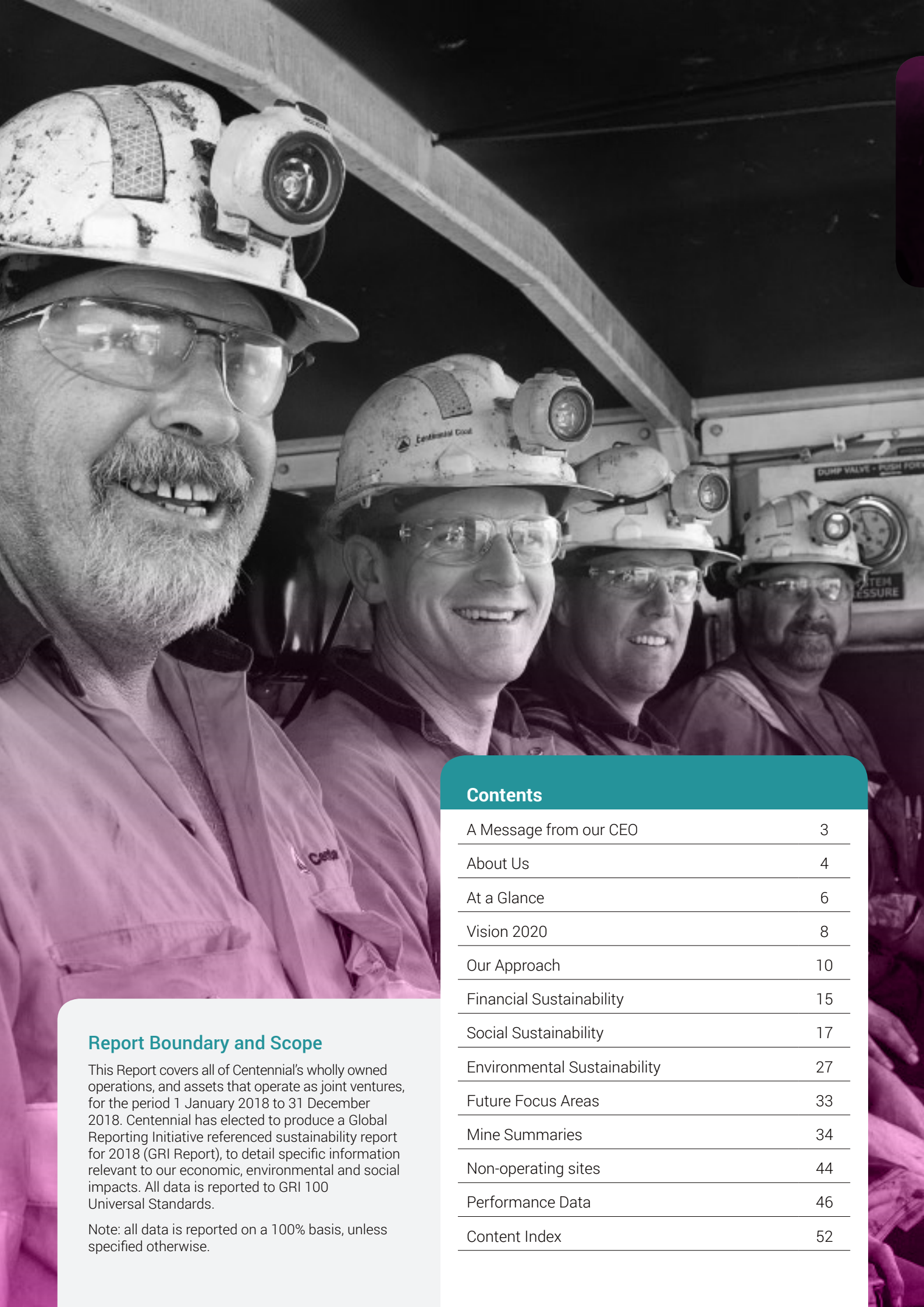




CAUTION: DO NOT  
RE-ENTER THE  
MACHINE UNTIL  
THE POWER IS  
OFF AND THE  
GUARD IS DOWN.







