



Powering
the region

Whitehaven Coal
Sustainability Report 2019

Whitehaven Coal is proud to be the leading Australian producer of premium-quality coal, and the dominant player in Australia's only emerging high-quality coal basin. We help power developed and emerging economies in Asia where there is strong and growing demand for our product, particularly for use in high-efficiency, low-emissions coal-fired power stations. We are driving prosperity and economic growth in regional Australia, particularly in North West NSW, which is the focus of our capital investment and workforce presence.

We operate five mines (four open cut and one large underground mine) in the Gunnedah Basin of NSW. Our operating assets are complemented by two high-quality, near-term development assets: Vickery, near Gunnedah, and Winchester South, in Queensland's Bowen Basin. Over our almost 20-year history, including 12 years as a publicly listed entity on the Australian Securities Exchange (ASX), we have developed a reputation for excellence in project delivery and safe, efficient and environmentally responsible operations.

We are proudly local, and around 75% of our 2,400-strong workforce live in the local communities around our mine sites. We believe in helping communities grow, ensuring benefits flowing from our operations accrue locally.

This report includes forward looking statements relating to future events and expectations.

While these statements reflect expectations at the date of this publication, they are, by their nature, not certain and are subject to known and unknown risks.

Whitehaven makes no representation, assurance or guarantee as to the accuracy or likelihood of fulfilling any such forward looking statements (whether express or implied) and, except as required by applicable regulations or law, Whitehaven does not undertake to publically update such forward looking statements.



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Sustainability highlights FY19

\$464.9 million
returned to
shareholders

\$333.9 million
spent with
local suppliers

75%
of 2,400-strong
workforce
based in
regional areas

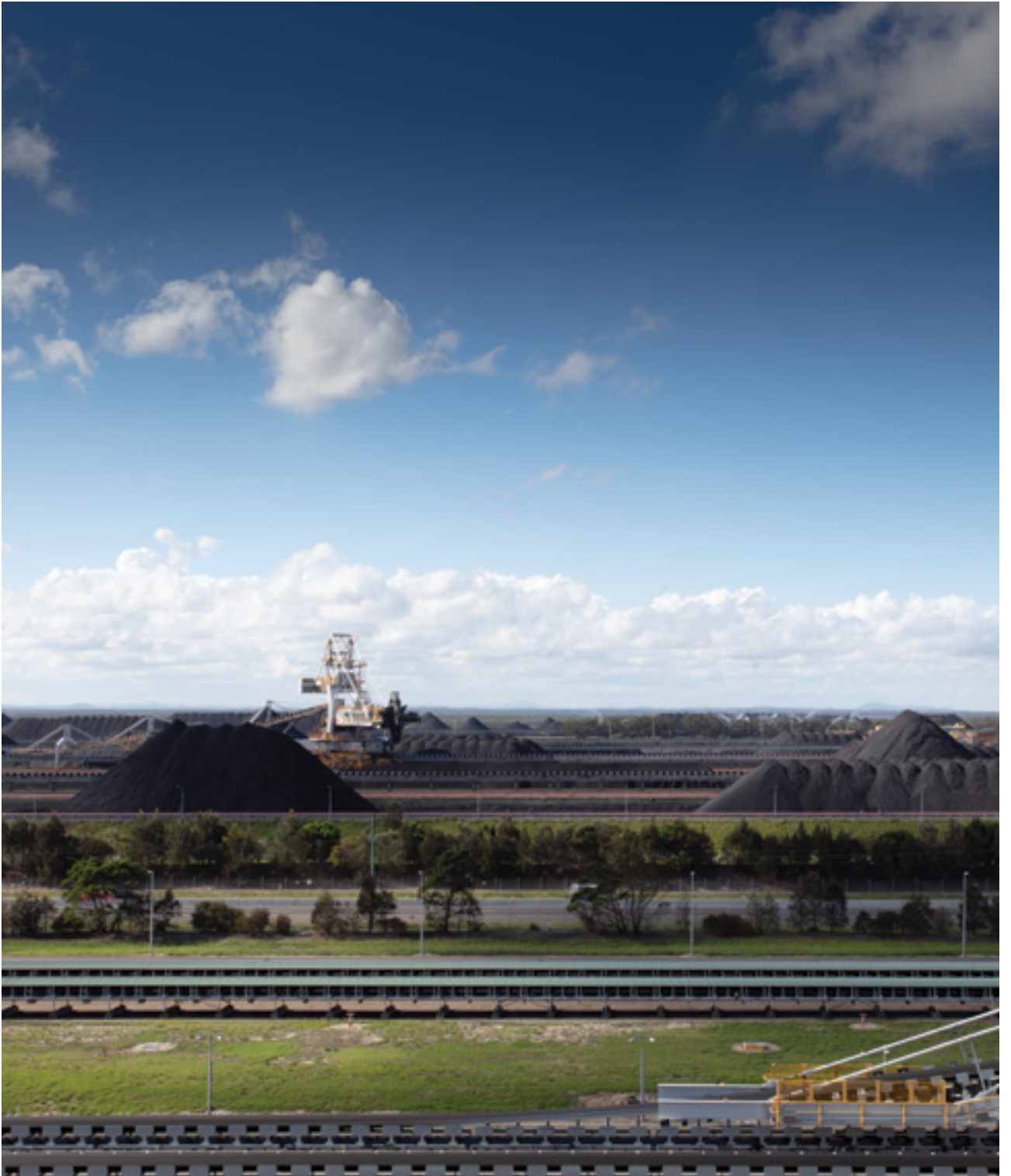
21.6Mt
of high-quality
coal exported
to customer
countries

9%
of workforce
identifies as
Indigenous

\$515,000
in community
partnerships
and donations



About us



Managing Director and CEO's message

I am pleased to present Whitehaven Coal's Sustainability Report 2019.

While our business has formally reported on sustainability matters in various formats for a number of years, including in relation to climate change, this document represents our first holistic effort to articulate our approach to sustainability within an overarching strategic narrative.

As a company, we are committed to openness and transparency in the way we operate, and to communicating our performance against environmental, social and economic benchmarks annually.

For Whitehaven, the notion of sustainability is inextricably tied to how our financial, physical and human capital combine to deliver positive outcomes through our entire value chain to our diverse stakeholders at home and abroad.

Our purpose as a company is to support and sustain regional communities by exporting high-quality thermal and metallurgical coal to the world. Our vision is to become the benchmark coal investment on the ASX.

We deliver value to customers, our workforce, shareholders, local communities and suppliers by developing and safely operating high-quality, cost-efficient, long-life coal assets. These assets in turn facilitate financial and non-financial returns for these critical stakeholders. This is the basis of everything we do at Whitehaven.

Our approach is pragmatic and specifically oriented to those areas where we know we can have a positive impact.

This starts with promoting local economic growth through permanent job creation in the communities around which our operations are based. Our people are our greatest asset and our best advocates, not only because they work in the local areas around our mine operations, but also because they live locally and are part of the social fabric of their communities.

We have never supported long-term fly-in, fly-out employment. Instead, we are determined to maintain our status as a local employer of choice, offering opportunities for rewarding careers and to live and raise a family among people who share our vision for prosperous, vibrant regional communities.

The economic and social renewal of the Gunnedah Basin in NSW – the home of our business over the past two decades – stands as a testament to our contributions as we have grown to become the single largest private sector employer in the region.

Our commitment to local procurement, and our focus on building capacity among regional suppliers seeking to work with us, recognises the contributions of local enterprise to long-term community prosperity and cohesion.

We also help build local community capacity and viability through intergenerational investment in education, healthcare, skills training and infrastructure. We do this through direct discretionary contributions, or indirectly via voluntary planning agreements and mining royalties.

When it comes to our operations, 'sustainability' means responsible environmental management and placing great importance on the safety of our employees and contractors as our business grows. A strong focus on these areas is critical for our continued commercial success, but also to ensure that we are seen as safe and responsible stewards of the environments in which we operate.



Finally, our customers are crucial to our continued success. The long-term nature of our customer relationships is founded on our ability to reliably supply high-quality products that support the efficient use of industrial assets, such as high-efficiency, low-emissions, coal-fired power plants helping to power economic and social development in countries across Asia.

In the context of sustainability, there is much for us to be proud of, including the way we seek to create value and relationships defined by mutual respect, integrity and transparency. I hope you will see this in the pages that follow.

In keeping with our commitment to transparency and continuous improvement, we are placing more emphasis on sustainability. This includes activities such as how we record and manage diesel emissions and the implementation of new water management measures, as well as how we report on our efforts.

We welcome your feedback on our *Sustainability Report 2019*. You can send it to **sustainability@whitehavencoal.com.au**.

A handwritten signature in black ink, appearing to read 'Paul Flynn', written over a light blue horizontal line.

Paul Flynn
Managing Director and CEO

Purpose, vision and principles

Purpose

To support and sustain regional communities by exporting high-quality thermal and metallurgical coal from Australia to the world.

Vision

To be the benchmark coal exposure on the ASX.

Principles

The following principles guide our interactions internally and with external stakeholders.

Safety

We endeavour to ensure the safety of our employees, contractors and communities.

Teamwork

We work collaboratively and support one another.

Respect

We foster a diverse and inclusive culture and deal with all stakeholders respectfully.

Integrity

We are honest and do the right thing.

Value

We create value for shareholders, customers and local communities.

Excellence

We deliver on our commitments.

How we create value

Business inputs

1. **Assets:** We are the dominant player in Australia's only emerging high-quality coal basin with a footprint in one of Australia's highest quality metallurgical coal basins. Our mine assets are complemented by a large fleet of heavy mining equipment in addition to mine support infrastructure and rolling stock.
2. **People:** To ensure we optimise our physical assets, we seek to attract, recruit and retain the technical, specialist and central office staff with the skills to support the needs of the business today and into the future.
3. **Financial:** We deploy our financial resources carefully to maintain our reputation as a reliable and cost-efficient producer focused on delivering value for all our shareholders over the long term. Our disciplined capital allocation approach keeps our balance sheet strong and provides flexibility through the cycle.

Governance and reporting framework

We seek to design and implement corporate governance and management arrangements to manage our exposure to political and regulatory risks and to observe best-practice management measures in relation to health, safety, stakeholder engagement and business integrity.

Our value proposition

We identify, develop and operate high-quality, cost-efficient, long-life coal assets and distribute the financial and non-financial returns to shareholders, employees, customers and the communities where we work and live.

Our community and social compact depicts the process whereby our capital investment is recycled through a value chain including employees, suppliers, customers and community members.

Our business focus

We seek to ensure continuous and sustainable value creation by applying our human and financial capital to the following key areas.

- **Customers:** We form long-term relationships with our customers to provide raw materials that support the efficient utilisation of industrial assets including coal-fired power plants and steel blast furnaces
- **Infrastructure and logistics:** We have supply agreements with Australian businesses focused on the efficient movement of our product, contributing to shared sustainability goals through our value chain
- **Community:** We work with local councils, business groups, the agricultural sector, charitable organisations and a range of local service providers to share the economic and social dividends of mining and maintain our social licence to operate
- **Procurement:** We are firmly oriented towards working with regionally based suppliers in recognition of the contribution of local enterprise to long-term community prosperity and cohesion
- **Environment:** We are responsible stewards of the natural environment, and maintain strong sustainability practices through each stage of the mining process, from development, to operations, closure and rehabilitation
- **Industry:** We are members of various industry associations and participate in policy forums on issues associated with ensuring Australia's resource endowment can better support sustainable development here and abroad.

Business outputs

Employees

We provide skills development pathways and stable regional employment in a safe and rewarding work environment.

Community

We support local communities through direct investment, job creation, partnerships with local suppliers and working with community groups.

Customers

We offer a reliable supply of high-quality coal to support economic and social development in the Asian region.

Investors

We aim to provide strong and consistent returns to shareholders and joint venture partners from our existing portfolio of mines with upside potential from key growth assets.

FY19 value created

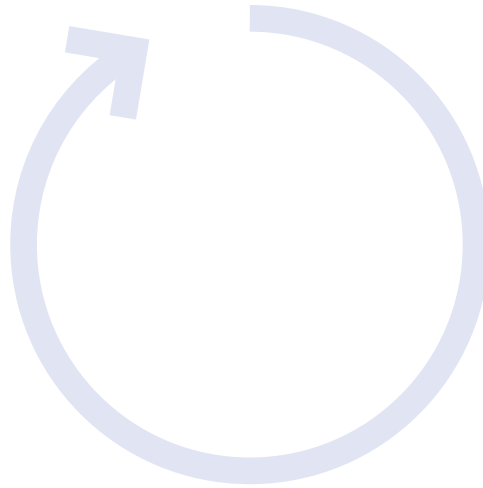
- | | | | |
|--|--|--|--|
| <ul style="list-style-type: none"> - Approximately 75% of our 2,400-strong workforce based in regional areas - \$189.9 million in wages paid - 9% of workforce identifies as Indigenous - Launched our Stretch Reconciliation Action Plan. | <ul style="list-style-type: none"> - \$333.9 million spent with local suppliers - \$1.83 million spent with local Indigenous businesses - Supported the Narrabri Clontarf Academy and the Girls' Academy at Gunnedah. | <ul style="list-style-type: none"> - Exported over 21.6 million tonnes of high-quality thermal and metallurgical coal - Japan, our key export market, has achieved the highest average efficiency rate of 42% and least pollutants for coal-fired generation in the world. | <ul style="list-style-type: none"> - \$464.9 million returned to shareholders through dividends - Total shareholder return of 308% over the past three years - \$1,041.7 million in underlying earnings before interest, tax, depreciation and amortisation (EBITDA). |
|--|--|--|--|

Our community and social compact

Identify, develop and operate high-quality, long-life, lower-cost coal projects

Leave an economic and social legacy that outlives mining operations

Instill community trust through responsible environmental stewardship and community partnerships



Promote local economic growth and sustainability through permanent job creation and local procurement

Help build local community capacity and viability through direct and indirect intergenerational investment in education, health, skills and infrastructure



Our strategy

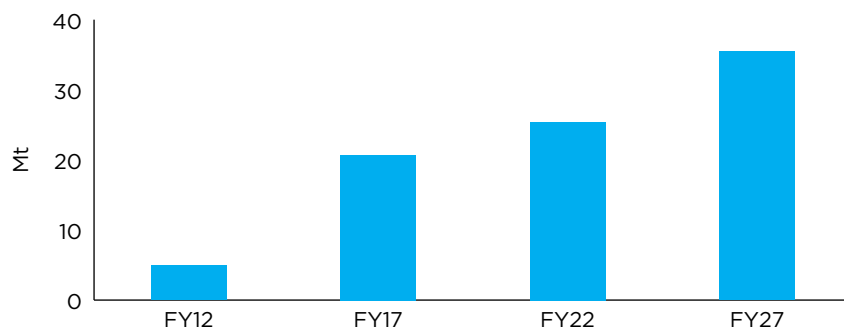


Whitehaven Coal has built a strong position in the Gunnedah Coal Basin, comprising a portfolio of assets producing high-CV thermal coal and premium SSCC both with low impurity levels. Last year we expanded our reach into the well-regarded Bowen Basin in Queensland, and we are on track to nearly double total production over the next decade.

