioxide equivalent (Mt CO <sub>2</sub> -e) <b>FY2019:<sup>(17)</sup> 14.7 Mt CO<sub>2</sub>-e</b>
	Zero significant environmental events <sup>(9)</sup>	<b>0</b>	
<b>Protecting the Environment</b>	Reduce FY2022 fresh water withdrawal <sup>(18)</sup> by 15 per cent from FY2017 <sup>(19)</sup> levels	<b>1%</b> fresh water withdrawal reduction	Adjusted FY2017 baseline: <sup>(18)</sup> 157,320 ML <b>FY2019 freshwater withdrawal:<sup>(19)</sup> 155,500 ML</b>
	By FY2022, improve marine and terrestrial biodiversity outcomes by developing a framework to evaluate and verify the benefits of our actions, in collaboration with others	<b>Progressed development of framework</b> to evaluate and verify the benefits of our actions, in collaboration with others	

(1) FY2017 and FY2018 data includes Continuing and Discontinued operations (Onshore US assets).

(2) FY2019 data includes Discontinued operations (Onshore US assets) to 28 February 2019 and Continuing operations.

(3) The sum of (fatalities + lost-time cases + restricted work cases + medical treatment cases) multiplied by 1 million ÷ actual hours worked by our employees and contractors. Stated in units of per million hours worked. We adopt the US Government's Occupational Safety and Health Administration Guidelines for the recording and reporting of occupational injuries and illnesses.

(4) FY2018 TRIF data includes Continuing and Discontinued operations (Onshore US assets).

(5) FY2019 TRIF data includes Discontinued operations (Onshore US assets) to 28 February 2019 and Continuing operations.

(6) For exposures exceeding our FY2017 baseline occupational exposure limits discounting the use of personal protective equipment, where required. The baseline exposure profile (as at 30 June 2017) is derived through a combination of quantitative exposure measurements and qualitative assessments undertaken by specialist occupational hygienists consistent with best practice as defined by the American Industrial Hygiene Association.

(7) New FY2017 baseline due to the removal of 98 exposures attributed to the Petroleum Onshore US assets.

(8) Data excludes Discontinued operations (Onshore US assets).

(9) A significant event, resulting from BHP operated activities, is one with a severity rating of four and above, based on our internal severity rating scale (tiered from one to five by increasing severity) as defined in the revised Our Requirements for Risk Management standard.

(10) Our voluntary social investment is calculated as 1 per cent of the average of the previous three years' pre-tax profit.

(11) Expenditure includes BHP's equity share for operated and non-operated joint ventures, and comprises cash, administrative costs, including costs to facilitate the operation of the BHP Foundation.

(12) FY2017 and FY2018 social investment figures include Continuing operations and Discontinued operations (Onshore US assets).

(13) FY2019 social investment figure includes Discontinued operations (Onshore US assets) to 31 October 2018 and Continuing operations.

(14) Comparison calculated on a Continuing operations basis. The FY2017 baseline has been adjusted for the divestment of our Onshore US assets to ensure ongoing comparability of performance.

(15) With the use of carbon offsets, as required.

(16) FY2018 GHG data includes Continuing operations and Discontinued operations (Onshore US assets).

(17) FY2019 GHG data includes Discontinued operations (Onshore US assets) to 31 October 2018 and Continuing operations.

(18) The FY2017 baseline data has been adjusted to account for the materiality of the strike affecting water withdrawals at Escondida in FY2017 and improvements to water balance methodologies at WAIO and Queensland Coal in FY2019. Discontinued operations (Onshore US assets) have been excluded.

(19) Where 'withdrawal' is defined as water withdrawn and intended or use (in accordance with 'A Practical Guide to Consistent Water Reporting', ICMM (2017)). 'Freshwater' is defined as waters other than sea water, waste water from third parties and hypersaline ground water. Freshwater withdrawal also excludes entrained water that would not be available for other uses. These exclusions have been made to align with the target's intent to reduce the use of freshwater sources subject to competition from other users or the environment.



# Our sustainability approach

**Sustainability is one of BHP's core values. It means putting health and safety first, being environmentally responsible and supporting the communities in which we operate. The wellbeing of our people, the community and the environment is considered in everything we do.**

**But it goes beyond that – we are committed to making a positive contribution to a sustainable future for all by acknowledging and responding to global issues.**



## In this section:

- [Why sustainability is important to us](#)
- [Our purpose](#)
- [Our contribution to social value](#)
- [Social value highlights](#)
- [Sustainability at BHP](#)
- [Contributing to sustainable development](#)
- [Sustainability governance](#)
- [Sustainability targets](#)
- [How we manage sustainability](#)
- [Our material sustainability issues](#)
- [Promoting sustainability in our value chain](#)
- [Sustainability at our non-operated minerals joint ventures and petroleum non-operated assets](#)
- [Samarco](#)
- [Tailings dams](#)

# Our sustainability approach

## Why sustainability is important to us

BHP has long been committed to building a sustainable future. Demand will continue to grow for our natural resources as the world shifts to a decarbonised future. We keep our asset portfolio simple, with an increased focus on commodities that will shape a greener world and continue to power economic growth.

Our exploration activities are heavily copper focused, for example, as copper plays an important role in creating cleaner renewable energy. Recyclable, durable and highly conductive, copper is an essential component in electric vehicles and wind turbines.

To responsibly meet future demand for our commodities, we must invest in a diverse and highly skilled workforce and sustainable processes and practices.

At BHP, we know we must build trust and forge mutually beneficial partnerships for the long-term because the value we create together is central to shareholder value. As such, our success is not just measured in profitability; we also seek to create social value. Social value is an important barometer of our performance because it measures our ability to produce strong safety outcomes, meaningfully contribute to communities, build environmental resilience and uphold human rights. We embrace inclusion and diversity in our workforce, empower and advocate for Indigenous peoples and encourage business across our supply chain to adopt a similar commitment to sustainability.

In 1997, we set global sustainability targets for the first time and in 2011, Our Charter was revised to include Sustainability as a core value. This year, we updated our company purpose to recognise the vital role our people play in our success and the broader contribution we make.

On a global level, we are committed to playing our part in creating a sustainable future by acknowledging and responding to risks that impact everyone, such as climate change and water availability.

We use international benchmarks to track our performance, such as the United Nations (UN) Sustainable Development Goals and the International Council on Mining and Metals (ICMM) principles. We also conduct an annual materiality assessment to identify key sustainability issues for BHP. Good governance is essential to the success of our sustainability approach, with oversight from the Board and a dedicated Sustainability Committee.

## Our purpose

For more than 130 years, BHP has sought to operate a safe, sustainable and productive business that makes a fair contribution to society. As custodians of natural resources, we have a responsibility to shape the future in a way that creates prosperity for shareholders, our communities and society.

In 2011, BHP expressed its purpose as the creation of long-term shareholder value. That statement of purpose was laid out in

Our Charter. Since then, we have evolved as the external business landscape has changed. While value creation is central to what we do, this purpose did not fully reflect the story behind why we exist. We believed our purpose must encompass all of our stakeholders and more accurately capture our long-term approach.

To better understand the relationship between our purpose and stakeholders, we consulted retail and institutional investors, community leaders, customers, suppliers and our people in early 2018. They said a revised purpose must have people front and centre, it should not shy away from the fact we are a resources company and it must demonstrate how we make a broader contribution to the world.

Following a year of feedback and testing with more than 1,000 employees, BHP's Board endorsed our new purpose as: to bring people and resources together to build a better world.

Our new purpose reflects a spirit, approach and ambition that already exists at BHP and will guide us in everything we do. Creating long-term shareholder value remains a strategic imperative. Without that focus, BHP would not exist because our shareholders entrust us with their funds and expect competitive returns.

## Our contribution to social value

To fulfil our purpose, we have evolved our thinking about our partnerships with the communities where we operate and our contribution to society and the environment more broadly.

For many years, BHP has maintained relationships and achieved social, environmental and economic outcomes that were necessary to operate, otherwise referred to as social licence. However, we believe this is no longer enough to maintain BHP's long-term success. Our focus has shifted to identifying opportunities that contribute to social value, while continuing to meet our legal, regulatory and ethical requirements.

The long-term success of our business depends on the long-term health of society and a sustainable natural environment; our approach must be about the long-term value we can create together with our stakeholders. If we do not do this well, our ability to earn and maintain the trust of our stakeholders, attract the right employees and secure access to capital, resources and markets will be hampered.

Importantly, social value is not new to BHP – there are already many examples of BHP's contribution to social value: from global water stewardship and Indigenous advocacy to our Local Buying Program.



**'Social value is our contribution to society  
– to our people, partners, economy,  
environment and the local communities.'**

**Ken MacKenzie**  
BHP Chairman

## Our sustainability approach continued

### Social value highlights

1925	<p><b>BHP Safety First campaign</b> was launched with medical practitioners hired to provide support to our workforce and their families.</p>
1930	<p><b>The People's Fund</b> was established to provide education, medical and social services to our workforce.</p>
1947	<p><b>The Female Staff Provident Fund</b> was introduced, recognising the contribution of the women in BHP's workforce.</p>
1996	<p><b>BHP acknowledged scientific consensus on climate change</b> and committed to a range of operational projects to improve energy efficiency and address greenhouse gas emissions.</p>
1997	<p><b>BHP set global sustainability targets</b> for the first time and sustainability reporting began with BHP producing its first Environmental Report.</p>
2000	<p><b>A social investment target</b> of not less than one per cent of pre-tax profits was established. In 2001, \$19.3 million was invested.</p>
2002	<p><b>BHP Billiton committed to the United Nations Global Compact and its principles</b>, which address human rights, labour standards and the environment.</p>
2008	<p><b>The World-Class Supplier Program in Chile</b> was launched, to engage local suppliers to develop innovative solutions to manage our operations and help build world-class suppliers that can export their services around the world.</p>
2009	<p><b>BHP Billiton Sustainable Communities</b>, the precursor to the BHP Foundation, was established to partner with organisations to deliver large-scale, long-term social and environmental development projects.</p>
2012	<p><b>Our Local Buying Program</b> was established with an emphasis on building better relationships between our operations and local small businesses, to build local capacity and capability.</p>
2016	<p><b>Gender balance by 2025</b> was set as an aspirational goal, from a base of 17 per cent female representation.</p>
2017	<p>BHP is one of the first companies in the world to adopt the recommendations of the <b>Task force on Climate-related Financial Disclosures</b>.</p>
2018	<p><b>Our inaugural Water Report</b> was published.</p>
2019	<p><b>The Uluru Statement from the Heart</b> was endorsed by BHP, supporting a greater voice and constitutional recognition for Indigenous Australians.</p>
2019	<p><b>We announced a Climate Investment Program</b> of US\$400 million over five years to invest in and develop technologies to reduce emissions.</p>
2019	<p><b>We launched our Water Stewardship Position Statement</b>, further demonstrating our commitment towards water security and stewardship.</p>

## Our sustainability approach continued

### Sustainability at BHP

BHP aims for the best culture and capabilities in the best commodities, with the best assets, underpinned by a strong balance sheet and capital allocation process.

Our success depends on the value communities place on our contribution. We cannot succeed without access to high-quality resources and people. We must form and maintain respectful and reciprocal partnerships with our stakeholders, embed long-term social, environmental and economic performance into our planning and decision-making and demonstrate the highest environmental, health and safety standards in our operations.

Sustainability is a core value set out in *Our Charter*. That means putting health and safety first, being environmentally responsible and supporting the communities in which we work.

### Contributing to sustainable development

The UN Sustainable Development Goals (SDGs) are ambitious goals to improve the wellbeing of present and future generations. The 17 SDGs promote sustainable development to tackle the world's most pressing challenges.

We contribute towards the achievement of the SDGs through:

- our direct business activities – the products we produce and the way we produce them;
- the taxes and royalties we pay that host governments use, the direct and indirect employment opportunities we create and our supply chain; and
- our voluntary social investment.

This approach means we can work in genuine partnership with others towards shared outcomes.



BHP Sustainability Committee members visit Broadmeadow Mine, Queensland.

### Sustainability governance

BHP's Board oversees our approach to sustainability, with the Board's Sustainability Committee having oversight of health, safety, environmental and community (HSEC) matters and assisting the Board with governance and monitoring. Members of the Sustainability Committee are Non-executive Directors determined by the Board to have appropriate skills in HSEC matters. Members of the Sustainability Committee in FY2019 were Malcolm Broomhead, Ian Cockerill (from 1 April 2019), Ken MacKenzie (until 1 April 2019) and John Mogford.

The Sustainability Committee also oversees the adequacy of the systems to identify and manage HSEC-related risks, legal and regulatory compliance and overall HSEC and other human rights performance. The Board's Risk and Audit Committee assists with oversight of the Group's risk management systems. For more information, refer to section 2.13 of our Annual Report 2019.

The Sustainability Committee recommends to the Board the approval of the Sustainability Report for publication. The Committee also guides the Remuneration Committee in setting HSEC-related scorecard targets and offers guidance to the Remuneration Committee of the evaluation of performance against those targets.

For more information about the Sustainability Committee and its work, refer to section 2.13 of our Annual Report 2019.

### Our stakeholders

BHP is committed to building strong relationships with our stakeholders to achieve long-term sustainable social, environmental and economic outcomes. At a global and regional level, we participate in government consultations and voluntary initiatives, and engage with industry associations to support positive change and sustainable practices. Locally, our assets develop reciprocal relationships with communities and plan, implement and document stakeholder engagement activities. For a detailed description of our stakeholders, their interests and how we engage with them, refer to our Sustainability Reporting Navigator at [bhp.com](http://bhp.com).

Bringing our people together is an intrinsic part of our purpose. Our leaders and managers regularly communicate our vision and goals, and encourage feedback and comment from our people through internal communication channels and surveys. For more information, refer to the **People** section.

### Sustainability targets

We set clear targets to challenge ourselves to improve our sustainability performance, transparency and accountability. To realise these targets, we embed sustainability performance measures throughout the Group. They include Group-wide key performance indicators to balanced scorecards for individual employees.

Our five-year targets set in FY2017 help us to operate safely, manage water sustainably, reduce our environmental impact, look after our people and contribute to improved quality of life in the communities where we have a presence. These targets were created in consultation with our assets and key internal and external stakeholders, and approved by the Sustainability Committee. Achieving these goals is fundamental to the success of our business and our commitments to the objectives of the Paris Agreement and the SDGs. They are outlined earlier in **Our FY2019 sustainability performance** and in each relevant section.

## Our sustainability approach continued

### Forum on Corporate Responsibility

To help us engage with our stakeholders and ensure we have access to leading specialist expertise, we regularly seek advice from external experts and forums on sustainability issues.

The BHP Forum on Corporate Responsibility (the Forum) is a key part of our stakeholder engagement program. The Forum comprises nine independent civil society leaders in various fields of sustainability, who make a vitally important contribution to our approach to a range of social and environmental issues and the development of our standards. They provide insight into current and emerging issues, challenge our thinking and allow us to understand and consider the broader impacts of our actions. The Forum members advise our operational management teams as well as BHP's Sustainability Committee and Board.

The Forum met twice during FY2019 and discussed a range of topics, such as BHP's Water Stewardship Position Statement, social value and purpose, and advocacy for Indigenous peoples. The future of work at BHP was also discussed, including the impacts and opportunities arising from automation. Members during FY2019 included:

- Professor Yaa Ntiamoa-Baidu, Centre for African Wetlands, University of Ghana (Ghana)
- Professor Michael (Mick) Dodson, Treaty Commissioner (Northern Territory) and Professor Emeritus, Australian National University
- Catalina Cock Duque, Executive Director, Fundación Mi Sangre (Colombia)
- Cristina Echavarria, Board Member, Alliance for Responsible Mining (Colombia)
- Professor Don Henry, Public Policy Fellow – Environmentalism, University of Melbourne (Australia)
- Dr Simon Longstaff, Executive Director, The Ethics Centre (Australia)
- Ray Offenheiser, Director, Notre Dame Initiative for Global Development (USA)
- Phil Vernon, Independent Peacebuilding and International Development Expert (United Kingdom)
- Changhua Wu, China/Asia Director, Office of Jeremy Rifkin (China)



## Our sustainability approach continued

### How we manage sustainability

We are committed to complying with the laws and regulations of the jurisdictions in which we operate and aim to exceed legal and regulatory requirements where they are less stringent than our own.

We set clear sustainability accountabilities. Everyone involved in our operations and our functions is guided in the execution of these accountabilities by *Our Charter* and supported by *Our Code of Conduct* and the *Our Requirements* standards. These standards and related functional controlled documents set out our mandatory minimum performance and establish the requirements for management systems at our assets. They are consistent with the ICMM Sustainable Development Framework, the UN Global Compact, the UN Declaration of Human Rights and the Voluntary Principles on Security and Human Rights.

Although these standards are for internal use, we have made the HSEC-related elements of several of the *Our Requirements* standards and related functional controlled documents publicly available on our website ([bhp.com](http://bhp.com)), where we believe they clarify our management approach and where there is a broader community or industry benefit.

### Managing risk

BHP applies a Risk Framework to identify and manage risks. In FY2019, we refined the Framework, which allows us to consistently apply a risk-based approach to sustainability. The Framework includes a Group Risk Architecture through which we consider the material risk impact on all categories of risk. This covers: strategy; exploration, growth and development; production and operations;

commercial; people and culture; health and safety; environment, climate change and community; technology, innovation and systems; financial management and legal, compliance and stakeholder management. The revised Framework evaluates the full risk exposure and the aggregate impact of cumulative risks. Our risk management is monitored against our defined risk appetite through key risk indicators at the enterprise level and through regular and ad hoc reviews of risks and controls for each individual risk.

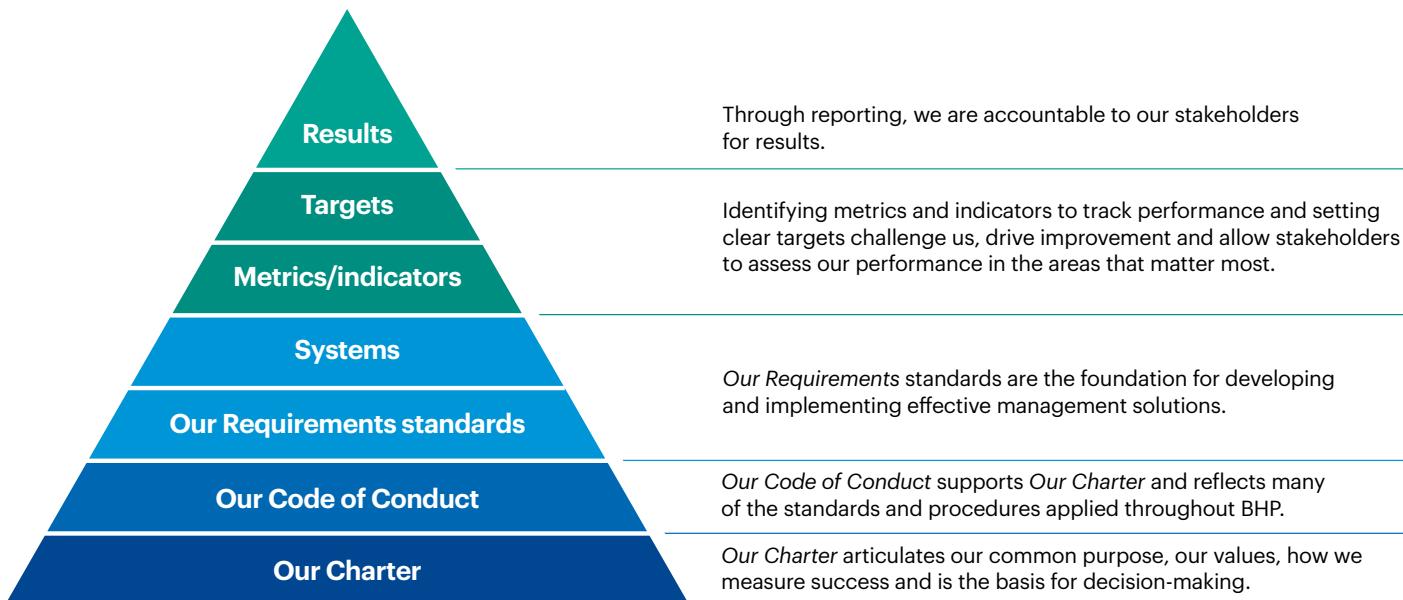
A 'three lines of defence' model of risk governance and management outlines how responsibilities for risk management are divided between business owners, standard setters and internal audit. This enables operational management to own and verify risks, supported by the relevant functions and is independently assured by our Internal Audit and Advisory (IAA) team.

We embed risk management in critical business activities and the processes and systems of our assets and functions through a common global risk process. Our assets and functions are required to identify and manage current and emerging material risks across our business activities, functions and processes in accordance with the *Our Requirements for Risk Management* standard.

IAA evaluates the design and effectiveness of our sustainability processes each year. These results help improve these processes and are reported to the Executive Leadership Team and senior operational leaders, with summary reports provided to the Sustainability Committee and the Risk and Audit Committee.

We have obtained external limited assurance over our Sustainability Report disclosures. Refer to EY's assurance statement at the end of this Sustainability Report.

### Keeping ourselves accountable



## Our sustainability approach continued

### Our material sustainability issues

We conduct a materiality assessment each year to identify the sustainability issues that are most critical to our business and stakeholders. We also assess the impact our activities have on the economy, the environment and society.

We review a wide variety of internal and external sources and consult with stakeholders using surveys, investor round tables and advisory groups to identify the issues of most concern to them and to our business. The Sustainability Committee reviews the assessment and provides feedback on the issues. The Forum on Corporate Responsibility reviewed the methodology in November 2018.

This helps us to track ongoing issues and identify emerging ones. The materiality assessment informs our sustainability strategies and provides transparent coverage of key topics in line with Global Reporting Initiative (GRI) principles.

Water, dams, tailings and climate change are critical issues for us as they have the potential to impact safety, the environment and the community and have the potential to impact our ability to continue to operate and grow. The issue of trust in institutions and corporations was assessed as a material concern for BHP in FY2019. This drives our concerted efforts to build trust with all our stakeholders. The issues identified by the materiality assessment conducted in FY2019 are outlined below and include links to other sections in this Report, our Annual Report 2019 or online.



Our materiality assessment and stakeholder engagement processes are detailed in our *Sustainability Reporting Navigator 2019* available online at [bhp.com](http://bhp.com).

Our material issues	Page
<b>Our sustainability approach</b> <ul style="list-style-type: none"><li>• Trust in institutions</li><li>• Board competency, succession and accountability</li><li>• Governance and management of our non-operated joint ventures</li><li>• Response to Samarco</li><li>• Product stewardship</li><li>• Dams and tailings management</li></ul>	9
<b>Health and safety</b> <ul style="list-style-type: none"><li>• Safety and health of our people and the community</li></ul>	25
<b>Environment</b> <ul style="list-style-type: none"><li>• Biodiversity and land management</li><li>• Environmental impacts of our operations</li><li>• Managing air emissions</li></ul>	32
<b>Climate change</b> <ul style="list-style-type: none"><li>• Portfolio resilience</li><li>• Physical impacts of climate change</li><li>• Minimising greenhouse gas emissions from our operations and from the use of our products</li><li>• Global response to climate change</li></ul>	37
<b>Water</b> <ul style="list-style-type: none"><li>• Water management and access</li></ul>	44
<b>Society</b> <ul style="list-style-type: none"><li>• Community relationships</li><li>• Respecting human rights</li><li>• Indigenous peoples</li><li>• Automation</li><li>• Economic support for communities and social investment</li></ul>	58
<b>People</b> <ul style="list-style-type: none"><li>• Inclusion and diversity</li><li>• Training and development of our people</li></ul>	70
<b>Ethics and business conduct</b> <ul style="list-style-type: none"><li>• Anti-corruption and bribery</li><li>• Transparency and disclosure</li></ul>	74
<b>Economic Contribution Report</b> <ul style="list-style-type: none"><li>• Tax and royalty payments</li></ul>	Online at <a href="http://bhp.com">bhp.com</a>

## Our sustainability approach continued

### Promoting sustainability in our value chain

As a leading global resources company, we must work with our customers, suppliers and other value chain participants to promote sustainable practices across the full life cycle of our products.

#### Sustainable procurement

We encourage the people we work with to put sustainability at the heart of their operations. Contractors working at our assets are required to comply with our HSEC standards. We are focused on how we can support suppliers and service providers to adopt sustainable business standards in health, safety, human rights, anti-corruption and environmental protection that are as rigorous as our own. We also look for opportunities to minimise safety, health, human rights, environmental and climate impacts throughout our value chain.

We use a risk-based approach to identify potential suppliers to assess their compliance against our requirements that is based on a combination of questionnaires, due diligence and third party data.

New supplier management processes introduced in FY2018 have strengthened our compliance controls, particularly in relation to anti-corruption and sanctions. In FY2019, we began integrating human rights due diligence into our supplier management processes. This includes steps to encourage them to improve human rights risk management (including modern slavery) among subcontractors and across their own supply chain. To read more, refer to **Respecting human rights**.

#### Sustainable shipping

BHP is one of the largest global shippers of bulk commodities. We engage with industry bodies, governments and regulators to leverage technological developments and promote improvements in sustainability standards. We continue to take a collaborative approach to better understand human rights and ethics risks (including the potential for forced labour and unacceptable working conditions) that seafarers may be exposed to, and identify opportunities to improve our processes, particularly with respect to our own charter vessels.

GHG emissions resulting from the transportation and distribution of our products represent a significant source of Scope 3 emissions. We are working on initiatives to reduce freight emissions associated with our business and to encourage immediate and long-term change in the shipping industry.

BHP is a part-owner and collaborator with RightShip, a leading maritime risk management and environmental assessment organisation that has developed a GHG emissions rating for all dry bulk vessels. Adopting this rating allowed us to eliminate the poorest rated vessels from our chartered fleet and make immediate emissions reductions.

The development of liquefied natural gas (LNG) as a bunker fuel is a priority and we are working to bring LNG-fuelled dry bulk vessels to BHP's supply chain. LNG is projected to produce 25 per cent less carbon dioxide than marine diesel as well as almost zero sulphur, which is a major contributor to harmful air pollution.

The use of biofuel for dry bulk shipping is also promising in terms of reducing GHG emissions in the longer term. BHP is supporting the trial of second generation biofuel as an alternative fuel source for dry bulk vessels with the Singapore Maritime and Port Authority.

→ For more information, read our case study **BHP embraces emissions reduction innovations in shipping industry** at [bhp.com/community/case-studies](http://bhp.com/community/case-studies).

#### Product stewardship

BHP encourages the responsible design, use, reuse, recycling and disposal of our products throughout our value chain, in line with the ICMM Sustainable Development Framework.

We support industry association programs and other initiatives that bring together participants in a product's life cycle to improve sustainability performance. For example, we support Responsible Steel and the European Copper Institute's product stewardship initiatives, and participate in the ICMM Materials Stewardship Facility. In FY2019, we participated in the London Metal Exchange's consultation on responsible sourcing standards, and in the development of the Copper Mark, a new assurance program for responsible copper production established by the International Copper Association.

Where possible, BHP also works directly with those involved in processing and using our products to improve environmental performance throughout the value chain, and to promote the sustainable use of our products. For example, we work with individual customers to design and test raw material blends that optimise environmental performance. We also collaborate on research with customers, industry bodies and academia to identify sustainable product and process improvements.

In FY2020, we will develop a more strategic and integrated approach to addressing sustainability across our value chain. The strategy will consider our procurement processes, product design and placement, and our stewardship role in promoting sustainability throughout our products' life cycles.



## Our sustainability approach continued

### Sustainability at our non-operated minerals joint ventures and petroleum non-operated assets

BHP holds interests in companies and joint ventures that we do not operate. These are described in our Annual Report 2019, which is available online at [bhp.com](http://bhp.com).

#### Petroleum non-operated assets

In our current petroleum non-operated assets, we have processes in place to identify and manage risks within the rights afforded by the respective joint operating agreements. This includes (as permitted by the relevant operator and/or joint operating arrangements) verification of risk control strategies through field visits, review and analysis of the operator's performance data, participation in operator audits and sharing BHP risk management strategies and processes.

#### Non-operated minerals joint ventures

Our non-operated minerals joint ventures include Antamina (33.75 per cent ownership), Cerrejón (33.33 per cent ownership), Resolution (45 per cent ownership), Samarco (50 per cent ownership) and Nimba (45.45 per cent ownership) (NOJVs).

Our Non-Operated Joint Ventures team engages with our non-operated joint venture (NOJV) partners and companies and other relevant internal and external stakeholders, and provides a single

point of accountability for all NOJVs within BHP. While NOJVs have their own operating and management standards, we encourage operator companies to adopt appropriate governance and risk management standards (within the limits of the relevant joint venture agreements).

We have performed BHP Field Leadership Program activities across various NOJV sites. These activities are designed to facilitate safe work discussions to identify potential safety issues, promote near miss and hazard reporting and to use real-time safety investigations to improve awareness and culture. The goal of the Field Leadership Program is to promote a resilient safety culture where employees are able to identify positive behaviours, at-risk behaviours and opportunities for system improvement.

We challenge our NOJV operators to reduce the risk of water and air quality impacts for workers and communities, and request that communities are adequately consulted, informed and have access to appropriate complaints and grievance mechanisms. We aim to strengthen our NOJVs' compliance with national regulations and alignment with the ICMM Sustainable Development Framework.

 More information on our NOJVs is available in our Annual Report 2019, available online at [bhp.com](http://bhp.com).



## Our sustainability approach continued

### Samarco

#### The Fundão dam failure

On 5 November 2015, the Fundão tailings dam operated by Samarco Mineração S.A. (Samarco) failed. Samarco is a non-operated joint venture owned by BHP Billiton Brasil Limitada (BHP Billiton Brasil) and Vale S.A. (Vale), with each having a 50 per cent shareholding.

A significant volume of tailings (water and mud-like waste resulting from the iron ore beneficiation process) was released. Tragically, 19 people died – five community members and 14 people who were working on the dam when it failed. The communities of Bento Rodrigues, Gesteira and Paracatu were flooded. A number of other communities further downstream in the states of Minas Gerais and Espírito Santo were also affected by the tailings, as was the environment of the Rio Doce basin.

#### Our response and support for Fundação Renova

More than three years into the recovery process, we remain committed to doing the right thing for the people and the environment in the Rio Doce region in a challenging and complex operating context.

The Framework Agreement entered into between Samarco, Vale and BHP Billiton Brasil and the relevant Brazilian authorities in March 2016 established Fundação Renova, a not-for-profit, private foundation that has developed and is implementing 42 remediation and compensatory programs to restore the environment and re-establish affected communities. As well as remediating the impacts of the dam failure, Fundação Renova is implementing a range of compensatory actions aimed at leaving a lasting, positive legacy for the people and environment of the Rio Doce.

BHP is focused on supporting Fundação Renova's operations through representation on the Board of Governors and Board Committees, making available secondees who work within Fundação Renova to provide their technical expertise on priority areas, and regular peer engagement on issues such as safety, risk management, human rights and compliance.

#### Fundação Renova

Fundação Renova's staff of approximately 530 people is supported by about 6,200 contractors. Its CY2019 budget is R\$3.1 billion.

The activities of Fundação Renova are overseen by an Interfederal Committee comprising representatives from the Brazilian Federal and State Governments, local municipalities, environmental agencies, impacted communities and the Public Defense Office, who monitor, guide and assess the progress of actions agreed in the Framework Agreement. The Interfederal Committee is supported by the Technical Chambers, made up of specialists from the various government departments, which are established to assist the Interfederal Committee in the performance of its purpose of guiding, monitoring and supervising the execution of the socio-economic and socio-environmental programs managed by Fundação Renova. There are 11 Technical Chambers in the following areas: communication, participation, dialogue and social control; economy and innovation; social organisation and emergency aid; Indigenous peoples and traditional communities; reconstruction and infrastructure recovery; health, education, culture, leisure and information; conservation and biodiversity; tailings and environmental safety management; forestry restoration and water production; and water safety and quality.

Fundação Renova is governed by a Board of Governors, currently comprising representatives nominated by Vale, BHP Billiton



Monitoring of the Doce river water.



Houses being built in Bento Rodrigues.

Brasil and the Interfederal Committee. In the near term, representatives of impacted communities are also expected to join the Board of Governors. The Board of Governors appoints an Executive Board, including the CEO, which is responsible for the operational management of Fundação Renova.

Fundação Renova's governance structure also comprises a Fiscal Council, Advisory Council, seven Board Committees, a Compliance Manager and an Ombudsman. The Advisory Council includes representation from impacted communities and community development and education experts.

On 25 June 2018, Samarco, Vale and BHP Billiton Brasil signed a Governance Agreement with the other parties to the Framework Agreement, the Public Prosecutors Office and the Public Defense Office. The Governance Agreement augments the participation of impacted people in the decision-making process, through representation on both the Fundação Renova Board of Governors and the Interfederal Committee.

In addition, during FY2019, a network of 18 local commissions, made up of affected people, was established along the Rio Doce to represent the affected people in the governance process for full reparation of the damages.

Participants in the local commissions will be offered training by the technical advisers (non-profit organisations that aim to defend the rights of affected people, providing access to information and providing technical guidance) to enable them to actively participate in the process by submitting proposals, recommendations and comments on the work of the Interfederal Committee, Technical Chambers and Fundação Renova. Each commission should also be able to work with other local commissions to discuss and improve the results in each territory. Due to the diversity, scale and complexity of the programs, Fundação Renova collaborates and engages broadly with affected communities, scientific and academic institutions, regulators and civil society.

## Our sustainability approach continued



First house-building works in Bento Rodrigues.

### Resettlement

One of Fundação Renova's priority social programs is the livelihood restoration program to relocate and rebuild the communities of Bento Rodrigues, Paracatu and Gesteira. A key to the success of this program is the participation of affected community members, their technical advisers, State Prosecutors, municipal leaders, regulators and other interested parties.

The process involves the identification and acquisition of land, design and planning for the urban plan, including all infrastructure services (roads, power, water, drainage, sewerage) and public buildings (schools, health centres, squares, sports grounds and religious buildings), and construction of new houses for the affected people. The resettlement project provides local employment for community members where possible and support to help affected people restore their livelihoods.

In Bento Rodrigues, preparation for construction of the public school has commenced and infrastructure works are progressing. Unfortunately, work is behind schedule due to delays in project engineering and in the permitting process. Fundação Renova has signed an agreement to provide additional resources required by the municipality to analyse the individual house projects for permitting approval. Of the 257 houses, as of June 2019, 112 families had concluded the conceptual design of their houses and around 76 house projects have permits submitted to start construction. In June 2019, Renova signed Letters of Intent with two major Brazilian construction companies to undertake construction of the houses and infrastructure.

In Paracatu, by June 2019, all licences and authorisations to commence construction were granted and works to prepare the construction site were under way (117 houses).

In December 2018, land was purchased for the resettlement of 37 families of Gesteira following a protracted negotiation with the landowner. The urban plan design is being designed with the community.

In addition to these three community resettlements, 14 families from the rural area chose to rebuild their houses on their previous property, and of these, six houses have been rebuilt and delivered to the families.

Eighty-three families have chosen not to live in one of the three villages or in their previous houses. Fundação Renova is assisting them. Twenty-two properties have been purchased for these families (as of June 2019).

### Financial assistance and compensation

Fundação Renova had paid R\$1.7 billion in indemnification and financial aid up to June 2019.

Fundação Renova has distributed about 13,160 financial assistance cards to those whose livelihoods were impacted by the dam failure, including registered and informal commercial fisherfolk who are unable to fish due to the imposition of fishing bans in the Rio Doce and along the coast of Espírito Santo. The payments are designed to provide those affected with the capacity to support themselves and their families pending the re-establishment of conditions that enable them to resume their economic activities.

## Our sustainability approach continued

Fundação Renova is also undertaking Brazil's largest mediated compensation program to fairly compensate all individuals impacted by the dam failure. It comprises two key components:

- The Water Damages component compensated people for an interruption to public water supplies for seven to 10 days following the dam failure. Over 268,000 people participated in the program, and were paid a total of approximately R\$267 million. Between judicial and extrajudicial processes, about 300,000 settlements have been reached in small claims filed by impacted people in Minas Gerais and Espírito Santo requesting the payment of moral damages related to the shortage of public water supply.
- The General Damages component covers all other impacts, including loss of life, injury, property, business impacts, loss of income and moral damages. The program was designed based on inputs from public agencies, technical entities and impacted families and has been validated by the Interfederative Committee.

Compensation represents 36 per cent of Fundação Renova's budget, which is approximately R\$1 billion for CY2019.

Of the 19 fatalities, 16 families have been fully indemnified and one partially. The remaining two families are still in legal negotiations.