# A Message from our CEO

Welcome to Centennial's Sustainability Report for 2018, which I share on behalf of all our people.

As I reflect on the year just finished, my second as CEO, I've found it useful to again pause and consider what sustainability means to Centennial and our stakeholders. In framing this question, we often speak of our impact on future generations, safety, environmental impacts and socio-economic outcomes – all very important and relevant. Our approach to sustainability is within a framework of the Environmental, Social and Governance (ESG) responsibilities. We all have a part to play in this.

The way in which we conduct our business within good governance and compliance frameworks is fundamental in driving our success. Good governance and regulatory compliance is our minimum standard and by doing these things well we can earn the opportunity to be considered a trustworthy contributor by all stakeholders. Our employees are very important stakeholders and have direct influence in the outcomes of good governance and regulatory compliance. No matter what role we have in Centennial, we all have some level of responsibility for this and we must always try our best in these areas.

Last year I spoke of “Banpu Spirit” as the guiding light for our decisions and actions. During 2018, we introduced “Banpu Heart” as a new extension to these principles – to be **passionate, innovative and committed**. A subset of this is to always act with integrity and ethically. These are fundamental principles for our Company – to always do as we say. This is essential in winning the trust of not only our team, but also local communities, government regulators, suppliers, customers and community groups among others – and in doing so, maintain our relevance.

Unfortunately, and despite improving incident statistics, 2018 was overshadowed by two significant safety incidents that will impact the lives of a number of our employees and their families. I personally wish these valued employees a full and speedy recovery. These incidents remind me just how quickly and unexpectedly an adverse event can occur. We can never rest on our laurels in this industry, so we have embarked on a number of initiatives to improve safety. The types, methods and amount of underground support has been reviewed and adjusted in accordance with that review. To this end, new processes and machines are being developed to integrate these changes into our operations – safety is our first priority. Further, in 2018 we undertook a company-wide safety culture survey conducted by the Keil Centre, which specialises in behavioural safety. The results will help us frame a new initiative to reinvigorate our safety focus over the next 12 months and beyond.

Environmentally, we are delivering ongoing improvements in many of our performance indicators, but there were a number of non-compliances, particularly in relation to water quality and noise. Further reducing these will continue to be key focus areas in 2019 – compliance with our licence conditions is non-negotiable. The ongoing water treatment strategy is progressing well and will deliver improved outcomes for the environment and our compliance.

Despite delivering a reasonable profit result, 2018 was a year of missed opportunity. In a strong market that had “above forecast” prices, we fell short of our production targets by 12%, mainly due to poor mining conditions and the impacts of adverse safety events as detailed above. Had our production budget been achieved, a greater reduction in debt and increased investment in new opportunities for the long term could have been realised. Improved exploration, mine planning, cost control and a determined focus to achieve our targets is critical. A strong financial performance is crucial to sustainability – it underpins our future and encourages new investment.

With this in mind, the other fundamental pillar of our approach to sustainability is innovation. To this end, in 2018 there were some new initiatives and changes that are essential to our future growth. First, our Digital Transformation Programme, led by the Operations Excellence team, will introduce agile thinking, rapid deployment of new ideas, real-time data analysis and advanced technology to our operations. The opportunities for this programme are endless, and I'm confident we will witness many new and exciting technologies and ideas to improve productivity and efficiency while reducing costs. Most importantly, these new technologies, combined with real-time monitoring and analytics, will greatly improve safety and environmental outcomes.

Second, our parent company, Banpu continues to roll out the Greener & Smarter initiative right across the Asian region. Renewable energy projects, smartgrid technology and energy efficiency programmes to name a few are all being implemented as our Company grows to achieve the Vision of being the Asian energy company at the heart of innovation, technology and sustainability. Banpu operates in 10 countries and is focused on the future. It will be part of the solution to improved outcomes for generations to follow. Finally, in 2018 we recruited many employees and created new positions, as well as restructuring management. In many cases, these positions support our many new initiatives, challenges and opportunities. Change can sometimes be difficult, but renewal and opportunity mixed with wise experience is essential for any organisation as we look to the future.