Our future growth and value proposition is underpinned by two significant, high-quality, near-term development assets, being Vickery, located within our existing portfolio of mines in the Gunnedah Coal Basin, and Winchester South, in Queensland's Bowen Basin. The development of these two projects will take Whitehaven's managed saleable coal production towards 40Mtpa over the next 10 years.

Our goal is to be the benchmark export coal exposure on the ASX

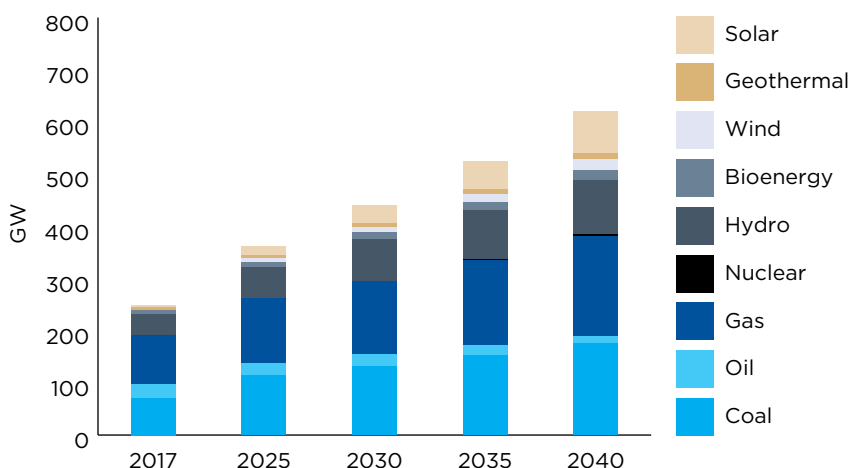
Saleable production actual and forecast



Note: Graph depicts saleable coal on a 100% basis. The production profile shown is fully underpinned by Marketable Reserves for the Company's operating mines and Vickery Project, and Measured and Indicated Resource for the Winchester South Project. See pages 15 and 16 of the Annual Report 2019 for full details of Whitehaven's Coal Resources and Reserves JORC tables and for the Competent Persons Statement. 100% of the forecast production from the Vickery Project is underpinned by the JORC Reserves released to the ASX on 13 August 2015. 100% of the forecast production from the Winchester South Project is underpinned by Measured and Indicated Resources released to the ASX on 25 October 2018. The full JORC Resources report is also available on whitehavencoal.com.au. All material assumptions underpinning the initial public reports referenced for Vickery and Winchester South continue to apply and have not materially changed.

The coals we produce service the premium export markets of Japan, Taiwan and Korea and we are well positioned to take advantage of the substantial growth in coal-fired generation capacity projected in South East Asia, predicted by the International Energy Agency (IEA) to grow from 71GW in 2017 to 175GW in 2040, requiring at least an additional 220Mtpa of coal - more than Australia's total 2018 thermal coal exports of 208Mt - by 2040.

South East Asia generation capacity



Source: IEA WEO 2018, New Policies Scenario (NPS). The NPS is one of three key scenarios modelled by the IEA. Refer to page 28 for details in relation to the other scenarios.



Our strategy is to own and operate large, low-cost mines producing a mix of high-CV thermal coal and premium SSCC, and to grow our share of the burgeoning market for these products in our region.

Our framework to deliver on our strategy is focused on seven key areas.

<p>Disciplined growth and capital management Towards a bigger, more productive Whitehaven</p>	<p>We have invested in high-quality, large-scale, long-life assets that allow the business to efficiently manage the cyclical nature of the commodities sector.</p> <p>We expect to grow our portfolio from a managed level of approximately 22Mt in 2019 to over 40Mt by 2030.</p> <p>As some of our smaller foundation mines reach the end of their lives, our business is oriented towards growing the scale of larger existing operations and delivering on our key development assets being Vickery and Winchester South.</p> <p>Maintaining capital discipline and a focus on productivity gains over an expanding production base will continue to drive returns for shareholders.</p>
<p>Nurturing our talent pipeline Attracting and retaining the right people</p>	<p>Our track record of growth and our strong development pipeline make us an attractive employer for committed and motivated people who value being a part of a community and achieving goals. As the largest employer in North West NSW, we will continue to communicate the benefits of our regional location – and that of our development site in Queensland’s Bowen Basin – to attract talent to fuel our growth.</p>
<p>Latent capacity Unlocking future value</p>	<p>We are assessing and pursuing opportunities to access latent capacity in our mines through upgrades to mobile equipment as well as fixed infrastructure. These opportunities help us realise the full extent of the resources at our mines and enable us to do more, with less.</p>
<p>Premium products for premium markets Leveraged to the quality end of the spectrum</p>	<p>The supply of high-energy, low-ash and low-sulphur coal globally is constrained but, at the same time, demand for coal with these attributes is increasing in a world that is becoming more carbon conscious. Our quality assets and strong customer relationships in export markets situated within our geographic region mean we are able to attract premium pricing for our products.</p>
<p>Diversification of product range Building a more resilient portfolio</p>	<p>Our business produces high-quality thermal coal and SSCC. With the purchase of Winchester South, we have set a path to materially increase our exposure to metallurgical coal products. We can also optimise revenue by responding to prevailing pricing spreads in the thermal and SSCC markets.</p>
<p>Innovating Delivering the technology dividend</p>	<p>Productivity of the coal mining industry has improved over time as equipment has become bigger and more efficient. At Whitehaven we employ large equipment matched to the mining conditions at our operations including ultraclass fleets at Maules Creek mine.</p> <p>The work we are undertaking with Hitachi on evaluating its Autonomous Haulage System on the Hitachi Ultra Class trucks in use at Maules Creek is one such example.</p>
<p>Opportunistic M&A Keeping a vigilant eye on structural shifts in the market</p>	<p>We take time to critically assess the strengths and weaknesses of our business. Where acquisition opportunities that enhance our strengths or counteract any business weaknesses present themselves, we review and act on them appropriately. We do this in a measured and disciplined manner, as we did with the acquisition of Winchester South.</p>

How we operate

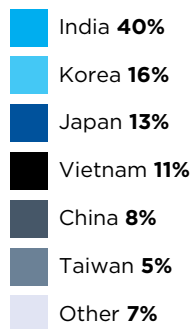
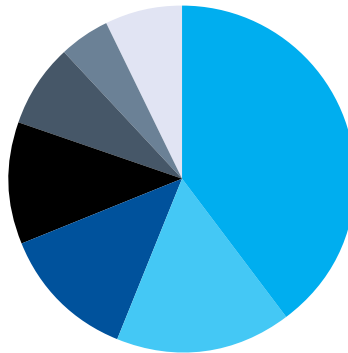
Our coal

We currently operate five mines - four open cut and one underground - in the Gunnedah Basin in North West NSW. We supply premium-quality high-CV, low-impurity thermal coal, and low-ash, low-sulphur and low-phosphorous SSCC, and pulverized coal injection (PCI) coals into the seaborne market. Our high-quality coal is exported to advanced and developing economies across North and South East Asia, and helps power regional economies through its contribution to energy generation and steel production. Our coal is sought-after for its unique properties, including the fact it delivers among the lowest carbon emissions per tonne of coal consumed in the seaborne trade.

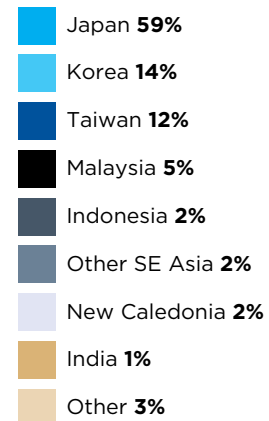
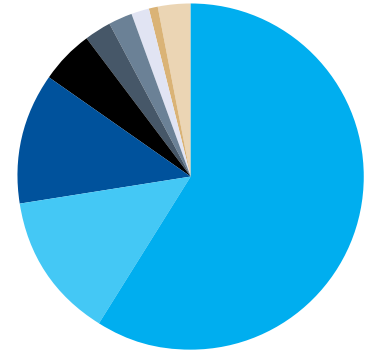
Increasingly, countries in our region are looking to premium-quality coal for use in HELE coal-fired power stations as a critical component of the energy and industrial mix because it does not force them to choose between their economic aspirations and their carbon emissions reduction obligations.

Key export markets

Metallurgical coal sales FY19



Thermal coal sales FY19



Our infrastructure and logistics network

Given the distance of Whitehaven's mines from the Port of Newcastle, our logistics task continues to be a high proportion of total Free On Board costs.

To deliver our products to market, we contract rail track, rail haulage and port terminal capacity with our major service providers. As our production levels grow, we will continue our transition to becoming one of the largest users of this infrastructure in the Hunter Valley coal supply chain system.

We contract rail track capacity with the Australian Rail Track Corporation (ARTC). We continue to work with ARTC to expand effective capacity within the Gunnedah Basin – without requiring additional rail infrastructure – through improved operating efficiencies and investment in new technology systems, with the overall aim of improving supply chain productivity and minimising costs.

We have rail haulage contracts with Pacific National and Aurizon – the two major rail operators – until 2026. They provide haulage of all currently projected expansion tonnes pre-Vickery Extension Project. We will work with our operators to align planned increases in production with contract rail haulage capacity, thereby supporting the increases in our managed production levels while minimising fixed cost exposure.

We maintain port capacity contracts with both Newcastle Coal Infrastructure Group and Port Waratah Coal Services, allowing maximum flexibility through all three coal terminals at the Port of Newcastle. We continue to work with our terminal partners to secure additional capacity that allows for both short-term surge and long-term annual shipping requirements in line with our production profile.

Our customers

Our key customer markets are end-user consumers in the power generation, basic oxygen steelmaking and general industrial sectors primarily within North East Asia and India. Total managed coal sales volumes in FY19 were 21.6 million tonnes, shipped through the Port of Newcastle.

Fuelling high-efficiency, low-emissions power stations

The Isogo Power Station in Yokohama (pictured below) is owned and operated by Whitehaven joint venture partner J-Power, and has been recognised as one of the world's cleanest coal-fired power stations. The first of the power station's two units began operation in 1967, and in 2002 resumed operation after an upgrade with the most advanced efficiency technology. The upgrade of the second unit in 2009 meant Isogo became the world's most energy-efficient ultra-supercritical coal power plant, with a total installed

capacity of 1200MW. It runs at 45% efficiency (LHV, gross), with less than 10 parts per million (ppm) of both sulphur oxides and nitrogen oxides, and PM less than 5 ppm at the stack – comparable to emissions from gas-fired power stations. Isogo is one example of a HELE coal-fired power plant fuelled by our coal, and contributes to the Japanese Government's efforts to reduce domestic emissions per its Nationally Determined Contribution under the *Paris Agreement*.



Thermal coal

Whitehaven's managed sales of thermal coal in FY19 amounted to 17.5 million tonnes, 59% of which was sold into Japan, 14% into South Korea and 12% into Taiwan. The majority of this thermal coal – around 80% – was high-CV, low-impurity product favoured by Japanese and Taiwanese generators that employ HELE power station technology.

Mid-CV product of the type preferred by Korean generators made up 13% of the total, with the balance a lower-CV specification used within the broader Whitehaven Group as a blending product.

Metallurgical coal

Whitehaven's managed sales of metallurgical coal in FY19 reached 4.1 million tonnes, 40% of which was sold to steel mills in India, 16% into South Korea, and approximately 12% into Japan and Vietnam and the balance to other Asian markets including roughly 8% in predominantly spot sales to China.

Our sales were split between SSCC and PCI coals. SSCC was 70% of the total and was sourced from our Maules Creek and Tarrawonga mines. The balance of 30% was PCI coal produced at our Narrabri and Werris Creek mines and sold exclusively into Indian steel mills.

Key customer contracts

Term sales represent the baseload of our annual sales volumes and allow us to ensure we meet our customers' ongoing requirements for reliable, stable high-quality coal supply over the long-term. Approximately 70% of our contracted sales are long-term in nature.

During FY19 Whitehaven Coal secured the following incremental term coal supply agreements (CSA):

- Renewal of a three-year term CSA with a Japanese power utility for annual supply of premium thermal coal from Maules Creek
- Renewal of a three-year term CSA to supply a Japanese steel mill with Tarrawonga SSCC and thermal coal
- Renewal of a one-year term CSA to supply a Japanese steel mill with Maules Creek SSCC and thermal coal
- Renewal of a one-year term CSA with a Korean steel mill to supply Maules Creek SSCC
- Renewal of a one-year term CSA with an Indian steel producer for supply of Narrabri PCI coal and Maules Creek SSCC
- Renewal of a three-year term CSA with an Indian steel mill to supply Werris Creek PCI coal.

Growth

Our ongoing growth is underpinned by a number of development projects, including the Vickery Extension Project, a predominantly metallurgical coal mine in North West NSW that will create around 500 new construction jobs and 450 new operational jobs. With an estimated capital cost of approximately \$700 million, the Vickery Extension Project has the potential to be one of the most significant investments in North West NSW over the coming years.

Our other key development is the Winchester South Project, located 30km south-east of Moranbah in Queensland's Bowen Basin, a well-established and well-understood coal basin. Purchased by Whitehaven in 2018, the currently undeveloped project is expected to produce high-quality metallurgical coal for export to the Asian market.

Winchester South is our first major investment in Queensland's coal industry and will entail approximately \$1 billion in expenditure, inclusive of the mining fleet. We aim to bring the project into production by FY24. It is expected the mine will deliver 500 new jobs during construction and around 450 new operational jobs.

We are also pursuing a range of brownfield opportunities, including expanding the existing Narrabri underground mine to the south to extend the life of the mine from 2031 to 2045. In addition, we intend to apply for an increase in the approved production rate at Maules Creek from 13Mtpa to 16Mtpa run of mine (ROM) coal, and we expect to increase production at Tarrawonga from around 2.4Mtpa to the approved rate of 3.0Mtpa ROM coal.

Policy and advocacy

Whitehaven Coal participates in policy advocacy on a range of issues affecting both our company and the coal mining sector. We engage in dialogue with elected and non-elected representatives at all levels of government on both a bilateral basis and under the auspices of our membership of industry associations such as the Minerals Council of Australia. These interactions form part of our contribution to ensuring a competitive and sustainable mining sector and cover a wide range of issues including:

- Competition issues associated with rail, port and logistics
- Domestic energy policy
- Royalties and taxation
- Industrial relations
- Safety
- Environmental regulation
- Climate change.

Whitehaven periodically makes formal contributions to parliamentary reviews which can be accessed via our website. Any political donations we may make from time to time are recorded and disclosed in accordance with applicable legislation.