### Other socioeconomic programs

While resettlement, compensation and restoring fishing livelihoods are an important focus, Fundação Renova continues to implement a wide range of other socioeconomic programs in areas such as health and social protection, education, small business development, economic diversification, Indigenous peoples and traditional communities (i.e. sand-gold miners):

- There are two work fronts of Fundação Renova in the area of health: (i) conducting epidemiological and toxicological studies to investigate the health risk of tailings and heavy metals from the Doce River and to monitor the impact of dust on people's lives and (ii) supporting the public management of municipalities by strengthening existing municipal structures, both in clinical care and social protection. In March 2019, more than 60 professionals, including doctors, nurses, social workers and psychologists hired by Fundação Renova worked in Mariana and Barra Longa (Minas Gerais).
- Fundacão Renova seeks to promote the local economy to stimulate the resumption of the economic activity of the impacted region. To promote small business development and economic diversification, Fundação Renova launched, amongst others, a fund of R\$40 million, to finance micro and medium companies with loans ranging from R\$10,000 to R\$200,000.
- Fundação Renova prioritises the local workforce in repair actions and in March 2019, reported that 57 per cent of people directly engaged or engaged via suppliers were from affected municipalities. Fundação Renova's goal is for this percentage to stabilise at or exceed 70 per cent.
- Actions to protect and restore the quality of life of Indigenous peoples and traditional communities aim to repair and compensate for the social, cultural, environmental and economic impacts on four communities and a total of 1,600 families. Impact studies are being developed to be the foundation of an integrated development action plan to recover the livelihoods of each of these communities.



Bento Rodrigues' paving works.

### Environmental remediation

Fundação Renova had successfully concluded works to stabilise the impacted land areas by June 2019. The riverbanks and floodplains have been vegetated, river margins have been stabilised and, in general, water and sediment qualities have returned to historic conditions. Regarding long-term remediation, work is continuing with landowners and regulators to define the land use objectives, further interventions that may be required, and the indicators and monitoring programs that will be used to demonstrate success of the program.

One of the main concerns held by stakeholders regarding the tailings related to the potential contamination of water, sediment, soil and biota. Fundação Renova commissioned human health and ecological risk assessment studies to answer these questions. Although the tailings have low concentrations of trace metals, the background concentrations of some elements are elevated in the area due to previous human activity or natural conditions. It is therefore important that studies are well designed and results clearly show the source of any potential health risks. BHP has been working with Fundação Renova to make sure robust data is collected, the correct methodologies are applied and clear causes for any health impacts are identified so that health authorities have accurate information to support their decision-making.

Water quality, aquatic habitat and fish surveys are continuing in the rivers and coastal zone to understand the impact of the tailings flow and the rate of recovery of the ecological systems. Results from these studies indicate that, while sediment in the river channels along the spill flow path upstream of the Candonga reservoir continues to limit the re-establishment of habitats and aquatic fauna diversity and abundance, the natural sediment transport processes will ultimately restore suitable habitat. Methods to enhance the rate of habitat recovery in the upstream section of the river closest to the dam failure are under implementation.

Research institutions have been progressing with studies along the river and coast required by regulators and prosecutors, with preliminary results scheduled for late 2019. In May 2019, Brazil's National Sanitary Surveillance Agency (ANVISA) attested to the safety of the consumption of fish and crustaceans from the Doce River Basin and the coastal region, within daily limits of 200 grams

## Our sustainability approach continued

per adult and 50 grams per child. Given the significant impacts of the fishing bans on the livelihoods of commercial and subsistence fisherfolk and the social cohesion within their communities, BHP Billiton Brasil has continued providing technical support to Fundação Renova to accelerate the collection of data to address the concerns of regulators and the community. This includes analysis of the safety of fish for human consumption and the status of fish populations to support lifting of the fishing bans currently in place.

### Legal proceedings

BHP Group Limited, BHP Group Plc and BHP Billiton Brasil are involved in legal proceedings relating to the Samarco dam failure. For more information on the significant legal proceedings in which BHP is currently involved, refer to section 6.6 of our Annual Report 2019.

### Restart

While restart remains a focus and is expected to provide a positive effect on livelihoods in impacted communities, restart will only occur if it is safe, economically viable and has the support of the community.

### Progress on our commitments

Following the investigation into the causes of the dam failure, Samarco and its shareholders identified a number of specific actions to help prevent a similar event from occurring. The actions were in addition to the overall improvements we identified to further improve the management of our tailings dams (as discussed in the **Tailings dams** section).

**Monitoring:** A centralised monitoring system and control room with emergency warning and response protocols has been established for the Samarco tailings dams. Specifically trained personnel staff the control room 24 hours a day, seven days a week.

**Dam decommissioning plan:** Due to legislative changes in Brazil, Samarco is currently progressing plans for the accelerated decommissioning of its upstream tailings dams (the Germano dam complex). Plans for the decommissioning are at an early stage and work is in progress on finalising the conceptual design.

**Emergency drills:** Emergency drills are conducted once a year, bringing together the communities, employees and civil defence to validate the efficiency of the Emergency Response Plan, so that all parties that may potentially be affected are aware and prepared to respond in case of an emergency.



Works at the Alegria Sul pit in Samarco's Germano complex.

## Our sustainability approach continued

### Tailings dams

Tailings dams are dynamic structures and maintaining their integrity requires consideration of a range of factors, including appropriate engineering design, quality construction, ongoing operating discipline and effective governance processes.

Nothing is more important than the safety of our people and communities. Immediately following the tragic failure of the Fundão dam at Samarco in 2015, the BHP Board and senior management initiated a dam risk review to assess the management of significant<sup>(1)</sup> tailings storage facilities,<sup>(2)</sup> both active and inactive. This review was in addition to existing review processes already being undertaken by our operated assets. The review, conducted by a combination of external tailings experts and BHP personnel, assessed dam design, construction, operations, emergency response and governance to determine the current level of risk and the adequacy and effectiveness of controls.

The scope of the review included:

- significant tailings facilities across all operated assets and non-operated joint ventures;
- any proposed significant tailings or water dams as part of major capital projects;
- consideration of health, safety, environmental, community and financial impacts associated with the failure of a tailings dam, including the physical impacts of climate change.

Improvement actions were assigned to address facility-specific findings. Our Internal Audit and Advisory team subsequently followed up to assess quality and completeness. These actions resulted in enhancements such as buttressing of dam walls and installation of additional instrumentation to monitor dam integrity. Following such findings, we have subsequently undertaken and will continue to undertake dam safety reviews, which provide external assurance statements on dam integrity.

Improvement actions were also identified at the Group level to address common findings and lessons learned across the Group so that our approach to dam risk management could be further improved. As part of this, a central technical team was set up to enhance oversight and assurance. We also increased our investment in research and development to reduce and eliminate tailings storage risks, including research into static liquefaction failure mechanisms and evaluating dewatering of tailings. We are also



Elliot Lake closed site tailings storage facility, Canada.

actively assisting the International Council on Mining and Metals (ICMM) Tailings Working Group to contribute to improvements in tailings storage management across the broader mining industry.

Prior to the tragic collapse of the Brumadinho dam at Vale's iron ore operation in Brazil in January 2019, we already had a significant focus on looking at how we could deliver a step change reduction in tailings risk. Together with our peers across the resource sector, Brumadinho further strengthened our resolve to collaborate to reduce tailings risk by sharing and implementing best practice. As well as implementing a comprehensive tailings governance plan, we established an internal Tailings Taskforce team reporting to the Executive Leadership Team and the Board's Sustainability Committee. The Taskforce is accountable for the continued improvement and assurance of our operated tailings storage facilities, progressing the development of technology to improve tailings management storage, and engaging in the setting of new international tailings management standards. BHP continues to review our approach to tailings management as information on the causes of the Brumadinho dam failure come to light, and will continue to consider any industry guidance, standards and regulation as they emerge.

We welcome a common, international and independent body to oversee integrity of construction and operation of all tailings storage facilities across the industry. In addition, we support calls for greater transparency in tailings management and plan to work with community, regulatory and financial stakeholders to promote the application of consistent disclosure that informs better tailings dam stewardship.

### Dam risk management

BHP's approach to dam risk management at our operated dams is integrated into our standard approach to risk management, assurance and continuous improvement with particular focus on four key areas:

1. Maintenance of dam integrity;
2. Governance of dam facilities;
3. Monitoring, surveillance and review;
4. Emergency preparedness and response.

Supporting this approach to dam risk management at our operated assets are Group-wide processes of technical support and oversight.



Escondida tailings storage facility, Chile.

(1) Significance was determined as part of the review process taking account of the dam classification under the Canadian Dam Association and/or the Australian National Committee on Large Dams for both active and inactive facilities.

(2) A tailings storage facility could comprise multiple dams or cells that have: a contiguous, structurally similar interconnected wall, operated under the same tailings disposal regime, are interdependent for stability, of similar height and risk profile.

## Our sustainability approach continued

### Maintenance of dam integrity

Central to our approach is the recognition that maintaining dam integrity is a process of continuous assessment that needs to be maintained for the life (including into closure and post-closure) of a tailings facility. As a result, we have identified five key dimensions to maintaining dam integrity:

1. Design – the basis of dam design is guided by design criteria specified through the Australian National Committee on Large Dams (ANCOLD), the Canadian Dam Association (CDA) and local regulation, taking account of dam classification;
2. Construction – quality assurance and quality control across all construction phases (from initial construction to dam lifts/expansions during operation to closure and post closure);
3. Operations and maintenance – operating and maintaining the dam in accordance with its design requirements;
4. Change management – identifying, assessing and mitigating the impacts of any changes on dam design and integrity;
5. Monitoring, surveillance and review – ensuring the dam is functioning as intended.

### Governance of dam facilities

We believe that effective governance encompasses a range of aspects from the management of change in our business to appropriately employing and enabling qualified personnel with clear accountabilities.

We have mandated three key roles across our operated assets, accountable to the Asset General Manager of the relevant asset:

- Dam Owner – the single point of accountability for maintaining effective governance and integrity of the tailings storage facility throughout its life cycle;
- Responsible Dam Engineer – a suitably qualified BHP individual accountable for maintaining overall engineering stewardship of the facility, including planning, operation, surveillance and maintenance;
- Engineer of Record – an independent, suitably qualified professional engineer retained by the Dam Owner for the purpose of maintaining dam design, certifying dam integrity and supporting the Dam Owner and the Responsible Dam Engineer on any other matters of a technical nature.

### Monitoring, surveillance and review

Given tailings dams are dynamic structures, we believe effective monitoring, surveillance and review is central to ongoing dam integrity and governance. We believe these processes span six dimensions, with the level of utilisation of each dimension being dependent on the specific needs of the relevant facility. These six dimensions include:

1. Monitoring systems – operating in real time or periodically;
2. Routine surveillance – undertaken by operators;
3. Dam inspections – more detailed inspections undertaken periodically by the Responsible Dam Engineer;
4. Dam safety inspections – annual inspections undertaken by the external Engineer of Record reviewing aspects across both dam integrity and governance;

5. Dam safety reviews – conducted by an external third party as set out below;
6. Tailings review or Stewardship Boards<sup>(1)</sup> – a panel of qualified independent individuals established, whose capability is commensurate with dam significance, under specific terms of reference to review aspects such as the current status of the dam; any proposed design changes; and outcomes of any inspections or dam safety reviews. The review board is approved by and accountable to the asset General Manager.

The type and frequency of monitoring, surveillance and review is informed by the consequence classification, complexity and operational status of the dam. Dams that are likely to have a greater level of consequence, as a result of failure, that have greater technical complexity and that are actively operating will have monitoring, surveillance and reviews with greater rigour and frequency.

### Dam safety reviews

Dam safety reviews are central to our approach to dam integrity and continuous improvement. We engage an external engineer to undertake dam safety reviews consistent with the guidance provided by the CDA in their 2016 Technical Bulletin on Dam Safety Reviews. As per this guidance, review frequency is informed by the dam classification under the CDA.

Dam safety reviews are detailed processes that include a thorough review of dam integrity, dam governance and include a review of the dam break assessment and dam consequence classification. Reviews are led by an external qualified professional engineer (selected for their appropriate level of education, training and experience), with support and input from other technical specialists from fields that may include, for example, hydrology, geochemistry, seismicity, geotechnical and mechanical. At the conclusion of the review, the qualified professional engineer provides a signed assurance statement, which includes a comment as to the integrity of the facility.

### Emergency preparedness and response

We believe the final key element in our approach to dam risk management is emergency preparedness and response. Our approach to emergency response planning for our tailings facilities is designed to be commensurate with risk, with the following steps taken as appropriate given the risk:

- identifying and monitoring stability and operating conditions, with thresholds that prompt preventive or remedial action;
- assessing and mapping the potential impacts from a hypothetical, significant failure, including infrastructure, communities and environment, both on and offsite, regardless of probability;
- establishing procedures to assist operations personnel responding to emergency conditions at the dam;
- testing and training in emergency preparedness ranges from desktop exercises to full-scale simulations. Desktop and field drills are scheduled at a frequency commensurate with the level of risk of the facility.

<sup>(1)</sup> BHP assesses the dam classification, risk and operational circumstances in determining whether to empanel a tailings review or Stewardship Board. Not all facilities will have tailings reviews or Stewardship Boards. Tailings reviews or Stewardship Boards are either in place or in the process of being established for our operated assets with very high and extreme classified tailings facilities.

## Our sustainability approach continued

### BHP's operated and non-operated tailings portfolio

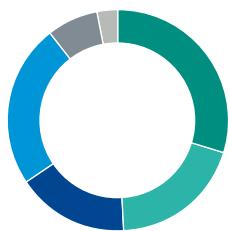
The following classifications align to the CDA classification system. It is important to note that the classification is based on the modelled, hypothetical most significant failure mode and consequences possible without controls, and not on the current physical stability of the dam. It is also important to note that it is possible for dam classifications to change over time, for example, following changes to the operating context of a dam. As such, this data represents the status of the portfolio as at May 2019. The dam classification informs the design, surveillance and review components of risk management and, therefore, dams that will likely have a greater level of consequence as a result of failure will have more rigorous requirements than dams that will have a lesser level of consequence.

In total, we have 67 tailings facilities<sup>(1)</sup> at our operated assets, 29 of which are of upstream design. Of the 67 operated facilities, we have five classified as extreme and a further 16 classified as very high. Thirteen of our operated facilities are active. The substantial inactive portfolio (54) at our operated assets is due largely to the number of historic tailings facilities associated with our North American legacy assets portfolio.

There are nine tailings facilities at our non-operated joint ventures. All non-operated facilities are located in the Americas. There are two active tailings facilities: Antamina in Peru, which is of downstream/centreline construction and Cantor TSF at Cerrejón in Colombia, which is of downstream construction. In addition, there are seven inactive facilities. These include: two upstream facilities at Samarco (Germano) in Brazil that are being decommissioned following the February 2019 rulings by the Brazilian Government on upstream dams in Brazil; three upstream inactive facilities and one inactive modified centreline facility at Resolution Copper in the United States; and one downstream inactive facility at Bullmoose in Canada. The highest classification facilities, rated as extreme, are the downstream facility at Antamina and the upstream Germano facilities at Samarco.

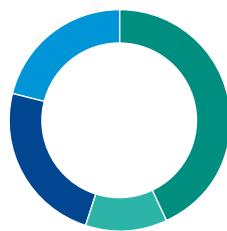
[More information on dams and tailings is available online at bhp.com.](http://bhp.com)

#### Classification of operated tailings facilities<sup>(2)(3)(4)</sup>



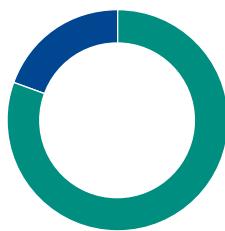
- Low 20
- Significant 13
- High 11
- Very high 16
- Extreme 5
- N/A 2

#### Types of operated tailings facilities



- Upstream 29
- Centreline 8
- Downstream 16
- Other<sup>(5)</sup> 14

#### Operational status of operated tailings facilities



- Inactive 54<sup>(6)</sup>
- Active 13

- (1) The number of tailings storage facilities is based on the definition agreed to by the ICMM Tailings Advisory Group.  
(2) The following classifications align to the CDA classification system. It is important to note that the classification is based on the modelled, hypothetical most significant failure mode and consequences possible without controls, and not on the current physical stability of the dam.  
(3) For the purposes of this chart, ANCOLD and other classifications have been converted to their CDA equivalent. Hamburgo and Island Copper tailings facilities are not considered dams and are, therefore, not subject to classification: Hamburgo TSF at Escondida is an inactive facility where tailings were deposited into a natural depression; and Island Copper TSF in Canada, acquired in the 1980s, is also an inactive facility. Tailings at Island Copper were deposited in the ocean under an approved licence and environmental impact assessment. This historic practice ceased in the 1990s. We have since committed to not dispose of mine waste rock or tailings in river or marine environments.  
(4) These classifications align to the CDA classification system and reflect the modelled, hypothetical most significant failure mode and consequences possible without controls, and not the current physical stability of the dam.  
(5) Other includes dams of a design that combines upstream, downstream and centerline, and the two non-dam tailings facilities of Hamburgo TSF in Chile and Island Copper TSF in Canada.  
(6) Inactive includes facilities not in operational use, under reclamation, reclaimed, closed and/or in post-closure care and maintenance.



# Health and safety

**Our highest priority is the health and safety of those impacted by our operations, including our employees and contractors, and the communities in which we operate. Protecting the health and wellbeing of our workforce is vital to our business.**



## In this section:

- [Our safety performance](#)
- [Contractor safety](#)
- [High occupancy vehicles](#)
- [Security, Crisis and Emergency Management, and Business Continuity plans](#)
- [Occupational illness](#)
- [Occupational exposures](#)
- [Coal mine dust lung diseases](#)
- [Mental health](#)

# Health and safety

## Safety

**Our highest priority is the safety of our operations, including our employees and contractors and the communities in which we operate. We achieve nothing if we do not do it safely.**

Tragically, one of our colleagues died at work on 31 December 2018. Allan Houston suffered fatal injuries while he was operating a dozer at BHP Mitsubishi Alliance's Saraji Mine. After a thorough investigation, we could not determine the direct cause of the incident. However, we identified several areas for improvement and are actively sharing the learnings from the investigation throughout our operations, with contract partners and the broader resources industry.

On 5 November 2018, Western Australia Iron Ore (WAIO) experienced a train rollaway event. There were no injuries as our team at Train Control intentionally derailed the train at a time when it was considered the safest to do so. Post the incident and before rail operations recommenced, we implemented additional procedures to help prevent a similar event from re-occurring.

In FY2019, we established new requirements for engaging and managing contractors. The contractor safety requirements were rolled out across BHP and assurance programs have been established to monitor and verify the implementation of the requirements.

To strengthen our safety leadership and culture, we are educating our people about chronic unease, that is, being mindful of the possibility of what could go wrong, and creating a culture where it is safe to speak up and report hazards and incidents. One of the objectives of our Global Field Leadership Program is to strengthen the reporting culture. We monitor reporting culture across all our operations and coach and support our leaders to improve the quality of our field leadership activities with our employees and contractors.

We also introduced a new event management system for recording health, safety, environmental and community events. The system is designed to capture, analyse and track events in real time and will be implemented in FY2020.

We continue to play a key role in supporting the International Council on Mining and Metals (ICMM) in its development and delivery of the Innovation for Cleaner, Safer Vehicles initiative that promotes cleaner and safer mining vehicles. Our CEO Andrew Mackenzie is the Chair of the ICMM Advisory Council for this initiative. → [Read our case study Towards cleaner, greener and safer mining vehicles](#) at [bhp.com/community/case-studies](http://bhp.com/community/case-studies).

## Safety incident investigations

BHP has a goal of zero work-related fatalities. During FY2019, we continued to improve investigation processes, leadership and culture to effectively embed the lessons from safety incidents across our business.

We prioritise near misses and injuries with fatality potential for in-depth investigation and appoint those with investigation expertise to facilitate and lead these investigations. Senior leaders are actively involved in leading high potential incident investigations, providing them with an opportunity to learn through practice, which we believe will positively impact their ability to share lessons and influence learning across their existing leadership networks and routines.

Organisational, cultural and leadership factors are examined to understand whether they have contributed to an incident. A repository of investigation findings from across the Group is available to our people, with investigation findings presented in a standard format that can be filtered and searched.

In FY2019, we improved the quality of investigations and established a network of investigation facilitators across the Group. We will also investigate positive safety performance and apply those lessons where applicable across the Group.

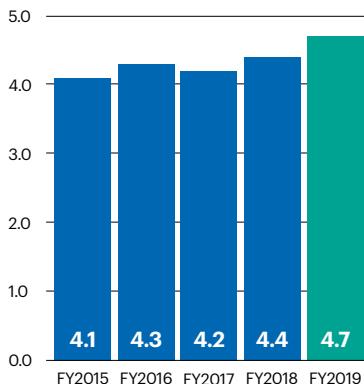
## Our safety performance

Total recordable injury frequency (TRIF) performance increased by 7 per cent to 4.7 per million hours worked, compared to 4.4 in FY2018. This was due to an increase in injuries in both Minerals Australia and Minerals Americas.

High potential injuries declined by 7 per cent from FY2018 due to reductions at WAIO, Olympic Dam and Potash; the frequency rate declined by 18 per cent. High potential injury trends remain a primary focus to assess progress against our most important safety objective: to eliminate fatalities.

### Total recordable injury frequency

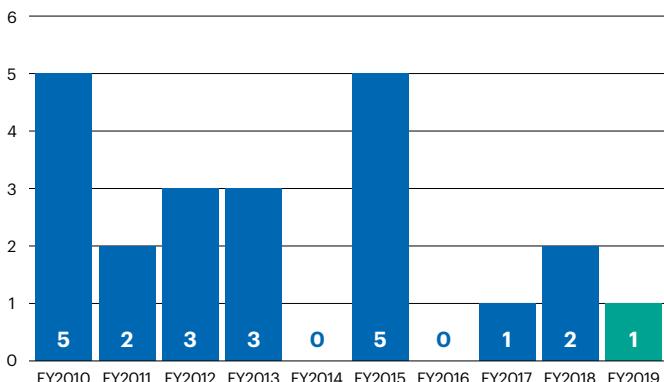
Per million hours worked



FY2015 to FY2018 data includes Continuing and Discontinued operations.  
FY2019 data includes Discontinued operations (Onshore US assets) to 28 February 2019 and Continuing operations.

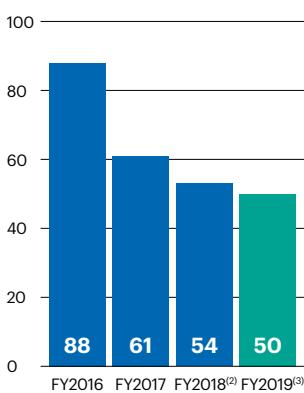
## Health and safety continued

### Workplace fatalities (FY2010–FY2019)



FY2014 to FY2018 data includes Continuing and Discontinued operations.  
FY2019 data includes data for Discontinued operations (Onshore US assets) to 28 February 2019 and Continuing operations.

### High potential injury events<sup>(1)</sup>



- (1) High potential injuries (HPI) are recordable injuries and first aid cases where there was the potential for a fatality. FY2016 to FY2018 HPI data includes Continuing and Discontinued operations (Onshore US assets).  
(2) FY2018 data has been adjusted due to the reclassification of an event after the reporting period.  
(3) FY2019 data includes Discontinued operations (Onshore US assets) to 28 February 2019 and Continuing operations.

We continuously improve our programs under our global safety priorities established in FY2016 and our focus remains on:

- reinforcing that safety comes before productivity;
- in-field verification of material and fatal risks through embedding our Field Leadership Program;
- enhancing our internal investigation process and widely sharing and applying lessons;
- enabling additional quality field time to engage our workforce.

In FY2019, we focused on improving critical control design and performance (controls that alone or in conjunction with other controls significantly reduce the likelihood and/or impact of material risks) and continued to remove people from sources of danger through standardised work and new technologies.

We increased the quality of our global safety incident investigations, with the focus on better organisational learning. The Field Leadership Program remains one of our core leadership activities as we build the quality of engagements in the field.

Hazard identification and reporting continued to be a priority given a healthy reporting culture provides us with the signals to urgently and swiftly respond. This will be supported by a new incident management system and process that will be implemented in FY2020.

### Field Leadership Program

Leaders spending time in the field is vital to maintaining safe operations. Through our Field Leadership Program, leaders from all levels of BHP spend time in the field engaging with employees and contractors about safety. They are also responsible for verifying fatality risk controls that are behavioural in nature and ensuring that elements of our Health, Safety and Environment management system are working as intended. Through this engagement we identify positive behaviours, at-risk behaviours and opportunities for system improvements.

The Field Leadership Program was deployed with a Group-wide common approach in FY2019. This included common training and a system to support the recording of field leadership activities. Over the past two years, more than two million field leadership activities with our employees and contractors have been completed, which continues to highlight how well this program has been embedded into our daily leadership routines. We monitor field leadership participation and coaching in all operations, which has supported continual improvement and embedment of the program.

During FY2019, field leadership work focused on:

- embedding field leadership activities with operational leaders in each asset;
- identifying and analysing critical control failures and implementing improvement plans;
- completing actions to address critical control failure.

We introduced the following lead indicators for field leadership to track the quality and further enhance the program. These indicators formed part of the performance scorecard for our executives in FY2019 and included:

- increasing field leadership coaching activities;
- identifying and analysing critical control failures and implementing improvement plans;
- ensuring all risks that have behavioural controls are covered and completing the field leadership activities to plan;
- timely completion of actions to address critical control failures.

### Contractor safety

The last seven fatalities at our operations involved contractors or subcontractors. This brought into sharp focus the issue of contractor safety, given our 40,000 contractors comprise around two-thirds of our workforce, and precipitated significant changes to the way we engage and manage contractors.

Global contractor safety requirements now form an integral part of the *Our Requirements for Safety* standard and are based on lessons from previous fatalities at BHP. The standard guides leaders on how they can effectively help to keep contractors and subcontractors safe while at work. In addition, assurance activities from frontline leaders and Internal Audit and Advisory team audits have been implemented to monitor, verify and improve contractor safety.

The next phase of this work is to integrate the following guiding principles into our contractor management:

- inclusive culture – contractors and BHP employees are treated and operate as one team;
- mutually beneficial relationships – we actively work to develop long-term relationships with our contractors;
- simple processes and systems – our processes and systems are fit-for-purpose and deliver a simpler, safer user experience.

## Health and safety continued



### High occupancy vehicles

We transport employees and contractors in high occupancy vehicles every day, which presents a high potential material risk exposure for the Group.

We also continue to actively work with the National Road Safety Program Partnership, which is part of the Australia Road Research Board. A working group with participants from organisations across a number of business sectors has been established to develop and implement strategies to better manage and monitor high occupancy vehicles.

### Security, Crisis and Emergency Management, and Business Continuity Plans

We updated the *Our Requirements for Security, Crisis and Emergency Management, and Business Continuity Plans* standard in FY2019. New requirements were introduced for security management, including the designation of a single point of accountability for security management and the use of approved security specialists. The requirements also provide guidance on when to undertake security risk assessments and when to prepare security management plans. In addition, the standard includes guidance on how to set up response teams and provide crisis and emergency management training.

## Health and safety continued

### Health

**Our goal is to protect the health and wellbeing of our workforce from potential occupational injury, now and into the future, through the setting of clear requirements for our operations.**

We set minimum mandatory controls to identify and manage health risks for our employees and contractors. Our workplace health risks include occupational exposures to noise, silica, diesel particulate matter (DPM), coal mine dust, musculoskeletal stressors and mental health impacts. The effectiveness of our health controls is regularly reviewed and subjected to periodic audit to verify the controls are implemented and operating as designed.

We continue to monitor emerging health issues and trends through our membership of industry and professional associations, informal benchmarking, networking and participation in national and international conferences. We also monitor information from scientific journals, occupational health regulatory setting and advisory agencies.

Fatigue management supports the wellbeing of our people, including their mental and physical health. We have reviewed our fatigue management strategy to identify areas that require further focus. In FY2020, we will evaluate factors that contribute to the risk of fatigue during shift work to identify opportunities to further control potential causes of fatigue. Shift work that involves circadian disruption is under review by the International Agency for Research on Cancer and outcomes from the evaluation will be used to inform potential updates to our health requirements.

We set internally specified occupational exposure limits (OELs) to manage exposures to DPM, silica, coal mine dust and other potentially harmful agents. For our most material exposures, our process to set those OELs involves periodic monitoring and evaluation of scientific literature, benchmarking against peers as well as engagement with regulators, OEL-setting agencies and expert independent advice. Our approach to monitor and review our internal OELs is designed to ensure they continue to be aligned with, or are more conservative than, applicable regulated health limits.

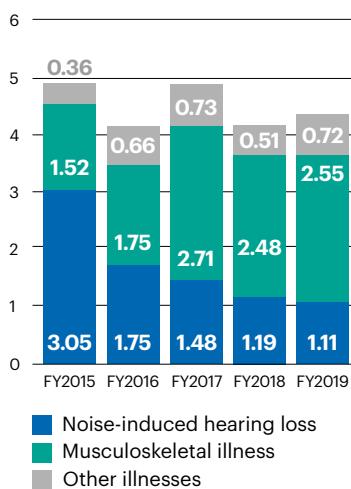
Our periodic medical surveillance programs help us support early identification of potential occupational exposure illness and enable us to assist our people through illness management and recovery. In FY2019, we established key performance indicators that require a 90 per cent adherence to schedule for health surveillance activities, achieving 79 to 100 per cent across the Group. We also reviewed our medical testing programs through internal and external benchmarking with industry peers and standards. Improvement opportunities identified from the review are expected to be evaluated and the implementation of endorsed recommendations are expected to commence in FY2020, along with plans to further increase adherence to planned surveillance activities.

In line with Our Charter and our culture of care, we support the proactive management of mental wellbeing through the provision and promotion of the Employee Assistance Program (EAP), a mental health toolkit called Thrive, education and awareness campaigns, including stigma reduction and the BHP Resilience Program.

### Occupational illness

#### Employee occupational illness

Per million hours worked



FY2015 to FY2018 data includes Continuing and Discontinued operations.  
FY2019 data includes Discontinued operations (Onshore US assets) to 31 October 2018 and Continuing operations.

The incidence of employee occupational illness in FY2019 was 4.38 per million hours worked, an increase of 5 per cent compared with FY2018. The reported incidence of contractor occupational illness was 1.62 per million hours worked, a decrease of 16 per cent compared with FY2018. The overall decrease in contractor illnesses was predominantly driven by the 23 per cent increase in hours worked in FY2019. We do not have full oversight of the incidence of contractor noise-induced hearing loss (NIHL) cases in many parts of BHP due to regulatory regimes and limited access to data. We continue to work with our contractors and regulatory agencies to resolve these issues.

The majority of our reported occupational illnesses are musculoskeletal illness. The improved identification and more effective control of causes of musculoskeletal stressors will be supported by the progressive implementation of the Standardised Work program. Standardised Work is a key foundational tool of the BHP Operating System that seeks to empower individuals to design work in a way that supports efficiency and ergonomics, where health and other risks are identified, and enables additional controls to be identified and incorporated.

Our continued focus on implementing our requirements for fit testing for hearing protection devices has supported a 6.7 per cent reduction in NIHL illness rate.

We have seen an increase in the number of other illnesses reported, which include short-term, low-impact conditions such as blisters, skin conditions (dermatitis/eczema), bites and stings, due to a small increase in cases across most Minerals Australia operations.

The dermatitis/eczema cases arose from different work locations across Olympic Dam and could be attributed to the continued education campaign on the prevention and management of skin conditions, which encourages early reporting of signs and symptoms.

## Health and safety continued

To a lesser extent, the increase was also driven by increases in mental stress conditions and heat stress cases at Olympic Dam in South Australia. These conditions are currently captured as 'other illnesses' but, with our strong focus on mental health, we plan to establish a stand-alone category for 'mental stress conditions' in FY2020. Across the Group, mental stress conditions continue to be reported in low numbers and the number of cases were not significantly different to FY2018. Through the BHP Mental Health Framework, we continue to seek to foster a work environment where our people feel comfortable to raise their experience of mental stress and to access appropriate support when needed.

### Occupational exposures

For our most material exposures to DPM, silica and coal mine dust, we have committed to a five-year target to achieve a 50 per cent reduction in the number of workers potentially exposed<sup>(1)</sup> as compared to our baseline exposure profile (as at 30 June 2017<sup>(2)</sup> by 30 June 2022.

In Petroleum, the divestment of our Onshore US assets during FY2019 changed the exposure profile for the region as workplace exposures to silica and DPM are no longer present. Our baseline exposure profile for the Group for the five-year target was therefore adjusted to remove the baseline exposures attributed to the Onshore US assets.

In FY2019, planned exposure reduction projects were implemented across the Group, involving a collaborative effort from operational and maintenance teams, supported by the Health, Safety and Environment, Supply and Technology teams. Many assets exceeded planned exposure reductions, resulting in an overall reduction of 49<sup>(3)</sup> per cent compared to the revised FY2017 baseline. Planned growth projects across the Group may result in an increase in some potential exposures over the short term; however, commitments to achieve planned exposure reductions over the five-year target period remain unchanged.

In Minerals Americas, silica exposure reduction projects were successfully implemented at our Escondida and Pampa Norte assets in Chile. This included the installation of dust collection units within ore concentrator plants at Escondida and the installation of a central vacuum system to reduce dust exposure during plant maintenance activities at Pampa Norte's Spence mine. Design changes to the conveyor belt transfer and discharge areas were also introduced at Spence to further reduce dust release and potential exposures.

Across Minerals Australia, all assets contributed to the reduction in silica exposures. The main factors that influenced the reduction in silica exposures included:

- developing and implementing control plans to reduce airborne dust generated from surfaces and environmental conditions; using engineered water spray systems on hoppers and conveyors; introducing intelligent cabin pressurisation systems; eliminating where practical the use of compressed air for cleaning; and improving maintenance strategies;
- increasing task rotation through organisational changes and movement into areas of higher-grade ore;
- additional monitoring and re-baselining as part of the FY2019 silica exposure assessment, which identified a number of workgroups exposed below the OEL.

Projects focused on reducing silica exposure will continue in FY2020 in Minerals Australia and Minerals Americas. In FY2019, pilot studies commenced at Escondida (Chile) and BMA's Broadmeadow mine (Queensland) to install and test real-time monitoring equipment for silica in Escondida and DPM and coal mine dust in Broadmeadow as a method to support targeted exposure assessment and verify exposure controls. The pilots will continue in FY2020 and findings will inform subsequent application of the technology into other operations.

An overall reduction in DPM exposures in Minerals Australia was achieved due to the implementation of control plans at Olympic Dam (South Australia) and Nickel West (Western Australia). Olympic Dam continued to replace or retrofit equipment with diesel particulate filters, which enabled a reduction in exposure for mine production workers. Nickel West continued to replace end of life fleet with Tier 4 engine equipment, changed equipment maintenance schedules based on diesel particulate emissions and introduced improvements to the management of secondary ventilation. BMA's Broadmeadow mine continued to implement DPM exposure reduction controls, including engine upgrades to underground loaders. Both Olympic Dam and Broadmeadow continue to participate in a light electric vehicle pilot as a potential opportunity to further reduce DPM exposures and other emissions.

→ [Read more in our case study Light electric vehicles in underground pilot at bhp.com/community/case-studies](#).

Through the continued implementation of exposure control plans for coal mine dust, there were no workers exposed over the OEL at the end of FY2019.

In addition to these exposure reduction projects, BHP continues to play a key role in supporting the ICMM in its development and delivery of the Innovation for Cleaner, Safer Vehicles initiative that promotes technological innovation to reduce emissions of DPM and greenhouse gases and reduce vehicle interactions (and the associated safety risk). Our CEO Andrew Mackenzie is the Chair of the ICMM Advisory Council for this initiative, with a number of BHP employees leading or participating in key working groups. The strong alignment and common ambition between ICMM member companies and Original Equipment Manufacturers represents an important change in partnership and collaboration, which will help accelerate delivery of the technology required for a safer and cleaner world.

### Coal mine dust lung diseases

In our Sustainability Report for FY2017, we reported on the re-identification of coal workers' pneumoconiosis (CWP) in our industry, the number of our current employees and former workers who had been diagnosed with CWP and the steps we had taken in response.

As at 30 June 2019, 10 cases of coal mine dust lung diseases (CMDLD<sup>(4)</sup>) among our current employees were reported to the Queensland Department of Natural Resources, Mines and Energy. We continue to provide counselling, medical support and redeployment options (where relevant) for all 10 colleagues (seven of the 10 have been able to continue working).

(1) For exposures exceeding our baseline occupational exposure limits discounting the use of personal protective equipment, where required.

(2) The baseline exposure profile is derived through a combination of quantitative exposure measurements and qualitative assessments undertaken by specialist occupational hygienists consistent with best practice as defined by the American Industrial Hygiene Association.

(3) FY2019 data excludes Discontinued operations (Onshore US assets).

(4) CMDLD is the name given to the lung diseases related to exposure to coal mine dust and includes CWP, silicosis, mixed dust pneumoconiosis and chronic obstructive pulmonary disease.