We already know that in 2019 we will confront many challenges – new government approvals, difficult geology, environmental expectations and uncertain global markets will be our new reality. Against this, we have operations in areas with significant competitive advantage, an innovative and committed workforce, good coal resources and an owner committed to our success and willing to embrace the future.

In 2019, we celebrate the 30th anniversary of Centennial. To reach this significant milestone, we have already been on an extended sustainability journey. As we strive to achieve even more years, we must be agile and responsive to social needs and expectations, but never lose sight of our commitment to our core values – safety, family, environment, sustainability, ethical behaviour and integrity – and embrace our Banpu Heart.

I thank all employees for their efforts, innovation and support in 2018, and look forward to the many successes that I'm sure will occur in the year ahead.

Be the change you want to see.

Mick Cairney  
Managing Director and CEO.

## Contents

A Message from our CEO	3
About Us	4
At a Glance	6
Vision 2020	8
Our Approach	10
Financial Sustainability	15
Social Sustainability	17
Environmental Sustainability	27
Future Focus Areas	33
Mine Summaries	34
Non-operating sites	44
Performance Data	46
Content Index	52

## Report Boundary and Scope

This Report covers all of Centennial's wholly owned operations, and assets that operate as joint ventures, for the period 1 January 2018 to 31 December 2018. Centennial has elected to produce a Global Reporting Initiative referenced sustainability report for 2018 (GRI Report), to detail specific information relevant to our economic, environmental and social impacts. All data is reported to GRI 100 Universal Standards.

Note: all data is reported on a 100% basis, unless specified otherwise.

# About Us

## Our Parent Company Banpu

Banpu Public Company Limited (Banpu), is a leading integrated energy solutions company in the Asia-Pacific. Banpu has a vision to be at the heart of innovation, technology, and sustainability. As such, Banpu pursues a Greener & Smarter strategy. Its business management philosophy is committed to leading the Company into a new era of energy and sustainability.

Banpu operates in 10 countries, including Australia, in energy resources (coal and gas, including related operations such as marketing, training, logistics, fuel procurement, and transmission), energy generation (coal-fired and renewable power plants), and energy technology (total solar energy solutions, energy storage systems and energy technology systems). In 2018, Banpu was selected for a fifth consecutive year as a member of the Dow Jones Sustainability Index (DJSI) for emerging markets in the energy sector. The DJSI operates in collaboration with RobecoSAM, the international standard sustainability index.

Banpu believes in energy that drives every life forward towards a better tomorrow. Its total commitment to innovating sustainable energy solutions helps advance everyone’s standard of living.

Passionate, innovative, committed ... these are the three core values our parent company, Banpu, believes will guide our journey towards a sustainable future. Centennial aims to bring the Banpu beliefs and values to its local operations in Australia.

## Centennial

Centennial is an underground coal mining company based in NSW, Australia. We have five operating mines and a number of projects under way (including rehabilitation projects and potential new mining projects). We supply coal to domestic and export energy markets.

Centennial is a significant part of the Banpu organisation and, through digitisation and technology, is also on a path to being Greener & Smarter.

We have a Vision to be sustainable and have implemented a variety of supporting tools to assist in this. To ensure we are here as a long-term energy provider, we maintain clear objectives that support meeting legislative requirements, managing risk, maintaining our social licence, and providing a return to our shareholder, Banpu.



Our stringent health, safety, environment and community (HSEC) requirements apply not only to our employees, but also to contractors working at our sites.