Sustainability & climate change



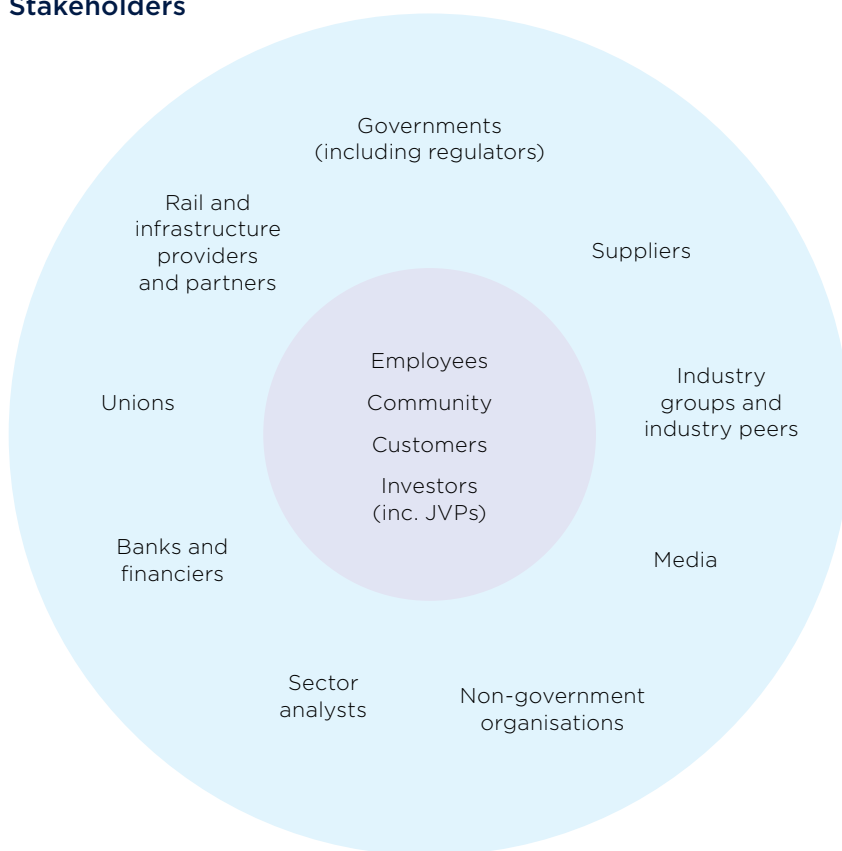
Our approach to sustainability has evolved along with our growing workforce and operational presence in the regional communities around which we are based.

Our capacity to create long-term value correlates closely with how we perceive and invest in the stakeholders who support and observe what we do. Our success as a company depends on thinking carefully about our material impacts, and considering how these interact with our principles. For Whitehaven, this means making health and safety a top priority; supporting the local communities that support us; and being an environmentally responsible operator.

As with many other aspects of our business, the focus of our sustainability effort is local in orientation and, as we continue on our growth trajectory, we apply our resources to those areas that deliver maximum value to our stakeholders and to areas reflecting our purpose and vision as a company.

As Whitehaven continues to grow and as our reliance on more complex and globalised supply chains increases, we acknowledge our role in supporting socially responsible supply chain practices. We comply with relevant statutory obligations in this regard including, for example, in relation to new modern slavery obligations that commenced on 1 July 2019. We support the objectives of the *Modern Slavery Act* and have commenced implementing procedures to provide transparency on, and manage risks associated with modern slavery throughout our supply chain. We will look to report on additional steps we are taking to implement a socially responsible supply chain during 2020.

Stakeholders



Our material sustainability issues

Issue	Description	Section
Regulation and policy	How we seek consistent and balanced policy settings that support competitiveness, flexibility and environmental performance	Our strategy
Portfolio resilience	How we consider and evaluate the future demand for seaborne coal and undertake scenario analysis to stress-test the resilience of our portfolio	Sustainability & climate change
Governance, risk and business integrity	How we assess and manage risks to our business, including risks arising from the physical and transitional impacts commonly associated with climate change, consistent with the reporting framework of the Task Force on Climate-related Financial Disclosures (TCFD)	Sustainability & climate change
Minimising environmental impact	How we respect and care for our natural environment, minimise and/or mitigate the environmental impacts of our operations and work to improve environmental performance	Environment
Safety of our workforce	How we ensure all our employees and contractors observe robust safety practices and how we seek to avoid workplace injuries and fatalities	Health & safety
People	How we ensure Whitehaven is an enjoyable and rewarding place to work and how we help support the mental and physical health and wellbeing of our employees	Our people
Indigenous engagement	How we invest in Indigenous health, education, skills development and employment with a view to addressing Indigenous disadvantage	Our people, Community
Supporting local communities	How we contribute to local community prosperity and quality of life, including through meaningful engagement and seeking qualitative and quantitative feedback to inform decision-making	Community



Governance and risk

Governance

Whitehaven's Board is responsible for overseeing our response to all business risks including climate-related risks and opportunities.

The Board has four standing committees: the Audit & Risk Management Committee; the Health, Safety, Environment & Community Committee; the Remuneration Committee; and the Governance & Nomination Committee, each of which meets regularly.

The committee with the highest level of direct responsibility for climate-related matters is the Audit & Risk Management Committee, which operates under a formal charter and currently comprises three non-executive and independent directors. This Committee meets at least four times a year, and oversees the key risks affecting the Company's business, including climate-related risks.

Management of climate-related matters rests with Whitehaven's senior management. In 2019, we established a Sustainability Working Group to monitor and coordinate our overall handling of climate-related matters and to ensure risks and opportunities are considered from a whole-of-company perspective. This Working Group is chaired by the Executive General Manager, Corporate & External Affairs and includes senior executives from across Whitehaven. It reports to both the Audit & Risk Management Committee and the Health, Safety, Environment & Community Committee.

Material strategic decisions, including those associated with climate change, are made by management and approved by the Board. Risks and opportunities associated with climate change are prioritised according to the magnitude and likelihood of the risk or opportunity.

Risks and opportunities

Risks

The Board recognises a sound culture supported by a strong framework of risk management is fundamental to good corporate governance.

The assessment and evaluation of climate-related risks are established features of Whitehaven's enterprise risk management framework, strategy and decision-making processes. Our most significant risks are reviewed annually, while material and emerging risks are continually and proactively identified, monitored and reviewed.

In 2019, and to supplement our risk review process, we undertook detailed climate risk and scenario planning for our business using the voluntary framework recommended by the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD). The outcomes of this work are set out in this chapter.

The TCFD recommendations separate climate risks and opportunities into two general categories, transition and physical:

- **Transition risks and opportunities** risks and opportunities that relate to technological innovations, policy changes, carbon pricing, and other factors in the transition to a low-carbon future
- **Physical risks** risks associated with the direct impacts of climate change, being acute extreme weather events such as cyclones, hurricanes or floods or chronic changes to climate (e.g. drought or sustained higher temperatures) that could affect companies' businesses.

Response to climate-related risks

Risk type	Risk	Description	Mitigation
Transition Time horizon Long Term	Market changes	Supply and demand for the coal we produce may be affected by various disruptions including policy, regulation and technology shifts.	We continuously monitor the global environment and conduct detailed analyses on coal markets and customer buying preferences to ensure we are well positioned to respond to market changes that affect our business.
Transition Time horizon Medium-Long Term	Policy and regulation	Future costs for our business and our customers' businesses may be affected by changes in policy impacting the cost of emissions and/or transport.	We continue to monitor global and domestic policy and regulation with a focus on changes or trends in policy in our customer countries. We engage with domestic policymakers to advocate for positive policy outcomes.
Transition Time horizon Short-Long Term	Legal	Increasing litigation against companies in an effort to accelerate action on climate change.	We believe our climate-related risk management framework including scenario analysis, stakeholder management and monitoring of legal developments assists in identifying potential climate-related litigation risks. In parallel, we will also seek legal advice on such developments when required.
Transition Time horizon Medium-Long Term	Access to funding and insurance	Further changes to ESG policies by funding and insurance providers may lead to a smaller pool of suppliers for these services which may result in higher costs.	We advocate the central role of high-quality Australian thermal coal in reducing global emissions. We continue to advocate the importance of Australian metallurgical coal as a critical input for steel production.
Transition Time horizon Medium-Long Term	Increased energy and fuel costs	The potential introduction of regulatory pricing mechanisms and/or trading systems may increase the cost of electricity and fuel, which are key inputs required for our mining operations.	We identify and implement energy efficiency initiatives.

Risk type	Risk	Description	Mitigation
Transition Time horizon Medium-Long Term	Reputation	Changing stakeholder expectations and misunderstanding in relation to the role of high-quality coal in supporting a lower-carbon future may present a risk to our reputation and impact our social licence to operate and ability to obtain project approvals.	We engage regularly with our stakeholders in dialogue covering the full spectrum of environmental, sustainability and governance issues, including in relation to climate change and the adoption of the recommendations of the TCFD.
Acute Physical Time horizon Medium-Long Term	Increased frequency and severity of extreme weather events, such as tropical cyclones, floods and fires	Impact to operations due to adverse and severe weather events resulting in increased costs and disruption to supply.	Continue to design infrastructure to better withstand floods, storm deluge and other extreme weather conditions. We monitor contractual arrangements to ensure appropriate mitigation measures are in place.
Chronic Physical Time horizon Short-Long Term	Changes in precipitation patterns resulting in a material increase or decrease in water balances	Production loss resulting from an over or under supply of water.	We monitor water balances at each site. We investigate opportunities to minimise water usage and secure alternate, reliable water sources to strengthen our operations' resilience to water availability risks.

Opportunities

In addition to working to avoid and manage climate-related risks, we also explore and take advantage of climate change opportunities. Central among these for Whitehaven is responding to growing market demand for high-quality Australian coal in a more carbon-constrained world (further detail on these aspects can be found in this chapter and the *Our strategy* chapter of this Report). We also invest in low-emissions technologies through the COAL21 fund and will continue to evaluate other ways we can

contribute to the development of Carbon Capture Utilisation and Storage (CCUS) globally (further detail can be found on page 20). Finally, we acknowledge climate change is a global challenge that requires collaboration among a wide range of stakeholder groups. We participate in domestic and international exchanges and forums where we advocate the role higher-quality coal and CCUS technologies can play in contributing to meaningful carbon emissions reductions (further detail can be found in *Our strategy*).

Climate change statement

Whitehaven's products are essential inputs for continued economic development in advanced and emerging economies across our region.

We acknowledge the production and consumption of coal contributes to greenhouse gas (GHG) emissions. We also acknowledge that a central challenge of climate change is how to integrate international emissions reduction efforts with the aim of supporting the legitimate economic and social development aspirations of people, communities and countries. This is a challenge faced by all governments and a wide cross-section of industrial sectors beyond mining including electricity generation, transport and agriculture.

Around the world, demand for energy is growing, driven by the increased industrial output and electricity use that has accompanied global economic development.¹ Delivering access to affordable, reliable and sustainable energy is a key goal for governments that has to be balanced against a wide range of domestic and international policy, technological, commercial, environmental and other considerations.

Limiting global temperature rises from climate change requires a reduction in global CO₂ emissions, but achieving emissions reductions while maintaining a reliable energy supply poses some significant challenges. Achieving contemporary sustainable development goals requires a rethink of the historic relationship between economic growth, energy demand and carbon emissions.

Whitehaven considers an effective and enduring response to climate change should contemplate a range of complementary measures to support the transition to a lower-carbon future. This includes greater agnosticism as to how carbon emissions reductions can be achieved, recognising that, according to the IEA, coal will remain a critical pillar of electricity generation globally and a non-substitutable component in metallurgical processes for generations to come.

In this context, our objective is to help meet projected increases in global energy demand in our near region – where we can leverage our geographic proximity to new coal markets – while making a material, practical contribution to carbon emissions reduction efforts. We do this by combining our low-ash, low-sulphur, high-energy coal with the most technologically advanced, highest efficiency, and lowest emitting power stations in operation.

To meet the growing energy demands of the world, while ensuring supply is accessible and affordable, Whitehaven also considers significant additional investment in Carbon Capture Utilisation and Storage (CCUS) technologies is essential. Advanced technologies and innovation still offer the best solution for managing climate risks and reducing GHG emissions. There is a need for greater parity between the development of CCUS relative to renewable energy technologies when it comes to policy, international financing and coordinated international action. The IEA has estimated CCUS could deliver 14% of cumulative GHG emissions cuts through to 2050 and that climate change action will cost an additional US\$4.7 trillion without CCUS.

We have extensive contact with investors, shareholders and buy and sell-side research analysts both domestically and internationally, and we engage constructively in dialogue covering the full spectrum of environmental, sustainability and governance issues. To assess the impacts of carbon policy on our business, we closely monitor developments in climate and energy policy at home and abroad. We participate in a range of industry forums and advocate for policies that address inequality (most especially with regard to Indigenous communities), promote economic growth and prosperity and support responsible and efficient environmental management.

“Without CCUS as part of the solution, reaching our international climate goals is practically impossible.”

Dr Fatih Birol
Executive Director
International Energy Agency

Source: IEA and UK kick-start a new global era for CCUS. IEA Newsroom, 28 November 2018.

¹ In 2018, energy demand worldwide grew by 2.3%, its fastest pace in a decade, according to the IEA. Under its New Policies Scenario, the IEA projects world energy demand will grow by 27% to 17,715 megatonnes of oil equivalent (Mtoe) between 2017 and 2040. Fossil fuel (oil, gas and coal) demand grows by 16% over the same period, to 13,139 Mtoe.



COAL21

Low Emissions Coal Australia

Together with 26 other companies with black coal mining operations in Australia, Whitehaven is a member of the COAL21 fund, established in 2006 to invest in the demonstration of low-emissions coal technologies, including CCUS, to support cost effective, reliable and cleaner energy.

With an initial commitment of \$300 million to demonstrate low-emissions technologies in the coal-fired power generation sector, and safe fugitive emissions abatement from coal-mining

operations, COAL21 is now preparing to commit a further \$255 million for the period to June 2027, to meet its objectives to:

- Build community confidence in CCUS technology for safe, long-term CO₂ storage
- Demonstrate safe abatement of fugitive emissions from coal mines
- Assist in making the case for coal to remain a key part of Australia's future energy supply.

Business resilience and climate change

In October 2018, Whitehaven committed to reviewing the voluntary recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) with a view to incorporating these into our suite of annual reporting from FY19. Our response to the core TCFD recommendations builds on our previous disclosures related to climate and climate-related risk in the context of our annual reporting.

Alongside reporting on governance and risk mitigation, the central component of the TCFD's recommendations is for companies to:

- Understand the impact of changes to the operating environment under potential lower-carbon scenarios (including a scenario that limits global warming to an average of 2 degrees Celsius (°C) above pre-industrial levels)
- Determine the extent of financial and operating 'resilience' under these potential lower-carbon scenarios
- Ensure monitoring of relevant external metrics and indicators periodically to determine the most likely eventuating scenario over time.

In undertaking this analysis, we have stress-tested the resilience of our portfolio against the IEA's three most commonly referenced scenarios as outlined in its World Energy Outlook (WEO) series. Each year, the WEO is produced by a team of approximately 120 economists, engineers and other personnel, with an additional 230 peer reviewers from governments, corporates, consultancies and energy agencies globally contributing to its development.

We have flexed our own forecasts under each scenario to determine impacts to our business. Our key conclusions are:

1. The future of the Australian coal sector and high-quality coal producers such as Whitehaven is expected to remain robust over the long term
2. Whitehaven exhibits long-term resilience and value generation in a range of de-carbonising scenarios, including under a 2-degree scenario
3. Under the 2-degree scenario, all Whitehaven mines and projects continue to have positive valuations and economic lives consistent with current life-of-mine planning
4. The risk of Whitehaven's assets being stranded in a more carbon-constrained world is assessed as being low.