## Health and safety continued

During FY2019, one former BHP employee had a worker's compensation claim accepted for CMDLD, resulting in a total, as at 30 June 2019, of six former workers diagnosed with CMDLD since January 2016 (noting that no Australian coal mine worker had been diagnosed with CMDLD in the preceding two decades). In addition to these confirmed cases, as at 30 June 2019, there were six intimated worker's compensation claims for CMDLD from current and former employees that had not yet been determined. Our Charter values guide our response and the support we offer, and we are actively reviewing how we can improve timeframes and processes for determination of claims.

To further protect the health of our people we remain committed to:

- a reduction in our coal mine dust OEL from 2 mg/m<sup>3</sup> to 1.5 mg/m<sup>3</sup> to be achieved as soon as reasonably practicable and no later than 1 July 2020 (as compared with the regulatory OEL of 2.5 mg/m<sup>3</sup>), noting that all operations have developed exposure reduction plans;
- a reduction in potential exposure to silica in coal mine workers that exceeds a level 50 per cent lower than the current regulatory level by no later than 1 July 2021.

To strengthen the regulatory framework and health surveillance system, we will continue to provide input and share improvements in technical knowledge and controls with the Queensland Government and the coal mining industry more broadly through industry associations and working groups.

We believe that our stricter OELs combined with the statutory health surveillance scheme will prevent serious disabling and fatal cases of CMDLD arising in our workforce from existing conditions. We achieved this through the combination of further reductions in coal mine dust and silica potential exposures across our operations (driven by our current five-year exposure reduction targets and reductions in OELs, as described earlier) and the statutory health surveillance schemes in Queensland and New South Wales.

### Mental health

BHP has prioritised the mental health of our people since 2015. We have subsequently made good progress with the implementation of our Group-wide Mental Health Framework. We have focused on reducing the stigma associated with mental illness and raising awareness of mental health conditions, as well as building capacity and confidence to recognise and support individuals experiencing mental health issues.

In FY2019, we continued to embed programs and resources that support a healthy, thriving workforce. This included the peer-led Resilience Program in which 3,392 people had participated, as at the end of FY2019.

We held a workshop with our Human Resources function and external representatives from Beyondblue, Keil Centre, and BSS (one of our Employee Assistance Program (EAP) providers) and benchmarked companies to discuss strategies to embed existing resources and inform our five-year mental health and wellbeing strategy. The workshop reinforced the need to continue to promote existing resources. This led to the development of the Resilience Program meeting series and program refresher session materials, which can be built into existing team routines.



We launched the inaugural BHP Mental Health Week to raise awareness of BHP's mental health resources and tools, and encourage conversations about mental health. By leveraging the existing communication platforms across our operations and offices, we sparked conversations about how to check in with colleagues, highlighted strategies to manage stress, pressure and working away from home, and raised awareness about the EAP support options.

Proactive use of our EAP continues to be promoted across all our operating regions and functions. Online and face-to-face EAP sessions were offered across our sites to increase awareness of the counselling services and manager assistance program, as well as information sessions on how to support longer term wellbeing.

Our people supported World Mental Health Day and R U OK? Day and we again embarked on a global Movember campaign to raise awareness and funds (A\$396,954 as of 30 June 2019) for key men's health issues, including mental health and suicide prevention. BHP was the highest fundraising organisation within the mining challenge that supported the CY2018 campaign, contributing to the Movember Foundation's programs and research into men's health.

We conducted a global mental health risk assessment with internal and external stakeholders to identify critical parts of our Mental Health Framework that promote a supportive work environment. The Western Australian Government released the Code of Practice on mentally healthy workplaces for fly in, fly out workers in the resources and construction sectors. The outcomes from the risk assessment and our review of the Code of Practice will help to inform and strengthen our long-term mental health strategy.

FY2019 was the third year that the wellbeing category was included in our annual Engagement and Perception Survey. There was no change overall at the Group level, but we continue to evaluate the differences at the asset and function levels from the previous year's results to inform local plans.

We will continue to better integrate all BHP priorities that contribute to mental health, such as diversity and inclusion, flexible work options and the strengthening of leadership awareness and skills.

→ For more on how we are addressing fatigue when working at altitude, read our case study **New program tackles fatigue at Escondida** at [bhp.com/community/case-studies](http://bhp.com/community/case-studies).



# Environment

**We focus on minimising and mitigating our impact on water, land, air quality and biodiversity, and working with stakeholders on effective solutions to complex environmental challenges.**



## In this section:

- Minimising environmental impacts
- Our environmental performance
- Contributing to a resilient environment

# Environment

We acknowledge that the nature of our operations can have significant environmental impacts. There is growing pressure on and competition for environmental resources, such as land, biodiversity, water and air. Climate change amplifies the sensitivities of our natural systems. Our operations and growth strategy depend on obtaining and maintaining the right to access these environmental resources. The long-term health of our business depends on a sustainable natural environment. BHP's approach to environmental stewardship is twofold – we aim to minimise the environmental impacts from our activities and work in partnership with others to contribute to a resilient environment.

## Minimising environmental impacts

In line with *Our Charter*, we seek to minimise impacts throughout every stage of our operations. BHP has comprehensive governance, risk management, policies and processes that set the basis for how we manage risk and realise opportunities to achieve our environmental objectives.

## Protecting threatened environments

We are committed to avoiding areas where the risk of impacts on threatened environments from resource extraction would be too great. Our commitments are:

- We do not explore or extract resources within the boundaries of World Heritage-listed properties.
- We do not explore or extract resources adjacent to World Heritage-listed properties, unless the proposed activity is compatible with the World Heritage outstanding universal values.
- We do not explore or extract resources within or adjacent to the boundaries of the International Union for Conservation of Nature (IUCN) Protected Areas Categories I to IV, unless a plan is implemented that meets regulatory requirements, takes into account stakeholder expectations and contributes to the values for which the Protected Area is listed.
- We do not operate where there is a risk of direct impacts to ecosystems that could result in the extinction of an IUCN Red List Threatened Species in the wild.
- We do not dispose of mined waste rock or tailings into a river or marine environment.

## The mitigation hierarchy

We aim to operate and invest to avoid adverse impacts on the environment and communities in which we operate. We work with affected stakeholders to mitigate impacts and contribute to environmental resilience where impacts cannot be avoided. Our assets are required to put in place controls and plans that reflect the mitigation hierarchy, an approach that helps us to minimise, and if necessary, compensate for potential environmental impacts. Steps one and two of the hierarchy – avoid and mitigate – seek to prevent adverse impacts as far as possible. Steps three and four – rehabilitate and compensate – seek to reduce the effect of those impacts that cannot be avoided.

Avoid	Mitigate	Rehabilitate	Compensate
Avoid negative impacts to the environment within our area of influence.	Minimise the severity of any unavoidable impact.	Rehabilitate disturbed areas that are no longer required for operational purposes, including closed mines.	Implement appropriate, effective and enduring compensatory measures for any residual impacts.

→ Read how we are applying the mitigation hierarchy to new projects with our case study [Protecting ghost bats in the Pilbara](#).

## Environmental management

BHP's environmental performance and management of environmental impacts on communities where we operate are critical to creating social value. BHP's approach to environmental management is set out in the *Our Requirements for Environment and Climate Change* and *Our Requirements for Risk Management* standards. These standards have been designed taking account of the ISO management system requirements, such as ISO14001 for Environmental Management. The *Our Requirements* standards include specific minimum performance standards in a number of areas. In FY2019, we began updating the *Our Requirements for Environment and Climate Change* standard to reflect recent changes in BHP's Risk Framework and other *Our Requirements* standards, new Technical Standards for water and our evolving climate change and water stewardship programs.

Our internal audit processes check compliance with the *Our Requirements* standards, which are designed to cover operating sites at our assets on a two-year rotation.

### Our environmental performance

Outlined below is our progress in the past year against our five-year and longer term environmental targets for water and biodiversity, as well as other key environmental stewardship activities. We also progressed our global strategy on water stewardship and actions in each of the strategy pillars, set out below and in more detail in the **Water** section. To achieve these targets, we identify and implement on-ground improvement projects, investigate technologies to monitor and reduce potential environmental impacts, and collaborate with governments, communities and other industries to share information and promote collective action.

While no significant environmental events occurred at any BHP operated assets in FY2019, activities are ongoing to address the significant environmental impacts of the tailings dam failure at our non-operated joint venture, Samarco, in November 2015.

### Responsibly managing land and supporting biodiversity

The nature of our operations means we have a significant responsibility for land and biodiversity management. BHP owns or manages more than 10 million hectares of land and sea; however, less than 2 per cent of it is disturbed for operations. Our activities have inherent risks for land, marine and aquatic biodiversity in the areas we operate. We are committed to reducing those risks and to contributing to a resilient environment beyond the immediate areas of our operations.

Our assets have plans and processes in place that reflect local biodiversity risks and regulatory requirements. At a Group level, we have a five-year target to improve marine and terrestrial biodiversity outcomes by developing a framework to evaluate and verify the benefits of our actions in collaboration with others. This is being designed to allow us to better monitor, avoid, reduce and offset biodiversity impacts of our activities in a coordinated way.

We started work on the framework in FY2018 and completed initial phase pilot testing using data from three operating sites and a social investment project during FY2019. We are progressing this work with Conservation International and Proteus, a voluntary partnership between the United Nations Environment World Conservation Monitoring Centre and 12 extractive industry companies.

We are continuing with initial phase pilots at two more sites to ensure the approach is robust across a range of geographies, marine and terrestrial environments, and operating sites and social investment projects. We intend to use the framework to track achievement of BHP's longer term biodiversity goal: 'in line with United Nations Sustainable Development Goals 14 and 15, BHP will, by FY2030, have made a measurable contribution to the conservation, restoration and sustainable use of marine and terrestrial ecosystems in all regions where we operate.'

In FY2020, we will progress the next phase of framework development with our conservation partners by combining operational-level indicators into indicators at a region or Group level. We will continue actions to minimise the biodiversity impacts associated with our activities and support effective, progressive rehabilitation and closure.

BHP looks for opportunities to improve the conservation, restoration and sustainable use of marine and terrestrial ecosystems in all regions in which we operate, through our own activities and in collaboration with others. In FY2019, our Petroleum business continued to appraise Mexico's deepwater offshore Trion block with its joint venture partner, Pemex and engaged with the Mexican Government to develop Mexico's offshore petroleum environmental regulatory framework. This involved use of environmental guidance from networks such as the International Petroleum Industry Environmental Conservation Association and the International Association of Oil and Gas Producers.

### Rehabilitation and closure

As a global leader in the development of natural resources, we are committed to implementing a planned approach to closure and rehabilitation through the life cycle of our operations. We do this by following our closure management process, taking into consideration our values, obligations, commitment to safety, cost risks/benefits and the expectations of external stakeholders, and developing a closure management plan that delivers enduring environmental and social benefits.

Our current closure management process set out in the *Our Requirements for Closure* standard was implemented in FY2018. It requires all assets to develop a closure management plan, including a financial assessment, to minimise any closure-related risks over the life of the asset. The focus is to aim to achieve an optimal closure outcome in consultation with local communities and other stakeholders. In addition to environmental rehabilitation, closure outcomes may include recreational or other community uses.

In Western Australia's Pilbara, a pilot study is looking at alternative uses for an inactive mine site. Using an agribusiness market assessment, the study aims to identify multi-land uses for the site that could form the basis of a sustainable commercial opportunity. This will be co-designed with key stakeholders to ensure outcomes are fit-for-purpose and aligned to strategic regional initiatives.

In our Petroleum business, we are assessing the extent to which seafloor infrastructure provides beneficial habitat for local fish species, which is important when considering offshore decommissioning options. → For more information, read our **case study : Ecological implications of decommissioning subsea infrastructure in northwest Australia** at [bhp.com/community/case-studies](http://bhp.com/community/case-studies).

 More information on financial provisions related to our closure liabilities is available in our Annual Report 2019, available online at [bhp.com](http://bhp.com).



BMA Queensland rehabilitated land.

We regularly reassess for improvement the way we rehabilitate areas that are no longer required for operational purposes. In collaboration with key government stakeholders in Queensland, Minerals Australia developed completion criteria for five post-mining land uses: grazing, cropping, native woodland habitat, water storage and diversions.

In November 2018, 1,176 hectares of rehabilitated subsidence with a post-mining land use of mixed cropping and grazing at Gregory Crinum Mine (now sold to Sojitz) was certified as complete. At the Norwich Park Mine in Queensland, a further 294 hectares of spoil dump was certified as complete for grazing in February 2019, bringing the total rehabilitated land area certified as complete to 1,470 hectares. In total, in FY2019, rehabilitation and closure strategies for assets in Australia delivered just under 20,000 hectares rehabilitated land.

Technical experts at our Resource Engineering Centre of Excellence develop and assure technical standards, share best practice, provide technical training and access to the latest research, and support continual improvement in our business systems.

The Centre developed five standards across BHP in geotechnical, water and closure disciplines that each share common attributes. For example, a global Acid and Metalliferous Drainage (AMD) Management Standard will enable improvement in how we manage mineral wastes through mine plans that include consideration of ground and surface water and has an overarching long-term objective of preventing AMD by source control rather than treatment in-perpetuity.

The Centre collaborates with international experts and participates on industry forums to share learnings and benchmark performance to ensure our assets and operations have access to best practice in resource engineering. We actively participate in several industry bodies focused on closure aspects, including the International Council on Mining and Metals Closure Working Group, the Australian Institute of Mining and Metallurgy Community and Environment Committee, and the International Network on Acid Prevention.

### Making progress on water stewardship

Water stewardship is about safeguarding our shared water resources for future generations.

Our Water Stewardship Strategy was adopted in FY2017 to improve our management of water, increase transparency and help resolve shared water challenges. In FY2018, we produced our first standalone Water Report and in FY2019, we developed our Water Stewardship Position Statement that outlines BHP's commitment and advocacy focus on water stewardship. Implementation of the Position Statement will commence in FY2020.

For information on our approach to water stewardship and water performance in FY2019, refer to the **Water** section.

### Reducing air emissions

Greenhouse gases (GHG) and dust are our most significant emissions to air across the BHP portfolio. Our actions to reduce GHG emissions are described in more detail in the **Climate change** section. We manage and monitor our air emissions, such as dust, to reduce the potential for air quality impacts on our workforce, surrounding communities and ecosystems.

In some locations, other activities, including adjacent mining or industrial operations, also contribute to emissions that affect the environment. In the last year, we reviewed air quality management across our mine and port facilities and benchmarked air quality management practices across a number of industries and geographic regions. The insights from the review informed an update of the WAIO Air Quality Strategy and the *Our Requirements for Environment and Climate Change* standard. We shared the learnings to our other operating regions to support continuous improvement.

Together with operating practices, technology has an important role in minimising air emissions. In our Petroleum operations, we are increasingly applying detection technologies, such as optical gas imaging and drones, to detect and address fugitive methane emissions.

We use real-time air monitoring networks to provide live feedback to operations on the potential for off-site dust impacts at a number of our mining and port operations in Australia and Chile. This allows operations to make real-time adjustments to production and dust mitigation activities in response to changes in weather, product properties, or combined impacts from adjacent operations. In some instances, we share this data with community and regulatory authorities to make transparent our air emissions performance and effectiveness of mitigation actions.

### Contributing to a resilient environment

A report published by the Intergovernmental Panel on Biodiversity and Ecosystem Services in May 2019 found that nature is declining globally at rates unprecedented in human history. It also warned that about one million animal and plant species are threatened with extinction, many within decades. This is deeply concerning for the health of our ecosystems and their ability to support human wellbeing.

We also recognise that we have a broader role to play in contributing to environmental resilience. We achieve this through our Social Investment Framework and work with strategic partners and communities to invest in voluntary projects that contribute to the management of areas of national or international conservation significance.

Since 2011, we have committed more than US\$75 million to biodiversity conservation through our alliance with Conservation International and other partners. We look for projects that can provide multiple benefits, improve water quality or quantity, nature-based solutions to climate change, local livelihoods or cultural benefits, as well as improve biodiversity conservation.

Our investments with Conservation International in the seven-year alliance, which started in 2011, included the Five Rivers Conservation Area in Tasmania, Australia; Valdivian Coastal Reserve in Chile; Alto Mayo in Peru; and the Kasigau Corridor in Kenya. Last year, we renewed our alliance, with the next phase of our partnership to focus on: financing natural solutions that address climate change and contribute to halting biodiversity loss; and developing the framework to support BHP's efforts in evaluating and verifying the benefits of our actions on biodiversity – both operational and social investments.



With other partners, we progressed a number of environment-focused social investment programs in the last year. In the United States, our partnership with The Nature Conservancy in the Sustainable Rivers and Forests Initiative supports conservation and restoration in the Columbia Bottomlands region in Texas and five counties in Arkansas. → [For more, read our case study Supporting conservation projects in Texas and Arkansas at bhp.com/community/case-studies.](#)

Another significant US project is the Terrebone Biodiversity and Resilience Program with America's WETLAND Foundation (refer to the **Society** section). In Australia, our most significant environment-focused investments include:

- the Martu ranger program with the Martu Indigenous people in the Western Australian desert;
- our partnership with the Australian Government supporting Bush Blitz across Australia;
- our partnership with the CSIRO on the Ningaloo Reef Research project in Western Australia;
- support for the Arid Recovery wildlife reserve in the northern arid area of South Australia;
- the Raine Island Recovery Project in Queensland in collaboration with the Queensland Government, the Great Barrier Reef Foundation and local Traditional Owners.

In FY2020, we will begin a number of new social investment projects that contribute to environmental resilience in terrestrial, marine and coastal ecosystems. We prioritise those that contribute to combined benefits for water quality, biodiversity, habitat conservation and carbon sequestration.



# Climate change

We manage and minimise greenhouse gas emissions, build resilience of our portfolio to climate change risks, and work to build operational, community and ecosystem resilience to the physical impacts of climate change.



## In this section:

- Operational emissions
- Scope 3 emissions
- Contributing to the global response
- Managing risk and opportunity
- Engagement and disclosure

# Climate change

Our climate change strategy focuses on reducing our operational greenhouse gas (GHG) emissions, investing in low emissions technologies, promoting product stewardship, managing climate-related risk and opportunity, and working with others to enhance the global policy and market response. BHP's position on climate change is available online at [bhp.com](http://bhp.com).

Climate change is a global challenge that requires collaboration. Resources companies such as BHP, our customers and governments must play their part to meet this challenge.

Responding to climate change remains a priority governance and strategic issue for us. Our Board is actively engaged in the governance of climate change issues, including our strategic approach, supported by the Sustainability Committee. Management has primary responsibility for the design and implementation of our climate change strategy and our performance against our targets (outlined below) is reflected in senior executive and leadership remuneration. From 2021, the link between our targets and management remuneration will be further strengthened to reinforce the strategic importance of action to reduce emissions.

## Operational emissions

As a major energy consumer, managing energy use, ensuring energy security and reducing GHG emissions at our operations are key components of our climate change strategy. We set targets in order to hold ourselves accountable for these goals and regularly review them as our strategy and circumstances change.

Our five-year GHG emissions reduction target, which took effect from 1 July 2017, is to maintain our total operational emissions in FY2022 at or below FY2017 levels<sup>(1)</sup> while we continue to grow our business. Our target builds on our success in achieving our previous five-year target.

We have also set the longer term goal of achieving net-zero operational GHG emissions in the latter half of this century, consistent with the Paris Agreement. In order to set the trajectory towards achieving that goal, in FY2020 we intend to develop a medium-term target for operational emissions.

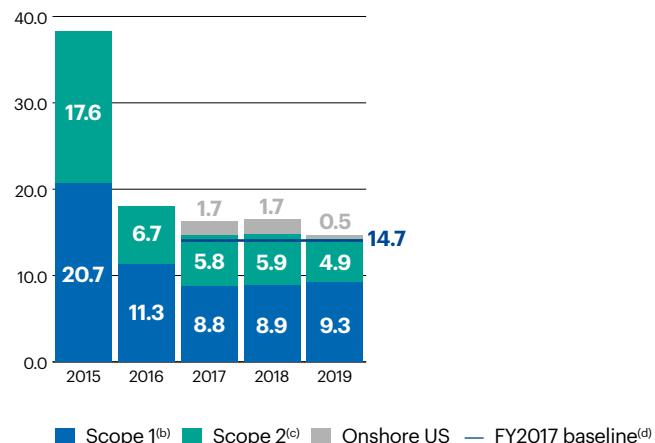
## Operational emissions performance

Our combined Scope 1 and Scope 2 emissions (operational emissions) in FY2019 totalled 14.7 million tonnes of carbon dioxide equivalent (CO<sub>2</sub>-e), 3 per cent below our FY2017 target baseline.<sup>(2)</sup> This decrease is primarily due to a change in the electricity emissions factor for Minerals Americas that resulted from the interconnection of Chile's northern grid system, which is mainly fossil fuel-based, and southern grid system, which has a higher proportion of renewable energy. → For an example of how BHP is reducing its operational emissions, read our case study **Keeping greenhouse gas emissions reductions rolling** at [bhp.com/community/case-studies](http://bhp.com/community/case-studies).

We have disclosed operational emissions performance at the asset level for the first time in this year's Report (refer to **Performance data – Climate Change** in the Appendix).

## Scope 1 and 2 GHG emissions<sup>(a)</sup>

millions of tonnes CO<sub>2</sub>-e



■ Scope 1<sup>(b)</sup> ■ Scope 2<sup>(c)</sup> ■ Onshore US — FY2017 baseline<sup>(d)</sup>

(a) Scope 1 and 2 emissions have been calculated on an operational control basis in accordance with the GHG Protocol Corporate Accounting and Reporting Standard. Comparisons of data over the period FY2015 to FY2016 should be made with consideration of the divestment of South32 during FY2015 (FY2015 data excludes emissions from South32 operations between the date of the divestment and 30 June 2015). Data over the period FY2017 to FY2019 is displayed with Onshore US emissions shown separately for comparability (12 months of emissions in FY2017 and FY2018, and four months of emissions in FY2019 prior to divestment of this asset).

(b) Scope 1 refers to direct GHG emissions from operated assets.

(c) 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).

(d) FY2017 is the base year for our current five-year GHG emissions reduction target, which took effect from FY2018. The FY2017 baseline has been adjusted for the divestment of our Onshore US assets to ensure ongoing comparability of performance. The baseline will continue to be adjusted for any material acquisitions and divestments based on GHG emissions at the time of the transaction; carbon offsets will be used as required.

## Investing in low emissions technologies

Defining a pathway to net-zero GHG emissions for our long-life assets requires planning for the long term and a deep understanding of the development pathway for low emissions technologies (LETs).

Our LET strategy is threefold. First, we work to adapt mature technologies such as light electric vehicles, in order to integrate them safely and effectively into our operations. Second, in the medium term, we create road maps for development and adoption of LETs that support our goal of net-zero emissions, which may include trials and demonstrations of technology in our production environments. Finally, we look for early stage LETs that hold high potential for future results. For these emerging technologies, we seek opportunities for collaboration, research and other ways to accelerate their development and adoption.

(1) FY2017 baseline will be adjusted for any material acquisitions and divestments based on GHG emissions at the time of the transaction. Carbon offsets will be used as required.

(2) Calculated on a Continuing operations basis. The FY2017 baseline has been adjusted for the divestment of our Onshore US assets to ensure ongoing comparability of performance.

## Climate change continued

Our LET strategy has been developed to address BHP's key sources of operational GHG emissions. Emissions from electricity use make up 43 per cent of our operational emissions.<sup>(1)</sup> This includes the power we generate ourselves, as well as the power we buy from grids around the world. To support the goal of moving toward zero emissions electricity, we are considering ways to accelerate the integration of renewable energy into our operations, such as through electricity contracts and, in some cases, through directly supplying our operations with greater proportions of lower carbon energy.

Emissions from fuel and distillate make up 42 per cent of our operational emissions, much of which is from diesel used in moving material (for example, haul trucks). The first phase of moving to net-zero diesel emissions is focused on adapting our fleet. We are currently trialling the use of light electric vehicles at Olympic Dam, by converting a diesel vehicle to run on lithium ion batteries. This has the added benefit of reducing diesel particulate matter, which has the potential to contribute to improved health and safety in our underground mining operation. One of the high potential options for GHG reduction in the longer term is green hydrogen (hydrogen created using renewable energy). Part of our LET strategy is focused on studying the potential role of zero emissions fuels like green hydrogen in our mining operations.

Fugitive methane emissions from our petroleum and coal assets make up 15 per cent of our operational emissions and are among the most technically and economically challenging to reduce. We are investing in research, development and trial projects with partners, such as the CSIRO and the University of San Diego. In our open-cut coal operations, we are working to better measure our emissions as a first step toward effective abatement. We are also collaborating with research institutions to investigate solutions for our underground operations, such as the viability of using methanotrophs (methane eating bacteria) to abate fugitive methane emissions.

## Scope 3 emissions

While reducing our operational emissions is vital, emissions from our value chain (Scope 3 emissions) are significantly higher than those from our own operations. We work with our customers, suppliers and other value chain participants to seek to influence emissions reductions across the life cycle of our products.

As we work to develop an integrated product stewardship strategy in FY2020 we intend to look to identify additional opportunities to work with others in our value chain to influence emissions reductions. We also intend to set public goals related to Scope 3 emissions.

## Scope 3 emissions performance

The most significant contributions to Scope 3 emissions in our value chain come from the downstream processing and use of our products, in particular emissions emanating from the steelmaking process (the processing and use of our iron ore and metallurgical coal). In FY2019 emissions associated with the processing of our non-fossil fuel commodities (iron ore to steel; copper concentrate and cathode to copper wire) were 305 million tonnes of CO<sub>2</sub>e. Emissions associated with the use of our fossil fuel commodities (metallurgical and energy coal, oil and gas) were 233 million tonnes of CO<sub>2</sub>e.



(1) Includes Scope 1 emissions from our natural gas-fired power generation as well as Scope 2 emissions from purchased electricity.

## Climate change continued

### Scope 3 GHG emissions<sup>(1)(2)</sup>

Scope 3 category	Scope 3 emissions (million tonnes CO <sub>2</sub> -e)	FY2019	FY2018
<b>Upstream</b>			
Purchased goods and services (including capital goods)	<b>17.3</b>	8.2	
Fuel and energy related activities	<b>1.3</b>	1.4	
Upstream transportation and distribution <sup>(3)</sup>	<b>3.6</b>	3.6	
Business travel	<b>0.1</b>	0.1	
Employee commuting	<b>&lt;0.1</b>	<0.1	
<b>Downstream</b>			
Downstream transportation and distribution <sup>(4)</sup>	<b>4.0</b>	5.0	
Processing of sold products <sup>(5)</sup>	<b>304.7</b>	322.6	
– Iron ore to steel	<b>299.6</b>	317.4	
– Copper to copper wire	<b>5.1</b>	5.2	
Use of sold products	<b>232.7</b>	253.8	
– Metallurgical coal	<b>111.4</b>	112.3	
– Energy coal	<b>67.0</b>	71.0	
– Natural gas	<b>28.3</b>	36.4	
– Crude oil and condensates <sup>(6)</sup>	<b>23.3</b>	29.6	
– Natural gas liquids	<b>2.8</b>	4.5	
Investments (i.e. our non-operated assets) <sup>(7)</sup>	<b>3.1</b>	1.7	

(1) Scope 3 refers to all other indirect GHG emissions (not included in Scope 2) from activities across our value chain, including upstream emissions related to the extraction and production of purchased materials and fuels; downstream emissions related to the processing and use of our products; upstream and downstream transportation and distribution; and emissions from our non-operated joint ventures. Scope 3 emissions have been calculated using methodologies consistent with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

(2) FY2018 data includes Continuing operations and Discontinued operations (Onshore US assets). FY2019 data includes Discontinued operations (Onshore US) to 31 October 2019 and Continuing operations.

(3) Includes product transport where freight costs are covered by BHP, for example under Cost and Freight (CFR) or similar terms, as well as purchased transport services for process inputs to our operations.

(4) Product transport where freight costs are not covered by BHP, for example under Free on Board (FOB) or similar terms.

(5) All iron ore production is assumed to be processed into steel and all copper production is assumed to be processed into copper wire for end use. Processing of nickel, zinc, gold, silver, ethane and uranium oxide is not currently included, as production volumes are much lower than iron ore and copper, and a large range of possible end uses apply. Processing/refining of petroleum products is also excluded as these emissions are considered immaterial compared to the end-use product combustion reported in the 'Use of sold products' category.

(6) All crude oil and condensates are conservatively assumed to be refined and combusted as diesel.

(7) Covers the Scope 1 and 2 emissions (on an equity basis) from our assets that are owned as a joint venture but not operated by BHP.

## Climate change continued

Scope 3 emissions reporting necessarily requires a degree of overlap in reporting boundaries due to our involvement at multiple points in the life cycle of the commodities we produce and consume. A significant example of this is that Scope 3 emissions reported under the 'Processing of sold products' category in the table above include the processing of our iron ore to steel. This third party activity also consumes metallurgical coal as an input, a portion of which is produced by us. For reporting purposes, we account for Scope 3 emissions from combustion of metallurgical coal with all other fossil fuels under the 'Use of sold products' category, such that a portion of metallurgical coal emissions is accounted for under two categories.

This is an expected outcome of emissions reporting between the different scopes defined under standard GHG accounting practices and is not considered to detract from the overall value of our Scope 3 emissions disclosure. This double counting means that the emissions reported under each category should not be added up, as to do so would give an inflated total figure. For this reason we do not report a total Scope 3 emissions figure. Further details of the calculation methodologies, assumptions and key references used in the preparation of our Scope 3 emissions data can be found in the associated Scope 3 calculation methodology document available online at [bhp.com/climate](http://bhp.com/climate).

### Accelerating the development of carbon capture and storage

We are working in partnership with others across our value chain to accelerate the development of technologies with the potential to reduce emissions from the processing and use of our products. Carbon capture and storage (CCS) is a key low emissions technology with the potential to play a pivotal role in reducing emissions from industrial processes, such as steel production, as well as emissions from the power sector and from oil and gas production.

While we recognise progress is required in developing policy frameworks to support the wider deployment of this technology, our CCS investments and partnerships focus on mechanisms to reduce costs and accelerate development timeframes. Our investments include activities aimed at knowledge sharing from commercial-scale projects, development of sectoral deployment road maps and funding for research and development at leading universities and research institutes.

For example, in March 2019 we committed to invest US\$6 million in Carbon Engineering Ltd to progress the development of a ground-breaking technology to reduce carbon emissions by accelerating the development of Direct Air Capture, which removes CO<sub>2</sub> from the atmosphere. → [For more information, read our press release at bhp.com](#).

In June 2019, we also committed to invest US\$5 million in CO2CRC, a research project to develop subsurface storage technologies aimed at reducing the cost and environmental footprint of long-term CO<sub>2</sub> storage monitoring.

These projects added to our existing portfolio of CCS projects, including:

- Establishment of the International CCS Knowledge Centre to share lessons from SaskPower's Boundary Dam CCS project in Saskatchewan, Canada.
- Work with Peking University and other partners to identify the key policy, technical and economic barriers to CCS deployment in the industrial sector, with a particular focus on the iron and steel industry in China.
- Establishment of a research collaboration between the University of Melbourne, University of Cambridge and Stanford University to support fundamental research into the long-term storage mechanisms of CO<sub>2</sub> in subsurface locations.

### Supporting the development of climate change solutions

In July 2019, our CEO Andrew Mackenzie announced that BHP's Board had approved a new Climate Investment Program that will invest in technologies to reduce emissions, and research and development of potential future solutions.

The Program will build on BHP's existing program of investing in low emissions technologies and carbon capture and storage. It includes a total investment amount of US\$400 million over five years from FY2020. Investments will target operational emissions reduction and potential reductions of Scope 3 emissions, including from the processing and use of our products.

The Program will target mature and disruptive technologies, designed to achieve near-term emissions outcomes and longer term, higher-risk goals. We expect technology investment to be critical in meeting our short- and medium-term targets for operational emissions reduction, our longer-term goal of operational net-zero emissions and our goals in relation to Scope 3 emissions. The Program will also drive investment in nature-based solutions.

### Contributing to the global response

Climate change is a global challenge that requires collaboration. We prioritise working with others to enhance the global policy and market response.

### Promoting market mechanisms to reduce global emissions

In addition to measures to reduce our emissions, we support the development of market mechanisms that reduce global GHG emissions through projects that generate carbon credits.

Our climate change strategy includes a focus on reducing emissions from deforestation through support for REDD+, the United Nations program that aims to reduce emissions from deforestation and forest degradation. For example, in partnership with the International Finance Corporation (IFC) and Conservation International (CI) we developed a first-of-its-kind US\$152 million Forests Bond, issued by the IFC in 2016. We provide a price-support mechanism for the bond, which supports the Kasigau Corridor REDD project in Kenya. During FY2019, we purchased additional carbon credits from the Kasigau Corridor project.

## Climate change continued

In partnership with CI and Baker McKenzie, we launched the Finance for Forests (F4F) initiative in FY2018, which aims to share our experiences to help encourage replication of these investments and the exploration of other innovative private finance tools to conserve forests and further advance REDD+. As the first phase of F4F came to a close in June 2018, there was broad recognition among the F4F participants that many companies understood the opportunity provided by REDD+ and were now seeking opportunities for investment. We launched the Finance for Forests 2.0 (F4F2.0) initiative with CI and Baker McKenzie in FY2019, to develop a suite of innovative financial mechanisms to channel private sector investment in REDD+.

In FY2020, we will organise engagements to promote F4F2.0 and continue to deliver our REDD+ strategy, with scoping of our next project investment underway. We are also exploring investments in blue carbon (carbon captured in coastal and marine ecosystems).

### Supporting the development of effective climate and energy policy

Industry has a key role to play in supporting policy development. We engage with governments and other stakeholders to contribute to the development of an effective, long-term policy framework that can deliver a measured transition to a lower carbon economy.

We believe an effective policy framework should include a complementary set of measures, including a price on carbon, support for low emissions technology and measures to build resilience. We are a signatory to the World Bank's Putting a Price on Carbon statement and a partner in the Carbon Pricing Leadership Coalition, a global initiative that brings together leaders from industry, government, academia and civil society with the goal of putting in place effective carbon pricing policies. Our CEO Andrew Mackenzie has also been appointed to the World Bank's High-Level Commission on Carbon Pricing and Competitiveness.

We also advocate for a framework of policy settings that will accelerate the deployment of CCS. We are a member of the Global CCS Institute and the UK Government's Council on Carbon Capture Usage and Storage.

We contribute to policy reviews throughout our global operating regions. For example, in FY2019 we made a submission to the Australian Government's consultation on the operation of the Emissions Reduction Fund Safeguard Mechanism. We also engaged with the Australian Energy Security Board, directly and through our industry association memberships, on the design of the National Energy Guarantee. We look forward to continuing to work with governments to ensure climate and energy policy frameworks are market based and technology neutral, and appropriately balance the goals of energy reliability, energy affordability and emissions reduction.

### Industry association membership

We believe industry associations have the capacity to play a key role in advancing the development of standards, best practices and constructive policy that are of benefit to members, the economy and society. We also recognise there is stakeholder interest in the nature and role of industry associations and the extent to which the positions of industry associations on key issues are aligned with those of member companies.

We were one of the first major companies to review our alignment with the advocacy positions on climate and energy policy taken by industry associations to which we belong, and to share the findings and outcomes of this review publicly. Our initial review was published in December 2017.

We continue to monitor the climate and energy policy positions of our industry association memberships and to keep our memberships of industry associations that hold an active position on climate and energy policy under review. A further review of our industry associations was commenced during FY2019. More information on our approach to industry associations, including our updated register of material differences on climate and energy policy, is available online at [bhp.com](http://bhp.com).

### Managing risk and opportunity

We recognise the physical and non-physical impacts of climate change may affect our assets, productivity, the markets in which we sell our products and the communities in which we operate. Risks related to the physical impacts of climate change include acute risks resulting from increased severity of extreme weather events and chronic risks resulting from longer term changes in climate patterns. Non-physical risks arise from a variety of policy, regulatory, legal, technological and market responses to the challenges posed by climate change and the transition to a lower carbon economy.

A broader discussion of our climate-related risk factors and risk management approach is provided in our Annual Report 2019, available online at [bhp.com](http://bhp.com).

### Adapting to the physical impacts of climate change

We take a risk-based approach to adapting to the physical impacts of climate change. We work with globally recognised agencies to obtain regional analyses of climate science to inform resilience planning at an asset level and improve our understanding of the potential climate vulnerabilities of our operations and communities in which we operate.

Our operations are required to build climate resilience into their activities through compliance with the *Our Requirements for Environment and Climate Change* standard. We also require new investments to assess and manage risks associated with the forecast physical impacts of climate change. As well as this ongoing business resilience planning, we continue to look at ways we can contribute to community and ecosystem resilience.