**We view challenges and opportunities through the lens of sustainability, and strive to improve our performance as a long-term energy provider.**

## Our Common Purpose



**Vision**  
To be the leading, sustainable Australian coal supplier



**Mission**  
Operate and grow a sustainable mining business



- Values**
- Financial and operational excellence
  - No compromise on safety
  - Listen to, understand and provide opportunities for our employees
  - Communicate honestly and openly with our stakeholders
  - Encourage innovation
  - Strive for synergy through collaboration
  - Respect our reputation and social licence to operate in our effort to be a good corporate citizen

## Keeping Ourselves Accountable





# At a Glance

## In 2018 we ...



Produced 13.9MT of coal



Employed 1,666 people



Contributed \$87 million to NSW Government royalties



Achieved a 6% decrease\* in total recordable injury frequency rates



Contributed \$529 million to the local economy through goods & services



Used local suppliers for 42% of goods & services



Abated about 700,000 tonnes of carbon dioxide



Used mine water for 59% of our total water use



Discharged water equivalent to more than 8,000 Olympic swimming pools

\* Compared to 2017

# Our Important Issues

## To be a sustainable supplier of energy we believe we must:

- seek zero harm to people and the environment
- productively and efficiently mine quality coal
- increase Company value
- leave a community with greater capacity than when we arrived
- attract, develop, motivate and retain a diverse workforce
- maximise the value of the resources we use
- secure new resources.

These represent the key areas for targeted action and resulted from previous assessments of “material” (or key) issues. During 2018, we have undertaken another materiality assessment to identify the relevance and significance of issues for the sustainability of our business as perceived by our internal stakeholders – our employees.

Focus groups covering different mine sites, work disciplines, demographics, industry experience and hierarchy, have been undertaken to ascertain views on key issues of concern and/or relevance. These were combined with matters raised from external stakeholder groups such as Community Consultative Committees (CCC), Aboriginal groups, key environmental groups and financial institutions.

Finally, we identified relevant issues in related industries, key regulatory policies, and topics of global concern. These issues were mapped to a master list of general topics based on the Global Reporting Initiative (GRI) Sustainability Reporting Standard.

The outcome of the process was a materiality matrix, which notably, is without significant difference to the key issues in the 2017 report. These key issues, relevant indicators and performance are linked to the GRI Standards and are reported on herein.

As part of Banpu, and as a responsible corporate citizen, Centennial's management considers global sustainability issues. We have aligned our list of material issues with five United Nations (UN) Sustainable Development Goals (SDGs) that Centennial and Banpu identified as being of particular relevance to our business.

Stakeholder Material Issue	GRI Reference/SDG Reference/Other
Social Licence to Operate – changing expectations, reputation & brand	303 – Water, 304 – Biodiversity 307 – Environmental Compliance SDG Goal 6, 12 & 15
Engagement of Our People – attracting, retaining, training, performance	401 – Employment 404 – Training and Education
Health and Safety of our People	403 – Occupational Health and Safety
Climate Change Response	305 – Emissions SDG Goal 13
Regulator and Community Relationships	102 – General Disclosures 307 – Environmental Compliance 413 – Local Communities
Vision – long-term outlook, access to quality resource, diversification	SDG Goal 7 Good Practice/stakeholder expectation
Productivity – automation, improved environmental technologies	SDG Goal 12 Good Practice/stakeholder expectation



# VISION 2020

Our sustainability strategy is summarised in our Vision 2020 statement. Developed in 2015, it is a high-level set of targets for sustainability in key areas of the business. Some areas have progressed significantly and others have been slower. All in all, the setting of these high-level targets has been a positive first-time move for Centennial and provided an understandable and digestible synopsis of what a sustainable business might require. With 2020 fast approaching, and having already achieved some of the targets, we will commence development of a new set in 2019. The progress to date is summarised below.



## Maintain a reserve base equivalent to 20 years' mining

This target remains on track, however as we seek to diversify as a Company, a more appropriate indicator of sustainability needs to be developed.



## Implement the Step Change Productivity initiative 100%

This project has been successfully completed and has now evolved into our Digital Transformation programme.



## Enhance our safety culture dimensions by 20%

As previously reported, the initial benchmarking programme no longer runs, so we are pursuing new safety culture benchmarks through a programme with the Keil Centre.



## Lower our greenhouse gas emissions by 25%\*

Initially making good progress, this has proven to be our most challenging target, with the dynamic and changing nature of underground coal mining capable of significant increases in gas in short periods of time. We continue to invest in ventilation air methane research programmes, however, these are yet to result in viable systems. We continue to lead industry research in this area.