Our business

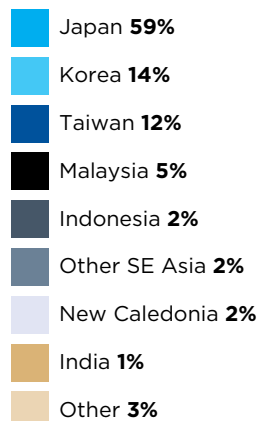
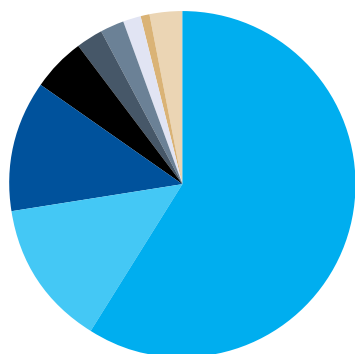
Our business is leveraged to strong and continuing demand for high-quality coal in the Asian region. In FY19, Whitehaven sold 21.6 million tonnes of coal, 100% of which was exported; of this, thermal coal comprised 17.5 million tonnes and metallurgical coal 4.1 million tonnes.

While global thermal coal consumption is expected to be stable out to 2040 according to the IEA New Policies Scenario (NPS), coal is likely to remain the single largest source of electricity generation worldwide through the forecast period. There are also demand trends at the regional level that are counter-cyclical to more subdued global demand trends. Demand for higher-quality coal among developing economies in the Asian region, for example, will continue to grow, driven in part by electrification and new policy settings sensitive to the need to reduce carbon emissions and atmospheric pollutants (particulate matter). This is especially advantageous for Australia as a key global producer of high-CV, low-ash, low-sulphur coal, and for our business, which is specifically oriented to supplying demand in our region for coal meeting these specifications.

Thermal coal

The vast majority of our thermal coal exports are purchased by customers in Asia. Over the past decade, demand from our Asian customers has grown strongly in line with overall demand growth of 4.2% CAGR,² driven largely by the build-out of coal-fired power fleets in these countries to support the processes of industrialisation and urbanisation.

Thermal coal sales FY19



One aspect of this phenomenon is that coal-fired generation fleets in our customer countries are relatively young, especially compared with a country such as Australia, and utilise advanced technology to maximise efficiency with reduced environmental impact. Coal-fired plants typically require large upfront capital expenditure, which in turn provides 40 to 50 years of operating life. Given the early life cycle of these assets, we are likely to see sustained demand for coal as a fuel input over a significant period of time.

The other major market thematic is the supply and demand picture for high-CV thermal coal. The increasing uptake of HELE power stations requiring a feedstock of higher-specification coal to run at peak efficiency, coupled with a decreasing supply of high-CV coal, is generating ongoing tightness in the higher-energy content coal market. This dynamic has played out in the differentials between high-quality and low-quality coals that have increased from historic levels.

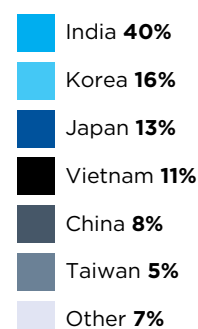
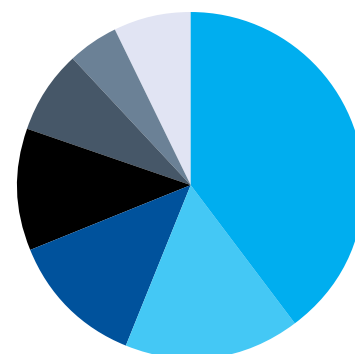
Given the relative scarcity of high-CV coal and the limited number of development projects exposed to this product, we expect this trend to continue and possibly even intensify. The IEA forecasts demand for high-quality coal from Australia to grow disproportionately to world seaborne growth because of its higher quality.³ Given Gunnedah Basin coal is at the upper end of the national CV range and with a lower ash component, we are well positioned to continue to supply this market.

Metallurgical coal

Our NSW mines supply metallurgical coal in the form of semi-soft coking coal and high volatile matter (high vol) PCI coal. These coals are low in impurities, specifically ash, sulphur and phosphorous, and are important components in our customers' broader coking coal requirements.

Our coking coal sales have a significant exposure to India, as detailed below, which is forecast to experience strong growth in coking coal imports over the coming decades.

Metallurgical coal sales FY19



Our customers use low-impurity Whitehaven products in their coke blends to offset impurities in the hard coking coals they purchase, which is an important attribute to the ongoing demand for our coking coals. The trend of increasing impurities in hard coking coal, specifically sulphur and ash, is expected to continue, positioning our business well in terms of future demand for our product.

² CRU Thermal Coal Market Outlook.

³ International Energy Agency (2018), World Energy Outlook 2018, OECD/IEA, Paris.

Future demand

The seaborne coal market is a large, fluid market and a global perspective is required to understand the direction and volatility of forecast coal prices. Coal has historically been a cyclical commodity, driven by changes in supply, demand and pricing. There is little evidence to suggest this cyclical nature will change; in fact there is some evidence it will become more volatile as new influences over supply and demand come to the fore. As part of our strategic planning we analyse the global market and how it is likely to affect the Asian markets where we sell our product.

Thermal coal

Global electricity demand is forecast to continue to grow strongly. The IEA predicts 90% of global electricity demand growth will come from developing economies, many of which are in Asia, with population growth, increasing economic activity and rising standards of living all contributing to the need for accessible, reliable and affordable energy. While, off a low base, renewables will undoubtedly be the fastest growing component of the global energy mix, base-load fuels such as coal will still be required to maintain stable, efficient and flexible power grids.

Construction of new coal-fired capacity, particularly across Asia, is expected to drive long-term thermal coal demand globally. Across Asia, there is at least 175GW of new coal-fired power generation capacity under construction, of which about 85% of capacity is being built to ultra-supercritical (USC) or supercritical (SC) specifications, which equates to roughly eight times Australia's currently installed coal-fired power generation capacity. Furthermore, Asian nations have a combined additional planned coal-fired capacity pipeline of 240GW, of which about 65% is expected to be built to USC/SC specifications.⁴ The adoption of SC and USC technologies, fuelled by

higher-energy and lower-impurity coals, will result in materially lower coal-fired emissions compared to older coal-fired technologies.

Asian coal-fired fleets are on average significantly younger relative to European and North American fleets, which will further reinforce long-term coal demand in Asia. Australia is ideally positioned to capitalise on Asian thermal coal demand given the high-quality nature of its thermal coals, being higher energy and lower impurity, compared to other major sources of seaborne coal, thereby generating fewer GHG emissions per MWh. Furthermore, the relative proximity to key markets will ensure Australia remains one of the most cost-competitive sources of high-quality thermal coal into Asia.

Metallurgical coal

Global demand for metallurgical coal, as a critical component in the steelmaking process, is correlated to industrialisation and urbanisation.

Over the last decade, global metallurgical coal demand was largely underpinned by China, which produced around half of the world's steel output by 2015.⁵ While the Chinese steel sector continues to grow, albeit at a reduced rate, other developing nations (particularly in Asia) are expected to undergo major socio-economic transformations requiring significant increases in the capacity and sophistication of domestic steel-making industries.

The IEA estimates nations within the Asia Pacific region will experience some of the fastest growing urbanisation rates globally and will collectively see an additional 840 million people in urban areas by 2040, predominantly across China, India and Southeast Asia.⁶ While there will be variations in steel sector growth specific to industrial, policy, trade and other considerations in particular jurisdictions, steel intensity growth (or steel use per capita) of several Asian nations will come from a relatively low base and trend

towards the steel intensity levels of China and other developed nations over time.

While China is expected to rebalance its steel sector towards electric arc furnace (EAF) steel production fuelled by scrap availability, other less developed Asian nations yet to experience major industrial cycles will likely be compelled to install predominantly basic oxygen furnace (BOF) steel-making capacity, which relies on metallurgical coal as a fuel source.

According to resource consultants CRU, while global BOF-based steel demand is expected to be flat, and may lose some steel market share to EAF production, the majority of global steel production will continue to rely on metallurgical coal for the foreseeable future.⁷ As a key example, the relative lack of scrap availability in India and other developing Asian nations is expected to result in a heavy reliance on BOF-based steel sector growth out to 2040.

As large quantities of economic metallurgical coal resources exist in far fewer countries (and are typically logistically more constrained relative to thermal coal markets), metallurgical coal is considered a more scarce resource globally. As the world's largest exporter of metallurgical coal⁸, Australia is well placed to benefit from the growing strategic importance of the commodity. Australia already accounts for approximately half of the seaborne metallurgical coal trade and, with the benefit of significant volumes of high-quality coal resources and production capacity (particularly premium-priced hard coking coal), benign geology and several routes to market, will continue to be a metallurgical coal market leader for the foreseeable future.

As with thermal coal, Australia's geographic proximity to key Asian steel-making markets reinforces our status as one of the most reliable and cost-competitive suppliers to steel-making customers relative to other major metallurgical coal exporters.

4 CRU, Thermal Coal Market Outlook.

5 CRU, Metallurgical Coal Long Term Market Outlook.

6 International Energy Agency (2018), World Energy Outlook 2018, OECD/IEA, Paris.

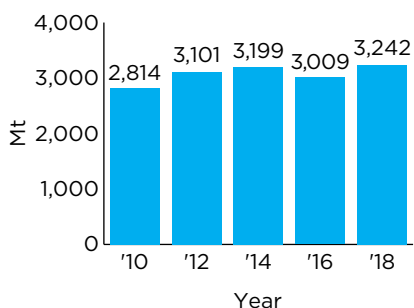
7 CRU, Metallurgical Coal Long Term Market Outlook.

8 IHS (2019); Department of Industry, Innovation and Science (2019).

Asian market trends for thermal coal

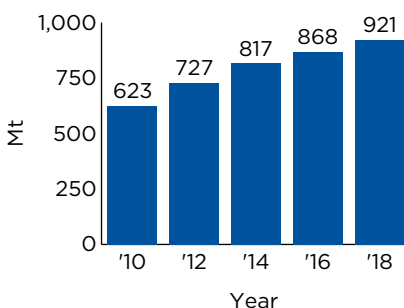
Over the past decade the Asian region has seen strong growth in thermal coal demand driven by strong economic growth, increased standards of living and population increases.

China



CAGR +2.6%

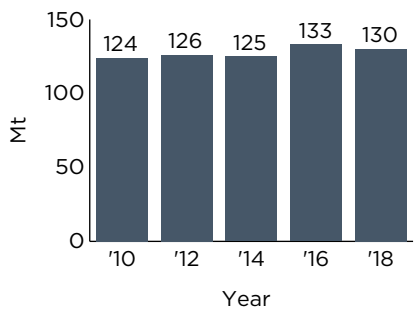
India



CAGR +5.0%

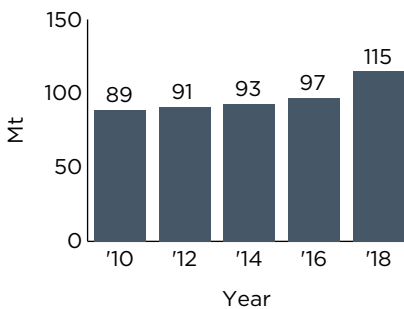
JKT

Japan



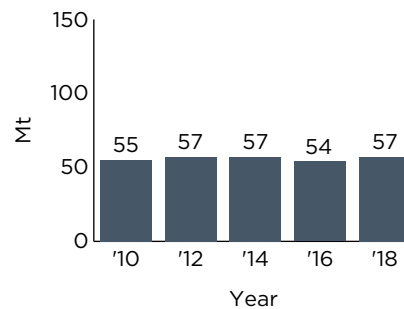
CAGR +1.8%

South Korea



CAGR +4.1%

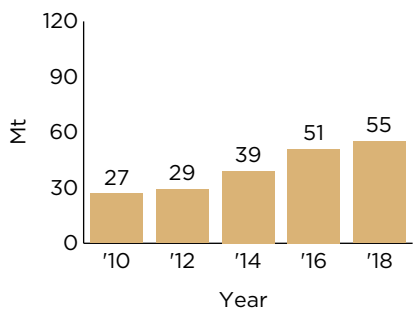
Taiwan



CAGR +0.9%

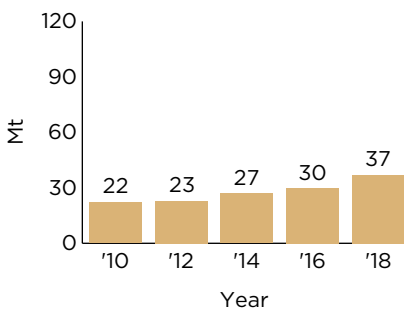
South East Asia

Vietnam



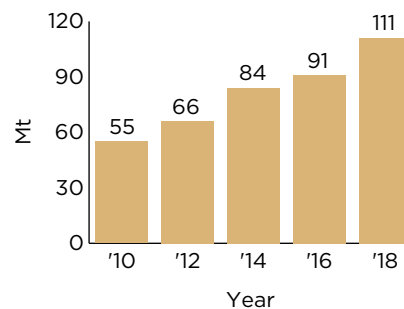
CAGR +9.5%

Malaysia



CAGR +9.7%

Indonesia



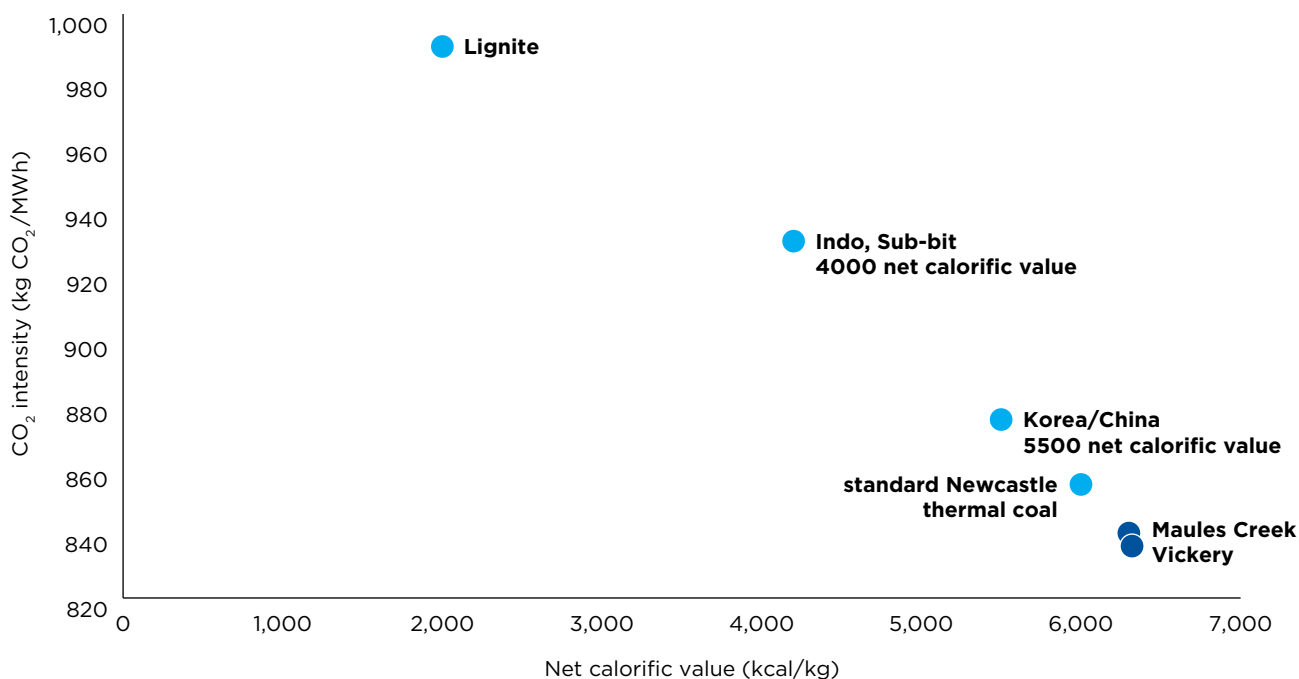
CAGR +8.3%

Source: CRU, Thermal Coal Market Outlook. Thermal coal demand for 2009 was as follows: China - 2,576Mt; India - 592Mt; Japan - 110Mt; South Korea - 80Mt; Taiwan - 53Mt; Vietnam - 25Mt; Malaysia - 16Mt; Indonesia - 54Mt.