We recognise the body of scientific knowledge about the potential impacts of climate change is rapidly expanding and in FY2019, we commenced a review of our adaptation approach in light of the latest climate science.



### Evaluating the resilience of our portfolio

We consider the impacts of climate change in our strategy process. We recognise the world could respond in a number of different ways to address climate change. We use a broad range of scenarios to consider how divergent policy, technology, market and societal outcomes could impact our portfolio, including low plausibility, extreme shock events. We also continually monitor a range of data sources to identify climate change-related developments that would serve as a call to action for us to reassess the resilience of our portfolio.

Our investment evaluation process includes an assessment of non-quantifiable risks, such as those that could impact the people and environment that underpin our contribution to social value. The process has also incorporated market and sector-based carbon prices for more than a decade.

Our Climate Change: Portfolio Analysis (2015) and Climate Change: Portfolio Analysis – Views after Paris (2016) reports, which are available online at [bhp.com/climate](http://bhp.com/climate), describe in more detail how we have used scenario analysis to evaluate the resilience of our portfolio to an orderly and more rapid transition to a 2°C world. We will update our portfolio analysis in FY2020, evaluating the potential impacts of a broader range of scenarios, including a transition to well below 2°C.

We are committed to keeping our stakeholders informed of the potential impact of climate change on our business and continue to review and consider developing best practices and evolving stakeholder expectations.

### Engagement and disclosure

Our climate change strategy is supported by active engagement with our stakeholders, including investors, policymakers and non-governmental organisations, and with peer companies where appropriate.

We periodically hold one-on-one and group meetings with investors and their advisers to explain our approach to climate change. In FY2019, our climate-related investor engagement included meetings held in Australia, the United Kingdom, the Netherlands and the United States.

We also seek input and insight from external experts, such as the BHP Forum on Corporate Responsibility (FCR). The FCR, which is composed of civil society leaders and BHP executives, has played a critical role in the development of our position on climate change. During FY2019, the FCR met twice, with one of the meetings including discussion of the review of our climate change strategy.

Informed by this engagement, we regularly review our approach to climate change in response to emerging scientific knowledge, changes in global climate policy and regulation, developments in low emissions technologies and evolving stakeholder expectations.

### Climate-related financial disclosures

BHP was one of the first companies to align our disclosures with the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD). We believe the TCFD recommendations represent an important step towards establishing a widely accepted framework for climate-related financial risk disclosure and we have been a firm supporter of this work. Our Vice President of Sustainability and Climate Change, Dr Fiona Wild, is a member of the Task Force.

We are committed to continuing to work with the TCFD and our peers in the resources sector to support the wider adoption of the TCFD recommendations and the development of more effective disclosure practices within the sector.



For details of our TCFD-aligned disclosures on climate-related financial risk, refer to our Annual Report 2019, available online at [bhp.com](http://bhp.com).



# Water

**Access to safe, clean water is a basic human right and essential to maintaining healthy ecosystems. In this section, we disclose how we manage our water interactions and risks – from extraction to use and discharge. We also share our performance and how we are tracking against targets.**



## In this section:

[Water stewardship: a shared responsibility](#)  
[Our approach](#)  
[Water and risk at BHP](#)  
[Water governance](#)  
[Water performance](#)

**For our water data disclosures, see the Appendices:**

[BHP water sensitivity assessment](#)  
[Detailed significant water-related risks](#)  
[Performance data – water](#)  
[BHP asset-level water data summary](#)

# Water

Water is central to livelihoods, the health of the environment and the sustainability of our business. Without access to water, our business simply could not operate.

## Water stewardship: a shared responsibility

Water is a vital shared resource that is essential to life. Access to clean, safe water is a basic human right.

Communities, governments, business and civil society must work together so that fresh and marine water resources are conserved, become resilient and continue to support healthy communities and ecosystems, maintain cultural and spiritual values and sustain economic growth.

Water is integral to what we do and vital to the sustainability of our business. We cannot operate without it. We interact with water in a number of ways, including:

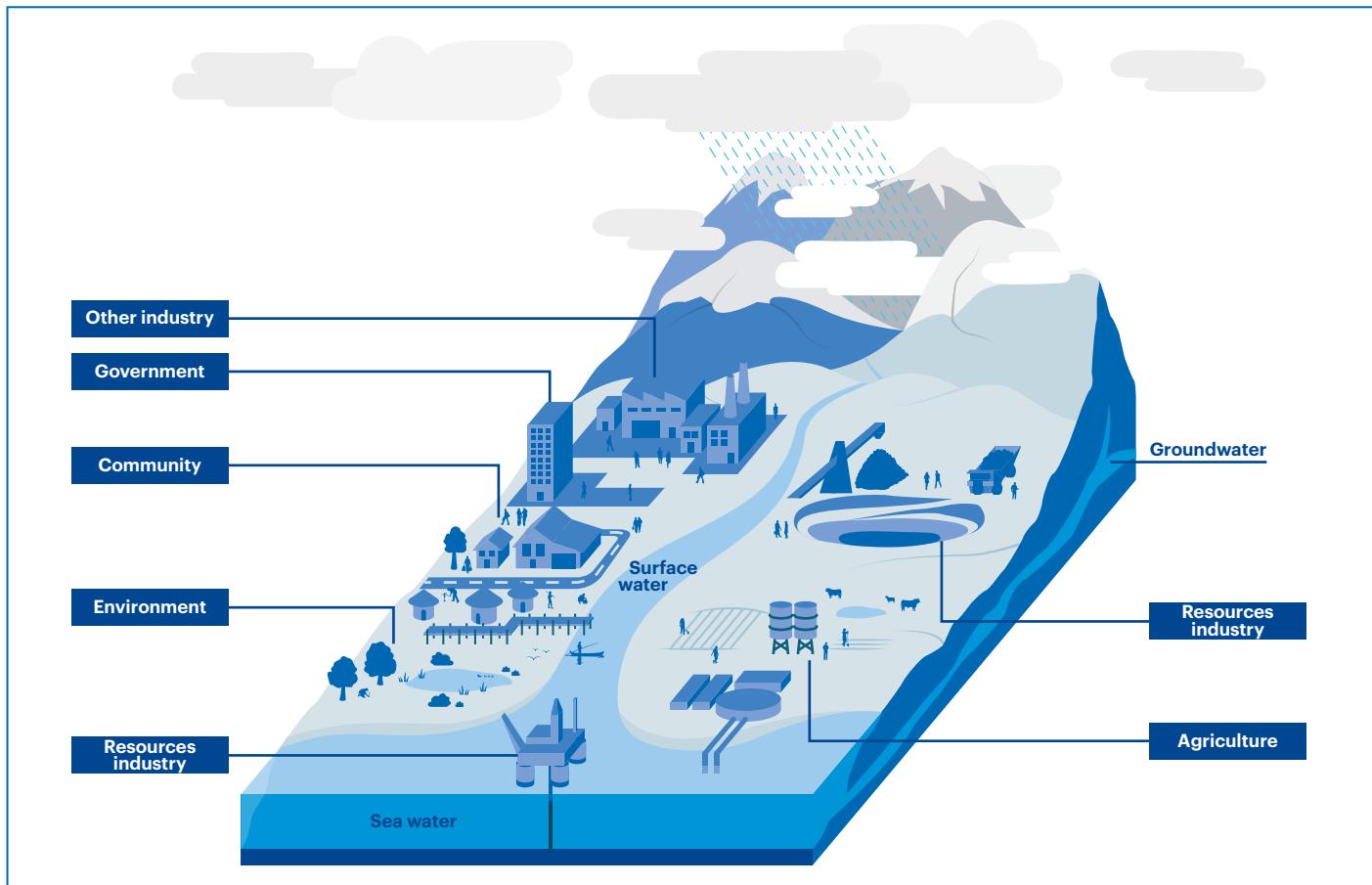
- extracting it for activities including ore processing, cooling, dust suppression and processing mine tailings;
- managing it to access ore through dewatering, as part of the oil recovery process and at our closed operations;
- providing drinking water and sanitation facilities;
- discharging it back to the receiving environment;
- interacting with marine water resources through our offshore Petroleum business and port facilities;
- utilising marine water for desalination.

→ For a more detailed example of how we interact with water, read our case study **Water stewardship at Olympic Dam** at [bhp.com/community/case-studies](http://bhp.com/community/case-studies).

We have a responsibility to effectively manage our interactions and minimise impacts on water resources. We also recognise the importance of working with others to enable more effective water governance and stewardship across the communities, regions and countries where we operate.

Effective water stewardship must begin within our operations. From there, we can more credibly collaborate with others toward solutions to shared water challenges.

Responsible water management will ultimately make our business more resilient in the long term and positively contribute to an enduring environment and social value.



### About this water section

We produced our inaugural Water Report in FY2018 to highlight our efforts and reflect water's importance to society and our business. For more information, refer to our Water Report 2018, available online at [bhp.com](http://bhp.com).

While our focus remains as strong as ever on disclosure of our water activities, we have brought our water reporting back into the context of a Sustainability Report to integrate all aspects of our sustainability approach.

This water section is based on the International Council on Mining and Metals (ICMM) 'A Practical Guide to Consistent Water Reporting' minimum disclosure standard. For more information on how this section meets this standard, refer to our 2019 Sustainability Reporting Navigator, available online at [bhp.com](http://bhp.com).

This section has also taken account of other disclosure frameworks, such as the United Nations (UN) Global Compact's CEO Water Mandate (CEO Water Mandate), the G4 Global Reporting Initiative, and the Carbon Disclosure Project Water disclosure requirements and serves as BHP's annual Communication of Progress against the core elements of the CEO Water Mandate.

### Our approach

We have reported our water withdrawals and discharges, and had water-specific public targets in place for more than 15 years. While water stewardship is not new for us, we can do more.

Our Water Stewardship Strategy was adopted in FY2017 to improve our management of water, increase transparency and contribute to the resolution of shared water challenges.

Complementing our Water Stewardship Strategy are our public target and longer term goal, established in FY2017. Our five-year water target seeks to reduce FY2022 freshwater withdrawal<sup>(1)</sup> by 15 per cent from FY2017<sup>(2)</sup> levels. Our longer term goal is to collaborate to enable integrated water resource management in all catchments where we operate by FY2030 (in support of the UN Sustainable Development Goal 6).

Progress against our Water Stewardship Strategy, target and goal is reported in the **Our water performance** section.

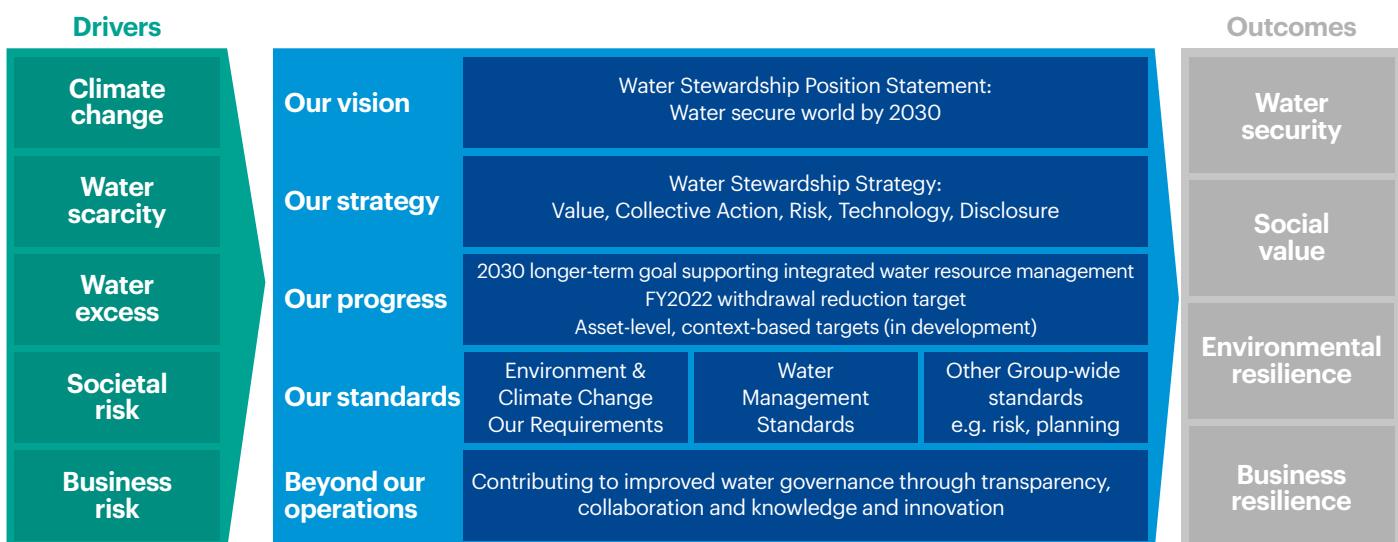
In FY2019, we developed our Water Stewardship Position Statement that expresses BHP's commitment to, and advocacy for water stewardship. The Position Statement will be implemented from FY2020. It outlines our vision for a water-secure world by 2030. The Statement was developed following broad internal and external engagement and is aligned to the UN Sustainable Development Goals and other initiatives. It describes the challenges facing fresh and marine waters across the globe and reinforces that it is everyone's responsibility take action together. Our approach to realising this vision includes taking action to enhance water management within our business and catalyse actions to strengthen water governance beyond our operations.

Aligned to this vision, we will set additional asset-based and regionally specific water targets. These targets will seek to improve our water management and support shared approaches to address water challenges within the regions in which we operate.

Beyond our operations, we will work with others on a shared approach to effective water governance. Our priorities will be around transparency, collaboration, and knowledge and innovation.

For more information, refer to the **Next steps** section.

### BHP's approach to Water Stewardship



(1) Where 'withdrawal' is defined as water withdrawn and intended for use (in accordance with 'A Practical Guide to Consistent Water Reporting', ICMM (2017)). 'Freshwater' is defined as waters other than sea water, waste water from third parties and hypersaline ground water. Freshwater withdrawal also excludes entrained water that would not be available for other uses. These exclusions have been made to align with the target's intent to reduce the use of freshwater sources subject to competition from other users or the environment.

(2) The FY2017 baseline data has been adjusted to account for: the materiality of the strike affecting water withdrawals at Escondida in FY2017 and improvements to water balance methodologies at WAIQ and Queensland Coal. Discontinued operations (US Onshore assets) have been excluded.

## BHP Water Stewardship Position Statement

<b>Our water stewardship vision</b> A 'water secure' world by 2030	<p><b>Now is the time for us all to think big and take action to tackle the challenges facing water.</b> Fresh and marine waters on which the environment, communities and livelihoods depend are under increasing pressure, especially from climate change, pollution and population growth.</p> <p><b>BHP's vision is for a 'water secure' world by 2030</b>, an aim consistent with the United Nations Sustainable Development Goals. A world where water resources are conserved and resilient so they can continue to support healthy ecosystems, maintain cultural and spiritual values and sustain economic growth. A world where the human right to safe and accessible water and the traditional rights of Indigenous peoples are realised and upheld. A world where water governance is effective and beneficial, ensuring communities and ecosystems thrive for future generations.</p> <p><b>To make this vision a reality, we all have a role to play.</b></p>
<b>Our water stewardship commitment</b> Realising the vision within our operations	<p><b>Within our operations, BHP commits to realising our 2030 vision by setting public, context-based, business-level targets that will aim to both improve our management of water and support shared approaches to water management within the regions where we operate.</b> Our Water Stewardship Strategy will underpin these targets, across the life cycle of our operations:</p> <ul style="list-style-type: none"> <li>• <b>Value</b> – Effectively value the social, environmental and economic dimensions of water in our decision-making.</li> <li>• <b>Risk</b> – Embed processes and systems to manage water-related risks and realise opportunities in the short and longer term.</li> <li>• <b>Disclosure</b> – Transparently disclose water-related risks, management and performance at an asset level.</li> <li>• <b>Collective action</b> – Work with stakeholders within the regions where we operate to support shared approaches to water management.</li> <li>• <b>Technology</b> – Leverage technology solutions that drive a step-change reduction in water-related risks, realise opportunities and deliver multiple benefits.</li> </ul> <p>We commit to listening and learning from others to better understand and continuously improve our approach to water stewardship. We will share our learnings and engage with our suppliers, customers and non-operated asset partners on their journeys towards water stewardship.</p>
<b>Our water stewardship contribution</b> Realising the vision beyond our operations	<p><b>Beyond our operations, BHP will contribute to realising our 2030 vision by engaging across communities, government, business and civil society with the aim of catalysing actions to improve water governance, increase recognition of water's diverse values and advance sustainable solutions.</b></p> <p><b>We will work with others to make regional, national and international progress towards addressing shared water challenges by focusing on the following priority areas of action:</b></p> <ul style="list-style-type: none"> <li>• <b>Transparency</b> – Enhancing the collection and meaningful reporting of water use and performance data by all users is fundamental to effective governance of water resources.</li> <li>• <b>Collaboration</b> – Enabling inclusive water governance is essential to delivering outcomes that reflect water's shared spiritual, cultural, recreational, ecological and economic values.</li> <li>• <b>Knowledge and innovation</b> – Expanding knowledge of water issues and opportunities and supporting solutions-driven collaborations are crucial to accelerating policy-, nature- and technology-based innovations.</li> </ul>

### Water and risk at BHP

BHP's strategy means we must plan our water use and interactions for the long term. We need to consider both our operational needs and the potential for regional changes to water resources due to climate change, pollution, population growth and changing expectations.

As part of our risk management processes, our assets and functions are required to assess and manage the potential water-related risks from their activities. Our Water Stewardship Strategy has been progressing a range of improvements in relation to water-related risk management.

#### BHP and water sensitivity

The management of water-related risks needs to reflect the different settings in which we work. These include the physical environment, hydrological systems and socio-political and regulatory contexts. Risk management must also take into account the interactions that we and others have with water resources.

To better understand the water-related risks for our business at a portfolio level, BHP has assessed the water sensitivity of the locations in which we operate.

We define water sensitivity as the degree (high, moderate or low) to which a region is sensitive to a range of water-influencing factors. This assessment is primarily qualitative.

The factors we assess are:

**Climate:** Different climatic conditions influence the availability of water and the way in which water interacts with the physical environment. We operate in a range of climate zones.

**BHP water source interactions:** The water resources we extract from and discharge to vary across each asset and influence the exposure we have to particular water resources (i.e. surface, ground or marine water resources).

**Competition for resources:** Most of our assets share water resources with others, including communities, agriculture, industry and the natural environment. As a result, we consider a number of factors, including stakeholder concerns and expectations, cumulative impacts and the extent to which the resource is shared with communities and the environment. We apply baseline water stress (using World Resources Institute categories) to inform the sensitivity of the water resource to competition by evaluating the total withdrawal from the resource compared to the total water resource available. A higher ratio indicates more potential for competition and thus the risk of higher stress.

**Sustainability of water resource:** Water resources have hydrological properties, such as the inherent quality and sustainable quantity of the water resource required to maintain the resource itself, and the dependent environmental and social values. Understanding water resource sustainability and the tolerance to climatic and other changes is essential to effectively manage the impacts to and from BHP. This is the first year we have included this category.

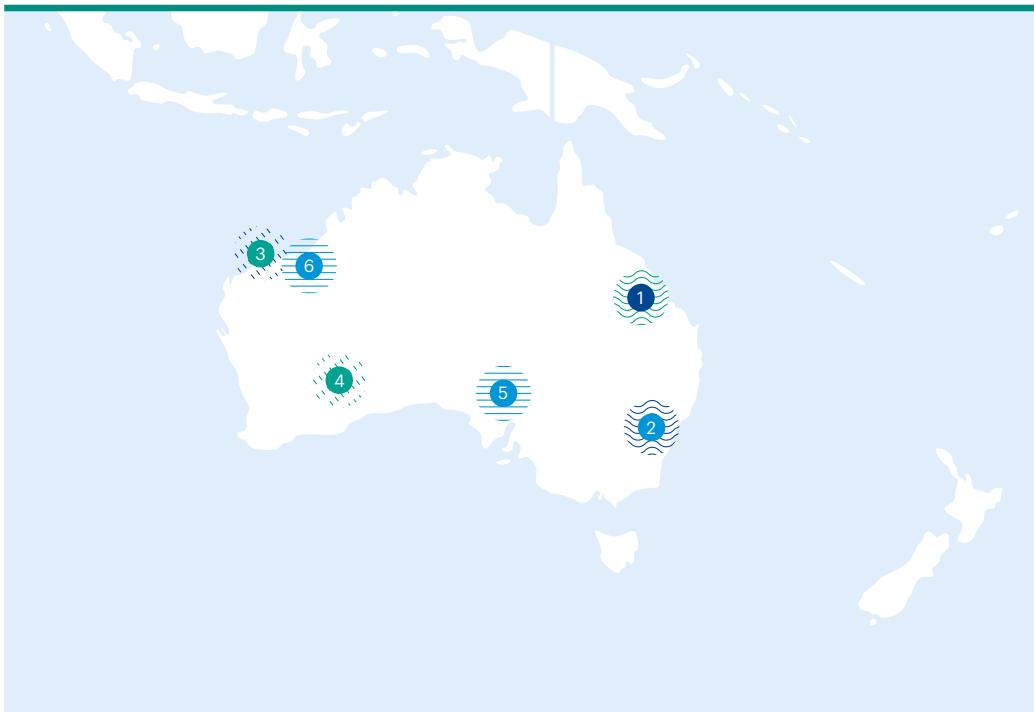
**Regulation:** The regions in which we operate have reasonably mature regulatory systems for water extraction, use and discharge. Typically, our licences prescribe the quantity of water we are permitted to extract during a defined period and the quantity and quality of water discharged.

For a detailed summary of our water sensitivity assessments for each asset and the catchment in which they are located, refer to the **BHP Water sensitivity assessment** in the Appendix. It is estimated that 64 per cent of our assets are operating in areas of moderate-to-high water sensitivity. We have seen an increase in water sensitivity at our Queensland Coal assets compared to FY2018. This is due to an increased focus by stakeholders and regulators in relation to water interactions in the region more broadly.

Escondida and Pampa Norte also rate as having high water sensitivity due to the extremely dry and remote locations of these operations. Groundwater resources in these regions are limited and highly significant to both the environment and local communities, including Indigenous peoples. Given the different operating contexts in the United States and Canada, this year we have split out our North American legacy assets assessment in the **BHP Water sensitivity assessment** in the Appendix, to provide more granularity.

### Water sensitivity across BHP assets

#### Australia



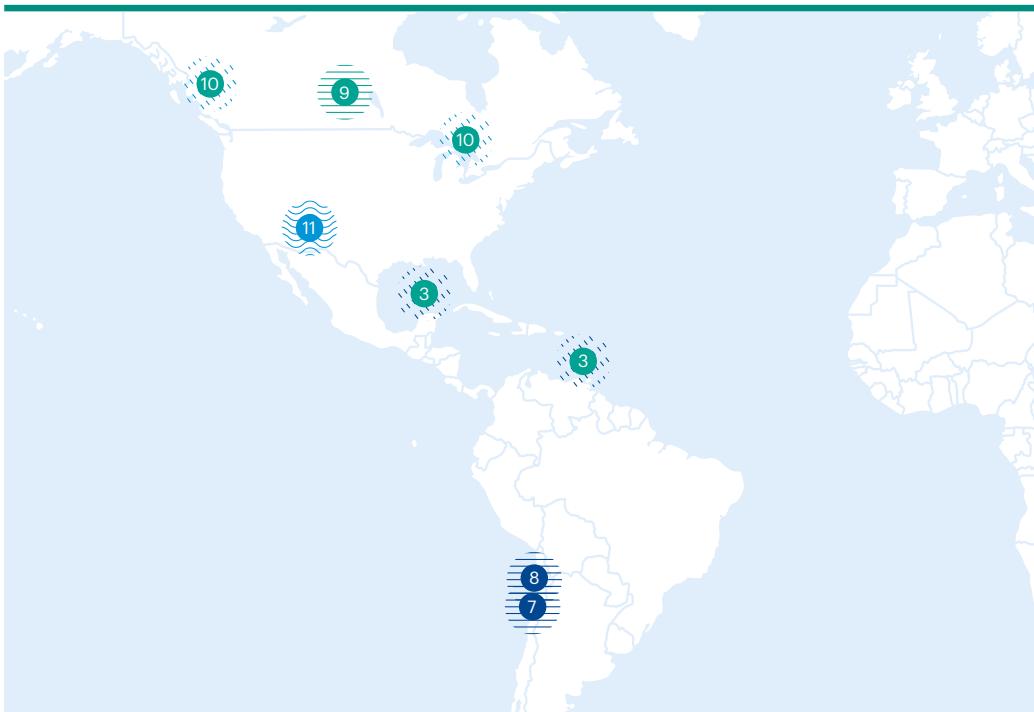
#### Asset or Region

1. Queensland Coal (BMA/BMC)
2. NSW Energy Coal
3. Petroleum
4. Nickel West
5. Olympic Dam
6. Western Australia Iron Ore
7. Escondida
8. Pampa Norte
9. Potash
10. Legacy assets Canada
11. Legacy assets United States

#### Catchment Level Sensitivity (BHP Assessed)

- High
- Moderate
- Low

#### Canada, North America and South America



#### Climate zone<sup>(1)(2)</sup>

- |  |                                    |
|--|------------------------------------|
|  | Warm temperate humid, hot          |
|  | Warm temperate humid, cool         |
|  | Warm temperate to arid             |
|  | Warm temperate steepe, hot         |
|  | Subtropical to tropical (offshore) |
|  | Boreal to warm temperate           |
|  | Cold humid, seasonal extremes      |
|  | Arid, cold desert                  |
|  | Arid, hot desert                   |

(1) In accordance with Köppen-Geiger climate classification terminology.

(2) Climate zones are one element, but not all, that contribute to our assessment of water sensitivity (BHP assessed). Refer to the appendix BHP Water sensitivity assessment for further details.

### Our water-related risks

Our water-related risks are influenced by the water sensitivity in the regions where we operate. Water-related risk management is conducted according to BHP's Risk Framework. For information on risk management, refer to the **Managing risk** section.

Each risk has the potential to impact:

- the health and safety of our employees, contractors and community members;
- communities, including social and economic viability, as well as spiritual and cultural values;
- environmental resources, including water, land and biodiversity;
- legal and regulatory compliance;
- reputation;
- production and financial outcomes.

A more detailed description of BHP's significant water-related risks, their potential impacts and the controls BHP employs to manage these risks is included in the **Detailed significant water-related risks** in the Appendix.

The significant water-related risks across our assets are summarised in the table below. This year, we have classified the significance of BHP's water-related risks as follows:

- Tier 1: Water-related risks that may have significant consequences, in the absence of controls;
- Tier 2: Water-related risks that are still important, but may have lower consequences, in the absence of controls or are still emerging risks;
- n/a – Risk that is not applicable at that asset.

Given this assessment has not taken into account the effectiveness of controls to manage these risks, the table should be read as a hypothetical representation of the worst-case potential risk.

### Significant water-related risks across BHP assets

Risk area	Escondida	Nickel West	North American legacy assets	NSW Energy Coal	Olympic Dam	Pampa Norte	Petroleum	Queensland Coal (BMA)	Queensland Coal (BMC)	WAIO
Catchment level	1	1	1	1	1	1	n/a	1	1	1
Climate change	2	2	2	2	2	2	2	2	2	2
Closure <sup>(1)</sup>	2	2	1	2	2	2	1	2	2	1 <sup>(2)</sup>
Compliance	1	1	1	1	1	1	1	1	1	1
Dewatering <sup>(3)</sup>	1	2	n/a	2	2	1	n/a	2	2	1
Extreme weather	1	2	2	2	2	1	1	1	1	1
Marine	1	2	2	n/a	n/a	n/a	1	1	1	2
Tailings	1	1	1	1	1	n/a	n/a	1	1	1
Water access sanitation and hygiene	1	1	1	2	1	1	1	1	2	1
Water infrastructure	1	1	2	2	1	1	2	1	1	2
Water quality	2	2	1	2	1	2	2	1	1	2
Water security	1	2	n/a	2	2	1	n/a	1	2	2

1 – Tier 1

2 – Tier 2

n/a – not applicable

(1) This rating does not include water-related risks associated with current operations facilities that may emerge at closure.

(2) For closure, the WAIO asset assessment includes the Beenup and Newcastle legacy assets that are currently managed by WAIO.

(3) The removal or drainage of water from rock, soil or tailings.

### Examples of significant water-related risks

#### Catchment-level risk

Catchment risk has been classified as Tier 1 across all mining assets as the nature of these operations coupled with their physical context means there is the potential to significantly impact water resources and related environmental and/or social values. This may arise either as a result of direct impacts from BHP's operations or cumulative impacts arising from our activities combined with those of others within a region.

For example, our Western Australia Iron Ore (WAIO) operations in the Pilbara region of Western Australia are located alongside other mining companies' operations. The cumulative effect of combined activities has the potential to impact aquifers of groundwater that support local ecosystems and have important spiritual and cultural significance for Indigenous communities.

To better understand potential impacts, WAIO conducted a strategic environmental assessment that took a regional approach. A key element of the assessment was to understand the potential cumulative impacts and management strategies associated with surface water and groundwater. An analysis was undertaken to identify key, water-dependent environmental assets within the upper Fortescue River catchment.

This innovative approach has allowed WAIO to develop proactive, outcome-based management actions to cumulative-impact risks. These actions now inform short and long-term mine planning to avoid and minimise impacts to water-dependent environments.

Escondida's operations have the potential to impact the cultural and spiritual values associated with local water resources. In 2017, Escondida ceased its operational extraction from one of the main local aquifers, Salar de Punta Negra. In line with our sustainability principles and to perform a transition to a fully desalinated water supply, by 2020, Escondida has committed to reduce the water extraction from the aquifer underlying the Monturaqui wellfield by approximately 70 per cent, and to cease all groundwater extractions for its operation by 2030. Planning for this gradual decrease in extractions is taking place in close consultation with the Lickanantay Indigenous communities. Escondida's desalination plant is now in operation, supporting this transition away from regional groundwater aquifers.

#### Extreme weather risk

A number of our assets are already managing extreme weather risks. These risks have been identified as Tier 1 at WAIO (cyclones), Escondida (extreme precipitation events), Pampa Norte (extreme precipitation events), Queensland Coal (extreme rainfall and cyclones) and Petroleum (cyclones).

The climate at our Queensland Coal operations is characterised by wet season rainfall, which includes tropical cyclone events that produce most of the annual rainfall and a dry season during which little rainfall occurs.

Mine-affected water (MAW) is one of the key water risks for Queensland Coal. MAW is rainfall runoff from active mining areas and other water that has been used in the mining process. MAW is typically stored in mine pits and dams. Over time, this water may become more saline due to evaporation or it may have increased suspended solids due to wash down or erosion from surrounding mining activity. MAW is used for dust suppression and coal washing. Too little MAW may limit production. Similarly, excess water in operational pits may obstruct access and limit production.

Water management activities aim for the balance between too much and too little water on each site. This allows sufficient storage for runoff from rainfall events, while not impacting production and not allowing unauthorised site discharge of MAW. Discharge of MAW needs to be managed in accordance with licence conditions, which in some cases may require treatment of MAW prior to discharge. Appropriate management will minimise out-of-season flow in ephemeral creeks and rivers, which has the potential (if not controlled) to increase sediment and salt loads.

Due to a series of extreme rainfall events, excess water management is central to Queensland Coal's operating strategy. Some BMA sites still hold excess water after the 2011 and 2013 floods and cyclone Debbie in 2017. One way of managing this is to move MAW from sites with water excess to sites that have too little water. An additional control is to avoid the accumulation of additional water from excess rainfall events. BHP undertakes detailed studies on an ongoing basis that assess the benefit and cost of various options to manage excess water.

In addition, ongoing modelling and simulations are used to estimate flood risk. These estimations inform appropriate flood risk mitigation activities, which include construction of flood levees and preparation of emergency evacuation plans.

Climate change presents an emerging risk for all BHP assets which is why it is currently rated as Tier 2 for all assets. It is expected to heighten existing risks, such as these extreme weather risks and introduce new ones.



### Marine risk

From a marine perspective, key risk events include, for our petroleum assets, loss of containment of hydrocarbons and for our mineral assets, desalination facilities that discharge high salinity water in low volumes; port operations located in proximity to communities and/or key marine areas; and other potentially uncontrolled operational discharges.

A catastrophic hydrocarbon (oil) loss of containment from an offshore facility into the marine environment is a major incident event with the potential for serious environmental and social impacts. A number of controls are in place to manage this risk to as low as reasonably practical. These include:

- pressure relief systems, engineering design specifications, passive protection and bunding, treatment and collection systems and continuous monitoring during operations;
- use of management controls, such as job risk assessment, management of change process, on the job assessments, toolbox talks and emergency preparedness plans and drills;
- oil plume modelling to inform potential impacts and controls to minimise impacts;
- operational procedures that include performance standards for critical equipment and maintenance activities, inspections and audits, and testing of emergency systems.

### Water access, sanitation and hygiene risk

Water access, sanitation and hygiene is a Tier 1 risk at all assets where drinking water and sanitation facilities are provided for the workforce and/or communities.

For example, WAIO provides drinking water to the community of Newman, five operational mining areas and one closed mine, and supplements supply to its port and rail assets. Therefore, management of this water is critical to our operations and surrounding communities. To manage this risk, WAIO adopts a management system approach based on ISO 9001, which integrates World Health Organisation and the Australian Drinking Water Guidelines requirements, as well as a number of international standards to enable a holistic approach to drinking water safety and infrastructure management.



### Value chain risk

Water-related risks can indirectly affect operations via our value chain, from supply to operations to customers. For example, floods in one part of the world may affect supplies of a critical input or item of equipment necessary to sustain our operations. Additionally, tightening regulation around water discharges in a particular country or region may constrain our customers' manufacturing operations. This may have flow on effects to our ability to sell certain commodities.

Following a high-level assessment of our value chain risk undertaken in FY2018, we identified a concentration of suppliers and customers in China. In FY2019, we began a more detailed assessment of value chain water-related risks in this region, which will further our understanding of opportunities to work with suppliers and customers to better manage water-related risks.

### Non-operated assets

For information on BHP's interests in companies and joint ventures that we do not operate and how we engage with them around sustainable development, refer to the **Sustainability at our non-operated minerals joint ventures and petroleum non-operated assets** section.

### Petroleum non-operated assets

In our current petroleum non-operated assets, we have processes in place to identify and manage risks within the rights afforded by the respective joint operating agreements. An example is in Bass Strait, offshore Victoria, Australia, where a number of water-related risks are being monitored by the operator as part of our joint venture arrangement. These include risks associated with per-fluoroalkyl and poly-fluoroalkyl substances, non-aqueous phase contamination and oil-in-water metering.

### Non-operated minerals joint ventures

Water stewardship is as vital for our non-operated joint ventures (NOJVs) as for our operated assets. We have actively engaged with our NOJVs to better understand their water-related requirements. For example, we have worked with Antamina and its shareholders to secure their commitment to align with ICMM sustainability principles. In addition, Cerrejón is implementing a water management approach focused on efficient use of water and a basins-based approach. It is also increasing stakeholder engagement to better understand the needs and concerns of local communities. For more information, refer to [cerrejon.com](http://cerrejon.com).

### Risk management can create opportunities

Effective water-related risk management can contribute to long-term business, social and environmental benefits, such as:

- increased productivity;
- improved community benefits;
- improved water disclosure and governance;
- reputational benefits;
- increased business opportunities;
- reduced liabilities and long-term legacy issues;
- increased long-term business resilience.

An example of an opportunity from effective risk management is how our WAIO operations manage dewatering. Dewatering at WAIO produces more water than is required for mining activities. This surplus water is a valuable resource and WAIO's preference is to implement a controlled return of this water to aquifers through a managed aquifer recharge process. This approach has a number of benefits. It preserves the water resource for future use by BHP or other parties, minimises our environmental footprint and places less impact on the cultural heritage values of the surrounding landscape, which is an important consideration for Traditional Owners.

BHP's Water Stewardship Strategy seeks to leverage technology solutions to significantly reduce water-related impacts and deliver benefits beyond our operations.

We have initiated a global review of emerging and potentially new technology, which could provide solutions within the themes of water treatment and water recovery. Some examples include:

- Olympic Dam tailings decant water treatment for reuse and to partially offset Great Artesian Basin supply;
- Escondida tailings dam water recovery/treatment for reuse;
- Queensland Coal mine affected water treatment for reuse or discharge.

### Water governance

We have a range of core business processes, requirements and guidance materials that apply to our management of water at Group and operational levels. These include:

- our corporate planning, scenario, strategy and investment evaluation processes;
- standards such as *Our Requirements* and other Group-wide standards, including those on risk management, environment and climate change, closure, human rights, community and stakeholder engagement;
- technical water management standards.

For more information, refer to **Our sustainability approach** section.

BHP has established cross-functional teams to implement our approach to water stewardship at Group and regional levels. These teams include representatives from Planning; Engineering; Strategy; Health, Safety and Environment; Community; Corporate Affairs; Operations; Risk; and Legal.