At Mandalong, our gassiest mine, we have spent considerable time and resources on upgrading our gas management system to allow for higher and more varied gas flow rates from underground. The system is now able to manage and abate higher gas flows. With the system in place, this stretch target is now more attainable.



## Rehabilitate 50% of all available and suitable land\*

This was predominantly achieved in 2017, however progressive rehabilitation has continued with another 49 hectares of land rehabilitated in 2018, mainly at Charbon.



## Increase community contributions by 100%

This target has been successfully reached, however, we continue to seek greater understanding of our stakeholders and their needs as they relate to us, and provide appropriate responses.

In 2018, for instance, this included providing support to a local event committee through writing funding applications, rather than a donation. This helps it build capacity in its own skill set and opens new funding pathways for it to access.



## Double our training and development efforts

We have changed the quality and context of training and development, and this will change again with the advent of Maintenance of Competency requirements (see Our People section).

It has become apparent that although initially a noble goal, a new goal will be sought to better reflect the true value that we as a Company place on attracting, developing, motivating and retaining a diverse workforce.

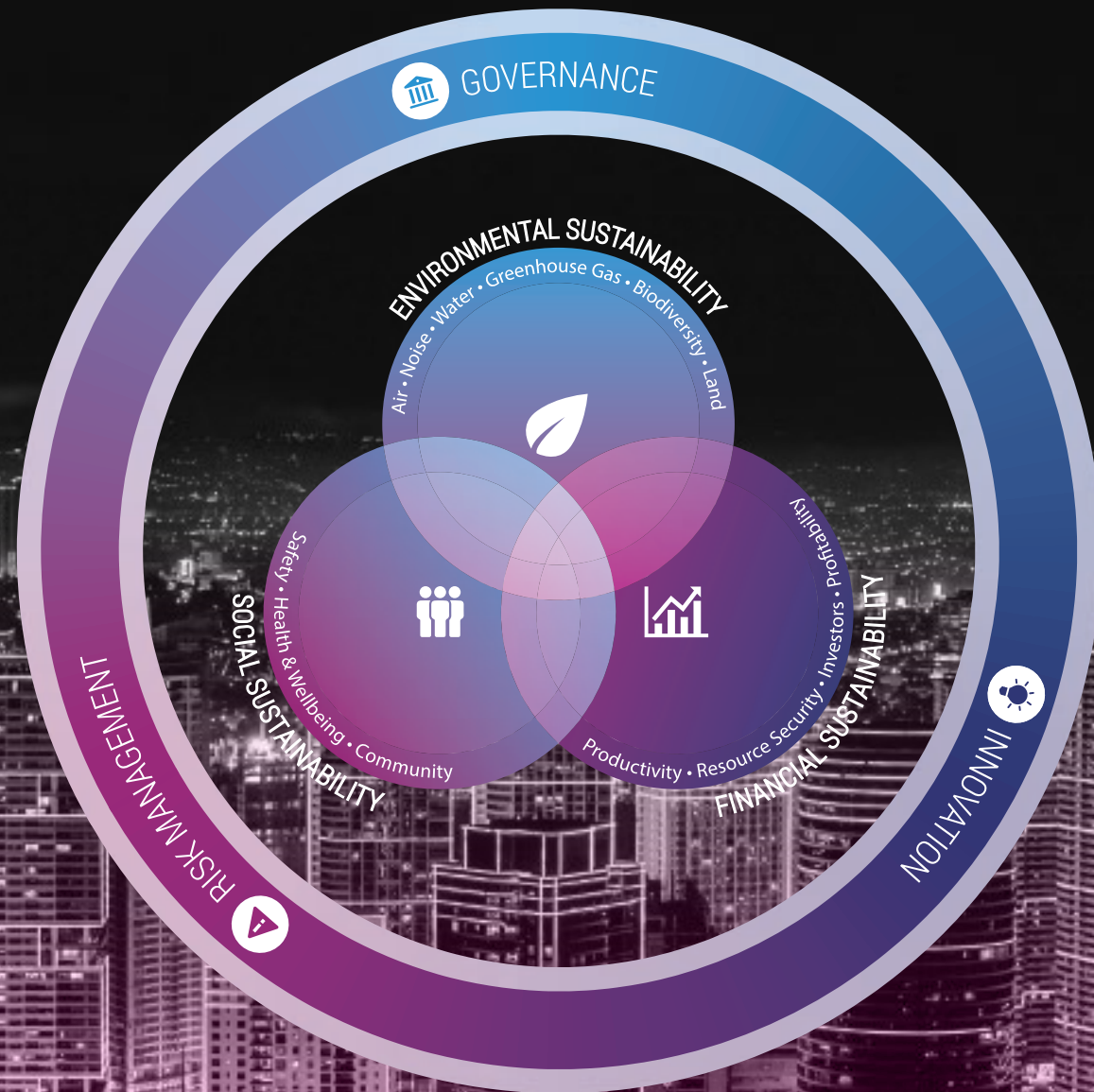


## TO BE SUSTAINABLE INTO THE FUTURE, WE NEED TO

Have a clear vision that creates shareholder value ... and be productive and efficient in getting there.

Obtain and maintain a social licence to operate ... through good environmental performance backed by strong systems and regular, consistent and informative community engagement.

Look after our people ... by providing a workplace of choice, where safety is paramount and our workforce is valued, skilled and sees a positive future.



# OUR APPROACH

Our business sustainability is based on a solid foundation of good governance, a culture of risk management, and an innovative mindset that frames responsible interactions and practices within the environment, social and fiscal areas of our business.

Business value and sustainable value are one.

# CORPORATE CULTURE



## Corporate Governance

A sound system of governance responds to ever-changing needs and societal expectations.