The role of high-quality coal in reducing emissions

In a world where carbon emissions reduction efforts are a focus for policy-makers as well as major energy generators and consumers, high-quality coal, particularly high-CV, low-ash coal, has a clear role to play.

Carbon emission improvement by coal type



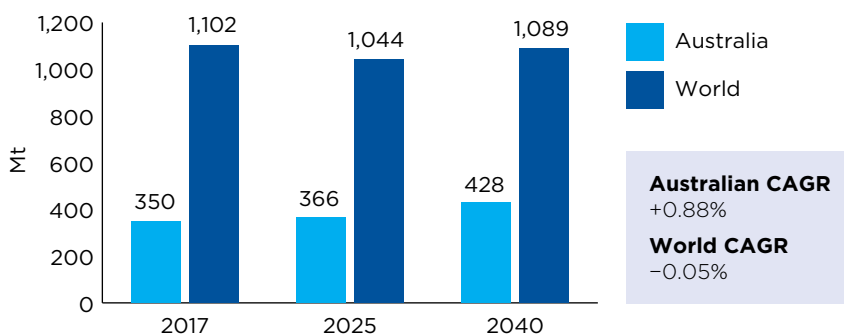
Source: Whitehaven, Wood Mackenzie and Australian Coal Review World Database.



Australian coal exports under the IEA's New Policies Scenario

Under the NPS global traded coal out to 2040 is relatively flat, however, Australia's exports are expected to grow at 0.88% CAGR taking market share from other exporting nations.

Seaborne coal trade (thermal and metallurgical)

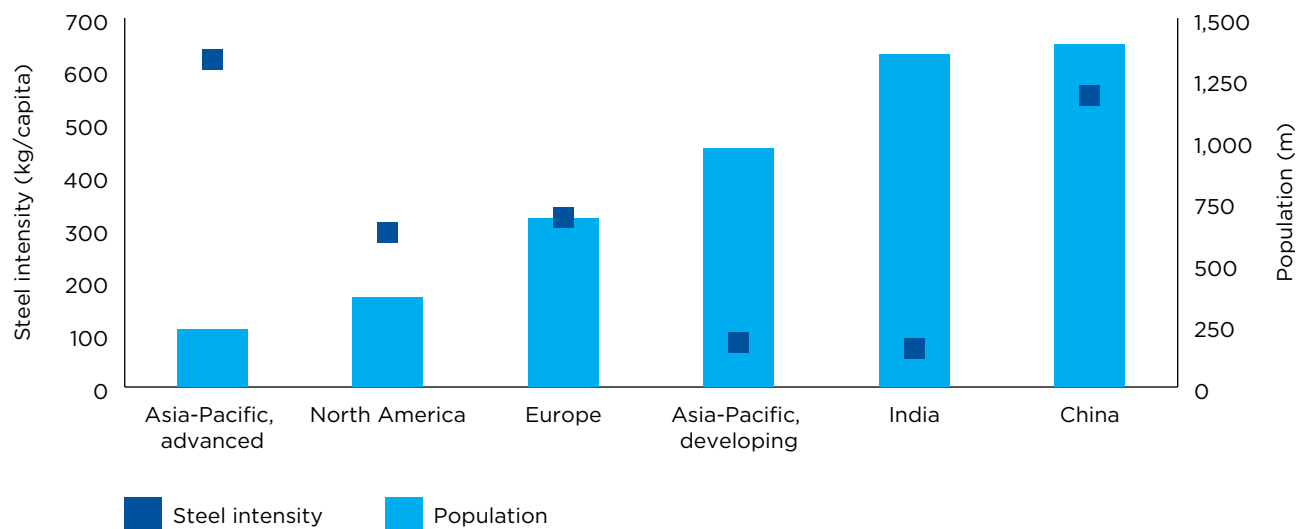


Source: International Energy Agency (2018), World Energy Outlook 2018, NPS, OECD/IEA, Paris. The NPS is one of three key scenarios modelled by the IEA. Refer to page 28 for details in relation to the other scenarios.

Metallurgical coal - Intensity of steel

India and nations in the developing Asia-Pacific region are forecast to experience high urbanisation rates driving steel intensity from relatively low levels, towards the levels of other more developed regions, including China, Europe and North America.

Steel intensity by region



Source: CRU, Metallurgical Coal Long Term Market Outlook.

IEA World Energy Outlook scenarios

Current Policies Scenario (CPS)

Expected warming of 6°C by 2100

- Considered a 'base-line' scenario for scenario analysis
- Only considers policies that have been formally adopted by governments
- Based on existing laws and regulations as of mid-2018
- Excludes progressive and aspirational emissions reduction targets that have been declared globally.

New Policies Scenario (NPS)

Expected warming of 4°C by 2100

- The central scenario of the WEO
- Provides a measured assessment of where the energy sector might be in the coming decades, regarding:
 - Today's policy frameworks and ambitions, together with
 - The continued evolution of known technologies
- Broadens scope to include policies and targets announced by governments.

Sustainable Development Scenario (SDS)

Limiting warming to 2°C by 2100

- Provides an integrated strategy to achieve the key energy-related elements of the United Nations Sustainable Development agenda
- Aligned with the *Paris Agreement* goal of holding the increase in global average temperatures to 'well below 2°C'.

Source: International Energy Agency (2018), World Energy Outlook 2018, OECD/IEA, Paris.

Scenario analysis

A number of aspects of the pace and scale of the global transition towards a lower-carbon world are subject to uncertainty. These include the actual extent of the policy response to climate change, the outlook for energy demand and the rate of development of new technologies, to name a few.

Given this uncertainty, climate scenario analysis provides just one tool for our company to better understand and assess external risks to our business and inform strategic decision-making.

It is important to understand that scenario analysis is not the same as forecasting. It is a mechanism where scenarios, in some cases with dramatic deviations from a base case and with varying degrees of probability, are used to test business resilience and determine consequential financial outcomes.

Our scenarios

Given the well-documented, transparent and independent nature of scenarios produced by the IEA, we have evaluated our business resilience under the:

- IEA Current Policies Scenario (CPS)
- IEA New Policies Scenario (NPS)
- IEA Sustainable Development Scenario (SDS).

When assessing our resilience against a given scenario the tests we apply are:

1. Is there a sufficient market demand to sell our products given their quality characteristics?
2. Can our product be marketed and sold at a price that generates a positive cash flow for our business?

Where these tests are positively met in combination, we conclude our business is resilient.



Market demand for our products

Using the IEA’s WEO 2018 report (the latest in the IEA’s series) we analyse the market demand for thermal coal in established and emerging markets in Asia, consistent with our understanding of demand trends outlined by the IEA which identify this region as the focus of future growth. Our analysis includes reviewing the coal demand from the Australian production base and reviewing quality drivers embedded within that demand.

Resilience under the Current Policies Scenario	Resilience under the New Policies Scenario	Resilience under the Sustainable Development Scenario
<p>Under the IEA’s CPS, thermal coal traded in the seaborne market rises strongly at 1.2% CAGR requiring coal production over and above that which exists today. Demand for our coal will be strong given the supply-demand environment.</p>	<p>Under the IEA’s NPS, thermal coal traded in the seaborne market falls marginally by 0.25% CAGR. In the same period total coal production from Australia is expected to rise at a CAGR of 0.6% out to 2040.</p> <p>Given the relative scarcity of Australian thermal coal our long-life mines are well positioned to meet the growing demand for high-quality Australian thermal coal.</p>	<p>Under the SDS the IEA expects global seaborne thermal coal demand to contract by 4.5% CAGR out to 2040.</p> <p>Given the demand sources and the expectation of growing quality requirements within our region we forecast Australia will perform better than the global seaborne market.</p> <p>Furthermore, in a carbon-constrained world and given the quality of Gunnedah Basin coal and its lower CO₂ emissions per unit of power produced we expect demand for our coal to be better than the Australian average.</p>

Pricing

The IEA's WEO 2018 contains delivered coal prices to China in the years 2025 and 2040 under the CPS, NPS and SDS. Our resilience testing for each scenario is predicated on these respective price forecasts provided by the IEA after rebasing to an FOB Newcastle basis, calculating linear year-on-year prices between the forecasts provided by the IEA and modelling of the cash flow generation of our business out to 2040.

Resilience under the Current Policies Scenario	Resilience under the New Policies Scenario	Resilience under the Sustainable Development Scenario
<p>Modelling of the IEA's WEO 2018 forecasts for coal prices under the CPS project EBITDA margins in our business increasing strongly from 2025 out to 2040. There would be strong corresponding positive free cash flows from our business with all projects, including our Vickery and Winchester South development projects returning positive net present value (NPV) outcomes.</p>	<p>When modelled, the IEA's WEO 2018 forecasts for coal prices under the NPS project strong EBITDA margins, positive cash flows for our combined business with all projects, including our Vickery and Winchester South development projects, returning positive NPV outcomes.</p>	<p>The modelling of the IEA's WEO 2018 forecasts for coal prices under the SDS shows that, while lower than the NPS case, the company is cash flow positive out to 2040 and importantly, all projects including our Vickery and Winchester South major development projects remain NPV positive.</p>

Future monitoring and reporting

Consistent with the recommendations of the TCFD Whitehaven has identified signposts for each WEO scenario that encompass the leading indicators underpinning our assumptions as well as any changes in the external environment relevant to Whitehaven. These are primarily IEA data points such as global power sector CO₂ emissions, global thermal coal production and cumulative investments in fossil fuel and renewables generation on a region-by-region basis to name just a few.

In addition to IEA data, we also use bespoke data from independent resource industry consultants as well as open-source reporting and analysis on policy and market developments relating to carbon, climate change, coal and other relevant topics. We also participate in domestic and internal discussion forums to deepen our understanding of issues. This information is synthesised by the Sustainability Working Group, which meets periodically to review signposts and form judgements on which scenarios are becoming more or less dominant over time.

Importantly, over the coming years we intend to continue to build on our detailed knowledge of the forecast coal demand from Australia and specifically high-CV coal in a carbon-constrained world and generate internal pricing forecasts aligned to our quality of coal as a further test of our scenario analysis.

Environment



Our approach to environmental management focuses on avoiding environmental impacts where possible, mitigating unavoidable impacts, rehabilitating or restoring disturbed areas, and offsetting to compensate for any significant residual adverse impacts that cannot be otherwise avoided, minimised or rehabilitated.

To do this, we undertake extensive assessments and management planning in relation to surface water, groundwater, flood impact, flora and fauna, Aboriginal cultural heritage, historical heritage, air quality, noise, agriculture and geochemistry impacts. This includes extensive consultation with relevant stakeholders throughout formal planning and approval processes, such as the development of comprehensive environmental assessments for all projects, and specific management plans across all stages of projects – from construction and operation to rehabilitation and closure.

In Australia, mining is a highly regulated industry subject to constant monitoring and compliance activity by relevant government authorities. For all our mining operations, we observe the strict conditioning requirements that apply. On any given day, we comply with thousands of environmental obligations across our sites, and our commitment is to always plan carefully and mine responsibly in line with our approval conditions, and progressively rehabilitate land as we go.

Our comprehensive management of environmental impacts is complemented by ongoing formal and informal stakeholder engagement, for instance through Community Consultative Committees (CCCs), as well as direct community feedback via our hotlines, open days and more. We work together with our local communities, including neighbouring landholders, and adjust our management approach based on this consultation.

In FY19 we appointed Deloitte to conduct an Environmental Culture Diagnostic and we are in the process of developing an implementation plan to continue to build a holistic culture around environmental management across the business. This will form part of our broader Envirohaven program to enhance environmental management and drive culture change, alongside the rollout of group-wide Environment Standards accompanied by a strategic communications strategy.

Water use

Water is essential for life and human economic and social development. Because it is also a precious resource, water can create complex interdependencies and relationships associated with access and usage.

Water is fundamental to our business and to sustaining our mine operations and the livelihoods that depend on their economic output. Our total operational water inputs during FY19 from both groundwater and surface water allocations were 6,826 megalitres (ML), just under 70% of our total allocation, with increased usage aligning with deteriorating rainfall conditions in our region. We carefully manage and plan our water needs and look to recycle water wherever we can, for example, by recirculating within our coal handling and processing plants.

Working closely with relevant NSW water management and regulatory authorities, we monitor water quality and quantity, including water balances, to measure the volume and quality of water inflows, current storage on site, usage, losses, recycling, and any discharges. This information, plus predicted operational requirements and weather patterns, is used to plan for future water use. Water meter readings are checked by WaterNSW to monitor compliance.

Managing our operational water needs during times of drought poses additional challenges. The current drought in NSW rivals the Federation Drought of the early 1900s in its intensity and duration and has once again required many Australians to focus on how water is accessed, used, shared and valued.

It is essential all affected stakeholders continue to work with governments and water regulators to address the challenges posed by the drought. Statutory water management frameworks must safeguard water for future generations, but also support the efficient use of available resources and practical water governance measures. We are committed to working with all stakeholders transparently and constructively on this critical issue and to:

- Identifying material water impacts, risks and opportunities
- Improving our overall understanding of our water use at the regional and sub-regional level
- Exploring how we can improve our water management performance and contribute to individual water saving and water-sharing initiatives.

	FY19	FY18	FY17	FY16
Water licence allocation (ML)	9,978	9,978	9,924	9,925
River/bore water extraction (ML)	4,183	3,034	1,456	1,580
Water used (ML)	6,826	5,316	3,649	3,964
Proportion of allocation used (%)	68	53	37	40
Water exported for irrigation (ML)	102	42	-	-

Managing water use with Werris Creek irrigators

In 2015, local community members approached the Werris Creek CCC to ask whether surplus water at the Werris Creek Mine could be provided to nearby landholders for irrigation purposes. Because the discharge of void water offsite was not permitted under the licence conditions for Werris Creek, the CCC, with the support of Whitehaven and the local State Member of Parliament, wrote to the NSW Department of

Planning and the Environment and NSW Environmental Protection Authority seeking a variation to the applicable Environment Protection Licence (EPL) condition – and the required regulatory amendments were subsequently introduced. By November 2017, the variation of the EPL and approvals for the Water Management Plan and Irrigation Management Plan had been introduced and during FY18 the first irrigation cycle occurred.