### Water accounting

We have publicly reported our water withdrawals and discharges for more than 15 years, since the establishment of the Minerals Council of Australia's Water Accounting Framework (WAF) Input-Output Model.

We transitioned our reporting in FY2019 to align with the ICMM 'A Practical Guide to Consistent Water Reporting' (ICMM Guidelines), an international accounting framework for our sector.

Although the ICMM Guidelines are in general alignment with the WAF and the basic reporting requirements of the Global Reporting Initiative, alignment to the ICMM Guidelines has resulted in some changes to the way we now report water data.

A key change relates to the terminology we use. We now describe our water inputs as water withdrawals and what we previously referred to as water outputs is now referred to as water consumption or water discharges.

We report our water withdrawals (water intended for use by the site or operational facility) by source and water discharges and consumption (water used by the site or operational facility) by receiving body.

During FY2019, BHP continued to focus on improving the robustness of water data in line with the ICMM Guidelines.

### Glossary: ICMM water reporting terms used by BHP

Term	Description
<b>Withdrawal</b>	The volume of water received by the site or operational facility from the water environment and/or a third party supplier.
<b>Discharge</b>	The volume of water removed from the site or operational facility to the water environment and/or a third party supplier.
<b>Consumption</b>	The volume of water used by the site or operational facility and not returned to the water environment or a third party.
<b>Diversion</b>	Water actively managed by a site or operational facility but not used for any operational purposes. Diversions are reported as both withdrawals and discharges and may include: <ul style="list-style-type: none"> <li>• flood waters that are discharged to an external surface water body;</li> <li>• dewatering volumes produced by aquifer interception that are reinjected to groundwater or discharged to surface water.</li> </ul>
<b>Water quality – Type 1</b>	Water of high quality that would require minimal (if any) treatment to meet drinking water standards.
<b>Water quality – Type 2</b>	Water of medium quality that would require moderate treatment to meet drinking water standards (it may have a high salinity threshold of no higher than 5,000 milligrams per litre Total Dissolved Solids and other individual constituents).
<b>Water quality – Type 3</b>	Water of low quality that would require significant treatment to meet drinking water standards. It may have individual constituents with high values of Total Dissolved Solids, elevated levels of metals or extreme levels of pH. This type of water also includes sea water.

BHP has continued to group water quality into three categories in line with the WAF as this provides more granularity. Type 1 and Type 2 equate to high-quality water, while Type 3 equates to low-quality water under the ICMM Guidelines.

## Water performance

### Progress on our Water Stewardship Strategy

Strategy pillar	What we did in FY2019
<b>Risk</b>	<p>Embed processes and systems to effectively manage water-related risk and realise opportunities at a catchment level in the short and longer term.</p> <p>We issued an internal Water Management Standard that set mandatory requirements for water-related risk management, planning and review. This standard will help to ensure consistency across all operations, while accommodating regional context.</p> <p>We developed two internal global water standards to improve our approach to drinking water and water data management processes.</p> <p>All three standards form part of BHP's 'three lines of defence' model of risk governance and management. The business is currently progressing towards compliance with these standards.</p> <p>We reviewed priority water-related risks, undertook a review of the robustness of our water-related data and commenced the integration of long-term water strategy in standard planning practices for all assets.</p> <p>We identified actions to improve our understanding of risks within the catchments in which we operate, taking account of environmental, community and third party interactions.</p>
<b>Technology</b>	<p>Leverage technology solutions that drive a step-change reduction in water-related risks, realise opportunities and deliver multiple benefits.</p> <p>We continued to progress our technology road map and reviewed technologies available for water recovery from tailings, water data management systems and water treatment options.</p>
<b>Value</b>	<p>Effectively value water in investment and operational decisions through integration into strategy, planning and evaluation frameworks.</p> <p>We collaborated with the Columbia University Water Center (in the United States) to explore approaches to water valuation through a retrospective case study of our Escondida desalination decision. A synthesis report of the findings can be viewed at <a href="http://www.water.columbia.edu/research-themes/risk-and-financial-instruments/risk-based-water-valuation-for-mining-companies/">www.water.columbia.edu/research-themes/risk-and-financial-instruments/risk-based-water-valuation-for-mining-companies/</a>.</p>
<b>Disclosure</b>	<p>Transparently disclose water-related risks, management and performance at an asset level.</p> <p>We sought feedback from investors, NGOs and other stakeholders on our first Water Report and have sought to reflect and build on that feedback in this Report.</p> <p>We transitioned our water reporting to align with the ICMM Guidelines.</p>
<b>Collective action</b>	<p>Collaborate with stakeholders to improve regional water policy and catchment governance and address shared water challenges within our communities and across our value chain.</p> <p>We have developed a Water Stewardship Position Statement following broad engagement with external stakeholders.</p> <p>We have continued to collaborate with the CEO Water Mandate, including supporting an initiative to harmonise water accounting.</p> <p>We developed internal guidance on collective actions and participated in collective action initiatives across our portfolio to address shared water risks.</p>

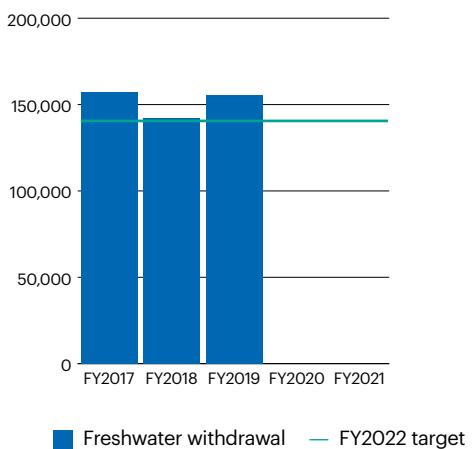
### Our water target and goal

In FY2017, we announced a new five-year Group-wide water target and longer term goal. The five-year target is to reduce FY2022 freshwater withdrawal<sup>(1)</sup> by 15 per cent from FY2017<sup>(2)</sup> levels. The target was developed taking account of each asset's circumstances and focused on the use of freshwater as it is generally the most important water resource for communities and the environment.

Our longer term goal is to collaborate to enable integrated water resource management in all catchments where we operate by FY2030. It is aligned to the United Nations Sustainable Development Goal 6 that seeks to 'ensure availability and sustainable management of water and sanitation for all'.

**Performance against freshwater withdrawal reduction target**  
 Freshwater withdrawal increased 9 per cent in FY2019 compared to FY2018. However, overall we remain on track to attain the 15 per cent reduction target by FY2022, with FY2019 withdrawals 1 per cent below the FY2017 adjusted baseline, as shown on the right. Continued improvements in data quality and understanding, particularly at WAIO and our Queensland Coal assets, resulted in data changes that required restatements to FY2017 data which form part of the FY2017 baseline. Reductions in freshwater continued as a result of increased throughput of the desalination plant at Escondida and the subsequent reduced reliance on the region's aquifers. The most material increase in water withdrawal was at WAIO, due to increases in production and water required for dust suppression and ore processing.

### Performance against freshwater withdrawal reduction target megalitres



All data excludes Discontinued operations (Onshore US).

### Performance against our longer term goal

Much of our initial collective action work is directed at supporting local integrated water resource management (IWRM) initiatives. During FY2019, we commenced the development of guidance on how to approach collective action in support of IWRM. Effective disclosure is fundamental to the success of IWRM initiatives and we have continued to collaborate with the CEO Water Mandate to support harmonisation of water accounting standards. We see this as a critical step to enhancing transparency and collaboration across all sectors for improved water governance. In line with our Water Stewardship Position Statement, we anticipate releasing the initial set of context-based, business-level targets by FY2022.



(1) Where 'withdrawal' is defined as water withdrawn and intended for use (in accordance with 'A Practical Guide to Consistent Water Reporting', ICMM (2017)). 'Freshwater' is defined as waters other than sea water, waste water from third parties and hypersaline ground water. Freshwater withdrawal also excludes entrained water that would not be available for other uses. These exclusions have been made to align with the target's intent to reduce the use of freshwater sources subject to competition from other users or the environment.

(2) The FY2017 baseline data has been adjusted to account for: the materiality of the strike affecting water withdrawals at Escondida in FY2017 and improvements to water balance methodologies at WAIO and Queensland Coal in FY2019. Discontinued operations (Onshore US assets) have been excluded.

### Water performance summary

The below summarises BHP's global water performance for FY2019.

For a Group-wide, year-on-year comparison of our water data, refer to **Performance data – Environment** and **Performance data – Water** appendices. For asset-level performance for FY2019, refer to the **BHP asset-level water data summary** appendix.

It should be noted that for all water performance data presented in this section, Discontinued operations (Onshore US assets) have been excluded.

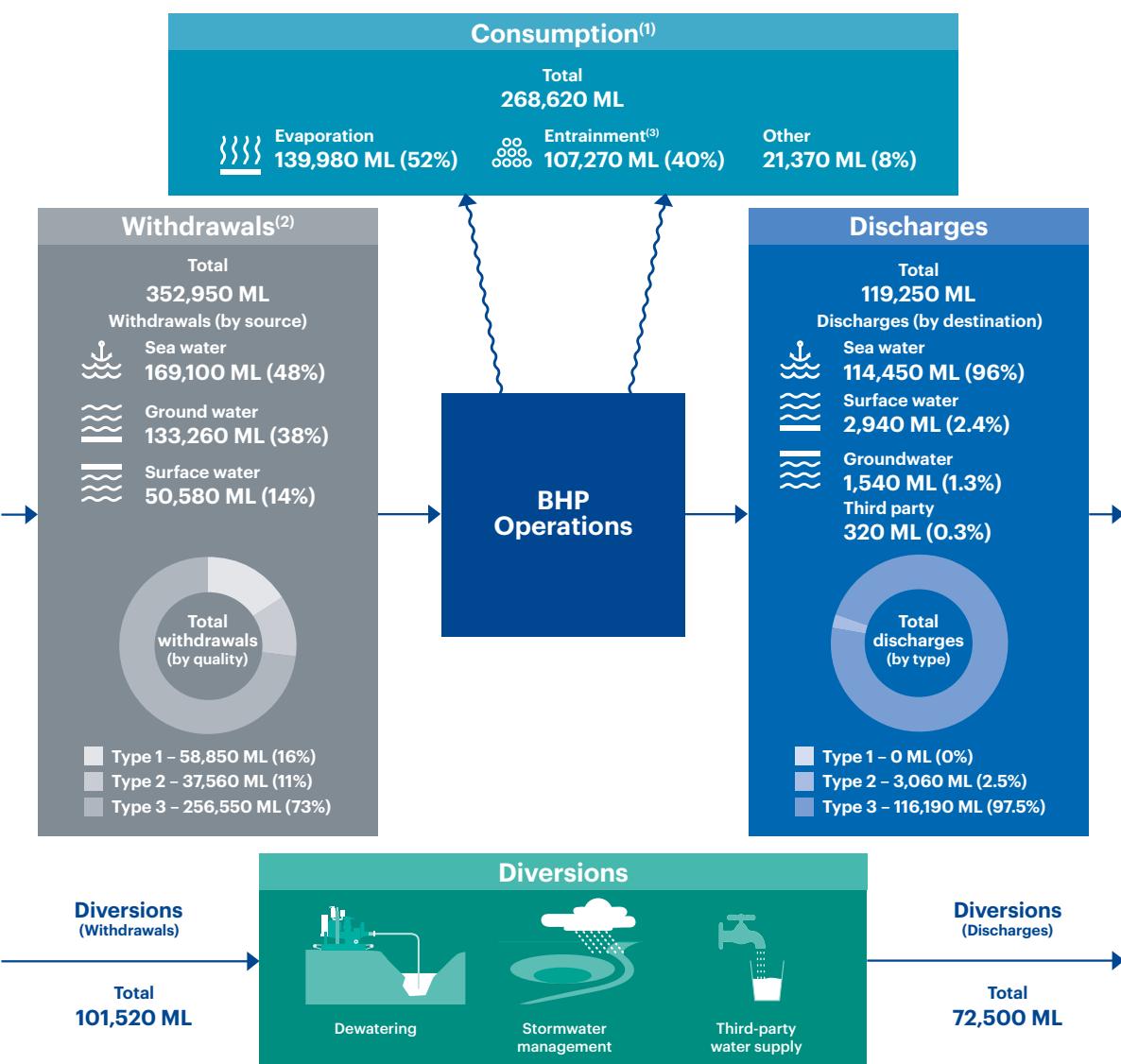
Sea water continues to be our largest source of water withdrawn, representing close to half of total withdrawals, influenced largely by desalination at Escondida. Groundwater is our next most significant withdrawal, at over one-third of total withdrawals, driven by WAIO and Escondida. Surface water withdrawals, largely influenced by rainfall, are primarily driven by our Queensland coal assets. Where possible, we seek to use lower-quality water with

over 80 per cent of our withdrawals being either Type 2 or Type 3 water quality.

This is the first year we have reported consumption (these data were previously captured in output, now termed discharge, data). Evaporation and entrainment<sup>(3)</sup> data, account for the majority of consumed water.

Over 80 per cent of our assets measure elements of their withdrawal and discharge volumes. We simulate or estimate elements, such as evaporation and entrainment volumes, as these are challenging to measure and vary over time due to seasonal and product variability. Estimation is also used in some instances (e.g. for runoff at Queensland coal) for quality categorisation.

During FY2019, BHP continued to improve our water data from both a volume and quality categorisation perspective. We also released an internal Group-wide water data standard. As a result, we expect our water reporting to continue to strengthen.



(1) Evaporation and entrainment, previously reported as water outputs under the WAF, have been reported under consumption to align with the ICMM Guidelines.

(2) Includes rainfall and runoff volumes captured and used during the reporting year; rainfall and runoff volumes that have been captured and stored are excluded and will be reported in the future year of use.

(3) Entrainment includes water incorporated into product and/or waste streams, such as tailings, that cannot be easily recovered.

### Next steps

During FY2019, we continued to work on our Water Stewardship Strategy. Significant milestones included the development of our Water Stewardship Position Statement and Group-wide technical standards.

Water stewardship will enter a new phase of implementation in FY2020; firstly, within our businesses, as we embed enhancements to risk management and then more broadly, as we seek to establish additional collaborations to move towards our vision of water security for all.

We will build on our current public targets with the development of context-based, business-level water targets. The development of these targets will vary across our assets, as we consider both the nature of our interactions with water and the shared water challenges within each region.

We anticipate releasing an initial set of context-based, business-level water targets by FY2022.

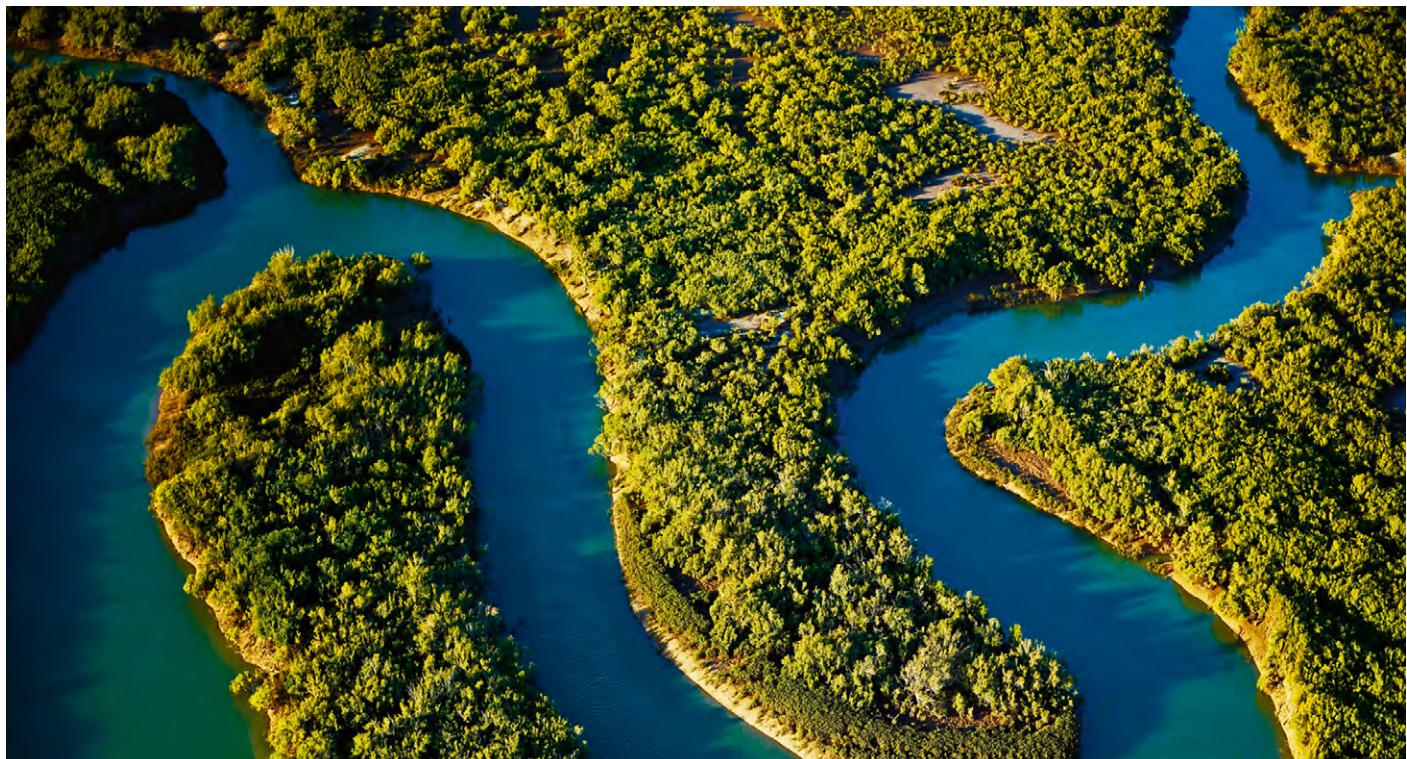


Image: 'The Pilbara Project'. Photograph by Peter Eastway 2001.



# Society

We are committed to developing and strengthening relationships with communities based on respect, honesty and trust.

Our collaborative approach to building meaningful and sustainable partnerships lays the foundation for social value and delivers a positive contribution to the quality of life and resilience of communities where we have a presence.



## In this section:

- Working with communities
- Respecting human rights
- Indigenous peoples

## Society

We believe we are successful when we work in partnership with communities to achieve long-term social, environmental and economic outcomes. To support this, we must consider social value in our decision-making and work with communities where we have a presence. Social value is the sum of our contribution to society underpinned by respectful and mutually beneficial partnerships that prioritise social, environmental and economic outcomes. Through this approach, we can create opportunities and address challenges that we cannot solve alone.

In FY2019, we completed an in-depth review of how we understand and support social value. The purpose of the review was to identify areas for improvement that will help us achieve our goal of building social value. The review focused on how we can improve our capacity to connect to communities, understand their ambitions and work to empower these communities. Implementation of the review's recommendations commenced in FY2019, based on a phased approach according to business and community priority needs.

Understanding what communities and stakeholders think of BHP is central to our ability to build social value. We need to know our stakeholders and their areas of interest and influence, and we need to spend time with them. We understand the significance of dialogue with communities to develop a common approach to managing the impact of and realising benefits from our operations.

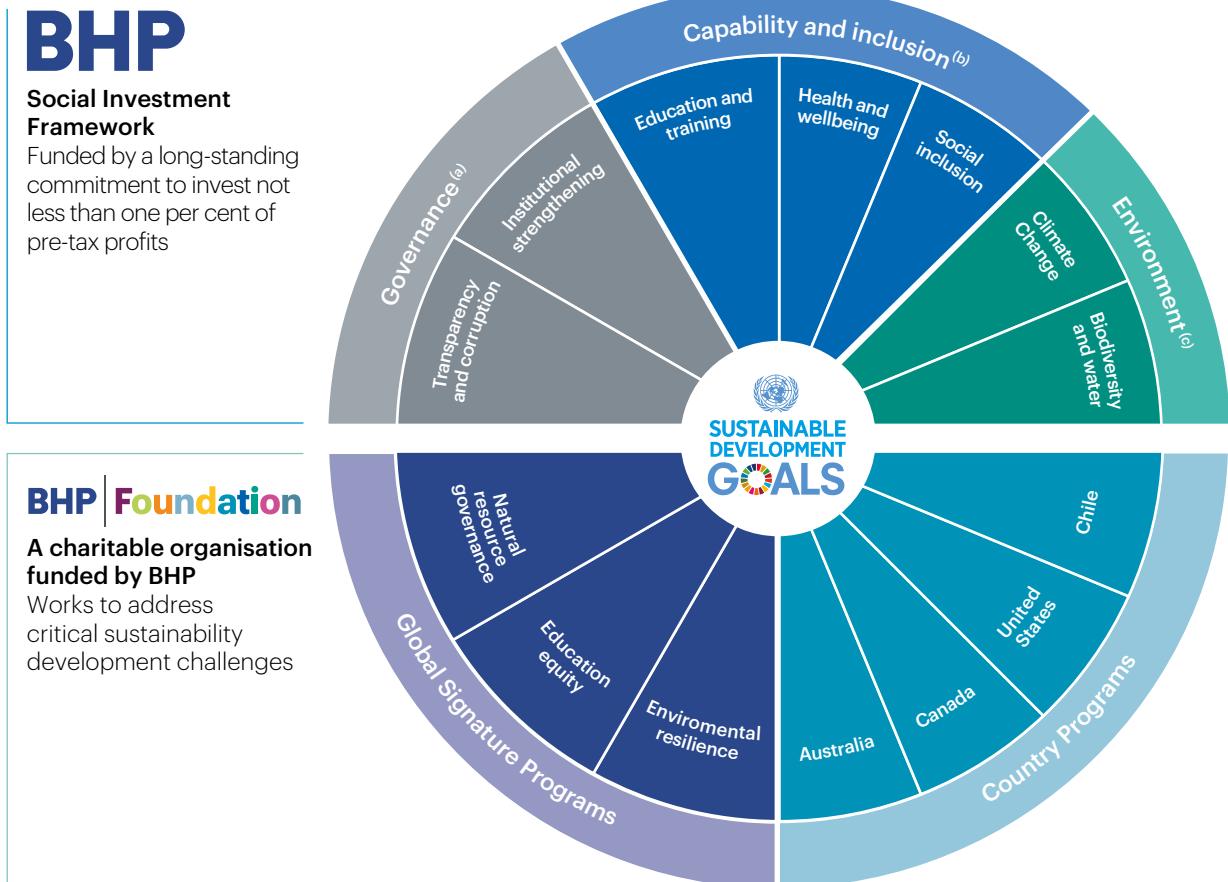
We also continue to recognise the important role our social investment programs and initiatives play in making a positive contribution towards improving the quality of life of communities

where we have a presence and supporting the achievement of the United Nations (UN) Sustainable Development Goals. Our long-standing commitment to invest not less than 1 per cent of our pre-tax profit<sup>(1)</sup> continued in FY2019.

Guided by our Social Investment Framework, community development projects and donations align to three core themes of governance, human capability and social inclusion, and environment. However, we understand that without building meaningful partnerships and connections, social investments will not achieve their maximum potential. That is why we work with communities to embrace collective action and advocacy.

The BHP Foundation, a charitable organisation established and funded by BHP, continues to work in partnership with internationally recognised institutions, think tanks and non-government organisations to address some of the most critical sustainable development challenges facing society that are directly relevant to the resources sector. For more information on the BHP Foundation's work, refer to the **Charitable entity funding** in this section.

### Our social investment approach



(a) We aim to contribute to good governance with a focus on reducing corruption, enhancing transparency and strengthening of institutions.

(b) We aim to enhance human capability and social inclusion through increasing the number of people with improved health and wellbeing, access to quality education and vocational training, and enhanced livelihood opportunities.

(c) We aim to contribute to enduring environmental and social benefits through biodiversity conservation, water stewardship and climate change mitigation and adaptation.

(1) Calculated as 1 per cent of the average of the previous three years pre-tax profit.

### Engaging with communities

At the centre of our stakeholder engagement approach is an understanding that healthy and sustainable relationships are built on open, honest and mutually respectful dialogue. Our *Code of Conduct* and the *Our Requirements for Communications, Community and External Engagement* standard govern our actions in making a positive contribution to communities where we have a presence and minimising adverse impacts where these cannot be avoided.

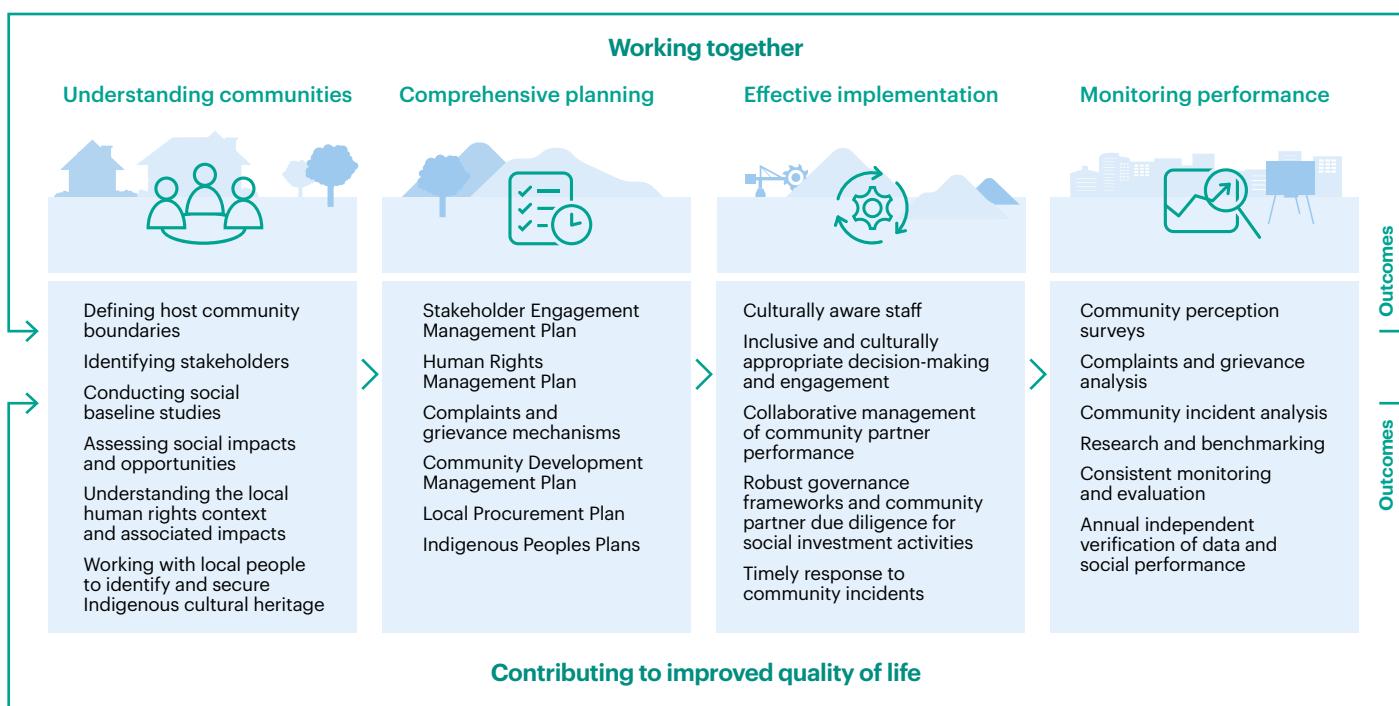
Our community practitioners apply a range of systems, processes and tools across our operations to help us understand, plan, implement and evaluate our engagement activities. This includes social baseline analysis, social impact and opportunity assessments, human rights impact assessments, stakeholder mapping and community perception surveys. This information informs our

approach to community engagement, community development and social investment activities that aim to be culturally sensitive and socially inclusive.

By assessing the social, economic, political, security and environmental factors affecting communities, we can identify and monitor emerging social trends, better manage social impacts and reputational risks associated with our operations and contribute to social value.

At a broader level, we actively participate in forums, think tanks and discussions on themes that span our global communities, such as the environment, energy, automation, sustainable development, transparency and human rights. Our public commitments and voluntary initiatives are listed on our website ([bhp.com](http://bhp.com)).

### Our collaborative community approach



### Addressing social risks and impacts

We recognise our responsibility to contribute to and respect the health, safety and wellbeing of communities.

BHP has a target of zero significant community events. Overseen by the Board's Risk and Audit Committee, we identify, assess and manage significant community events using our global Risk Framework.

We are also conscious that we must facilitate and enable appropriate access to regular, open and honest dialogue, so that we understand the expectations, concerns and interests of stakeholders and incorporate these into our business plans. Aligned with the UN Guiding Principles on Business and Human Rights, all BHP assets are required to have local mechanisms in place to support engagement with the community, record complaints and grievances, and address these in a timely and culturally appropriate manner.

In FY2019, we developed a globally consistent methodology to the design of our grievance mechanisms, with sufficient flexibility to account for the local cultural and operational context. This methodology will be piloted and rolled out across our assets in FY2020. For more information on grievance mechanisms and access to remedy within our supply chain, refer to our FY2019 Modern Slavery Act Statement, available at [bhp.com](http://bhp.com).

We also introduced a new event management system for recording health, safety, environmental and community events. For more information, refer to the **Health** section. The new system includes an expanded category for community complaints and grievances relating to amenity, behaviour, human rights and Indigenous rights. This will allow us to improve our investigation, management and analysis of issues and impacts on the community.

## Society continued

In FY2019, there were no new social, environmental or human rights grievance cases recorded by our asset teams. However, the number of community complaints received through our local complaints and grievance mechanisms increased during the 12-month reporting period, from 71 to 138 incidents. This increased number of complaints was primarily attributed to dust-related issues at our coal operations, associated with drier than normal conditions in Queensland and the prolonged drought in New South Wales, as well as an increase in odour complaints at our Nickel West operation. We continue to work with these stakeholders to seek to address their concerns through engaging and honest dialogue.

### Community concerns raised in FY2019

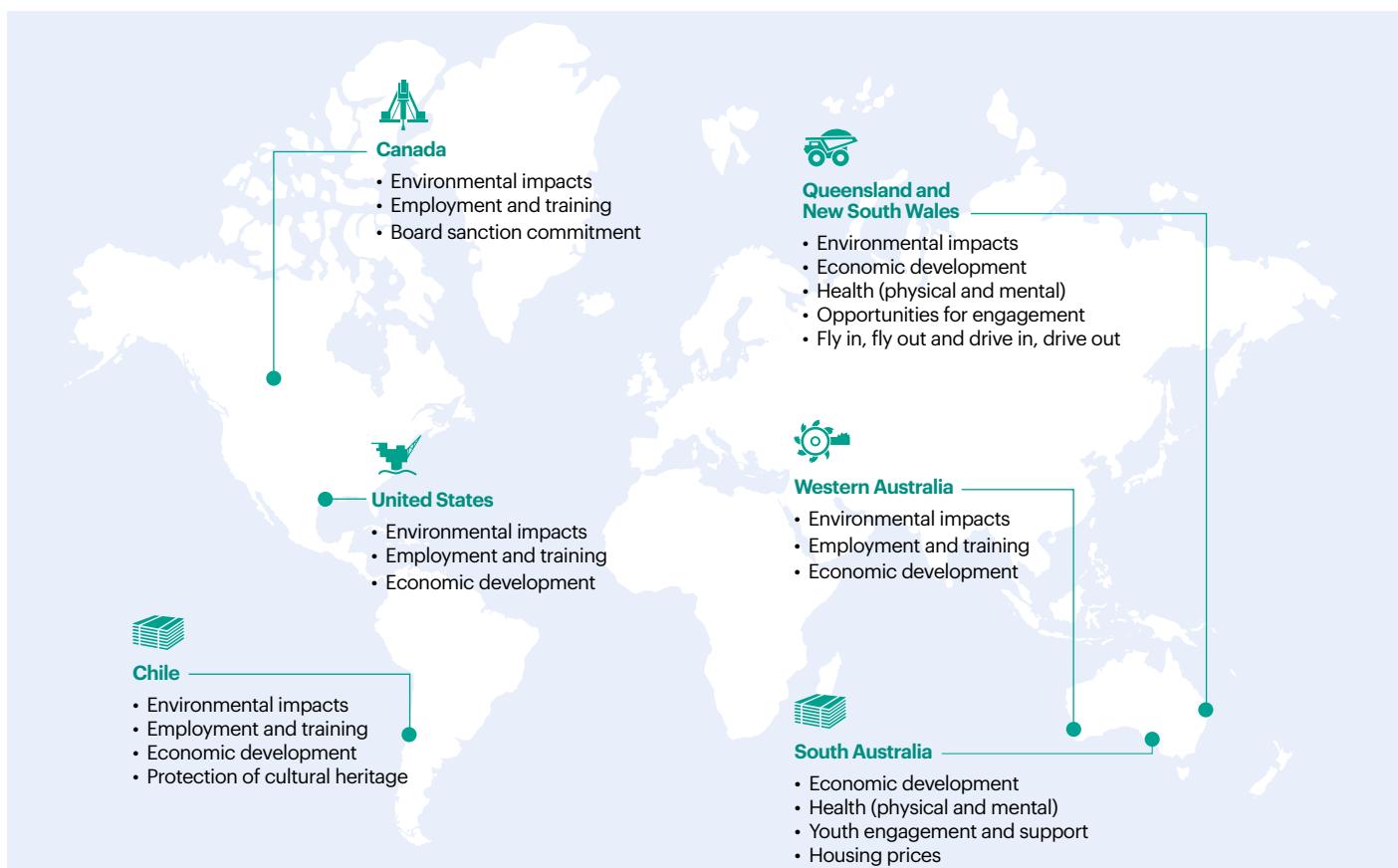
In FY2019, community interest continued to focus on environmental impacts (water usage and access), economic development and employment opportunities. Our Environment team is working with communities, government, business and civil society on projects

that aim to improve water governance and address water challenges by focusing on shared spiritual, cultural, recreational, ecological and economic values. For more information on our work in this area, refer to the **Water** section.

We continue to work collaboratively with local, regional and national stakeholder groups to enable people to express their views and experiences to the business. This shared dialogue helps inform our decision-making on issues that are important to communities, develop appropriate mitigation measures to resolve concerns and identify new partnership opportunities that can support local aspirations.

An overview of community concerns relating to BHP's operating assets raised in FY2019 is provided below. For information on how we are responding to these concerns, refer to the following **Regional community focus** section.

### BHP stakeholder concerns by region



### Regional community focus

In addressing regional community concerns, we work collectively with multiple stakeholders to identify, develop and advocate for partnerships and strategies that will make a real difference in those communities. Below are some examples of how we are doing this.

#### Australia

##### Local Buying Program

Now in its seventh year, our Local Buying Program remains a core community program in providing regional economic development opportunities to local businesses in those regions where our assets are located. The Program is designed to encourage better relationships between our operations and small businesses, and build capability and capacity across the local supply chain. A critical element of the Local Buying Program is the streamlining of onboarding, procurement and payment processes, which includes 21-day payment terms from receipt of invoice.

In FY2019, more than 1,380 local suppliers across Queensland, New South Wales, South Australia and Western Australia registered with the Program. Approval was given for over 9,100 work packages and local business expenditure of more than US\$82 million.

For all approved transactions processed through the Local Buying Program, BHP makes a financial contribution to established Local Buying Foundations located in Queensland and New South Wales, with the rollout of foundations in South Australia and Western Australia planned for 2020. Funds allocated to these foundations are used to establish business development programs that target genuine community needs and complement social investment projects already being delivered by BHP.

A Local Buying Foundation Advisory Committee is established for each foundation, comprising community members who have an interest, skills and expertise in regional economic development. The committees provide guidance and market/environmental intelligence to inform, identify and support the investment and disbursement of the funds and oversee effective governance of the foundations.

##### Local Voices Project

In FY2019, we engaged the CSIRO for a three-year project to provide communities neighbouring our operations in Central Queensland (Dysart and Moranbah), New South Wales, South Australia and Western Australia, an opportunity to express their views and experiences of BHP's presence in their community. Known as Local Voices, feedback received through this project will help inform our decision-making on the issues that matter most to these communities. This data will help us better understand the concerns and aspirations of the communities in which we have a presence, building trust through improved relationships that is based on mutual understanding of the different aspects of our operations and how they affect the community.

##### Western Australia

We developed an education strategy to establish early childhood, primary/secondary and tertiary (both vocational and university) partnerships with government and education institutions; develop pathways to employment through improving access to scholarships, apprenticeships and trainee programs; and invest in technology and automation programs within secondary schools. The strategy also focuses on education initiatives that provide up-skill opportunities for our employees and potential future workforce.

#### Queensland

In recognition that a thriving region is critical for the long-term interests of both communities and business, BHP entered into a three-year partnership with the Greater Whitsunday Alliance (GW3). The partnership aims to encourage better collaboration among stakeholders to progress the region's development priorities and initiatives. The scope of the partnership is two-fold and includes enhancing GW3's capacity to effectively advocate, engage and promote the region, and also deliver a number of priority projects that are designed to have a direct and positive impact on the region's future.