Centennial's governance structure incorporates the Centennial Board of Directors (Board), committees, management and subsidiaries. Centennial's Board is a uni-tiered structure with three sub-committees; the Audit and Risk Committee, Health, Safety, Environment and Community (HSEC) Committee, and the Remuneration Committee.

The Board comprises experienced and qualified Directors. Nomination is based on qualifications, including experience, knowledge, independence, skills and expertise.

CEO and senior Executive Management remuneration is determined by KPIs and includes performance relating to sustainability, including environmental and social objectives.

The Board has endorsed policies that cover areas including health and safety, environment and community, climate change, human resources, and procurement. These policies set the requirements for each of the sustainability areas and lead the delivery of management systems comprising standards, plans and procedures.

Executive Management meets formally on a weekly basis to ensure all aspects of the business are regularly considered. Environmental and social performance is monitored by the HSEC Committee, Executive Management and also externally by local Community Consultative Committees (CCCs). Mine sites are required by regulators to make a range of planning and environmental performance information publicly available on the Centennial website.



## Managing Risk

Managing risk is integral to our business and is entrenched in our work practices.

It is important we apply a risk-based approach to sustainability and understand and effectively manage our risks, such that we provide greater protection to our people, our environment, our communities, our customers, our assets and stakeholders. A consistent, consultative and precautionary approach is applied through embedding risk management processes into our business units, such that risks are identified, evaluated, managed and mitigated where possible and practical.

We employ multiple levels of risk-management tools and processes, ranging from the SLAM (Stop, Look, Assess, Manage) pocket book that provides employees with task-level risk-management process, to the formal site-based risk assessments (SBRA) and enterprise-wide risk assessments (EWRA).

Our Risk and Assurance capabilities have recently been bolstered with the addition of a Group Assurance Manager and internal assurance specialists in mining operations and environment, reporting to the General Manager Risk, Compliance and Assurance. This team will enhance the efficacy of compliance and assurance management and outcomes within the Company.