Through FY18 and FY19, local farmers leasing Whitehaven land have continued to be able to successfully irrigate crops using the newly built infrastructure and water supply.

Emissions

As a producer of high-quality coal that provides our key customers with lower emissions alternatives, we are conscious of where greater efficiency, cost and emissions reductions intersect. We are committed to ongoing efforts to reduce our operational emissions from both energy supply and haulage. At the same time, we believe GHG reduction efforts should not deprive people and communities of access to affordable and reliable energy. While our significant growth as a company has meant GHG emissions have increased year-on-year, we are looking at ways to better integrate productivity and operational efficiency measures to deliver improved emissions outcomes across our operational sites. This reflects our belief that our company must do more than

rely on the emission reduction characteristics of our high-quality coal and reduce direct emissions arising from our own operations. As outlined in the *Sustainability & climate change* chapter, we invest in the development of low-emissions technologies through COAL21 that also have the potential to effect further material reductions in GHG emissions.

We acknowledge greenhouse gases are produced through the mining process and from the use of coal in power stations and blast furnaces. Our obligatory reporting of our GHG emissions under the *National Greenhouse and Energy Reporting Act 2007* is provided below.

Scope 3 emissions are not incorporated as part of Australia's National Greenhouse and Energy Reporting scheme, reflecting the fact that indirect emissions produced downstream are beyond

the operational control of a company or entity. Further, Scope 3 emissions arising from the use of our coal is represented as Scope 1 emissions from the power generation and steel-making sectors that comprise our customer base.

Because Whitehaven produces some of the highest quality, low-ash, low-sulphur, high-energy coal in the seaborne trade, it produces among the lowest emissions per tonne consumed in the world. In this way our product displaces lower-quality, higher-emissions coal such as that from Indonesia or China. All of our customer countries are signatories to the *Paris Agreement* or have domestic policies that are consistent with the outcomes of the Paris Climate Conference, COP21. Our largest customer, Japan, has included high-quality coal as a key component of its COP21 Nationally Determined Contribution.

	FY18**	FY17	FY16	FY15
Scope 1 and 2 greenhouse gas emissions (kilotonnes CO ₂ -e)*	1,440	1,350	1,162	762
Intensity - greenhouse gas emissions (tonnes CO ₂ -e per tonne ROM coal)***	0.063	0.059	0.057	0.048
Total energy use (terajoules)***	5,872	4,926	3,968	3,128
Intensity - total energy use (gigajoules per tonne ROM coal)****	0.256	0.215	0.193	0.198

*CO₂-e stands for 'carbon dioxide equivalent'.

**Most recent reportable period.

***The incremental increase in GHG emissions intensity is attributed to an increase in fugitive emissions related to increased ROM coal extraction.

****The incremental increase in overall energy intensity is also related to our growing scale, and includes increased requirements to move waste.

Partnering to reduce energy consumption

We work with key partners to develop innovative solutions to reduce energy consumption. Throughout FY19 we have worked with Hitachi and Cummins to update engines on the EH5000 fleet. At our Maules Creek Mine, there is a fleet of 39 EH5000 rear dump trucks for which we are currently trialling an electric fan to reduce noise. This has the added benefit of reducing

fuel consumption as the brake cooling and air-conditioning fans are controlled to operate on demand only. The fan control depends on system temperatures and therefore only operates when required.

We expect this innovation to deliver significant fuel savings, and will look towards full implementation across our broader Hitachi fleet where

practicable. There is also the potential for similar modifications to our other truck fleets. In addition, we are working with Cummins to optimise fuel consumption on haul trucks through minor changes in engine control software to adjust engine revolutions per minute and corresponding horsepower to better match the engine output to the required haulage duty cycle.

Air quality

We employ a range of methods to maintain good air quality, including using water carts and dust suppressants to minimise dust. In unfavourable weather conditions, such as excessive winds or dust storms that could increase the prevalence of dust, we modify our activities on site accordingly. Further, we rehabilitate mined land progressively, to minimise areas exposed to dust generation.

All of our sites have systems for real-time monitoring and management of air quality, which can be impacted by dust from excavation and haul truck activity, as well as emissions arising from the use of explosives. Monitoring results are publicly available through applicable CCCs and the Whitehaven Coal and NSW EPA websites.

Almost all of our coal is transported by train. While there is inherent moisture in product coal that provides a measure of dust suppression, we take a number of additional steps to further mitigate dust lift off. For instance, we use the preferred garden bed profile when loading trains, orient coal stockpiles to minimise exposure to dominant winds, and have automatic wind speed alerts in our Coal Handling and Processing Plants (CHPP) that trigger air quality inspections. Some coal is trucked to our Gunnedah CHPP; these trucks are covered before they leave the point of loading, right until the point of delivery, mitigating dust lift-off as they travel on regional roads.

We also voluntarily participate in the Namoi Air Quality Monitoring Project, the results of which indicate the air quality in the Namoi Valley is among the best in NSW, a tangible demonstration of our capacity to adhere to the strict dust management controls applicable to mining operations.

Land use and biodiversity

The vast majority of the almost 70,000 hectares of land we own in North West NSW and Queensland is not involved in mining activities; in fact, only about 5%, or less than 3,560 hectares, of our land is involved in current mining activities.

Where mining activity intersects with agriculture, we aim to put land to productive use, to ensure non-mining land continues to contribute to a diverse local economy. To that end, more than 37,000 hectares of Whitehaven-owned land is currently used for agricultural purposes. This can include licensing to local farmers for productive agricultural activities such as grazing or cropping.

We also have more than 20,000 hectares of land managed as biodiversity offset areas. These areas are established conservation areas to offset impacts that cannot be avoided, managed or mitigated due to the nature of the coal resource. The selection of these offset areas and their incorporation into Whitehaven's biodiversity estate is based on guidance from independent experts and regulators to ensure they represent like-for-like (or better) biodiversity values than the area impacted by operations.

Rehabilitation

We progressively rehabilitate mining sites in consultation with relevant stakeholders. The objectives of our rehabilitation include:

- Establishing safe, stable and non-polluting landforms
- Establishing constructed landforms that incorporate micro-relief patterns consistent with the surrounding topography
- Undertaking rehabilitation actions that restore ecosystem functions, including establishing self-sustaining flora ecosystems
- Undertaking rehabilitation that includes the establishment of woodland vegetation, grasslands and/or agriculture on site
- Minimising the visual impact of final landforms as far as is reasonable and feasible.

During FY19, we undertook significant rehabilitation and offset-related work was undertaken including:

- 133 hectares cumulatively rehabilitated on mine sites
- 89,000 trees planted in offset areas
- 1,230 hectares of revegetation planted in offset areas.

At the end of FY19, mining operations concluded at our Rocglen mine, with the site moving into a rehabilitation phase. We plan to conclude mining operations at our Sunnyside mine in FY20.

	FY19	FY18	FY17	FY16	FY15
Total land disturbed (hectares)	3,559	3,168	2,942	2,672	1,450
Total land rehabilitated (hectares)	884	751	668	653	550
Total land leased for agriculture (hectares)	37,345*	31,711	27,572	29,382	30,350
Total land based biodiversity offset (hectares)	20,371	20,078	21,741	20,078	20,078

*Including land in both NSW and QLD.

Using ecological burns to restore former agricultural landscapes

One way we address the biodiversity impacts of mining is by setting aside land as biodiversity offsets and undertaking ecological restoration of woodland vegetation communities.

In total, Whitehaven manages more than 20,000 hectares of land for biodiversity offsets in the Gunnedah Basin – an area larger than the urban environment of the City of Tamworth. Our biodiversity offsets contain woodland and native grassland vegetation in varying condition states. Indeed, some areas of vegetation are in a poor condition as a result of previous land uses and, as a result, these areas require more management to aid their ecological restoration.

Fire has had an influential role in the development of the Australian ecosystem and had been used extensively for thousands of years by Indigenous people. It is an important and often beneficial form of disturbance in the environment because of the positive ecosystem services it can perform to support biodiversity, such as nutrient recycling and germination. Since European settlement and the introduction of agricultural systems, however, the use of fire has changed significantly, and in many cases has been entirely excluded from the landscape.

We have sought to reintroduce fire by way of ecological burns into the former agricultural areas of our approved biodiversity offsets for the Maules Creek Coal Mine for the dual purpose of ecological restoration and bushfire hazard mitigation.

Detailed statistical analysis of annual vegetation monitoring results by ecological consultants AMBS Ecology and Heritage has found a clear positive effect from the introduction of fire. This approach has resulted in an increase in the diversity and frequency of native species,

demonstrating that the use of fire can aid ecological restoration and progress the biodiversity offsets towards completion criteria targets. The use of experienced and capable professional hazard reduction fire contractors means the ecological burns are implemented competently and safely with the support of key regulators and the community. We began trialling ecological burns within biodiversity offsets back in 2013; these results endorse the change to use ecological burns as an annual routine biodiversity management strategy since 2017.



Noise management

We adhere to stringent noise guidelines set by the NSW Government.

We use predictive meteorological systems to plan operations to minimise noise impacts, and use a range of measures to minimise noise impacts, such as sound attenuation on mining equipment. Further, real-time monitoring allows us to adapt our activities to minimise noise impacts.

Waste and recycling

We generate various types of waste during exploration, construction, operation and closure activities across our mining facilities.

Wherever possible we segregate recyclable materials and engage specialist contractors for collection and reprocessing. We are looking at opportunities to further recycle and minimise total waste throughout our supply chain, including by investigating life-of-product arrangements with certain suppliers.

Our approach to mineral waste management includes segregation and placement of overburden and coal reject materials in waste emplacements, which are designed to be safe, stable and non-polluting.

The Whitehaven Group does not own or operate any active tailings dams.



Health & safety



Safety is a cornerstone aspect of our operations and performance. Every single member of our workforce should expect to be able to come home safely to their loved ones at the end of each day. This is why safety remains a critical component of our growth agenda, and why we have redoubled our efforts to ensure safety outcomes improve as production increases.

Our safety initiatives form part of our overarching Safehaven program, and are supported by the Seven Safehaven Rules that guide our activities and aim to prevent critical health and safety events.

In FY19, we launched and continued a range of initiatives to continue to evolve our approach to embed safe work practices and develop our safety culture as our business grows both in scale and complexity.

Embedding the basics

In April 2019, we launched the Safe Work Readiness Program, which aims to provide our people with the relevant core safety and training knowledge required to perform their work safely. The program involves group training across inductions, open cut engineering assessments and a wide range of specialised, externally facilitated courses.

Training is delivered face-to-face and via eLearning, virtual reality or a blended learning model.

By centralising the design and delivery of our training programs, we have been able to improve consistency, free up resources on site and reduce costs. In FY20 we plan to implement an Inexperienced Open Cut Mine Worker Training Course, designed for those starting their mining careers at Whitehaven.

Changing our safety focus

In FY19, we refreshed the Zero Incident Process program, a behavioural-based safety program that links workplace safety to an individual's priorities – creating intrinsic motivation and fostering personal ownership of safety at work. This externally delivered program has been rolled out across all of our sites, supported by refreshed communications encouraging our people to ask themselves 'could it be you?', and reinforcing that it is safe to speak up.

Developing our safety leaders

Our Safety Leadership Program sets the safety standards we expect from Supervisors, and provides coaching and mentoring to help Supervisors meet these standards. The program has continued to grow over the past year, with Supervisors across the business benefiting from one-on-one coaching to identify areas of improvement and develop strategies to address them.

Six intakes of Supervisors were inducted into the program, with the course providing new Supervisors with skills to implement elements of the program including safety leadership, the Seven Safehaven Rules, Statutory and Health and Safety Management System Compliance, Hazard and Risk Management, Incident and Injury Management, and Communications.

This program also helps practising certificate holders meet their maintenance of competency requirements.

Seven Safehaven Rules

1. **Working at heights:**
Never work at heights above 2m without fall protection/prevention.
2. **Isolation of energy:**
Always confirm that equipment is correctly isolated and de-energised before commencing work.
3. **Training and competence:**
Never operate maintenance or operational equipment unless trained and authorised.
4. **Tyres and rims:**
Never work on a tyre(s) without first deflating the tyre(s) to a safe working pressure.
5. **Positive communications:**
Always follow positive communication requirements.
6. **Exclusion/no go zones:**
Never enter designated exclusion/no go zones without appropriate authorisations.
7. **Falling objects/material:**
Always ensure that you are not standing or working within the fall zone of a suspended load, unsupported roof, unstable high wall or an inadequately supported load.

Consistent with our renewed focus on people identifying their own motivations to stay safe, we continue to encourage a holistic approach to safety, health and wellbeing. Following are our key initiatives.

Preventing injuries through education

We have continued to collaborate with Vitality Works on the Movement for Improvement injury prevention program, which includes education as well as exercises incorporated into activities at work.

In FY19, we refreshed the program to target prevention of slips, trips and falls and related injuries, including via a workshop to educate our people on how the body moves, why certain parts of the body are vulnerable to sprains and strains, how these injuries occur and sharing simple strategies to prevent injuries. This program of work has been complemented by education on safe working postures, manual handling, workplace ergonomics and diet and nutrition as a means of contributing to the prevention of acute and longer term degenerative injuries.

We have also held sustainability days for in-field interactions, strategies for injury prevention, and mentoring activities to reinforce the Movement for Improvement principles.

Fatigue management

In FY19, we engaged a fatigue expert to complete an independent review of our Fatigue Management Standard and associated documents and processes. We have subsequently updated these to a contemporary best practice standard, and will provide comprehensive fatigue education workshops to our workforce in FY20.

We are also examining the adoption of Fatigue Monitoring Systems, which monitor truck operator behaviour in relation to fatigue or distractions. In FY20 this will include visits to other mine sites to learn more about the two commercially available systems in Australia before making a decision on a preferred system to trial.

Mental health

In 2017, we partnered with Dan Hunt of 'Mental Health Movement' to present workshops to all crews across our operations aimed at breaking-down the stigma that can be associated with mental illness. The workshops addressed different strategies and approaches for our people to remain mentally healthy and, importantly, to help identify when they or a workmate, friend or family member is not at their best. Building on this successful collaboration, in late 2018 we re-engaged Dan to provide additional resources, including short videos and posters, to reinforce and promote the principles of the mental health awareness campaign.

Challenging our people to get active

During FY19 the second annual Healthhaven challenge was completed, with employees logging a total 361,756 active minutes over two months. The challenge encourages the adoption of healthy and active behaviours and starts with employees undergoing a comprehensive health check before competing against colleagues across Whitehaven's sites over the space of eight weeks. The challenge concludes with all participants receiving a health check to measure their progress and record their achievements.

	FY19	FY18	FY17	FY16	FY15
Fatalities	0	0	0	0	0
Total recordable injury frequency rate per million hours worked (TRIFR)	6.2	6.9	7.4	10.6	9.7

Our people



We recognise that people are our most important asset. We are committed to providing rewarding career opportunities, investing in local skills development and promoting Whitehaven Coal as a leading employer in the Australian mining sector.