→ For more information, read our case study [A collective approach to regional development in Queensland](#) at [bhp.com/community/case-studies](http://bhp.com/community/case-studies).

#### New South Wales

In partnership with Upper Hunter Community Services, our Mt Arthur Coal asset supports a Community Capacity Building Project. The project employs community development officers to engage with community members, conduct research into potential community development projects and explore mechanisms for building collaboration between services and community-based organisations. Muswellbrook's Work for the Dole program was developed under the partnership and assists unemployed community members to return to work. The project is also working to develop a mental health app that provides details of local medical and mental health practitioners, drug and alcohol support services and direct links to hotlines and websites, including Lifeline, Beyond Blue and Headspace.

#### South Australia

Through our Olympic Dam operations, BHP's partnership with the Adelaide Football Club Women's competition is supporting grassroots and pathway development for young Indigenous and non-Indigenous women in regional areas. The three-year partnership has a strong emphasis on inclusion and diversity, with a focus on the mental and physical health of young people to build resilience and social connections through a fun and supportive program.

#### Trinidad and Tobago

We have partnered with United Way Trinidad and Tobago, a non-profit organisation that raises charitable donations from companies and individuals and channels these funds to non-government organisations to deliver critical social services to citizens in need. The partnership is focused on developing medium-to long-term flood relief and mitigation activities in vulnerable locations across Trinidad and Tobago.

## Society continued

### Canada

We are focused on managing external expectations related to the Jansen Potash Project and anticipating the growth that would occur if the project was sanctioned. Social investment is targeted at capacity building programs for First Nations groups in the areas of social inclusion, education and training, and improving the health and wellness indicators and access to public services for local communities. We are also progressing the development of a new Petroleum project in Eastern Canada and exploring ways to work with other industry operators in the Atlantic coastal region to address community and First Nations concerns in a collaborative way.

### United States

Coastal restoration and environmental and social capacity building in local communities are the focus of social investment in our US Petroleum business. Through our programs, we aim to develop sustained employment opportunities, safeguard water quality and access, and limit cumulative impacts on coastal areas.

Our partnership with the America's WETLAND Foundation (AWL) and Resource Environmental Solutions (RES) has restored 60.7 hectares (150 acres) of wetlands in the Barataria-Terrebonne National Estuary, one of the largest and most productive systems in the United States with an economic value of US\$1.2 million per year. A hallmark of the partnership is educating the media, general public and government on the value of natural or green engineering in building resilience into the environment, as well as the role of public-private collaborations in advancing these projects.

→ [Read our case study about America's WETLAND Foundation: Terrebone biodiversity and community resilience projects](#)  
at [bhp.com/community/case-studies](http://bhp.com/community/case-studies).

### Chile

In August 2018, we launched an Indigenous Peoples Plan (IPP) for South America, which lays the foundation to strengthen recognition, trust and long-term relationships based on four pillars of governance, economic empowerment, social and cultural support, and public engagement. To facilitate this, during 2019 we created two external advisory groups to help check the progress of the plan, including an Indigenous Peoples Plan Consultative Council and Indigenous Peoples Plan Committee of Experts.

The Council was established in April 2019 and comprises representatives of Indigenous communities around our Escondida and Cerro Colorado copper mines in northern Chile. The Council is independent from BHP and focuses on more effective participation of Indigenous communities in the IPP's implementation. The expert committee comprises specialists with experience in working on Indigenous issues relating to human rights, the environment, climate change, territory and heritage. The committee is responsible for developing a governance framework that recognises the collective rights of Indigenous peoples in Chile. It is also helping to strengthen BHP's relationships by addressing shared challenges and ensuring our actions on Indigenous peoples' lands where we operate can be sustainable. Together with BHP, these advisory groups are working to achieve greater inclusion and opportunities for collaboration with Indigenous communities.

### Social investment

We recognise the opportunity our social investment programs have to make a positive contribution to the quality of life of the community and to complement our broader business priorities and activity. Through our long-standing commitment to invest not less than 1 per cent of our pre-tax profit in social and environmental projects and donations, we generate social value through greater engagement with a broad set of stakeholders. Our contribution to sustainability challenges at the local, regional, national and global levels is a key element in managing current and future risks. It also provides an opportunity to build long-term reciprocal relationships with stakeholders.

We seek to develop strategic social investment partnerships by advocating collective action, bringing together key stakeholders to support the self-determination of communities, with a shared approach to solving local challenges, and building local opportunities. We generate social value through our contribution to grass roots initiatives, such as community donations, employee volunteering, our Local Buying Program and the BHP Matched Giving Program.

In FY2019, we commenced the management of our social investment contracts for community projects and donations through our Global Contract Management System. The new system enables an integrated end-to-end partnership management approach that is auditable, transparent and enhances our ability to communicate and report on our social investment activities.

Our voluntary social investment in FY2019 totalled US\$93.5 million,<sup>(1)</sup> consisting of US\$55.7 million in direct community development projects and donations, US\$8.9 million equity share to non-operated joint venture programs, a US\$16.57 million donation to the BHP Foundation and US\$4 million to the Matched Giving and community small grants programs. Administrative costs to facilitate social investment activities at our assets totalled US\$6.27 million and US\$2 million supported the operations of the BHP Foundation.

Under our Social Investment Framework theme of governance, we invested US\$6.24 million in projects that aim to reduce corruption, enhance transparency and strengthen institutions in Australia, Canada, Chile, China and Trinidad and Tobago. In FY2019, more than 145 non-government organisations and approximately 679 small businesses participated in BHP-funded capacity building activities. This increase in the participation rate of small businesses was predominantly from new opportunities associated with our Local Buying Program in Queensland, New South Wales, South Australia and Western Australia, a new partnership with the Port Hedland Chamber of Commerce in Western Australia and GW3 in Queensland.

Through our social investment in human capability and social inclusion, we contributed a total of US\$33.15 million, which saw more than 78,458 people positively benefit from education and training, health and wellbeing, and social inclusion programs.

(1) FY2019 social investment figure includes Discontinued operations (Onshore US assets) to 31 October 2018 and Continuing operations.

## Society continued

These programs supported approximately 66,277 school-aged students from Australia, Chile, China, Singapore and Trinidad and Tobago who participated in BHP-funded education programs of which nearly 7,764 were girls and women and 4,548 were Indigenous people. Some 519 scholarships were awarded, including 341 received by Indigenous students and 10,867 people were provided with access to new or improved health services<sup>(1)</sup>, including 224 Indigenous people and 801 women. Through our community partners, some 795 people received job-related training, with programs designed to support the career development of individuals and contribute to the prosperity of local organisations.

Our contribution to environmental projects totalled US\$16.3 million in Australia, Chile, China, Kenya, Peru, Trinidad and Tobago and the United States. These projects aim to contribute to enduring environmental and social benefits through biodiversity conservation, water stewardship and climate change mitigation and adaption.

### Matched Giving Program

We are proud to support the organisations that are important to our employees. Through our Matched Giving Program, BHP matches personal donations made by our employees to eligible not-for-profit organisations at a ratio of 2:1, which equates to a BHP donation of two dollars for every dollar donated.

In FY2019, we introduced some important changes, modelled on how most employees were already using the Program. In order to create greater impact with the organisations most popular with our employees and to strengthen the governance of the Program, a list of 50 eligible organisations (along with their chapters in other eligible locations) and a new matching cap of US\$10,000 per employee, per financial year, were introduced. Legacy donations were also matched to enable a smooth transition from the previous program.

Throughout the year, 4,175 of our employees participated in the Matched Giving Program, supporting 350 not-for-profit organisations. These organisations received over US\$3.21 million via the Program.

### Charitable entity funding

#### BHP Billiton Sustainable Communities

BHP Billiton Sustainable Communities (BSC), based in the United Kingdom, was established to partner with organisations to deliver large-scale, long-term social and environmental development projects. We continued to transition to a single BHP-funded charitable entity (the BHP Foundation) in FY2019, while BSC honoured its remaining project commitments.

Two of the three remaining BSC flagship programs were concluded during FY2019: the ANDA Project in Colombia and the ACDI/VOCA Project in Mozambique. The final program is due to be completed in FY2020, at which time BSC will commence winding up.

In FY2019, BSC provided US\$764,590 to its sole remaining program, a five-year initiative with WaterAid®. This program works to improve the lives of thousands of people in Mozambique through access to equitable, inclusive and sustainable water, sanitation and hygiene services.

→ For more information, read our case study **Supporting vulnerable populations in regional Colombia** at [bhp.com/community/case-studies](http://bhp.com/community/case-studies).

### BHP Foundation

Many of the world's most pressing social and environmental challenges need solutions at global and national levels. The BHP Foundation (Foundation), a US-based charitable organisation established and funded by BHP, has embarked on a bold and ambitious program to take on these issues and enhance the contribution the global resources sector can make to achieving many of the UN's Sustainable Development Goals.

The scale and complexity of these global challenges are enormous:

- 1.8 billion people in mineral-rich regions live in extreme poverty;
- 6.5 million hectares of forest are lost every year, driven by growing demand for food and natural resources;
- 263 million children globally are not in school and a further 330 million who go to school are not learning basic skills.

Since 2015, the Foundation has been working with leading global non-government organisations and institutions to implement practical and long-term solutions designed to bring about large-scale, transformative change. The Foundation has three global priorities:

- Natural resource governance – the ambition is to harness the power of natural resource wealth for sustainable and inclusive human development.
- Environmental resilience – the ambition is to support new ways of conserving and sustainably managing large-scale, globally significant natural environments for the benefit of future generations.
- Education equity – the ambition is to harness the potential of marginalised and under-represented young people by enabling equitable access to quality education.

Complementing the global programs are country programs, which aim to support national development priorities and draw on BHP's expertise to support the Foundation's work. Country programs have been implemented in Australia and Chile, and in the future will be implemented in Canada and the United States.

The Foundation has projects in 36 countries and works with more than 30 partner organisations that are leaders in their fields. Projects are selected based on their potential to forge new models for addressing complex issues and set new standards, and are designed to deliver measurable, effective and practical solutions for local impact. The Foundation also advocates on the global stage for the change it wants to see. For more information about the Foundation's programs, visit [bhp.com/community/bhp-foundation](http://bhp.com/community/bhp-foundation).



(1) 'Access to health services' includes awareness and training initiatives linked to the delivery of available health services, the provision of mental and physical health services and health-related infrastructure and equipment.

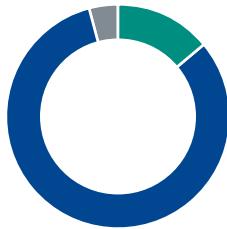
### Supporting local economic growth

BHP proudly supports the growth of local businesses in the regions where we operate, through sourcing and promoting locally available products and services. Our assets develop local procurement plans that identify opportunities for local suppliers, including small businesses to deliver capacity building and employment creation initiatives. These initiatives are designed to be sustainable post BHP's presence.

During FY2019, 14 per cent of our external expenditure was with local suppliers. An additional 82 per cent of our supply expenditure was located within the regions in which we operate. We contributed US\$16 billion to more than 10,000 suppliers globally, of which US\$2 billion supported local community suppliers where we operate. These figures remain comparable to previous years, although local spend was lower due to the sale of our Onshore US assets during FY2019.

Our expenditure with local suppliers in FY2019 was mostly in Trinidad and Tobago (57 per cent), the United States (31 per cent), Chile (14 per cent) and Australia (12 per cent). See the **Regional community focus** section for more information about our Local Buying Program in Australia.

### Distribution of supply expenditure<sup>(a)</sup>



(a) Local spend refers to spend within the communities in which we operate. Regional and national spend refers to spend within the regions, such as states and provinces, and the home country of operation, excluding local spend.

### Respecting human rights

We believe respecting human rights and contributing to the positive realisation of rights is not only critical to the sustainable operation of our business, it is the right thing to do. Respecting human rights is important to our ability to contribute meaningful and ongoing social value to our stakeholders. Simply put, our success depends on how well we respect the rights of individuals and groups who interact with us and are impacted by our business.

We are committed to respecting internationally recognised human rights as set out in the Universal Declaration on Human Rights and the Voluntary Principles on Security and Human Rights, and operating in a manner consistent with the UN Guiding Principles on Business and Human Rights and the 10 UN Global Compact Principles.

We recognise the potential for human rights exposures and risks in all jurisdictions and are committed to working broadly to promote respect through stakeholder engagement, collaboration, advocacy and public policy.

We engage with and respond to civil society, communities, investors and other stakeholder groups on issues related to our business and strive for transparency in all our interactions. In FY2019, we collaborated with external stakeholders through business and industry groups, human rights organisations and government representatives on the progression of the corporate responsibility to respect human rights.

### Managing human rights risks

The most relevant human rights to BHP are those specific to our business and of vulnerable or marginalised groups impacted by our operations. These include rights related to:

- workplace health, safety and labour conditions (including non-discrimination and the avoidance of forced and bonded labour and child labour);
- activities of security providers;
- land access and use;
- water and sanitation;
- impacts on the rights of Indigenous peoples and other communities that live near our operations, including resettlement and consultation and consent processes.

We recognise our accountability for continually assessing the human rights landscape, including those indirect impacts that may be contributed to by our activities.

### Governance of human rights

*Our Code of Conduct* sets the standards of behaviour and human rights commitments for our people, as well as our contractors, suppliers and others who perform work for BHP. The commitments in *Our Code of Conduct* are implemented through mandatory minimum human rights performance requirements in the *Our Requirements* standards and through our policy statements.

Human rights are also integrated into BHP's Risk Framework through these standards. Our Board's Sustainability Committee assists with governance and monitoring of our approach, overseeing health, safety, environmental, community (HSEC) and other human rights matters. This includes the adequacy of the systems in place to identify and manage HSEC-related risks, legal and regulatory compliance and overall performance.

We are continuing to build our understanding of the human rights risks across all our activities and we have an active program of embedding enhancements to our approach.

We consolidated our existing human rights commitments and management approaches in FY2019 into a Group-wide policy statement. This action reflects Principle 16 of the UN Guiding Principles on Business and Human Rights.<sup>(1)</sup> Our Human Rights Policy Statement sets out the expectations of our people, business partners and other relevant parties to respect human rights. The Statement has been developed in consultation with Shift (a non-profit organisation that provides guidance on the UN Guiding Principles on Business and Human Rights), BHP employees, the Global Business Initiative (a business and human rights cross-industry member group) and other key external human rights stakeholders and experts.

(1) Principle 16 states: 'As the basis for embedding their responsibility to respect human rights, business enterprises should express their commitment to meet this responsibility through a statement of policy.'

## Society continued

### Human rights due diligence and risk management

Human rights due diligence is one of the methods we use, in accordance with the *Our Requirements* standards, to identify, seek to prevent and mitigate adverse human rights impacts. This also helps to identify new opportunities for BHP to bolster human rights and support communications externally to stakeholders about BHP's human rights risks and contributions. The inclusion of human rights in our global Risk Framework allows us to identify risks specific to a particular activity and also risks that are of a strategic and/or emerging nature, and to apply required controls at a site, functional and Group level.

With the establishment of our new Group Risk Architecture (refer to the **Our sustainability approach** section), human rights is a key risk indicator within the environment, climate change and community Group risk category. For information on our Risk Framework, risk factors and management approach, refer to our Annual Report 2019, available online at [bhp.com](http://bhp.com).

The *Our Requirements* standards require assets to complete a human rights impact assessment at least every three years (and review it whenever there are changes that may affect the impact profile). If a material human rights risk is found, a Human Rights Management Plan must be developed. A new globally consistent approach to human rights impact assessments was developed in FY2019 to enable a more comprehensive understanding of our human rights exposures across our assets and functions. The new methodology will be mandated under the *Our Requirements* standards. Following pilot programs in select locations, we expect this approach to be implemented across our assets by the end of FY2020. We are working closely with our Risk function to further integrate the learnings from these assessments into our broader risk assessments.

Using the new Risk Framework, in FY2019 human rights risks were assessed in functional, exploration and project risk assessments. This includes inputs into a risk assessment for exploration activities in Ecuador and a human rights and Indigenous peoples' assessment for activities in Mexico.

The *Our Requirements* standards also require human rights risks to be taken into account regarding decisions on acquisitions and divestments, new activities in high-risk countries and major projects to include the consideration of human rights and community impacts in their risk-based approach.

A human rights risk assessment was conducted on our global inbound supply chain in FY2019. Nine cross-functional teams across eight global locations participated in the two-day session. Behaviour resulting in human rights abuse by a direct or indirect supplier within BHP's supply chain was identified as a material risk to the business. Controls at both a functional and Group level have been identified and assigned.

### Security

We seek to manage security according to our values, risk profiles and business requirements. This involves reviewing our alignment with the Voluntary Principles on Security and Human Rights annually and completing improvement plans to address any gaps.

There were no significant security-related incidents with possible human rights implications recorded in FY2019.

### Stakeholder engagement

We engage regularly with investors, civil society, communities, Indigenous stakeholders, human rights experts and industry associations to understand current social expectations, trends and perceptions relating to human rights and the real and perceived impacts of our operations on communities.



### Capacity building and collaboration

In FY2019, a high-level, broad-based human rights training video was designed to prompt employees to consider relevant human rights, understand the business case for respecting human rights and the necessary processes designed to implement our human rights commitments across the business. The training will be rolled out to relevant members of our workforce in FY2020.

We continue to be members of the Global Business Initiative and Shift, and have engaged both organisations to provide guidance on the development of our Human Rights Policy Statement and training video. Members of our operational and functional teams regularly participate in peer learning opportunities relating to the implementation of human rights principles in business.

### Setting requirements for our suppliers

We are taking a multi-year, systemic approach to integrating human rights due diligence for our supply chain process. This approach will allow us to align, formalise, continuously review and deepen our understanding and assessment of suppliers. At the centre of our approach is engagement with our direct suppliers to assess and encourage continuous improvement in their own capacity to manage human rights risks (including modern slavery) in their subcontractors and broader supply chain.

Our FY2019 UK Modern Slavery Act Statement provides a detailed overview of our approach to managing human rights risks relating to modern slavery and trafficking in our supply chain and operations. The Statement is prepared under the UK Modern Slavery Act (2015) and is available online at [bhp.com](http://bhp.com).

### Modern slavery legislation

The Australian Modern Slavery Act 2018 took effect from January 2019. BHP's first statement under this legislation will be published for FY2020 by 31 December 2020. We engaged with the Australian Government throughout the consultation period of the legislation's development, through direct engagement with the Department of Home Affairs and through the Global Compact Network Australia and the Business Council of Australia. We also provided input to the Minerals Council of Australia's submission on the Government's draft *Guidance for Reporting Entities* about the legislation.

We continue to review best practice and work with the Global Compact Network Australia to ensure we are prepared for the new reporting requirement.

We continue to improve our understanding and management of modern slavery and human trafficking risks in our supply chain, and identify opportunities to work with other businesses, suppliers and regulators to seek to eradicate modern slavery from global supply chains.

### Indigenous peoples

For BHP, Indigenous peoples are critical partners and stakeholders in many of our operations. Globally, many of our operations are located on or near traditional Indigenous lands and the long-term nature of our operations allows us to establish lasting relationships with the Indigenous communities in which we operate and those neighbouring our operations. We respect the rights of Indigenous peoples and the special connection they often have with the land, water and natural environment, and we understand that this connection can be spiritual, reaching beyond tangible objects or locations. We recognise that we must work alongside Indigenous peoples, building trust, meaningful engagement and genuine understanding of their views and interests.

We acknowledge that in the past we have not always listened as well as we could have, and our activities have had impacts on Indigenous peoples, culture, places and connection to country. Incorporating Indigenous voices into our activities strengthens our ability to positively contribute to the full realisation of the rights of Indigenous peoples.

### Indigenous Peoples Strategy

Our Code of Conduct outlines the expectation to recognise the traditional rights of Indigenous peoples and acknowledges their right to maintain their culture, identity, traditions and customs.

BHP's Indigenous Peoples Policy Statement articulates our approach to engagement and support for Indigenous peoples and our commitment to the ICMM Indigenous Peoples Position Statement.

Our Indigenous Peoples Strategy guides the implementation of our Policy Statement. For information on our Strategy, refer to our website at [bhp.com](http://bhp.com).

Our Global Indigenous Peoples Working Group (GIPWG) was established in 2016 to:

- develop, govern and manage the implementation of our Policy Statement and Strategy;
- identify opportunities to position BHP as a global leader in working with Indigenous peoples;
- provide global and cross-functional leadership to promote a consistent position on our work with Indigenous peoples;
- support regional teams to develop and implement regional Indigenous Peoples Plans.

The GIPWG met regularly throughout FY2019 to discuss regional activities, global trends and issues of relevance to the implementation of the Indigenous Peoples Strategy.

### BHP Indigenous Peoples Policy Statement

BHP aims to be a partner of choice for Indigenous peoples through which our relationships contribute to their economic empowerment, social development needs and cultural wellbeing.

### BHP Indigenous Peoples Strategy

#### Governance

Indigenous peoples will derive significant and sustainable benefit from BHP operations through the effective governance and management of land access, cultural heritage, agreement making and benefit distribution processes.

#### Economic empowerment

BHP will contribute to the economic empowerment of Indigenous peoples through providing opportunities for employment, training, procurement and Indigenous enterprise support.

#### Social and cultural support

BHP will contribute to improved quality of life for Indigenous peoples through voluntary social investment, promotion of Indigenous culture and building the Indigenous cultural awareness of our workforce.

#### Public engagement

BHP will contribute to specific initiatives, programs and public policy processes that advance the interests of Indigenous peoples consistent with the BHP Indigenous Peoples Policy Statement.

### BHP Good Practice Guidance



### South America

In Chile, engagement and dialogue with Indigenous peoples has been a fundamental element of ongoing operations and the development of the Indigenous Peoples Plan for South America.

In April 2019, BHP publicly released our FY2019–FY2023 South American Indigenous Peoples Plan in San Pedro de Atacama, Chile, attended by key Indigenous stakeholders. The plan focuses on opportunities for advocacy and strengthening opportunities for Indigenous employment. It defines the vision in each of the four pillars of BHP's Indigenous Peoples Strategy, incorporates BHP's global commitments, identifies and seeks to address current gaps in our approach and considers our local context, and the history and evolution of the Indigenous peoples in South America, particularly those in the areas where our activities are located.

The plan is the first of its kind by a mining company in Chile. It establishes a platform of participation, dialogue and governance with Indigenous peoples in South America, helping us to ensure our activities on Indigenous lands are sustainable and built on open and transparent engagement.

### Regional Indigenous Peoples Plans

In FY2019, each of our regions had an active Indigenous Peoples Plan that operationalised the Indigenous Peoples Strategy across our regions. Each plan is aligned with the Indigenous Peoples Strategy and prioritises the local and regional context and operational footprint and relevant Indigenous stakeholders.

### Minerals Australia

Minerals Australia continued to make good progress against the 2017–2020 Elevate Reconciliation Action Plan (RAP), the document that gives effect to BHP's Indigenous Peoples Strategy in Australia. The RAP is an external framework that encourages national reconciliation.

Continued efforts to adopt a consistent approach across Minerals Australia based on successful asset-based Indigenous peoples strategies saw improvement in performance areas, such as Indigenous procurement, Indigenous employment and agreement-making. In FY2019, a national cultural heritage plan was implemented to improve efficiencies and best practice in managing cultural heritage across our Minerals Australia activities. We also completed Native Title negotiations with the Tjwarl in FY2019, for the Nickel West expansion.

To support the economic empowerment of Indigenous peoples across Minerals Australia, in FY2019 we implemented strategies to increase Indigenous procurement and content. Through our Local Buying Program, we have been able to identify specific opportunities or 'carve outs' for Indigenous businesses and build a targeted approach to increasing the number of Aboriginal and Torres Strait Islander registered suppliers. We have seen an increase of over 40 per cent in direct Indigenous contracting spend across Minerals Australia between FY2018 and FY2019, as a result of these initiatives.

We are committed to ensuring that Traditional Owner businesses share in the value generated by activities conducted on native title land or adjacent to their communities and will continue to build strategies to increase opportunities.

To complement the consultation requirements of environmental assessments and agreement-making, we have developed a voluntary dialogue and participation process with Indigenous stakeholders in Chile. The process prioritises truth telling, building relationships based on trust and mutual respect, and enabling impacted Indigenous peoples to make informed decisions through their traditional decision-making processes.

Ultimately, we aim to build an agreement-making process that is transparent and allows Indigenous peoples to participate in the environmental management of the operation and strengthen the socio-environmental management of their traditional territory.



## Society continued

### North America

The primary interaction with Indigenous peoples in North America is through the Jansen Potash Project in Canada and several US closed sites. Petroleum has no direct interaction with Indigenous peoples in the United States. The Jansen Potash Project has an established program with First Nations people connected to the Project. Opportunity Agreements to fund community development programs have been established with five of the six First Nations groups. Engagement activities have commenced with six First Nations groups in relation to the Jansen Outbound Logistics project.

Promoting Indigenous culture and building the Indigenous cultural awareness of our workforce is critical to building relationships based on trust and respect, which not only upholds *Our Charter* values, but also contributes to the improved quality of life for Indigenous peoples.

The Jansen Potash Project has been running Aboriginal Awareness training for all Jansen employees since 2012, which is mandatory for all employees and made available to contractor leaders. The primary objectives of the training are to build respect and integrity between Indigenous and non-Indigenous people. The training program teaches the unpleasant history of Indigenous peoples in Canada, addresses stereotypes that can impact relationships with Indigenous peoples, seeks to remove bias and improves employee understanding when engaging with Indigenous people or businesses.

BHP has taken a leadership stance when it comes to our relationships with Indigenous peoples in Saskatchewan. We have developed new initiatives and approaches that have created positive outcomes in our relationships with First Nations and Metis people, and encouraged improved practice across the industry and government in the region.



### Indigenous employment

In FY2019, we consolidated our efforts across our global operations to provide employment opportunities in communities where we operate.

In Minerals Australia, Indigenous employment within our overall workforce increased from 4.4 per cent to 5 per cent (1,090 to 1,168), our as we aim to achieve 5.75 per cent by the end of FY2020. Twenty per cent of all apprentices were Aboriginal and Torres Strait Islander people and there were positive outcomes through our Indigenous leadership programs (refer to Developing our capabilities in the our **People** section). In FY2020, the Minerals Australia Indigenous Employment Plan will focus on opportunities for Traditional Owners and establish skill development initiatives that assist the transition into roles that support automation.

In North America, we have focused on working with our contracting partners to support the employment of First Nations and Metis people, who now comprise 9 per cent of our workforce at the Jansen Potash Project. Chile has implemented a number of initiatives that will result in formal performance reporting in FY2020.

### Tjiwarl Agreement Work Readiness Program

As part of our historic agreement with the Tjiwarl people in the Northern Goldfields region in Western Australia, signed on 1 November 2018, BHP committed to provide a minimum of 10 positions to suitable Tjiwarl candidates either with Nickel West directly or one of our major contracting partners in the first 12 months of the agreement. BHP worked with the Tjiwarl community to establish a program to develop work skills leading to employment.

The first 10-week Work Readiness Program, run in partnership with Chandler Macleod (a labour hire vendor) and Carey Training (an Indigenous Registered Training Company), saw 12 students complete a Certificate II in Resource and Construction Industry and three weeks of work experience at a Nickel West site. Seven of these graduates will shortly commence employment, along with nine other Tjiwarl people who have secured employment through the usual recruitment processes.

### Public engagement

Public advocacy and leadership are important components of the Minerals Australia strategy. After significant reflection and consultation with critical stakeholders, in January 2019, our CEO Andrew Mackenzie announced BHP's support for the Uluru Statement from the Heart.

As part of this support, BHP committed to a number of activities in support of the areas of voice, treaty and truth; key themes from the Uluru Statement from the Heart.



# People

**Our global workforce is the foundation of our business. Supporting their wellbeing and promoting an inclusive and diverse culture are vital for maintaining a competitive advantage.**



## In this section:

- Building an enabled culture to support BHP's transformation
- Developing our capabilities
- Inclusion and diversity
- Employee relations

# People

We employ over 72,000 employees and contractors globally. We are committed to investing in our people so they have the right skills and are supported by a healthy workplace culture that is inclusive and collaborative.

We are committed to empowering our people to find safer, more creative and more efficient ways of working. We continue to develop a culture based on trust and collaboration and give our people more say, new capabilities and tools, and new avenues for technology and innovation to support BHP's transformation.

We provide competitive remuneration to reward employees for their expertise and commitment to our business strategy and long-term success. Our remuneration approach is designed to inspire our employees to embrace BHP's core objectives and values. Performance against key performance indicators linked to safety, productivity and culture drives our employees' variable reward outcomes.

## Building an enabled culture to support BHP's transformation

Our annual Engagement and Perception Survey (EPS) is an important tool to gauge our culture. The overall results in FY2019 remained stable and showed we sustained the positive improvements achieved in FY2018, despite the changes that occurred across the business.

Our employees told us they feel proud to work at BHP and described the work environment as collaborative and inclusive. They have the confidence to make decisions required to do their job well and believe they have opportunities for professional and personal development.

We have seen improvements in our EPS results related to equal opportunities at work for all employees, perceptions on how the leadership group communicates a vision of the future that is exciting, how leaders are managing change, and perceived opportunities for growth and development. These are important indicators of people's experiences at work.

The FY2019 results indicated we have more to do to continue to simplify our processes and make it easier for our team to perform their work. Our focus for FY2020 will be to support our transformation initiatives and realise the benefits to our culture and people (for information on our transformation initiatives, refer to our Annual Report 2019). We will continue to enable our people and address the obstacles that prevent them from doing their job well by simplifying processes and increasing technology capability. We expect that further capability development of our employees in our new ways of working and continued development of our leaders will set up our people and the organisation for success.

## Developing our capabilities

We believe that the changing nature of work presents significant opportunity for BHP. Our approach is to invest in new skills, so our people are ready for the jobs of the future.

Over the past five years, we have invested in developing leadership capability, as these qualities are critical to guiding our people and navigating changes to the work environment.

Our Operational Leadership Program aims to develop the technical and operational leadership excellence of our operational general managers and to identify successors to senior leadership roles that drive operational value. The program launched in FY2018 and was completed by 38 operational leaders in FY2019.

The Step Up to Leadership and Leading Value programs continue to drive our foundational leadership focus and in FY2019, 856 leaders completed the programs. Our Maintenance Academy Program, introduced in FY2018, saw 39 maintenance managers work to broaden their technical knowledge, leadership capability and collaboration in FY2019.



## People continued

We also focused in FY2019 on developing the leadership skills of our Indigenous employees through our Indigenous Development Program. The program is designed to identify Indigenous employees with leadership potential, and to respond to issues identified as barriers to career progression. By May 2019, 147 employees in Australia had completed the program. Of the 97 employees that completed the program in the first half of 2019, 40 per cent have moved into new roles and 19 per cent have been promoted to leadership roles.

We are proud of our EPS results related to the performance of our leaders. In particular, the results identified our leaders as strong in communicating the vision of BHP and leading their teams through significant change.

In FY2020, we expect to increase our focus on systems, processes, tools and behaviours to improve operational capability. The BHP Operating System sets out the foundation for long-term and in-depth learning and development, by developing practices and capabilities that empower our people to pursue operating excellence.

Operations Services, which provides maintenance and production services across Minerals Australia, supports people to build their skills through coaching and by performing in-field verifications. This helps deliver consistent equipment operation and maintenance that balances safety, maximum productivity and equipment reliability. Participants report a high sense of achievement as they leverage best practice from across BHP to help perfect their daily activities and accelerate productivity.

### Inclusion and diversity

We believe our people should have the opportunity to fulfil their potential and thrive in an inclusive and diverse workplace. In our experience inclusion and diversity promotes safety, productivity and wellbeing within BHP and underpins our ability to attract new employees.

We employ, develop and promote people based on merit and our systems, processes and practices are designed to empower fair treatment. We do not tolerate any form of unlawful discrimination, bullying or harassment.

Our employees are trained to recognise and mitigate potential bias towards any employee. To help address gender pay disparities, we have taken steps to reduce potential bias in recruitment and conduct an annual gender pay review, the results of which are reported to the BHP Remuneration Committee.

Respect is one of our six core *Our Charter* values and we believe it is fundamental to building stronger teams, and being a truly inclusive and diverse workplace. For some people in our business, this is not their experience of working at BHP. We are determined to address this, so during FY2019 we began a Group-wide campaign about respectful behaviour. The aim is to create greater awareness and build understanding of what disrespectful behaviour is and how it affects our people. We shared real-life examples of how some people experience disrespectful behaviour at BHP, to highlight the current environment and generate conversations.



The campaign asks everyone to reflect on their own behaviours and what they see around them and ask 'Is that ok?' We equipped leaders and employees with materials to help them have conversations about disrespectful behaviours, and take steps to address it. We also launched a new eLearning module on inclusion and continue to develop additional resources for our people as we continue this critical initiative. Further development of a culture of care within our business is a fundamental element of our FY2020 business plan.

### Gender balance

We have an aspirational goal to achieve gender balance globally by CY2025. In FY2019 we increased the representation of women working at BHP by 2.1 per cent, resulting in 1,156 more female employees than the same time in FY2018. Our overall representation of women is 24.5 per cent.<sup>(1)</sup>

In FY2019, the percentage of people newly hired to work for BHP was 62.3 per cent male and 37.7 per cent female. This female representation outcome is a marked increase when compared to FY2015 (10.4 per cent), the baseline for our aspirational goal. Our growth projects have reported strong female representation. For example, South Flank operational workforce in Western Australia has achieved 41 per cent female representation as at the end of FY2019. → [For more information, read our case study Inclusion and diversity in Minerals Americas at bhp.com/community/case-studies](#).

We have improved the voluntary turnover rate of women by 0.7 per cent, when compared to FY2018; the turnover of women (11.4 per cent) remains higher than the rate for men (10.3 per cent).

Our strategy to achieve a more diverse and inclusive workplace continues to focus on the following four areas:

- embedding flexibility in the way we work;
- encouraging and working with our supply chain partners to support our commitment to inclusion and diversity;
- uncovering and taking steps to mitigate potential bias in our behaviours, systems, policies and processes;
- ensuring our brand is attractive to a diverse range of people.

(1) Based on a 'point in time' snapshot of employees as at 30 June 2019, as used in internal management reporting for the purposes of monitoring progress against our goals. This does not include contractors. This methodology differs from the data reported in Performance data – People, which is calculated based on the average of the number of employees at the last day of each calendar month for a 10-month period from July through to April and in accordance with our reporting requirement under the UK Companies Act 2006.

## People continued

### Indigenous employment

In communities in which we operate, we aim to provide employment opportunities that contribute to sustainable social and economic benefits for Indigenous peoples. For information on our approach to Indigenous employment and our performance to date, refer to the **Indigenous peoples** section.

### LGBT+ inclusion

We want to provide a safe, inclusive and supportive workplace for everyone at BHP. Jasper is BHP's employee inclusion group for our lesbian, gay, bisexual, transgender and others (LGBT+) community and its allies. Inspired by the mineral rock jasper, which is known for its unique multi-coloured patterns, the group was formally endorsed by BHP's Global Inclusion and Diversity Council in 2017 and is sponsored by BHP Executive team member Laura Tyler. Jasper's aim is to drive a safe, inclusive and supportive work environment for everyone by providing advice on ways to reduce bias and ensure LGBT+ people are respected and valued irrespective of their sexual orientation, gender identity or intersex variability.

Since its formation in 2017, Jasper has grown to over 900 members. We rolled out LGBT+ inclusion awareness and education sessions across all Minerals Australia operations in FY2019, with plans to extend to our operations and offices in FY2020. We also continue to celebrate days of significance, including IDAHOBIT (International Day Against Homophobia, Biphobia, Interphobia and Transphobia) and Wear It Purple Day (awareness day for young people).

### Flexible working

Flexible work supports the diversity and wellness of our workforce. Some 41 per cent of our people worked flexibly in FY2019 and we continue to educate our workforce about flexible working at BHP. We continue to challenge the mindset that flexibility is only available for office-based employees, with a number of operations implementing flexible rosters and job share arrangements that assist employees both commuting long distances and living locally. For example, the Crib Relief Program at BHP Mitsubishi Alliance (BMA) changed the existing approach to truck crib relief by reducing the shift length for relief drivers to better align with school hours. This helped unlock a new and more diverse talent pool that also increased the workforce's local community representation. It also helped improve workforce culture and morale as employees shared skills and knowledge with those new to the industry. → For more information, read our Prospects blog [Cool change for hot seating](#) at [bhp.com/prospects](http://bhp.com/prospects).

### Working with suppliers

We continue to work with our suppliers on ensuring their products and services are suitable for a diverse workforce, as well as encouraging diversity in their own work teams. For example, at Olympic Dam in Australia, following a request by an employee of Muslim faith living at camp, we collaborated with our catering supplier to ensure the availability of halal food. This helped ensure that appropriate food was available for all living at camp, as well as helping create a sense of one team among the workforce. In FY2019, where practicable, we also introduced inclusion and diversity incentives into our supply contracts.