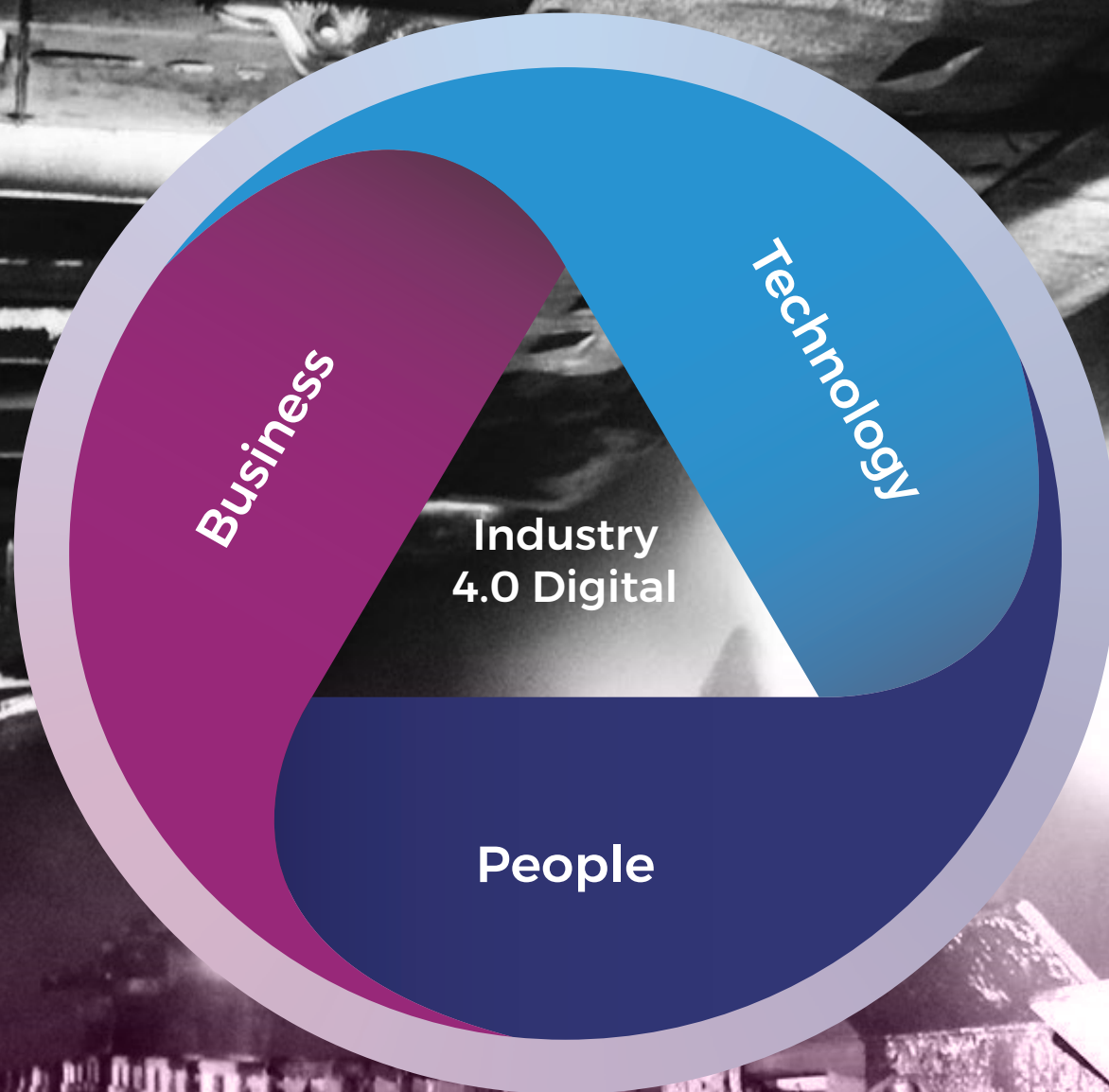


## Innovation

To compete in an ever-changing market, Centennial must anticipate change and drive innovation. This involves building digital capabilities and shifting to a smarter mindset.