As a resilient business, structured to be adaptable to the cyclical nature of mining, we are conscious of the key role we play in offering sustainable, long-term employment in regional communities. We do not support a fly-in, fly-out (FIFO) workforce. Currently around 75% of our 2,400-strong workforce lives in the communities around our operations, reflecting our philosophy that residing in a local community is fundamental precondition to being considered part of it.

The combination of our long-life assets and the human resource-intensive nature of our business puts us in a strong position to continue to provide meaningful long-term employment opportunities and skills development pathways for those wanting to work and live in regional areas and be part of a growing Australian company.

In light of growing competition for talent, we have sought to refine our employee value proposition, focusing on the lifestyle benefits of our regional locations that allow our workforce to spend more time with family and friends and contribute meaningfully to community spirit, in contrast with FIFO and drive-in, drive-out operations elsewhere. We have therefore expanded our recruitment efforts to attract people from interstate, including from industrial centres that may have seen a decline in traditional employment sectors such as manufacturing.

Diversity

We recognise the benefits of workplace diversity and inclusion, including the value they can bring to workplace efficiency, safety and productivity. We recruit and promote people based on merit and, consistent with our principles, we treat one another with respect and do not tolerate bullying, discrimination or harassment.

Indigenous employment

Our Indigenous Employment Strategy continues to help transform and empower the lives of local Indigenous people through meaningful and well-paid work. We are proud to have exceeded the ambitious goal we set back in 2015 that 10% of roles at Maules Creek would be filled by Indigenous employees, reflecting the proportion of Indigenous representation in the local community more broadly. Today, there are 127 Indigenous employees at Maules Creek, including four Indigenous apprentices, representing around 13% of the workforce at that site.⁹

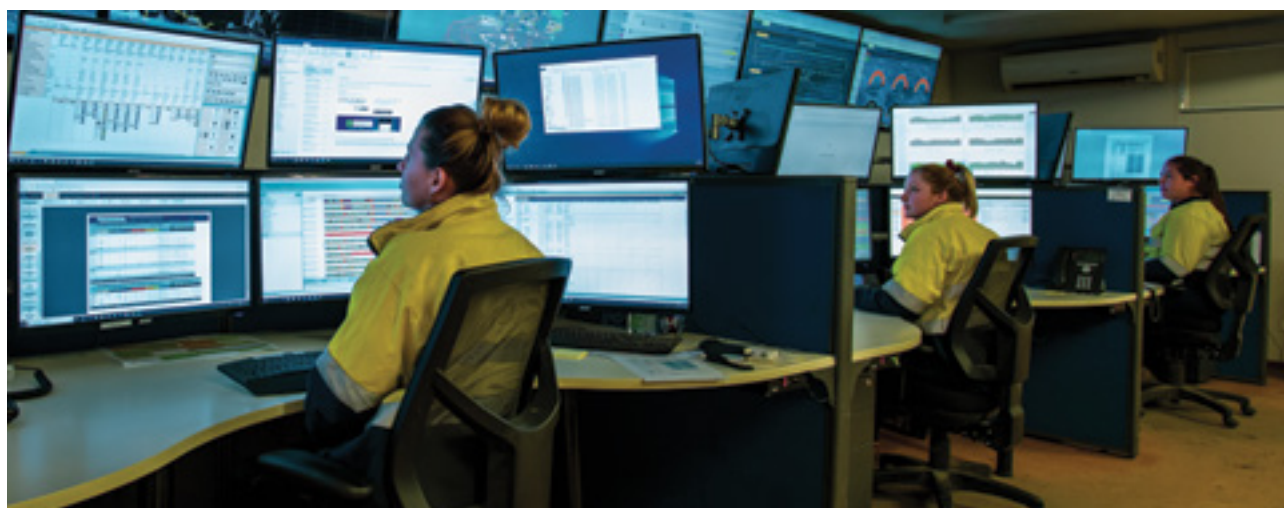
There are 211 Indigenous employees across the Group. This represents approximately 9% of our total workforce and we have committed to applying a 10% Indigenous employment target to our Vickery Extension Project.

In FY19, approximately \$22.5 million in salaries and wages flowed back into local communities through members of our workforce who identify as Indigenous. We are also building understanding among our workforce through cultural awareness training, delivered by our partners at the Winanga-Li Aboriginal Child and Family Centre in Gunnedah, to new starters and existing employees, and by hosting and participating in events to mark National Reconciliation Week and NAIDOC Week. Our talent pipeline is also strengthened by other activities to address Indigenous disadvantage in our communities, detailed on page 46.

“Before coming to Whitehaven I was a truck driver and never got to spend much time at home, as the work always kept me away. Working at Whitehaven has given me the opportunity to relocate home to be with family and friends, while having full-time employment.”

Kenny Condran
Trainee Operator, Maules Creek

⁹ According to the 2016 Census, Indigenous people accounted for around 3.7% of Australia's total mining workforce.



Gender diversity

In FY19 we met our objective of growing female participation across the business. Women now represent 12.7% of our workforce, which aligns with the coal-mining industry average.¹⁰ Over the past year, we welcomed 29 more women, an increase of 28% over the previous year.

We have also seen a 62% increase in female operators and drivers (26 women) from the previous year, and represents a growing number of women in non-clerical roles. Importantly, the growing number of women joining Whitehaven earlier in their careers provides a strong pipeline of women with the opportunity to move into future leadership roles. Further detail for the period 1 April 2018 to 31 March 2019 is available in our annual Workplace Gender Equality Agency (WGEA) website.

The continuing increase in gender diversity at Whitehaven is the result of efforts from across the business, ranging from engagement with schools and our communities to our approach to recruitment. In FY20 we will refresh our HR function to better support our growing workforce and operations, including by revitalising our comprehensive diversity efforts.

Enterprise agreements and labour hire

In FY19, we finalised a new enterprise agreement (EA) with our Maules Creek workforce. The EA was reached in negotiation with five bargaining agents, reflecting our diverse workforce, and is valid for the next four years. The revised agreement represents a substantial change from the agreement reached at the start of the project. It reflects changes in employment market dynamics and the need to be more competitive to attract and retain experienced people. Under the new EA, there is more opportunity for individuals to attain higher salaried experience bands. We also amended the roster to recognise the evolution of Maules Creek into a 24/7 operation, while still supporting work arrangements for those living in our local communities.

In FY19 we also concluded two new EAs with our production and maintenance workforce at Tarrawonga. The Production EA was reached at the beginning of FY19 and will be in place for four years, while the Maintenance EA was finalised later in FY19 after extensive negotiations, and will be in place for three years. This

demonstrates the commitment of our workforce to achieve a mutually beneficial outcome. As with Maules Creek, by offering improved opportunities for our people, the revised EAs respond to changes in the employment market to ensure we remain competitive to attract and retain competent people as we continue to grow.

We continue to use labour hire to provide flexibility to respond to operational changes, whether they be short-term changes or to ramp up or down for the longer term.

The conclusion of a number of EAs over recent years has made a permanent role more attractive for those within the labour hire workforce, and we have been actively looking to provide pathways to permanent employment for those who seek it.

	FY19	FY18	FY17	FY16	FY15
Number of employees	1,062	1,027	960	843	779
Number of full-time equivalent contractors	1,362	1,224	941	833	*
Wages and salaries (\$m)	189.9	172.1	159.4	139.3	125.6
Female representation (%)	13	10	11	10	9
Proportion of workforce identifying as Indigenous (%)	9	11	11	11	8

*Data not available for FY15.

Community



We are proud of our origins in the NSW Gunnedah Basin and of the strong, community-based partnerships we have established over two decades of continuous operation. We have always believed local communities should be the disproportionate beneficiaries of our presence and have taken care to put this belief into action as our presence and profile in the area have grown.

Today, around 75% of our workforce lives and works in the towns and regional centres immediately surrounding our operations and we play a significant role in sustaining and helping build capacity in these communities. Since 2012, we have contributed more than \$1.7 billion to North West NSW in the form of wages, payments to local businesses and donations and sponsorships to community-based organisations.

We contribute millions to local councils by way of voluntary planning agreement (VPA) payments. For example, through the Maules Creek Coal Mine VPA, we have delivered more than \$13 million to Narrabri Shire Council since 2014; these funds have contributed to infrastructure projects such as upgrading the Narrabri and Boggabri town centres, the Baan Baa Water Supply and Narrabri Airport. Maules Creek also makes monthly contributions

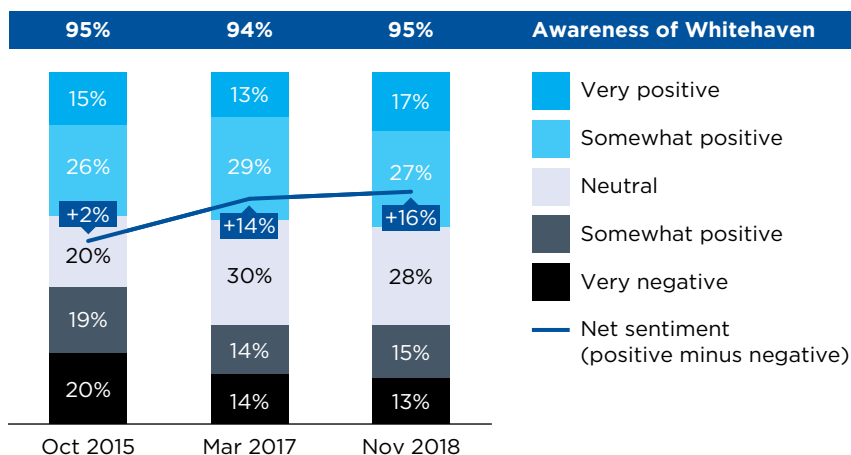
based on saleable coal production, totalling almost \$2.9 million to date. New developments such as the Vickery Extension Project will bring new VPAs, delivering additional funding to support local priorities as determined by Council, ensuring the benefits of our operations and of mining outlive individual operations.

We employ a range of methods and tools to ensure we engage with local stakeholders substantively, effectively and respectfully. We acknowledge that there are legitimate concerns about mining within the communities where we operate. We seek to address these in a timely manner through early engagement and information sharing, or through formal complaint and issues resolution mechanisms.

During FY19 we invested in improving the resourcing of our community relations presence and restructuring our community engagement team so it is better oriented towards supporting meaningful interaction with community stakeholders across an increasingly diverse range of local issues.

In relation to our operational and development portfolios, we employ different tools and activities to facilitate engagement. These include stakeholder mapping, social impact assessments, community drop-in sessions, local supplier briefings, participation in local business forums, mine open days and tours, school engagement, in-depth interviews, and quantitative and qualitative social research undertaken by qualified, independent, third-party providers.

We measure community sentiment towards Whitehaven Coal approximately every 18 months, via a statistically significant poll across the Gunnedah, Narrabri, Tamworth and Liverpool Plains Local Government Areas (LGAs). Awareness of Whitehaven has remained consistently high and, since 2015, perceptions of Whitehaven Coal in our area of operation have experienced an upward trend. Net sentiment is +16%, meaning we are viewed overall more positively than negatively across the communities where we operate.



Source: Independent quantitative research conducted by Newgate Research. Base: All 2018 participants (n=600), Tamworth (n=150), Gunnedah (n=150), Narrabri (n=150), Liverpool Plains (n=150), 2017 (n=600), 2015 (n=600).

Addressing Indigenous disadvantage

The Australian mining sector has a strong record of accomplishment of supporting Indigenous communities and this is an area of particular focus for Whitehaven.

We work in close partnership with Indigenous people connected to the land where we operate to address disadvantage and help create stronger families and futures for Indigenous people in North West NSW and in Queensland's Bowen Basin.

Our approach is specifically designed to be intergenerational in nature. We have oriented our focus towards addressing Indigenous disadvantage through initiatives in the areas of early childhood education and support, schooling, skills development and employment.

This holistic approach provides intergenerational support for children and their families, our employees and prospective employees, so local Indigenous people see their immediate needs being addressed, in addition to creating the socio-economic preconditions for future generations to grow and prosper.

This goes beyond developing opportunities for employment; our investment aims to ensure local Indigenous people have the self-esteem and confidence to shape more positive futures.

The practical measures we invest in are outlined in our Stretch Reconciliation Action Plan (RAP), which was launched in mid-2018. We partner with programs that help people in our communities access health and education services including:

- The Winanga-Li Aboriginal Child and Family Centre in Gunnedah and Narrabri, which has been able to help more children get to and from school, and help families access medical care, thanks to two minibuses purchased by Whitehaven Coal. With our support, Winanga-Li has been able to expand its operations into Lightning Ridge and Brewarrina
- The Girls' Academy at Gunnedah High School, which aims to increase school attendance, advance academic and personal achievement, improve Year 12 graduation rates, and facilitate post-school transition planning. 50 indigenous girls participate in the program that has helped lift school attendance rates from 72% to 85% over the past three years - almost 10% higher than the broader school attendance rate

- The Clontarf Foundation, which aims to improve the education, discipline, life skills, self-esteem and employment prospects of young Indigenous boys and men, using football as a means to attract, reward and help keep them in school. With our support, Clontarf has been established at Narrabri High School
- The Nandewar Wedgetails (Narrabri) and Gomeroi Roos (Gunnedah) teams, which compete at the Annual Koori Rugby League Knockout. Whitehaven Coal has also sponsored the Australian Indigenous Oztag squad at the last two World Cups, encouraging active and healthy lifestyles among young people.

We continue to build connections and understanding within our workforce through cultural awareness training as well as engagement activities throughout the year. For instance in FY19 we had senior representatives from the NSW Aboriginal Land Council and Aboriginal Affairs NSW join us in our corporate offices across Sydney, Newcastle and Gunnedah to mark National Reconciliation Week and NAIDOC Week in 2019.

Partnering with the Clontarf Foundation

The Clontarf Foundation aims to improve the education, discipline, life skills, self-esteem and employment prospects of young Indigenous boys and men, using football as a means to attract, reward and help keep them in school. Since 2000, the Foundation has grown to more than 8,000

Indigenous students participating in programs across the country.

Whitehaven Coal has been working with the Clontarf Foundation since 2016, engaging with students from the Clontarf Academies at Tamworth and Quirindi through regional Employment Forums

and site visits to demonstrate the diverse range of rewarding mining career opportunities. In 2019, with our support of \$120,000 over three years, Clontarf has established an academy at Narrabri High School, with 56 participating students this year.

Engagement with the Barada Barna People in Queensland

Following the acquisition of the Winchester South Project in mid-2018, one of the first stakeholder groups we reached out to was the Barada Barna People. The Barada Barna People are the Traditional Owners of the land in central Queensland where the Winchester South Project is located. In FY19 we entered into a Cultural Heritage Management Plan agreement with the Barada Barna – the first agreement we entered into for the Winchester South Project.

As a company that prides itself on the relationships it has built with local Indigenous people over the last 20 years, National Reconciliation Week is always a special time for us. This year we

unveiled a series of artworks in our Brisbane office commissioned from Barada Barna artist, Billy Joe Chambers (pictured below). We were fortunate enough to have some of their Directors attend the Brisbane office for the event. The two artworks – titled *Regeneration* and *Boobinch (Emu Caller)* – tell stories of the land and traditional hunting practices passed down through generations of Barada Barna People.