### Employee relations

The culture of care and trustful relationships is a fundamental principle of our employee relations strategy. The three key focus areas for employee relations at BHP has continued to be:

- ensure BHP complies with legal obligations and regional labour regulations;
- negotiate, where there are requirements to collectively bargain;
- close out agreements with our workforce in South America and Australia, with no lost time due to industrial action.

On 17 August 2018, Minera Escondida Limitada (Escondida) successfully completed negotiations with Union N°1 and signed a new collective agreement, effective for 36 months from 1 August 2018.



# Ethics and business conduct

**Our Charter values of Integrity, Respect, Performance, Simplicity and Accountability underpin how we do business. We are committed to behaving ethically, being transparent and working with integrity and respect.**



## In this section:

- Transparency and accountability
- Our conduct
- Anti-corruption

# Ethics and business conduct

**Our Charter values of Sustainability, Integrity, Respect, Performance, Simplicity and Accountability underpin how we do business and reinforce our commitment to ethical behaviour. This commitment is based on our understanding of the transformational potential of sustainable natural resource development and our recognition that operating ethically and transparently is fundamental to harnessing that potential.**

## Transparency and accountability

Transparency and accountability are fundamental to building trust. BHP's business model is premised on trust and public acceptance because our mines have long lifespans and cannot be moved across jurisdictions in response to a breakdown in trust, changing societal expectations or regulatory requirements. We must earn the trust of our host communities and demonstrate our contribution to long-term social value. Our tax and royalty payments help governments fund healthcare, education, infrastructure and other essential services. Conversely, corruption and poor governance of natural resources would divert funding from those basic provisions and diminish our contribution.

## Our commitment to transparency

Transparency principles of responsibility, openness, fairness and accountability underpinned a decision to become the first in our sector to disclose payments to governments on a project-by-project basis in 2015. We continue to disclose our profit, number of employees and adjusted effective tax rates on a country-by-country basis.

Economic transparency is not our only focus. We have a strong record of supporting robust reporting on climate change issues. We were one of the first companies to report in accordance with the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures in our Annual Report.

In FY2018, we released our inaugural report of our water risks and usage, and this year integrated FY2019 data into this Sustainability Report. Water stewardship is not only critical to our operations, but is central to the resilience of our communities and environment. Greater transparency around water requirements and usage will encourage governments, industry and communities to work together to safeguard our water supplies for future generations.

## Encouraging a broader dialogue

We work in partnership with Transparency International to contribute to the global transparency and anti-corruption agenda. BHP was a founding signatory in FY2018 to the Responsible Tax Principles of the B Team, a not-for-profit initiative formed by a global group of business leaders to catalyse a better way of doing business.

We are represented on the Board of the Extractive Industries Transparency Initiative (EITI). EITI requires its 51 implementing countries to develop 'road maps' towards the establishment of beneficial ownership registers. We also support and participate in OpenOwnership, the first public global database of company ownership information, and look for opportunities to encourage our suppliers and partners to do the same. Disclosure of beneficial ownership reduces opportunities for corruption (via secret ownership interests) and helps ensure that company assets and income are fully disclosed to relevant regulatory bodies, such as revenue authorities, to promote compliance with taxation laws.

The BHP Foundation, a charitable foundation established and funded by BHP, complements our support of global transparency initiatives. The Foundation's Natural Resource Governance Global Signature Program aims to improve governance across the resources value chain, from consultation and consent processes before licences and contracts are awarded to citizen services and infrastructure funded by the payment of taxes and royalties.

The projects help to improve the visibility of funds associated with natural resources in the respective country.



BHP's approach to transparency and tax is detailed in our Economic Contribution Report 2019 and is available online at [bhp.com](http://bhp.com).

## Our conduct

We know consistent ethical behaviour cultivates loyalty and trust with each other and our stakeholders.

Every day, all of us at BHP work hard to uncover the resources that are the building blocks of an ever-changing world. It is something we should all be proud of. While what we achieve is important – so is how we achieve it.

How we work is guided by the core values in *Our Charter*. They are Sustainability, Integrity, Respect, Performance, Simplicity and Accountability. We are relentless in our pursuit of these values and they guide our decision-making.

*Our Code of Conduct* (*Our Code*) brings them to life, reminds us why they are important and helps us understand what it means to work with those values as our guiding principle. It strengthens our relationships, builds trust in the communities where we work and protects the social value we deliver. *Our Code* sets the standard for our commitment to working with integrity and respect. *Our Code* guides us in our daily work and demonstrates how to practically apply the commitments and values set out in *Our Charter*. Acting in accordance with *Our Code* is a condition of employment for everyone who works for and on behalf of BHP, and is accessible to all our people and external stakeholders on our website. See more at [bhp.com](http://bhp.com).

## Governance of Our Code

### Safe to speak up

Our employees and those who work with us or who are associated with us should speak up if they see or hear something that contradicts *Our Code*. Our Safe to Speak Up policy outlines BHP's commitment to confidentiality and zero tolerance against retaliation. We continue to strengthen our Safe to Speak Up policy, which aligns with the amendments to the Australian Corporations Act (with effect from 1 July 2019) that provides greater protection to those who speak up and report misconduct.

*Our Code* is not just for our employees and contractors – we also want our external stakeholders to know how we expect our people to behave and to speak up about any conduct inconsistent with *Our Code*.

Employees and contractors can raise their concerns through a number of channels, including line leaders. Anyone can lodge a report, including external stakeholders through EthicsPoint, a 24-hour, multilingual service for confidential reporting of potential misconduct. EthicsPoint reports can be raised anonymously.

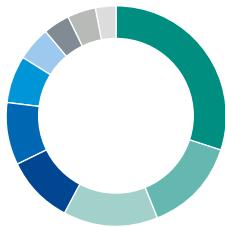
We acknowledge, investigate as appropriate and document all matters reported. Where matters are investigated and substantiated, we take appropriate remedial actions, advise the reporter (where possible) and document the outcome.

BHP does not tolerate any form of retaliation against anyone who speaks up about potential misconduct or participates in an investigation.

## Ethics and business conduct continued

The breakdown of business conduct cases reported in EthicsPoint in FY2019 was as follows:

### Business conduct cases by category



Harassment and bullying	30%
Behaviour	14%
Health and safety	14%
Other <sup>(1)</sup>	10%
Equality in employment	9%
Performance	7%
Conflict of interest	5%
Ask a question	4%
Absenteeism	4%
Alcohol, drug and tobacco use	3%

(1) Accuracy of data and information; unfair dismissal; physical theft or loss; protecting BHP assets; maintaining supplier relationships; personal information and privacy; communicating externally; accepting gifts, hospitality and entertainment; cyber security; corruption; engaging with our communities competition.

### Training in Our Code

As in previous years, we deliver annual training for employees and contractors where required in mandatory annual training plans to help them clearly understand *Our Code* and the standards of behaviour that are acceptable at BHP. In FY2019, 38,587 people completed *Our Code* training. We are also rolling out further awareness training on how to treat and manage complaints for line leaders to improve timely, effective and respectful handling of complaints, as well as safe to speak up culture. Our CEO frequently raises the importance of culture within BHP in his monthly CEO messages.

In FY2019, we ran a Disrespectful Behaviours campaign to increase awareness about behaviours that are not consistent with *Our Charter* values. The campaign was designed to stimulate conversations about what constitutes disrespectful behaviours, why they exist and how to stop these behaviours. The campaign appears to have been effective in raising awareness of these issues as demonstrated by a 38 per cent increase in harassment and bullying cases raised in EthicsPoint and a doubling of the behaviour-related concerns in EthicsPoint in FY2019 compared to FY2018.

### Investigations, governance and reporting

With culture at the centre of key strategic priorities, we have many initiatives to improve our policies, procedures and practices, building on changes we have already delivered. They include the implementation of:

- an updated *Our Requirements for Business Conduct* standard, to strengthen our investigations framework, including providing clear guidance on how each EthicsPoint concern is assessed and triaged;
- an independent, dedicated Central Investigation team within our Ethics and Compliance function that investigates the most serious allegations of misconduct and provides guidance to drive a standardised, quality investigation process throughout BHP;
- an Integrity Working Group, chaired by our Chief Compliance Officer and comprised of senior leaders across the Health, Safety and Environment; Risk; Internal Audit; Legal; and Ethics and Compliance functions, with accountability for oversight of the operational effectiveness of the Investigations Framework, including oversight of investigations completed by the Central Investigations team.

Complaints raised via EthicsPoint provide valuable insight into cultural issues and areas for organisational improvement.

Complaints are reported biannually to the Board's Risk and Audit Committee by the Ethics and Compliance function. In FY2019, we improved the EthicsPoint process, ethics reporting capability and the quality of investigations and investigations outcomes. These changes will make the reporting more holistic and permit detailed reporting of ethical culture issues to management and the Board.

### Anti-corruption

Corruption misallocates resources, reinforces poverty, undermines the integrity of government and community decision-making and wastes opportunities that arise from resource development. We are committed to contributing to the global fight against corruption and working with business, government and civil society to support this effort.

Our commitment to anti-corruption compliance is embodied in *Our Charter* and *Our Code*. We also have a specific anti-corruption procedure that sets out mandatory requirements to identify and manage the risk of anti-corruption laws being breached. We prohibit authorising, offering, giving or promising anything of value directly or indirectly to a government official to influence official action, or to anyone to encourage them to perform their work disloyally or otherwise improperly. We also require our people to take care that third parties acting on our behalf do not violate anti-corruption laws. A breach of these requirements can result in disciplinary action, including dismissal, or termination of contractual relationships.

Our Ethics and Compliance function has a mandate to design and govern BHP's compliance frameworks for key compliance risks, including anti-bribery and corruption. The function is independent of our assets and asset groups, and comprises teams that are co-located in our main global locations and a specialised Compliance Legal team. The Chief Compliance Officer reports twice a year to the Risk and Audit Committee and separately to the Committee Chairman, also twice a year.

Our anti-corruption compliance program is designed to meet the requirements of the US Foreign Corrupt Practices Act, the UK Bribery Act, the Australian Criminal Code and applicable laws of all places where we do business. These laws are consistent with the standards of the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions. We regularly review our anti-corruption compliance program to make any changes required by regulatory developments.

In addition to anti-corruption training as part of annual training on *Our Code*, additional risk-based anti-corruption training was completed by 9,374 employees in FY2019, as well as numerous employees of business partners and community partners.



More information on our anti-corruption compliance program (including risk assessments, training and communication) is available online at [bhp.com/anticorruption](http://bhp.com/anticorruption).

# Appendix

## In this section

Performance data – Environment	78
Performance data – Climate Change	80
BHP Water sensitivity assessment	83
Detailed significant water related risks	84
Performance data – Water	87
BHP asset-level water data summary	90
Performance data – Society	91
Performance data – People	91

## Appendix

### Performance data – Environment

		2019	2018 <sup>(1)</sup>
<b>Land<sup>(2)</sup></b>			
Land owned, leased or managed	hectares	<b>10,018,600</b>	10,001,500
– Land disturbed	hectares	<b>148,800</b>	141,500
– Land rehabilitated <sup>(3)</sup>	hectares	<b>27,460</b>	27,180
– Land set aside for conservation <sup>(3)(4)</sup>	hectares	<b>66,500</b>	28,000
<b>Water<sup>(5)</sup></b>			
Withdrawals <sup>(6)</sup>	ML	<b>352,950</b>	339,870
Water withdrawals by quality – Type 1	ML	<b>58,850</b>	34,900
Water withdrawals by quality – Type 2	ML	<b>37,560</b>	44,150
Water withdrawals by quality – Type 3	ML	<b>256,550</b>	260,820
Water withdrawals by source – Surface water <sup>(7)</sup>	ML	<b>50,580</b>	43,380
Water withdrawals by source – Groundwater	ML	<b>133,260</b>	127,230
Water withdrawals by source – Sea water	ML	<b>169,100</b>	169,250
Discharges	ML	<b>119,250</b>	118,940
Water discharges by quality – Type 1	ML	0	0
Water discharges by quality – Type 2	ML	<b>3,060</b>	1,150
Water discharges by quality – Type 3	ML	<b>116,190</b>	117,790
Water discharges by destination – Surface water	ML	<b>2,940</b>	2,730
Water discharges by destination – Groundwater	ML	<b>1,540</b>	840
Water discharges by destination – Sea water	ML	<b>114,450</b>	115,040
Water discharges by destination – Third party	ML	<b>320</b>	320
Consumption	ML	<b>268,620</b>	
Consumption – evaporation	ML	<b>139,980</b>	140,760
Consumption – entrainment	ML	<b>107,270</b>	17,870
Consumption – other	ML	<b>21,370</b>	1,330
Recycled/reused	ML	<b>246,420</b>	261,620
Diversions	ML		
Diversions – withdrawals	ML	<b>101,520</b>	16,290
Diversions – discharges	ML	<b>72,500</b>	7,860
<b>Air emissions</b>			
Total oxides of sulphur	tonnes	<b>13,200</b>	15,400
Total oxides of nitrogen	tonnes	<b>81,500</b>	80,600
Total mercury	tonnes	<b>0.0</b>	0.0
<b>Waste</b>			
Hazardous waste – Mineral total (including tailings) <sup>(8)</sup>	kilotonnes	<b>13,500</b>	13,100
Non-hazardous waste – Mineral tailings <sup>(8)(9)</sup>	kilotonnes	<b>167,000</b>	137,000
Accidental discharges of water and tailings <sup>(10)(11)</sup>	megalitres	<b>0</b>	0

## Appendix continued

### Regional environment fines levied<sup>(11)</sup>

	2019	Number of Fines
Australia	US\$45,529	5
North America	US\$0	0
South America	US\$3,573	1

### Designated protected areas

	Designated protected areas adjacent to land managed by our assets	Designated protected areas on or containing portions of land managed by our assets	Size of owned, leased or managed land on or containing portions of designated protected area
	Number	Number	Hectares
<b>Terrestrial</b>			
Australia	16	3	8,501
North America	4	10	2,804
South America	4	6	15,300
<b>Maritime</b>			
Australia	1	1	76

(1) Data in italics indicates that data has been adjusted since it was previously reported. Water restatements are because of the change from the Minerals Council of Australia's Water Accounting Framework to ICMM's Water Reporting guidelines in 2019 and ongoing improvements in data quality.

(2) Land data is calculated as the total land area at the time of reporting.

(3) Data does not include land managed for rehabilitation or conservation as part of social investment.

(4) Material contributor (38,022 ha) includes the Emerald Springs Significant Environment Benefit credit area approved by the South Australian government.

(5) Data has been rounded to the nearest ten to be consistent with asset/regional data presented in the Water section of this report. In some instances the sum of totals for quality, source and destination may differ due to rounding. All water performance data excludes Discontinued operations (Onshore US).

(6) Third party water withdrawals have been reported by source.

(7) Includes rainfall and runoff volumes captured and used during the reporting year; rainfall and runoff volumes that have been captured and stored are excluded and will be reported in the future year of use.

(8) For tailings related minerals waste these figures represent the total deposited in the reporting year. For details on our current total volume of tailings stored, refer to BHP Tailings Facilities Disclosure: Response to the Church of England Pensions Board and Council on Ethics Swedish National Pension Funds (June 2019) at [https://www.bhp.com/-/media/documents/environment/2019/190607\\_coe.pdf?la=en](https://www.bhp.com/-/media/documents/environment/2019/190607_coe.pdf?la=en).

(9) Year-on-year movement has been largely caused by an improvement in calculation methodology at our Coal assets in FY2019.

(10) Data reported for environmentally significant incidents.

(11) Does not include the dam failure at Samarco, our non-operated minerals joint venture.

## Appendix continued

### Performance data – Climate change<sup>(1)</sup>

#### Energy consumption<sup>(2)</sup>

##### Operational energy consumption by source

		FY2019	FY2018
Consumption of fuel	petajoules	114	115
– Coal and coke	petajoules	1	1
– Natural gas	petajoules	24	31
– Distillate/gasoline	petajoules	87	81
– Other	petajoules	3	2
Consumption of electricity	petajoules	35	35
<b>Total operational energy consumption</b>	petajoules	<b>149</b>	150
Operational energy consumption from renewable sources	petajoules	0.31	0.38
Operational energy intensity <sup>(3)</sup>	gigajoules per tonne of copper equivalent production	22	21

##### Operational energy consumption by commodity

	FY2019		FY2018			
	Consumption of fuel petajoules	Consumption of electricity petajoules	Total operational energy consumption petajoules	Consumption of fuel petajoules	Consumption of electricity petajoules	Total operational energy consumption petajoules
Petroleum	15.0	0.2	15.2	24.1	0.3	24.4
Copper	20.7	24.6	45.3	19.6	24.6	44.2
Iron Ore	31.0	1.2	32.2	29.3	1.2	30.5
Coal	39.3	5.3	44.6	34.7	5.2	39.9
<b>Total</b>	<b>114.4</b>	<b>34.6</b>	<b>149.0</b>	<b>115.5</b>	<b>34.5</b>	<b>150.0</b>

#### Greenhouse gas emissions

##### Operational GHG emissions by source<sup>(4)(5)</sup>

		FY2019	FY2018
Scope 1 GHG emissions <sup>(6)</sup>	million tonnes CO <sub>2</sub> -e	9.7	10.6
Scope 2 GHG emissions <sup>(7)</sup>	million tonnes CO <sub>2</sub> -e	5.0	5.9
<b>Total operational GHG emissions</b>	million tonnes CO <sub>2</sub> -e	<b>14.7</b>	16.5
Operational GHG emissions intensity <sup>(3)</sup>	tonnes CO <sub>2</sub> -e per tonne of copper equivalent production	2.2	2.3

## Appendix continued

### Operational GHG emissions by commodity and asset<sup>(4)(5)</sup>

	FY2019			FY2018		
	Scope 1 GHG emissions kilotonnes CO <sub>2</sub> -e	Scope 2 GHG emissions kilotonnes CO <sub>2</sub> -e	Total operational GHG emissions kilotonnes CO <sub>2</sub> -e	Scope 1 GHG emissions kilotonnes CO <sub>2</sub> -e	Scope 2 GHG emissions kilotonnes CO <sub>2</sub> -e	Total operational GHG emissions kilotonnes CO <sub>2</sub> -e
<b>Petroleum</b>	<b>1,237</b>	<b>13</b>	<b>1,250</b>	<b>2,570</b>	<b>10</b>	<b>2,580</b>
– Gulf of Mexico	200	0	200	220	0	220
– US Onshore <sup>(6)</sup>	467	3	470	1,680	10	1,690
– Australia	320	0	320	430	0	430
– Other	250	10	260	240	0	240
<b>Copper</b>	<b>1,470</b>	<b>2,940</b>	<b>4,410</b>	<b>1,390</b>	<b>3,940</b>	<b>5,330</b>
– Escondida	930	2,140	3,070	890	3,040	3,930
– Pampa Norte	340	330	670	320	480	800
– Olympic Dam	200	470	670	180	420	600
<b>Iron Ore</b>	<b>2,050</b>	<b>260</b>	<b>2,310</b>	<b>1,930</b>	<b>260</b>	<b>2,190</b>
– Western Australia Iron Ore	2,050	260	2,310	1,930	260	2,190
<b>Coal</b>	<b>4,500</b>	<b>1,180</b>	<b>5,680</b>	<b>4,280</b>	<b>1,150</b>	<b>5,430</b>
– Queensland Coal	3,980	1,090	5,070	3,820	1,070	4,890
– New South Wales Energy Coal	520	90	610	460	80	540
<b>Other assets</b>	<b>460</b>	<b>530</b>	<b>990</b>	<b>380</b>	<b>540</b>	<b>920</b>
– Nickel West	460	530	990	380	540	920
<b>Total<sup>(9)</sup></b>	<b>9,730</b>	<b>4,970</b>	<b>14,700</b>	<b>10,590</b>	<b>5,950</b>	<b>16,540</b>

### Scope 3 GHG emissions by category<sup>(10)</sup>

		FY2019	FY2018
<b>Upstream</b>			
Purchased goods and services (including capital goods)	million tonnes CO <sub>2</sub> -e	<b>17.3</b>	8.2
Fuel and energy related activities	million tonnes CO <sub>2</sub> -e	<b>1.3</b>	1.4
Upstream transportation and distribution <sup>(11)</sup>	million tonnes CO <sub>2</sub> -e	<b>3.6</b>	3.6
Business travel	million tonnes CO <sub>2</sub> -e	<b>0.1</b>	0.1
Employee commuting	million tonnes CO <sub>2</sub> -e	<b>&lt;0.1</b>	<0.1
<b>Downstream</b>			
Downstream transportation and distribution <sup>(12)</sup>	million tonnes CO <sub>2</sub> -e	<b>4.0</b>	5.0
Processing of sold products <sup>(13)</sup>	million tonnes CO <sub>2</sub> -e	<b>304.7</b>	322.6
– Iron ore to steel <sup>(14)</sup>	million tonnes CO <sub>2</sub> -e	<b>299.6</b>	317.4
– Copper cathode to copper wire	million tonnes CO <sub>2</sub> -e	<b>5.1</b>	5.2
Use of sold products	million tonnes CO <sub>2</sub> -e	<b>232.7</b>	253.8
– Metallurgical coal <sup>(14)</sup>	million tonnes CO <sub>2</sub> -e	<b>111.4</b>	112.3
– Energy coal	million tonnes CO <sub>2</sub> -e	<b>67.0</b>	71.0
– Natural gas	million tonnes CO <sub>2</sub> -e	<b>28.3</b>	36.4
– Crude oil and condensates <sup>(15)</sup>	million tonnes CO <sub>2</sub> -e	<b>23.3</b>	29.6
– Natural gas liquids	million tonnes CO <sub>2</sub> -e	<b>2.8</b>	4.5
Investments (i.e. our non-operated assets) <sup>(16)</sup>	million tonnes CO <sub>2</sub> -e	<b>3.1</b>	1.7

## Appendix continued

- (1) Unless otherwise noted, FY2018 data includes Continuing operations and Discontinued operations (Onshore US assets). FY2019 data includes Discontinued operations (Onshore US assets) to 31 October 2018 and Continuing operations.
- (2) Calculated on an operational control basis in line with World Resources Institute/World Business Council for Sustainable Development guidance.
- (3) Copper equivalent production has been calculated based on FY2019 average realised product prices for FY2019 production, and FY2018 average realised product prices for FY2018 production. Production figures used are consistent with energy and emissions reporting boundaries (i.e. BHP operational control).
- (4) BHP currently uses Global Warming Potentials (GWP) from the Intergovernmental Panel on Climate Change (IPCC) Assessment Report 4 (AR4) based on 100-year timeframe.
- (5) Scope 1 and 2 emissions have been calculated on an operational control basis in line with the GHG Protocol Corporate Accounting and Reporting Standard.
- (6) Scope 1 refers to direct GHG emissions from operated assets.
- (7) Scope 2 refers to indirect GHG emissions from the generation of purchased electricity and steam that is consumed by operated assets. Our Scope 2 emissions have been calculated using the market-based method using supplier specific emissions factors, in line with the GHG Protocol Scope 2 Guidance. Our market-based Scope 2 emissions were 5.0 Mt CO<sub>2</sub>-e which compares to 5.1 Mt CO<sub>2</sub>-e if calculated using the location-based method. A residual mix is currently unavailable to account for voluntary purchases and this may result in double counting between electricity consumers.
- (8) Includes four months of emissions in FY2019 prior to divestment of this asset.
- (9) Total includes functions, projects, exploration, closed sites and consolidation adjustments.
- (10) Scope 3 emissions have been calculated using methodologies consistent with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Scope 3 emissions reporting necessarily requires a degree of overlap in reporting boundaries due to our involvement at multiple points in the life cycle of the commodities we produce and consume. A significant example of this is that Scope 3 emissions reported under the 'Processing of sold products' category include the processing of our iron ore to steel. This third party activity also consumes metallurgical coal as an input, a portion of which is produced by us. For reporting purposes, we account for Scope 3 emissions from combustion of metallurgical coal with all other fossil fuels under the 'Use of sold products' category, such that a portion of metallurgical coal emissions is accounted for under two categories. This is an expected outcome of emissions reporting between the different scopes defined under standard GHG accounting practices and is not considered to detract from the overall value of our Scope 3 emissions disclosure. This double counting means that the emissions reported under each category should not be added up, as to do so would give an inflated total figure. For this reason we do not report a total Scope 3 emissions figure. Further details of the calculation methodologies, assumptions and key references used in the preparation of our Scope 3 emissions data can be found in the associated Scope 3 calculation methodology document available online at [bhp.com/climate](http://bhp.com/climate).
- (11) Includes product transport where freight costs are covered by BHP, for example under Cost and Freight (CFR) or similar terms, as well as purchased transport services for process inputs to our operations.
- (12) Product transport where freight costs are not covered by BHP, for example under Free on Board (FOB) or similar terms.
- (13) All iron ore production is assumed to be processed into steel and all copper metal production is assumed to be processed into copper wire for end-use. Processing of nickel, zinc, gold, silver, ethane and uranium oxide is not currently included, as production volumes are much lower than iron ore and copper and a large range of possible end uses apply. Processing/refining of petroleum products is also excluded as these emissions are considered immaterial compared to the end-use product combustion reported in the 'Use of sold products' category.
- (14) Scope 3 emissions reported under the 'Processing of sold products' category include the processing of our iron ore to steel. This third party activity also consumes metallurgical coal as an input, a portion of which is produced by us. For reporting purposes, we account for Scope 3 emissions from combustion of metallurgical coal with all other fossil fuels under the 'Use of sold products' category, such that a portion of metallurgical coal emissions is accountable for under two categories.
- (15) All crude oil and condensates are conservatively assumed to be refined and combusted as diesel.
- (16) For BHP, this category covers the Scope 1 and 2 emissions (on an equity basis) from our assets that are owned as a joint venture but not operated by BHP.

## Appendix continued

### BHP Water sensitivity assessment

The following table provides a detailed summary of our water sensitivity assessment and the degree (high, moderate or low) to which an asset is sensitive to a range of water-influencing factors. This assessment is primarily qualitative.

(L = Low influence on water sensitivity; M = Medium influence on water sensitivity; H = High influence on water sensitivity; NA = Not applicable)

Category	Catchment	Climate		BHP water source interactions			Competition for resources					Sustainability of resource		Regulation	Water sensitivity (BHP assessed)
Asset or region		Climate zone <sup>(1)</sup>	Cyclone prone	Groundwater	Surface water	Sea water	Baseline water stress <sup>(2)</sup>	Stakeholder concern	Shared water resource within communities	Potential for cumulative impacts	Proximity to high conservation area	Basin allocation	Level of water resource sustainability	Water regulation	
Escondida	Salar de Atacama, Coloso coast and Pampa Colorado	Arid, cold desert	No	H	L	H	Arid and low water use	H	H	M	H	H	M	M	High
Legacy Assets Canada	Multiple catchments	Boreal to warm temperate	No	NA	NA	L	Low to medium	L	L	L	L	NA	M	L	Low
Legacy Assets United States	Multiple catchments	Warm temperate to arid	No	L	NA	NA	Medium to high	M	L	M	H	NA	M	L	Moderate
Nickel West	Multiple catchments	Warm temperate, steepe, hot	No	M	L	L	Arid and low water use	M	L	L	L	L	L	M	Low
NSW Energy Coal	Hunter	Warm temperate, humid, Cool	No	M	H	L	Medium to high	H	H	H	M	M	L	M	Moderate
Olympic Dam	Great Artesian Basin	Arid, hot desert	No	H	L	L	Arid and low water use	M	H	M	H	M	M	L	Moderate
Pampa Norte	Cuencas Fronterizas Salar Michincha – Río Loa, Salar del Huasco, Pampa del Tamarugal	Arid, cold desert	No	H	M	L	Arid and low water use	H	H	M	H	H	M	M	High
Petroleum	Multiple catchments	Subtropical to tropical (offshore)	Yes	L	L	H	No Data	L	L	L	L	L	L	M	Low
Potash	Zelma Reservoir	Cold, humid, seasonal extremes	No	L	M	NA	Low to medium	L	L	L	L	L	L	M	Low
Queensland Coal (BMA/ BMC)	Fitzroy & Bowen	Warm temperate, humid, hot	Yes	H	H	M	Low	H	H	H	M	H	M	H	High
Western Australia Iron Ore	Upper Fortescue catchment	Arid, hot desert	Yes	H	M	L	Arid and low water use	M	L	H	H	H	L	L	Moderate

(1) In accordance with Köppen-Geiger climate classification terminology.

(2) Derived from the World Resources Institute's Aqueduct global water risk mapping tool and the associated descriptors for baseline water stress: Low (<10%); Low to medium (10–20%); Medium to high (20–40%); High (40–80%); Extremely high (>80%); Arid and low water use; and no data. Gassett, F., M. Luck, M. Landis, P. Reig, and T. Shiao. 2014. Aqueduct Global Maps 2.1: Constructing Decision-Relevant Global Water Risk Indicators. Working Paper. Washington, DC: World Resources Institute. Available online at [wri.org/publication/aqueduct-global-maps-21-indicators](http://wri.org/publication/aqueduct-global-maps-21-indicators).

## Detailed significant water-related risks

This table provides further details on BHP's significant water-related risks, potential impacts and controls. For a summary of BHP's water-related risks by asset see the **Our water-related risks** section of this report.

Risk area	Risk description	Potential impacts	Controls
Catchment-level	<p>Catchment-level risks are influenced by the physical, environmental, socio-political, water resource and regulatory settings of our operations, the activities of other water users and present and past impacts from our operations.</p> <p>Most of our assets are exposed to risks associated with cumulative impacts to shared water resources. BHP acknowledges and seeks to include the cultural and spiritual values associated with water resources, especially to Indigenous communities, in consideration of this risk.</p> <p>While BHP does not have the ability to directly manage all catchment risks, we need to maintain a focus on management of our contribution to the risk and commit to participate in ongoing catchment governance.</p>	<p>Potential impacts to the community from BHP's access to and use of water resources within the catchment include reduced water supply to communities, aesthetic impacts to recreational use for water or contamination of water sources with potential reduction in supply and availability for community water use. Ineffective catchment governance and regulation can compound these risks.</p> <p>The impacts to the environment may include changes to natural groundwater levels, changes to stream flows, water quality issues in ground, surface or marine environments, reduced pressure in groundwater aquifers that, in turn, may affect the biodiversity, habitats and species that rely on the water sources.</p> <p>Environmental impacts can contribute to community conflict and cause regulatory breaches, legal liability and reputational impacts. They can also alter the spiritual value of water/water features to Indigenous groups and impact the value of water resource for future generations. They may have longer term financial implications and threaten our business model, including our ability to expand or develop new resources.</p> <p>Unsustainable use of the water resource may impact production and a lack of understanding of the water resource may fail to provide transparency to the operations on the long-term water management limitations and opportunities.</p> <p>The cumulative impacts resulting from multiple uses within a catchment may exacerbate the community and environmental impacts discussed above.</p>	<p>Controls to manage the impact to the water resource, including the environmental and community impacts, include ongoing and regular stakeholder engagement to ensure effective collaboration, compliance with water allocation permits, targets for reduced freshwater use, participation in catchment-level reviews, assessments to understand and improve technical knowledge, challenges and interactions at a catchment level, ongoing monitoring and measurement of water (quality, quantity, baseline and reference characteristics of water resource and movements), water recovery or source substitution, integration of water management practices into asset business planning, identification and where feasible implementation of opportunities for reduced water use and, where practical, ongoing monitoring of flora and fauna and other indicators of environmental health.</p> <p>Human rights impact assessments are also conducted to understand potential community risks and impacts. For more information on engaging with communities, refer to the <b>Society</b> section.</p> <p>Ongoing assessment is conducted of baseline conditions at a catchment level and the potential direct, indirect and cumulative impacts of our operations on this. Climate change science must be factored into this assessment. For more information on the Our Requirements standards, refer to the <b>Environment</b> section.</p> <p>Our water stewardship strategy is inclusive of a collective action and a disclosure work stream, both of which focus on water governance and collaborating with host communities, governments, industry peers and other stakeholders.</p>
Climate change	<p>Climate change can heighten existing physical water risks and introduce new ones. For example, it may increase the intensity of extreme weather events, such as flooding and drought. Over the longer term, reduced rainfall can create water security issues, while worsening excess water management challenges for others.</p>	<p>Climate change can affect near-and long-term business performance and create a risk of early asset closure. Climate change effects may significantly increase the risk of other water-related risks, such as management of excess water, water access for BHP and others, sea level rise, coastal erosion, storm tide inundation and affects from increased extreme weather events.</p>	<p>Controls for climate-related water risks can be similar to those for water excess, security and extreme weather events.</p> <p>For more information on our approach to climate change, refer to the <b>Climate change</b> section.</p>
Closure	<p>Operations that are closing, have closed, or are under 'care and maintenance' can have water quality (within the BHP footprint and beyond) or water accumulation issues.</p>	<p>Ineffectively managed closure water risks may adversely affect the environment, communities and our business.</p>	<p>Effective closure planning is an important control across BHP. The closure plans consider issues such as pit void lake formations, acidic and metalliferous drainage and saline water accumulation and potential impact to both surface and groundwater. For legacy assets, controls may also be similar to those for excess water, extreme weather and water quality risks.</p> <p>For more information on our approach to closure, refer to the <b>Environment</b> section.</p> <p>For more information on the financial provisions relating to closure liabilities, refer to our Annual Report 2019, available online at <a href="http://bhp.com">bhp.com</a>.</p>

## Appendix continued

Risk area	Risk description	Potential impacts	Controls
<b>Compliance</b>	Our assets operate in medium-to-strong regulatory environments for water and regulation compliance requires constant vigilance.	Non-compliances could result in minor infringements through to financial penalties or enforcement orders or proceedings.	We need to continually monitor and, where required, improve our compliance with all water regulatory requirements. We also engage with regulators to understand their priorities and how regulatory requirements apply to our assets and at a catchment level. Ongoing dialogue takes place with regulatory authorities to address any existing non-compliances regarding surface water and groundwater.
<b>Dewatering</b>	Many of BHP's ore bodies are located below the natural groundwater level and to access the ore we need to pump water. Dewatering is an important mine production enabling activity to both enable access to ore in the case of ore located below the water table or enable access to ore by supporting pit stability.	This can potentially impact geotechnical stability and safety, water supply, excess water management, the environment, communities and production.	Controls for dewatering include mine planning, maintaining an operational and predictive water balance, defining dewatering and depressurisation targets, monitoring and reviewing performance metrics, environmental impact assessments, managing excess/surplus water (such as the re-injection of excess water to local aquifers, where possible) and ongoing hydrology assessments to inform planning.
<b>Extreme weather</b>	Extreme weather can cause drought, snow or flood events and may arise from acute or chronic climate cycles.	Extreme weather events may contribute to production, environmental, community and reputational impacts. For example, ineffective management during drought conditions may constrain production due to limitations on water availability. Ineffective management of excess water has the potential to impact geotechnical stability and safety, prevent site access, cause injuries due to flooding and impact the environment, communities and production.	Forecasting and monitoring of extreme weather events is important in assisting timely and appropriate management. Other preventative controls include design criteria for surface water infrastructure (including extreme weather events analysis) and building integrity within the infrastructure. Mitigating controls include emergency preparedness, communications systems and adequately trained staff. For example, all assets test the effectiveness of emergency preparedness for extreme weather events by undertaking regular emergency drills that include external agencies, such as regional fire and police as well as internal BHP resources.
<b>Marine</b>	Marine ecosystems are susceptible to impacts resulting from changes to the physical (e.g. temperature and pH) and chemical (metal, hydrocarbon concentrations) parameters of the water body. Key risk events that may contribute to marine impacts include: <ul style="list-style-type: none"><li>- loss of containment of hydrocarbons within Petroleum;</li><li>- desalination facilities that discharge high-salinity water in low volumes;</li><li>- port operations located in proximity to communities and/or key marine areas;</li><li>- other uncontrolled operational discharges.</li></ul>	Due to regional differences in marine ecosystems and potential cumulative impacts, the type and extent of the impacts to the marine environment for each of our operations may be different. These may include biodiversity and community impacts from catastrophic impacts, which may arise from a Petroleum loss of containment risk to chronic impacts if, for example, discharges are not effectively managed. Brine discharges at desalination facilities may result in the alteration of marine ecosystems.	Controls for hydrocarbon containment include pressure relief systems, engineering design specifications, operational procedures, passive protection and bunding. Mitigating controls include communication and emergency systems. To minimise impacts associated with smaller discharges in marine environments, treatment, sediment, erosion and other collection and/or treatment systems are utilised. Controls for desalination and port operations include ongoing maintenance of critical equipment, monitoring and technical studies and stakeholder engagement.
<b>Tailings</b>	Ineffective management of tailings facilities can pose risks due to catastrophic failure, seepage and inefficient water management.	Impacts arising from the ineffective management of tailings facilities can range from production impacts to catastrophic impacts to employees, communities and the environment, with flow on financial and reputational impacts.	Following the Fundão tailings dam failure, BHP has sought to enhance our tailings management, governance and risk assessment processes and contribute to raising industry-wide standards generally. For more information, refer to the <b>Tailings dams</b> section.

## Appendix continued

Risk area	Risk description	Potential impacts	Controls
<b>Water access, sanitation and hygiene (WASH)</b>	<p>The remote nature of many of our operations means BHP is often the supplier of water to our workforce for drinking and sanitation, and the manager of effluent. This role sometimes extends to neighbouring communities.</p> <p>Wherever we do this we are committed to providing access to safe and reliable drinking water (potable water) and appropriate sanitation and hygiene facilities.</p>	<p>Ineffective controls may result in illness and potential fatalities, which could disrupt our operations and have financial and reputational impacts. Our operations also have the potential to affect the cultural and spiritual values associated with water resources.</p>	<p>Specific to the provision of drinking water, understanding the baseline quality of the water we receive, the performance of our treatment plants and monitoring the water produced are WASH priorities. Other controls also include appropriate infrastructure, qualified operators, sampling and exception reports and responses, maintenance strategies, emergency response and business continuity planning.</p> <p>Human rights impact assessments (HRIAs) are a control that assess both direct impacts to the workforce and communities, as well as potential impacts to other human rights, such as Indigenous, spiritual and cultural rights. All assets are required to undertake HRIAs and these are reviewed regularly. For more information on human rights at BHP, refer to the <b>Society</b> section.</p>
<b>Water infrastructure</b>	<p>Insufficient or poorly maintained water infrastructure is central to the security of supply and other water-related risks.</p>	<p>The inability for water infrastructure to supply the required quantity or quality of water necessary for our assets can result in losses in production and impacts to the long-term viability of our operations.</p>	<p>Controls include design and construction to internal and external standards, inspections and maintenance of infrastructure, operating within set parameters, monitoring and response.</p> <p>Regular maintenance of water infrastructure, such as treatment plants, pipelines and tanks is critical to ensure that water is adequate for our assets, both in quantity and quality.</p>
<b>Water quality</b>	<p>Water quality risks may occur from runoff or seepage (from exposed ground, pit slopes, waste rock), infiltration from water, tailings and process facilities, infrastructure, and increases in salinity due to long-term storage of water.</p>	<p>Changes to the quality of water that runs through or under an operation can affect the surrounding groundwater resources and streams. This can affect other water users and the environment. Changes in water quality can also constrain production, or result in water accumulation over time (due to discharge restrictions), which makes extreme rainfall events more challenging. This risk can persist for years after mining activity has ceased.</p>	<p>Management of water quality risks requires an understanding of what contributes to changes in water quality, how this may affect sensitive receptors within the environment and/or communities, and the appropriate management measures required.</p> <p>Controls include avoiding contact with substances that may impact water quality, minimising any impacts through treatment and monitoring of water quality outcomes so that the effectiveness of controls is understood and can be reviewed as appropriate.</p>
<b>Water security</b>	<p>A continuous and sustainable water supply is critical to our operations. Location and climate impact water availability and supply. For example, availability has been a risk at our NSW Energy Coal asset in the Hunter region of eastern Australia due to extended periods of below-average rainfall.</p>	<p>The inability to secure water access can constrain production, affect the environment, create community concerns about water availability and have regulatory, legal and financial implications.</p>	<p>An adequate understanding of technical aspects of the water resource, hydrological conditions and/or long-term changes in water availability and management is critical to ensure ongoing supply. In addition, understanding demand through water balances, predictive modelling and monitoring, is central for effective water security.</p> <p>Many of the controls in place for the management of catchment risk are applied for management of water security risks. Refer to the controls listed for catchment risk above.</p> <p>We seek to use lower-quality water where feasible and recover and recycle water to reduce freshwater requirements.</p>

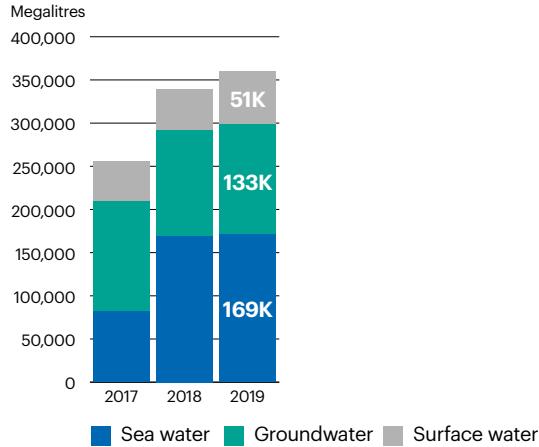
## Appendix continued

### Performance data – Water

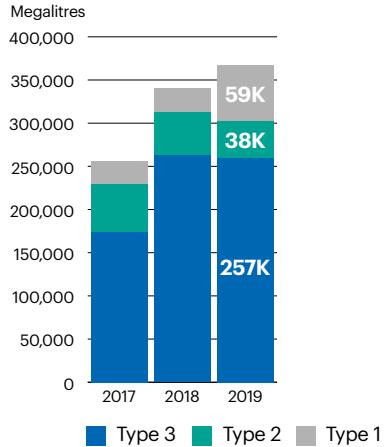
This section provides detailed disclosure of our water performance across various water metrics. It should be noted that for all data presented, Discontinued operations (Onshore US assets) have been excluded.

#### Water withdrawals<sup>(1)</sup>

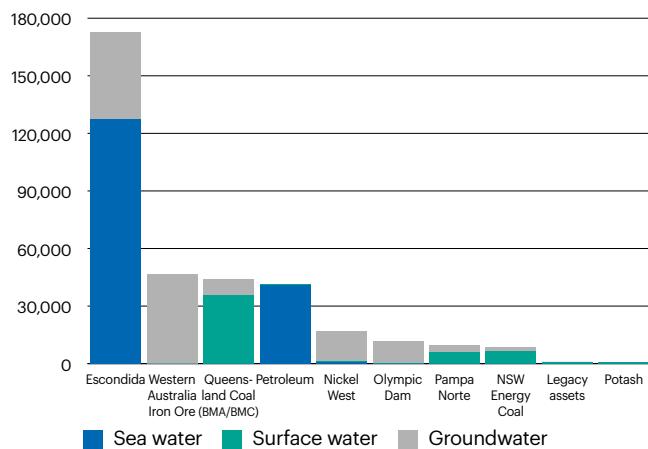
##### FY2017–FY2019 total withdrawals (by source)



##### FY2017–FY2019 total withdrawals (by quality)



#### FY2019 withdrawals by asset (by source)



Total water withdrawals for FY2019 across our operations increased relative to FY2018. The increase was due to an increase in groundwater use at WAIO associated with dust suppression and ore processing, and an increase in the use of sea water due to increasing throughput of Escondida's desalination plant.

While total water withdrawals for FY2019 were 352,950 megalitres, only 16 per cent was of Type 1 water quality. Nearly half of our total water withdrawals now come from sea water. Groundwater remained a significant input at 38 per cent in FY2019, driven by Escondida and WAIO. This is expected to reduce as Escondida transitions to desalination.

Escondida, WAIO and Queensland Coal are the greatest terrestrial water users across our business. WAIO has a high groundwater dependency compared to Queensland Coal, which has a higher surface water dependency (contributed to by rainfall).

#### Water discharges

Water discharges includes water that has been used and discharged into a receiving water body. This includes seepage from tailings dams to groundwater, discharges from operations to surface waters (which are also affected by periods of higher rainfall) and discharges to sea water. Water we treat and then on-supply to third parties is captured as a diversion consistent with ICMM Guidelines as it is not intended for operational purposes. Water that is evaporated or entrained<sup>(2)</sup> is also excluded from discharges and instead reported under the water consumption category.<sup>(3)</sup>

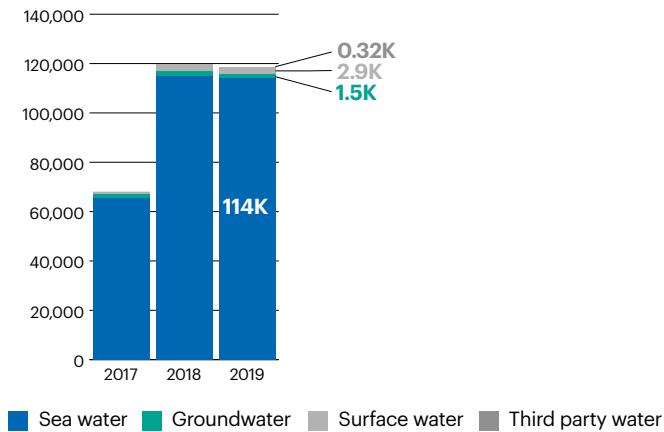
(1) Includes rainfall and runoff volumes captured and used during the reporting year; rainfall and runoff volumes that have been captured and stored are excluded and will be reported in the future year of use.

(2) Entrained water includes water incorporated into product and/or waste streams, such as tailings, that cannot be easily recovered.

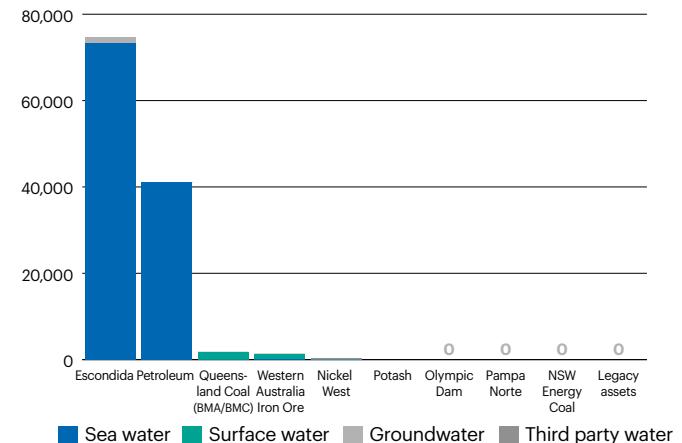
(3) Evaporation and entrainment, previously reported as water outputs under the WAF, have been reported under consumption to align with the ICMM Guidelines.

## Appendix continued

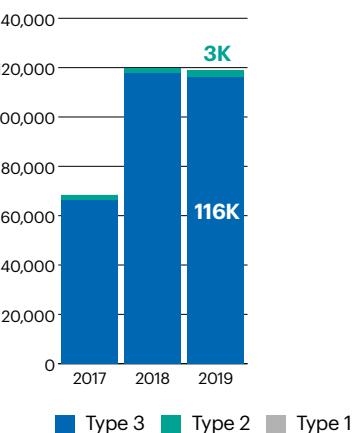
**FY2017–FY2019 total discharges  
(by destination)**



**FY2019 discharges by asset  
(by destination)**



**FY2017–FY2019 total discharges  
(by quality)**



Total water discharges for FY2019 were 119,250 megalitres. The majority of water discharges are to sea water at over 97 per cent, with Escondida and Petroleum being the largest contributors. The increase in discharges to sea water between FY2017 and FY2019 is largely due to increased desalination at Escondida. The second largest discharge volume is to surface water; this is influenced by rainfall and results in discharges typically to riverine systems. Approximately 40 per cent of our assets did not report any water that was used and subsequently discharged in FY2019. In previous years, water used and discharged consisted of evaporated and entrained water. This is now reported as consumption in line with ICMM Guidelines.

## Appendix continued

### Water recycled/reused

During FY2019, the total volume of water recycled/reused was 246,420 megalitres. This represents a total efficiency of 61 per cent when compared to total withdrawals excluding sea water. BHP has ongoing work to improve the accuracy of recycled and reused data. Furthermore, BHP is assessing opportunities to improve efficiency of water use, as described in our **Risk management can create opportunities** section.

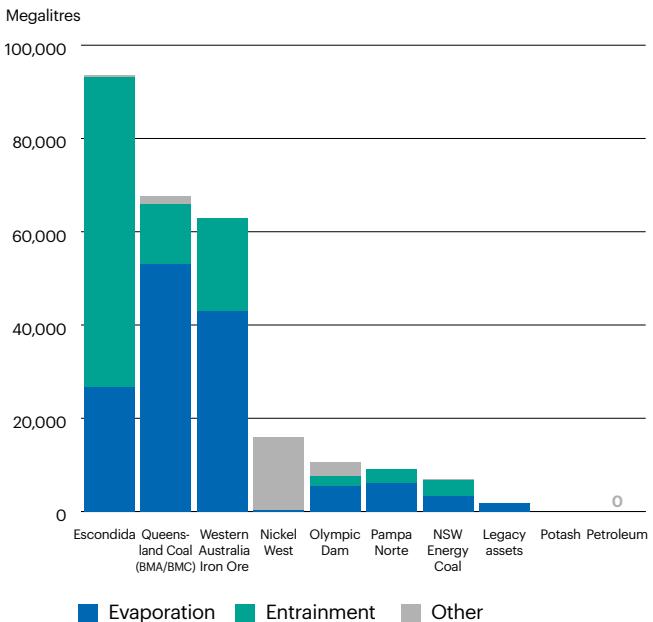
### Water diversions

FY2019 is the first year that BHP has disclosed diversions. Diverted water is defined as water that is managed without any intention to be used for operations. For example, this includes the water that is removed from below the water table at WAIO to access the ore but is returned to the environment and not consumed in operations. Another example is when BHP withdraws water and treats it for use as drinking water by local communities, as Olympic Dam does for the town of Roxby Downs in South Australia. In FY2019, 101,520 megalitres of water was withdrawn and diverted (not used for BHP operations) largely driven by the water that is treated by our Legacy assets in North America.

### Water consumption

Water consumption was previously reported as outputs. With the move to using the ICMM Guidelines, consumption (the volume of water used by the site or operational facility and not returned to the water environment or a third party) is now a separate reporting category. Data for evaporation and entrainment from the FY2017 and FY2018 reporting periods has been moved to the consumption category in order to allow representative year-on-year comparisons. Evaporation and entrainment<sup>(1)</sup> were the most significant contributors to consumption in FY2019, representing over 90 per cent of total consumption. The category of 'other' for consumption includes water consumed, for example as a result of potable water consumption at operations. This increased focus on consumption will assist with increased and improved data for entrainment and evaporation and assist with identifying opportunities to reduce, where possible, losses such as those associated with evaporation. Entrainment of water in tailings is the largest contributor to consumption at Escondida whereas evaporation is the key driver of consumption at WAIO and Queensland Coal. All water withdrawn at our Petroleum assets was either discharged or diverted.

### FY2019 consumption by asset



(1) Entrainment includes water incorporated into product and/or waste streams, such as tailings that cannot be easily recovered.

## Appendix continued

### BHP asset-level water data summary<sup>(1)(2)</sup>

FY2019 water performance data excludes Discontinued operations (Onshore US assets).

Metric	Total	Escondida	Legacy assets	Nickel West	NSW Energy Coal	Olympic Dam	Pampa Norte Petroleum <sup>(3)</sup>	Queensland Coal Potash (BMA/BMC)	Western Australia Iron Ore
<b>Withdrawals<sup>(4)</sup> (megalitres)</b>	352,950	172,750	870	16,710	8,680	11,770	9,760	41,180	630
Water withdrawals by quality – Type 1	58,850	20	870	2,430	3,190	0	0	80	0
Water withdrawals by quality – Type 2	37,560	0	0	4,550	2,800	9,440	0	0	630
Water withdrawals by quality – Type 3	256,550	172,730	0	9,730	2,700	2,330	9,760	41,100	0
Water withdrawals by source – Surface water <sup>(5)</sup>	50,580	20	870	440	6,610	280	5,990	80	590
Water withdrawals by source – Groundwater	133,260	45,570	0	15,430	2,080	11,480	3,760	0	40
Water withdrawals by source – Sea water	169,100	127,160	0	840	0	0	0	41,100	0
<b>Discharges (megalitres)</b>	119,250	74,650	0	320	0	0	0	41,090	10
Water discharges by quality – Type 1	0	0	0	0	0	0	0	0	0
Water discharges by quality – Type 2	3,060	0	0	0	0	0	0	0	1,840
Water discharges by quality – Type 3	116,190	74,650	0	320	0	0	0	41,090	10
Water discharges by destination – Surface water	2,940	0	0	0	0	0	0	0	1,690
Water discharges by destination – Groundwater	1,540	1,380	0	0	0	0	0	10	150
Water discharges by destination – Sea water	114,455	73,280	0	0	0	0	0	41,090	0
Water discharges by destination – Third party	320	0	0	320	0	0	0	0	0
<b>Consumption (megalitres)</b>	268,620	93,570	1,730	15,900	6,960	10,680	9,140	0	67,610
Consumption – evaporation	139,980	26,760	1,730	300	3,430	5,550	6,150	0	53,040
Consumption – entrainment	107,270	66,360	0	0	3,220	1,960	2,850	0	12,890
Consumption – other	21,370	450	0	15,600	310	3,170	130	0	1,680
<b>Recycled/reused (megalitres)</b>	246,420	38,790	10	8,100	0	13,660	168,630	0	6,580
<b>Diversions (megalitres)</b>									
Diversions – withdrawals	101,520	370	39,460	0	0	0	790	0	24,580
Diversions – discharges	72,500	360	40,540	0	0	980	790	1,250	9,010
									19,280

(1) Excludes Discontinued operations (US Onshore assets).

(2) Data has been rounded to the nearest 10. In some instances the sum of totals for quality, source and destination may differ due to rounding.

(3) Petroleum assets have been grouped due to their relatively lower volumes of water withdrawals, discharges and consumption compared to the mining assets.

(4) Third party water withdrawals have been reported by source.

(5) Includes rainfall and runoff volumes captured and used during the reporting year; rainfall and runoff volumes that have been captured and stored are excluded and will be reported in the future year of use.

## Appendix continued

### Performance data – Society<sup>(1)</sup>

#### Community complaints

	2019
Dust	33
Noise	26
Odour	16
Other	63

	Operations located in or adjacent to Indigenous peoples' territories	Operations with formal agreements with Indigenous communities
Australia	26	13
Canada	1	1
Chile	2	2

(1) FY2018 performance data for society includes Continuing operations and Discontinued operations (Onshore US). FY2019 performance data includes Discontinued operations to 31 October 2018 and Continuing operations.

### Performance data – People<sup>(1)</sup>

#### Workforce data by region

	Fatalities <sup>(2)</sup>	TRIF <sup>(2)</sup>	Employee occupational illness incidence <sup>(3)</sup>	Contractor occupational illness incidence <sup>(3)</sup>	Average absenteeism rate (hours per employee per hour) <sup>(3)(4)</sup>	Average number and % of employees <sup>(3)(5)</sup>	Average number and % of contractors <sup>(3)(5)</sup>
Asia	0	–	0	0	37.31	1,744	6
Australia	1	6.5	4.63	2.55	73.57	18,146	63
Europe	0	–	0	0	13.03	59	<1
North America	0	2.4	0	0	35.10	1,998	7
South America	0	1.9	4.84	0.58	65.10	6,979	24
<b>Total</b>	<b>1</b>	<b>4.7</b>	<b>4.38</b>	<b>1.62</b>	<b>67.14</b>	<b>28,926</b>	<b>100</b>
							<b>43,488</b>
							<b>100</b>

#### Regional safety fines levied

Regional safety fines levied	FY2019	Number of fines
Australia	US\$545	2
North America	US\$363	1
South America	US\$38,240	5

#### Employees by gender and employment type

	Total %	Male %	Female %
Full-time	94.46	78.11	21.89
Part-time	3.04	56.82	43.18
Fixed-term full-time	2.43	52.48	47.52
Fixed-term part-time	0.06	9.52	90.48
Casual	0.01	66.67	33.33
	<b>100.00</b>	<b>76.79</b>	<b>23.21</b>

#### Employee by region and gender

	Total %	Male %	Female %
Asia	5.39	39.53	60.47
Australia	66.67	78.81	21.19
Europe	0.18	49.15	50.85
North America	6.72	68.97	31.03
South America	21.03	82.68	17.32
<b>Total</b>	<b>100</b>	<b>76.79</b>	<b>23.21</b>

## Appendix continued

### Employee by category and diversity<sup>(7)</sup>

	Total %	Gender %		Age group %				Average basic salary US\$	Average total remuneration US\$
		Female	Male	Under 30	30 – 39	40 – 49	Over 50	Ratio male to female	Ratio male to female
Senior leaders (org levels A to D)	0.90	23.71	76.29	0.34	11.00	51.89	36.77	1.07	1.10
Managers (Level E)	3.25	28.45	71.55	1.24	31.21	45.00	22.55	1.06	1.09
Supervisory and professionals (F and G)	39.46	29.70	70.30	11.98	40.62	29.91	17.49	1.13	1.17
Operators and general support	56.39	18.36	81.64	15.38	30.67	29.08	24.87	1.33	1.37
<b>Total</b>	<b>100</b>	<b>23.21</b>	<b>76.79</b>	<b>13.44</b>	<b>34.44</b>	<b>30.13</b>	<b>21.99</b>	<b>1.13</b>	<b>1.17</b>

### Employee new hires and turnover

	Total	Gender		Age group				Region			
		Male	Female	Under 30				Asia	Australia	Europe	North America
				30 – 39	40 – 49	Over 50					South America
Employee new hires	5,500	3,372	2,128	1,850	1,992	1,158	500	524	4,072	7	62
	17.00%	13.58%	28.35%	42.55%	17.88%	11.87%	7.03%	30.06%	18.88%	11.86%	2.85%
Employee turnover	3,523	2,571	952	656	1,177	872	818	208	1,855	10	1,045
	10.89%	10.36%	12.68%	15.09%	10.56%	8.95%	11.50%	11.93%	8.60%	16.95%	48.05%
											5.97%

### Remuneration

Remuneration <sup>(8)</sup>	Average basic salary US\$		Average total remuneration US\$		Total remuneration	Salary increase	Ratio standard entry level wage to local minimum wage				
	Ratio male to female	Ratio male to female	Ratio highest paid individual to median				Female	Male			
			Ratio highest paid individual to median	Ratio highest paid individual to median							
Asia	1.84	2.01	97 : 1	0 : 1			3.81	3.71			
Australia	1.11	1.15	59 : 1	0 : 1			1.83	2.14			
Europe	1.27	1.21	7 : 1	2 : 1			–	–			
North America	1.26	1.33	10 : 1	2 : 1			3.26	8.26			
South America	0.90	1.00	119 : 1	0 : 1			4.46	5.31			
<b>Total</b>	<b>1.13</b>	<b>1.17</b>									

(1) Proportional data in our People section are based on the average of the number of employees at the last day of each calendar month for a 10-month period which calculates an average for the year with the exception of the average number (and %) of employees in data table by region which shows the weighted average number of employees based on BHP ownership. There is no significant seasonal variation in employment numbers.

(2) Data includes Discontinued operations (Onshore US assets) to 28 February 2019 and Continuing operations.

(3) Data includes Discontinued operations (Onshore US assets) to 31 October 2018 and Continuing operations.

(4) Absenteeism comprises sick leave, hospitalisation leave, injury on duty, short-term disability, unauthorised absence, industrial action, union absence, unpaid absence and workers' compensation. Additionally, in FY2019, 1,609 employees made use of parental leave, of which 38.39 per cent were women and 61.61 per cent were men. Data on return to work is not reported due to methodology limitations and will be addressed in future reports.

(5) For UK law purposes, we are required to show information for 'senior managers', which are defined to include both senior leaders and any persons who are directors of any subsidiary company, even if they are not senior leaders. In FY2019, 282 senior leaders comprised the top people in the organisation. There were 15 Directors of subsidiary companies who are not senior leaders, comprising 11 men and 4 women. Therefore, for UK law purposes, the total number of senior managers was 227 men and 70 women (24 per cent women) in FY2019. In FY2019, 90 per cent of our people worked in their country of nationality, including 63 per cent of our senior leaders. Senior leaders are defined as organisational levels A-D. A number of our assets have practices to hire people from the local community.

(6) Contractor data is collected from internal surveys and 1 SAP from July 2018 to April 2019 and averaged for a 10-month period.

(7) As at 29 May 2019 the Boards of our significant subsidiary companies have 45 Directors comprising 22 per cent women, 13 nationalities, and 47 per cent are aged between 40 and 49 years.

(8) Remuneration:

Contractors are excluded from the Report.

The highest paid individual in each significant region has been excluded from the median determination.

The highest paid individuals in each region with the exception of Europe and North America, did not receive a salary increase in FY2019.

Salary increases do not include promotional increases.

Individuals classified as entry level are those in an Operator and General Support role, and have been with the organisation for less than one year.

Europe does not have any employees in Operators and General Support roles who have been with the organisation for less than one year in FY2019.

Minimum wage is determined for all locations except for Singapore and Switzerland, as they do not have a Minimum wage mandated by the government.

# EY Assurance statement



## Independent Limited Assurance Report to the Management and Directors of BHP Group Limited and BHP Group Plc (BHP)

### Our Conclusions

#### ► Limited Assurance

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that suggest that BHP's Sustainability Report including Asset Level Water Stewardship disclosures for the year ended 30 June 2019 (the Report) have not been prepared in accordance with the Criteria defined below.

#### ► Reasonable Assurance

In our opinion, the Scope 1 and 2 greenhouse gas emissions, as reported in BHP's Sustainability Report are prepared, in all material respects, in accordance with the Criteria defined below.

### What our assurance covered

Ernst & Young (EY) was engaged by BHP to provide limited assurance over the following information in accordance with the noted criteria:

What we assured	What we assured it against (Criteria)
BHP's FY19 Sustainability Report	<ul style="list-style-type: none"><li>► International Council on Mining and Metals (ICMM) Sustainable Development Framework Subject Matters 1 to 4</li><li>► Management's own publicly disclosed criteria</li><li>► Global Reporting Initiative (GRI) Standards</li></ul>
BHP's Sustainability policies and other disclosures	ICMM Sustainable Development Principles and mandatory position statements (Subject Matter 1)
BHP's identification and reporting of its material risks and opportunities	ICMM Subject Matter 2
BHP's implementation of systems and approaches to manage its material risks and opportunities	ICMM Subject Matter 3
Water stewardship reporting in BHP's FY19 Sustainability Report, at an asset level	ICMM Standard: A Practical Guide to Consistent Water Reporting

In addition, we were engaged by BHP to provide reasonable assurance over the following information in accordance with the noted criteria:

What we assured	What we assured it against (Criteria)
Scope 1 and 2 Greenhouse Gas emissions	<ul style="list-style-type: none"><li>► World Resource Institute/World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol</li><li>► BHP's Basis of Preparation</li></ul>

### Key responsibilities

#### EY's responsibility and independence

Our responsibility was to express limited and reasonable assurance conclusions on the noted subject matter as defined in the 'what we assured' column in the tables above (Subject Matter).

We were also responsible for maintaining our independence and confirm that we have met the requirements of the APES 110 Code of Ethics for Professional Accountants including independence, and have the required competencies and experience to conduct this assurance engagement.

#### BHP's responsibility

BHP's management was responsible for selecting the Criteria, and preparing and fairly presenting information presented in the Report in accordance with that Criteria. This responsibility includes establishing and maintaining internal controls, adequate records and making estimates that are reasonable in the circumstances.

#### Our approach to conducting the review

We conducted our procedures in accordance with the International Federation of Accountants' International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information (ISAE 3000), the Standard for Assurance on Greenhouse Gas Statements (ISAE 3410) and the terms of reference for this engagement as agreed with BHP on 4 September 2018.

The procedures we performed were based on our professional judgement and included, but were not limited to, the following:

- Interviewing select corporate and site personnel to understand the reporting process at group, business, asset and site level, including management's processes to identify BHP's material issues
- Reviewing BHP policies and management standards to determine alignment with the ICMM's 10 SD principles and position statements

- Checking the Report to understand how BHP's identified material risks and opportunities are reflected within the qualitative disclosures
- Evaluating whether the information disclosed in the Report is consistent with our understanding of sustainability management and performance at BHP
- Evaluating the suitability and application of the Criteria and that the Criteria have been applied appropriately to the Subject Matter
- Conducting physical site visits at select BHP locations to evidence site level data collection and reporting to Group as well as to identify completeness of reported water and emission sources
- Undertaking analytical procedures of the quantitative disclosures in the Report
- Reviewing data, information or explanation about the sustainability performance data and statements included in the Report
- On a judgemental sample basis, reperforming calculations to check accuracy of claims in the Report
- On a sample basis, based on our professional judgement, agreeing claims to source information to check accuracy and completeness of claims, which included invoices, incident reports, meter calibration records, and meter data
- For our reasonable assurance scope, selecting key item and representative sampling, based on statistical audit sampling tables and agreeing claims to source information to check accuracy and completeness of claims, which included invoices, meter calibration records and meter data.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our reasonable and limited assurance conclusions.

#### Other Matters

We have not performed assurance procedures in respect of any information relating to prior reporting periods, including those presented in the Report. Our report does not extend to any disclosures or assertions made by BHP relating to case studies and future performance plans and/or strategies disclosed in the Report.

While we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

#### Limited and Reasonable Assurance

Procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

While our procedures performed for our reasonable assurance engagement are of a higher level of assurance, due to the use of sampling techniques, it is not a guarantee that it will always detect material misstatements.

#### Use of our Assurance Statement

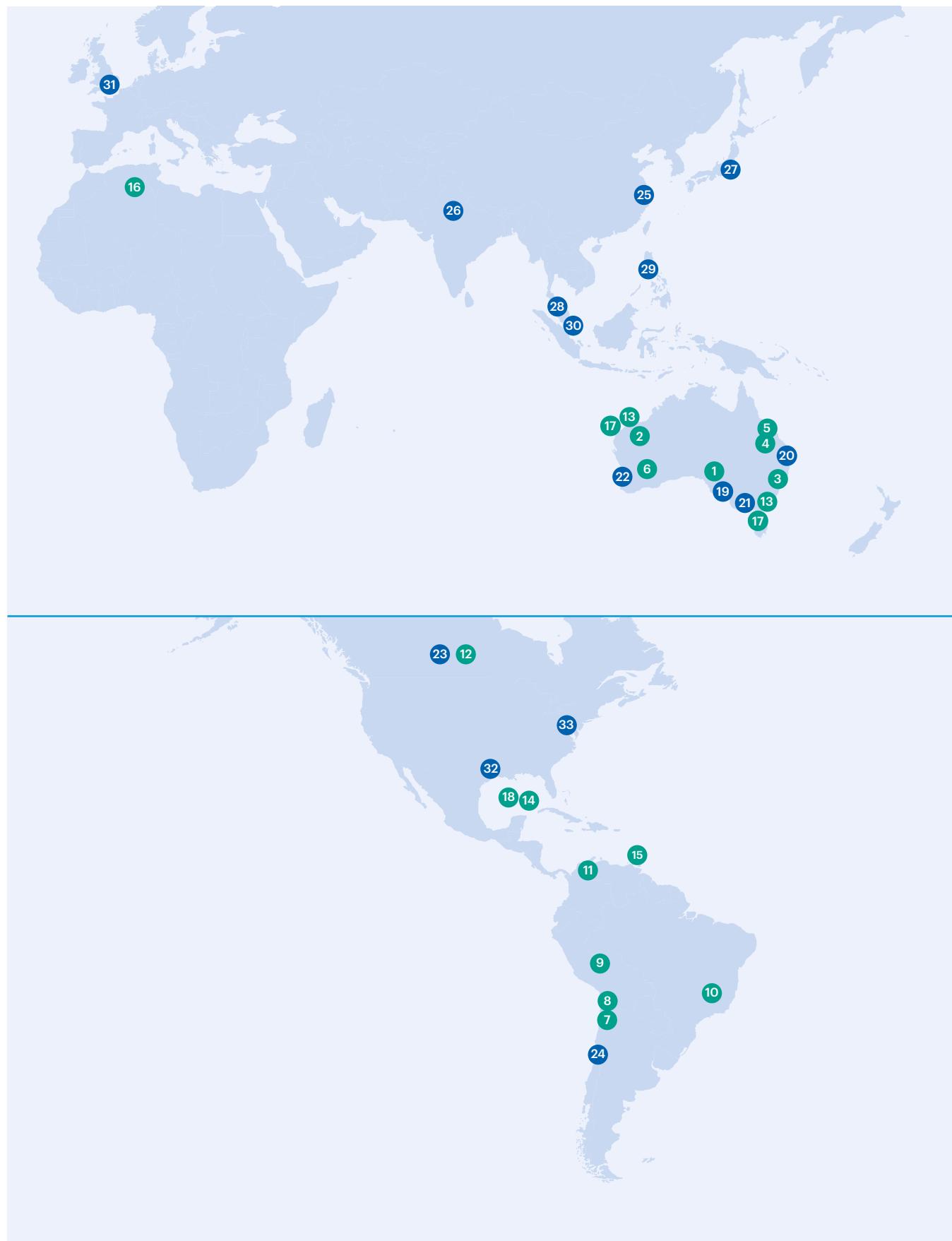
We disclaim any assumption of responsibility for any reliance on this assurance report to any persons other than management and the Directors of BHP, or for any purpose other than that for which it was prepared.

Our review included web-based information that was available via web links as of the date of this statement. We provide no assurance over changes to the content of this web-based information after the date of this assurance statement.

Ernst & Young  
Ernst & Young  
Melbourne, Australia  
3 September 2019

M.N.  
Mathew Nelson  
Partner

## BHP locations (includes non-operated operations)



## BHP locations (includes non-operated operations) continued

### Minerals Australia

Ref	Country	Asset	Description	Ownership
1	Australia	 Olympic Dam	Underground copper mine, also producing uranium, gold and silver	100%
2	Australia	 Western Australia Iron Ore	Integrated iron ore mines, rail and port operations in the Pilbara region of Western Australia	65–85%
3	Australia	 New South Wales Energy Coal	Open-cut energy coal mine and coal preparation plant in New South Wales	100%
4	Australia	 BHP Mitsubishi Alliance	Open-cut and underground metallurgical coal mines in the Queensland Bowen Basin and Hay Point Coal Terminal	50%
5	Australia	 BHP Mitsui Coal	Two open-cut metallurgical coal mines in the Bowen Basin, Central Queensland	80%
6	Australia	 Nickel West	Integrated sulphide mining, concentrating, smelting and refining operation in Western Australia	100%

### Minerals Americas

Ref	Country	Asset	Description	Ownership
7	Chile	 Escondida	Open-cut copper mine located in northern Chile	57.5%
8	Chile	 Pampa Norte	Consists of the Cerro Colorado and Spence open-cut mines, producing copper cathode in northern Chile	100%
9	Peru	 Antamina <sup>(1)</sup>	Open-cut copper and zinc mine in northern Peru	33.75%
10	Brazil	 Samarco <sup>(1)</sup>	Open-cut iron ore mines, concentrators, pipelines, pelletising facilities and dedicated port	50%
11	Colombia	 Cerrejón <sup>(1)</sup>	Open-cut energy coal mine with integrated rail and port operations	33.3%
12	Canada	 Jansen	Our interest in potash is via development projects in the Canadian province of Saskatchewan, where the Jansen Project is our most advanced	100%

### Petroleum

Ref	Country	Asset	Description	Ownership
13	Australia	 Australia Production Unit	Offshore oil fields and gas processing facilities in Western Australia and Victoria	39.99–90%
14	US	 Gulf of Mexico Production Unit	Offshore oil and gas fields in the Gulf of Mexico	35–44%
15	Trinidad and Tobago	 Trinidad and Tobago Production Unit	Offshore oil and gas fields	45%
16	Algeria	 Algeria Joint Interest Unit <sup>(1)</sup>	Onshore oil and gas unit	29.3%
17	Australia	 Australia Joint Interest Unit <sup>(1)</sup>	Offshore oil and gas fields in Bass Strait and North West Shelf	12.5–50%
18	US	 Gulf of Mexico Joint Interest Unit <sup>(1)</sup>	Offshore oil and gas fields in the Gulf of Mexico	23.9–44%

### BHP principal office locations

Ref	Country	Location	Office
19	Australia	Adelaide	Minerals Australia office
20	Australia	Brisbane	Minerals Australia office
21	Australia	Melbourne	Global headquarters
22	Australia	Perth	Minerals Australia office
23	Canada	Saskatoon	Minerals Americas office
24	Chile	Santiago	Minerals Americas office
25	China	Shanghai	Corporate office
26	India	New Delhi	Corporate office
27	Japan	Tokyo	Corporate office
28	Malaysia	Kuala Lumpur	Global Asset Services Centre
29	Philippines	Manila	Global Asset Services Centre
30	Singapore	Singapore	Marketing and corporate office
31	UK	London	Corporate office
32	US	Houston	Petroleum office
33	US	Washington DC	Corporate office



(1) Non-operated joint venture.

## Corporate directory

### BHP Registered Offices

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#### Group General Counsel and Company Secretary

Caroline Cox

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should contact their CSDP or stockbroker.

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