In FY20, Barada Barna representatives will visit Gunnedah to learn about our engagement with the Kamilaroi people in North West NSW and gather ideas for how we can continue to work together.



Supporting local businesses

Consistent with our local employment focus, we are a major supporter of regional enterprise and spent \$333.9 million with local suppliers in FY19. Of this, \$1.83 million was with 18 Indigenous businesses for goods and services ranging from on-site training to office supplies. We held the first of our procurement and tendering workshops to help local Indigenous businesses build capacity to work in partnership with Whitehaven Coal and implemented an Indigenous Procurement Policy to formalise our efforts to encourage suppliers to build their own Indigenous workforce, as well as continue to guide our own interactions with Indigenous businesses.

We also improved payment terms for local businesses to 21-day terms, contributing to improved cash flow and making businesses more sustainable over the long term – with around 200 small and medium-sized businesses across North West NSW benefiting from this change.

“In August 2018 we won a contract across a number of different mines for the provision of waste services. We had to compete against several multinational companies and won the contract on our merits. This was a long process and we’re very proud that the money stays local. It didn’t leave town. We shop locally. We invest locally. We employ local people and we contribute to the community.”

Ron Campbell
Namoi WasteCorp

“The growth of the mining workforce in Gunnedah has not only affected the companies who support the mining sector but also the businesses that support and work within the community in a positive way. Stripes Engineering was the first contractor on site at the Maules Creek Mine and since then we have been completing various projects and the continuous supply of maintenance and work across multiple sites including Whitehaven ones. The regular work has allowed us, as a contracting company, to transfer all of our employees to permanent work arrangements and employ more employees than we have in the past and I have seen many of our employees move to town because of this.”

Joshua McIntosh
Stripes Engineering

Working together through the drought

As the extreme drought conditions continue in North West NSW, we acknowledge the need for all in the community to work together to use water wisely. We supported families and small businesses across Narrabri, Boggabri, the Liverpool Plains and Gunnedah with a drought relief donation of \$60,000 in December 2018. The donation was spread across Whitehaven's local areas of operation, and includes:

- \$15,000 towards 'Why Leave Town' gift cards and EFTPOS cards to be used at businesses in the Narrabri area, distributed by the Rotary Club of Narrabri as part of its 'Neighbours in Need' program
- \$15,000 towards EFTPOS cards to be used at businesses in the Boggabri area, distributed by the Rotary Club of Narrabri as part of its 'Neighbours in Need' program
- \$15,000 towards 'Buy Locally' gift cards to be used at businesses in the Liverpool Plains area, distributed by the Liverpool Plains Business Chamber
- \$15,000 towards 'Why Leave Town' gift cards to be used at businesses in the Gunnedah area, distributed by the Rotary Club of Gunnedah.

Whitehaven was the major sponsor of the Maules Creek Campdraft again in 2019, with more than 1,000 people from across the region attending the event at the Maules Creek Recreational Grounds. The event provides an opportunity for farmers to get together and discuss their experiences during the drought.

Beyond direct financial contributions, we have reached out to local irrigators to discuss a coordinated approach to water use in the area, acknowledging that water is a precious and scarce resource. Indeed where we have surplus water, we have periodically sought to share it with neighbouring landholders, as we have done at Werris Creek, for example (see page 33 for detail). As occurs in the mining sector from time to time, we are seeing an agricultural downturn linked to the ongoing drought conditions; this reinforces the importance of a diversified economy, one in which a range of sectors can provide continued stable employment and economic opportunity.



Mining and agriculture working together at Maules Creek

Lloyd Finlay (pictured below with his son) has lived in the Maules Creek area for almost 40 years, having moved to the region as a child. Over the years, his family's small farm expanded and Lloyd took over the family beef farming business.

In 2017, Whitehaven Coal purchased Lloyd's properties, which he then leased back. Lloyd also had the opportunity to expand his farming operation by leasing additional Whitehaven properties. "This enabled me to expand my beef operations, which I would not have been able to do in this current agricultural climate," he says.

After selling his property, Lloyd retired from his full-time job. "I've been able to take my passion for farming from a hobby, which it was for 25 years, to a viable commercial operation," Lloyd says.

"Selling the property has enabled me to focus on my Wagyu-cross Angus beef breeding, allowing me to realise the full potential of my farming operation and take it to a level I always knew it could be."

Lloyd is also an active member of the community, being involved in the Maules Creek Recreational Trust, the Maules Creek Campdraft Committee and the Narrabri Pony Club, which provides him exposure to a broad range of views throughout the community.

"The Maules Creek community has benefited from mining in a few ways. Firstly I've seen younger people moving into the area with their families - which means more people getting involved in the community. Given the difficulties facing agriculture at the moment, having more people come down to help out at events like the Maules Creek Campdraft is terrific."

"Secondly, having local people employed in the mining industry means money stays within the local economy - and when times are tough, particularly for farmers, every bit of support helps," he says. "I believe I'm a good example of how farming and mining can coexist in our community, and with my young son already keen to follow in my footsteps, I know farming and mining will continue to work together for decades to come."



Community partnerships

We aim to see the benefits of our operations extend beyond our direct workforce and beyond the life of any single mine. As the majority of our employees live in our local communities, we are well and truly invested in creating stronger communities together. One way we do this is through discretionary support for a range of charities and community organisations, with a focus on health, education, representative-level Indigenous sport as well as those activities that offer a whole-of-community benefit. Our approach to community partnerships is also focused on educating and building understanding among people in our region.

Over the past five years, we have made discretionary donations of more than \$1.65 million. This includes more than 100 donations exceeding a total of \$515,000 during FY19 to groups including chambers of

commerce, service clubs, schools, health services, medical research charities and sponsorship of community events across both the Gunnedah and Bowen Coal Basins. Whitehaven continues to be a major sponsor of the Westpac Rescue Helicopter with a corporate and employee combined contribution of more than \$100,000 each year.

Engaging with local schools is a critical part of our community education effort, both in terms of addressing misconceptions around the mining industry and also providing information about the diverse range of career opportunities for future employment and seeking feedback about areas where we can improve. To that end, we work with schools across Tamworth, Gunnedah, Narrabri and the Liverpool Plains, hosting visits to our mine sites to allow students to learn about the mining process, the journey of coal from pit to port, and other aspects of mining operations such as environmental management first hand. This type of engagement is above and beyond the more than \$375,000 we have

donated to the education sector over the past five years, including towards the establishment of a Clontarf Academy at Narrabri High School and to the Girls Academy at Gunnedah High School (see page 46).

We also build understanding by inviting local people to tour our operations. We were the major sponsor of the inaugural Energy Innovation and Mining Expo held in Gunnedah on 1–3 November 2018, and used the opportunity to open our Maules Creek mine to more than 1,500 visitors over the three-day expo.

In FY19, we committed \$500,000 over three years to restore and preserve the gardens of the Kurrumbede homestead, near Gunnedah. This property, which we acquired in 2013, was once owned by the family of one of Australia's great poets, Dorothea Mackellar OBE.

	FY19	FY18	FY17	FY16	FY15
Taxes and royalties paid to governments (\$m)	323.8	283.9	226.3	166.0	129.6
Payments to suppliers in North West NSW (\$m)	333.9	293.2	237.7	203.0	214.9
Voluntary planning agreement expenditure (\$m)	0.73	1.76	4.13	3.41	4.93
Donations and sponsorships (\$'000)	515.4	445.3	296.4	217.3	208.0

Tax



Whitehaven Coal is listed on the ASX. Our mining operations are located only in Australia and we have no foreign subsidiary companies.

Whitehaven prides itself on being a socially responsible corporate citizen. In relation to tax we adopt a conservative approach and culture of compliance and transparency borne out in our policies, procedures and controls as well as in our constructive relationships with tax authorities including the Australian Taxation Office (ATO), state revenue offices and local governments.

Taxes paid and collected

We pay various taxes to federal, state and local governments and collect various tax payments on behalf of federal and state governments.

Taxes paid

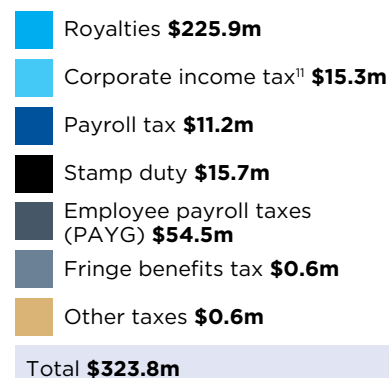
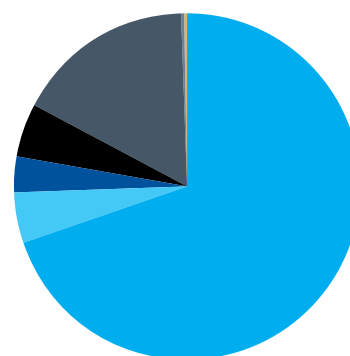
In FY19 Whitehaven contributed a total of \$323.8 million to the federal, state and local governments in the form of income tax, royalties, payroll tax and council rates.

Coal royalties to the NSW Government represent the largest component of taxes paid. The royalties are ad valorem, calculated on gross sales less limited deductions and are payable via monthly instalments throughout the financial year, with a balancing payment made in July to reflect the final royalty liability for that financial year.

Taxes collected

The largest component of taxes we collect on behalf of the Australian Government are those collected in respect of employees. These include pay as you go (PAYG) withholding tax from employees' salaries and wages. In FY19 the Group collected and remitted a total of \$54.5 million to the federal government.

Taxes collected and paid by the Whitehaven Group and its JV partners in FY19



Taxes collected and paid by the Whitehaven Group and its JV partners in FY18 totalled \$283.9 million.

¹¹ The corporate income tax of \$15.3m consisted of the PAYG instalments paid to the ATO up to 30 June 2019, calculated based on the PAYG instalment rate provided by the ATO. The instalment rate is determined by the ATO by reference to the estimated taxable income for the 2019 income year based on the 2018 tax return taking into account available tax losses and certain tax offsets. Whitehaven's tax losses available at 30 June 2019 are disclosed in note 2.3 of the Annual Report.

Our approach to taxation

Our strategy is focused on enhancing the strong position we have established as the coal supplier of choice, the employer of choice and the coal-mining investment of choice.

In relation to taxation matters, we adopt a conservative approach and a culture of taxation compliance. Our policy, strategies, resources, procedures and controls in relation to taxation have been established and implemented in support of this approach and culture.

A tax governance and tax risk management framework has been implemented to manage and resource Whitehaven's tax functions across the business in respect of all taxes payable and collected. The framework has been prepared referencing the ATO's public guidance, which seeks higher levels of tax transparency, governance and accountability across all taxes for Australian taxpayers, and formalises and captures our prudent approach to taxation matters.

In implementing the framework, we maintain management systems and resources to:

- Actively monitor, identify and manage tax risk
- Comply with taxation laws and reporting standards in Australia
- Lodge all taxation returns and documentation on time
- Collect and pay the calculated amounts of federal, state and local taxes, royalties, levies, duties, rates, and imposts when they fall due
- Maintain, with each revenue authority, Whitehaven's standing as an organisation of integrity.

Whitehaven strives to maintain open, honest, transparent and cooperative relationships with all taxation authorities.

Tax disclosures in the financial statements

Income tax

The following information has been derived from the audited financial statements prepared for FY19. The financial statements reflect the Australian corporate income tax position applying the 30% corporate tax rate. The Australian income tax law and Australian accounting standards have different rules in respect of the recognition of income and expenses. Under the accounting standards, differences between accounting and tax rules are classified as:

- **Temporary differences** - these differences neutralise between the tax and accounting treatment over time
- **Non-temporary differences** - these are permanent differences that do not neutralise between the accounting and tax treatments over time, or temporary differences that do not meet the recognition criteria under the accounting standards.

The accounting standards require the calculation of income tax expense, which includes current and deferred tax components. The current tax component represents the expected tax liability for the income year (i.e. income tax payable). The deferred tax component represents income tax expected to be paid, or deductions available in future income years. The deferred tax component is recognised as a net deferred tax asset (future deductions available) or net deferred tax liability (future income tax payable) on the balance sheet.

Effective income tax rate

The effective tax rate is the income tax expense for the income year, divided by the accounting profit before tax. The effective income tax rates for the Whitehaven Group for FY18 and FY19 are set out overleaf.

Whitehaven's effective tax rate for FY19 of 28% is less than the 30% Australian corporate tax rate. This is primarily due to the permanent component of payments by the tax consolidated group for shares acquired on-market by the Group's employee share scheme trust, which is not a member of the tax consolidated group.

Reconciliation of accounting profit to income tax payable

A reconciliation of the accounting profit before tax to income tax expense and income tax payable is provided overleaf. Income tax expense is calculated as the accounting profit before tax, multiplied by the 30% corporate tax rate, and adjusted for non-temporary differences. The key adjustments in the tax calculation are for temporary differences arising from the different accounting and tax treatments of the following types of costs:

- Depreciation of fixed assets
- Timing of deductions for certain mining and exploration costs
- Timing of deductions for mine rehabilitation costs.

Reconciliation of accounting profit to income tax payable

	FY19	FY18
Statutory profit before tax (\$m)	735.9	758.9
Income tax expense using the Company's domestic tax rate of 30% (\$m)	(220.8)	(227.7)
Non-deductible expenses:		
Shared-based payments (\$m)	(2.3)	(3.0)
Other non-deductible expenses (\$m)	0.4	(3.7)
On-market share purchases by employee share scheme trust reimbursed by the Group (\$m)	8.5	-
Adjustments for tax of prior periods (\$m)	6.2	-
Total income tax expense (\$m)	(208.0)	(234.4)

Whitehaven's effective income tax rate

	FY19	FY18
Statutory profit before tax (\$m)	735.9	758.9
Income tax expense (\$m)	208.0	234.4
Effective tax rate (%)	28	31



Glossary

AHS	Autonomous Haulage System
ARTC	Australian Rail Track Corporation
ASX	Australian Securities Exchange
ATO	Australian Taxation Office
BOF	basic oxygen furnace
CAGR	compound annual growth rate
CCC	Community Consultative Committee
CCUS	carbon capture, utilisation and storage
CHPP	Coal Handling and Processing Plant
CPS	Current Policies Scenario
CSA	coal supply agreements
CV	calorific value
EA	enterprise agreement
EAF	electric arc furnace
EBITDA	earnings before interest, tax, depreciation and amortisation
EPL	Environment Protection Licence
FOB	Free on Board
FY	financial year
GHG	greenhouse gas
GW	gigawatt
HELE	high-efficiency, low-emissions
IEA	International Energy Agency
JV	Joint Venture
LGA	Local Government Area
ML	megalitres
Mt	million tonnes
Mtpa	million tonnes per annum
NPAT	net profit after tax
NPS	New Policies Scenario
NPV	net present value
PAYG	pay as you go
PCI	pulverized coal injection
ppm	parts per million
ROM	run of mine
SC	supercritical
SDS	Sustainable Development Scenario
SSCC	semi-soft coking coal
TCFD	Task Force on Climate-related Financial Disclosures
USC	ultra-supercritical
vol	volatile matter
VPA	voluntary planning agreement
WEO	World Energy Outlook
WGEA	Workplace Gender Equality Agency



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