In 2017, Centennial completed a Step Change Productivity programme, with a key outcome being the establishment of an operational excellence, or OpEx Team. This team has grown in 2018 and concentrates on innovation in engineering solutions and/or technology to improve the health and safety of our people, improve environmental performance, and maintain a focus on productivity.





# INNOVATION IN PRACTICE

In 2018, there was a detailed focus on developing and delivering Digital Transformation – a Banpu-wide project that commenced with a “deep dive” by McKinsey & Company. The outcome of this diagnostic was a four-year Banpu group roadmap to integrate business-led and data-driven decisions, with the right technology and skilled people to deliver a triple transformation.



## Business – Impact-Driven Digital Solutions

- Business-led with clear impact targets for productivity or growth
- Customer-backed solutions linked to key business processes



## Technology – Innovative Technology Architecture

- Multi-speed development (fast-cycle App on top of ERP)
- Access to ecosystems (startups, established vendors, research institutes)



## People – Agile DNA

- Test and learn, fail fast & tweak-hackathon method
- New digital roles & skills (Data Scientist, IT Scrum Master)
- Upgraded talent capabilities and mindset: Digital Capability Centre, Digital Academy

The main intention of this programme is to give greater real-time access to information and communication tools. This will allow our workforce to help drive improved safety, environment and productivity performance. The programme will substantially upskill our people and provide a positive economic return over the next four years, contributing to our financial sustainability.

With this intent in mind, one tool being developed is UMA (underground mining assistant). UMA is a mobile device to allow access to real-time operational data.

UMA has been developed from application of Agile management techniques, which included site visits, interviews, workshops, development of software, launch of new software and site trials. Work will continue to refine any remaining pain points and move to further deployment of the UMAs on-site in 2019.

With the intent of greater communication, a project has been developed to trial new headsets. These headsets work for hearing protection through noise-cancelling properties and also include UHF radios for communication.



UMA screen designs adapted to smartphone, rather than tablet



Double-clicks on supporting screens



### OpEx Technology Underground Communications.

A trial of the new headsets has been conducted at Mandalong with positive results.





# Financial Sustainability

**13.3**  
saleable production  
(million tonnes)

**1,559**  
sales revenue  
(\$ million)

**347**  
EBITDA – earnings before interest,  
tax, depreciation & amortisation  
(\$ million)

**87**  
NSW Government royalty  
(\$ million)

Financial strength and viability is at the centre of business sustainability.

It remains Centennial's priority to productively and efficiently grow our business to ensure our continued commercial viability, whilst striving for continual improvement in environmental and social performance.

Centennial seeks a balanced sales portfolio between domestic and export markets. Coal contracts with domestic generators tend to be for the longer-term, with volumes and prices negotiated and settled in advance. This provides Centennial with a high degree of business certainty for a substantial portion of its output.

## Performance

As a resource company we are exposed to external financial pressures; most notably the \$US coal price and the \$A/\$US exchange rate. However, through Centennial's long-held balanced sales strategy, the Company has, in part, a natural hedge from \$A/\$US volatility and a shelter from a higher exchange rate. Export prices were volatile during 2018 and despite prices increasing in 1Q18 and 3Q18, the price at the end of 2018 had only risen 1% to \$US101 a tonne.

While the majority of Centennial's export sales prices were fixed in the first half of the year, we started to benefit from higher export prices for those sales linked to the GlobalCOAL Index and spot sales in the second half. Centennial's export split for 2018 was 39%, in line with the previous year.

Earnings before interest and tax (and unrealised foreign exchange losses on \$US denominated debt) increased 7% to \$309 million – primarily due to higher export prices. During 2018, Centennial sold 16.0 million tonnes of coal (100% basis), in line with the previous year. During the year production records were achieved at Airlay, Myuna and Springvale, despite difficult geological conditions encountered at Myuna and Springvale. Mandalong incurred two and Springvale one longwall changeover during the year (each incurred an extended changeover).

In 2018, Centennial continued to focus on cost control and productivity improvements. Specifically, through a focus on operational excellence, production growth, automation and Digital Transformation, we aimed to increase our competitiveness and improve our position on the cost curve.

While social and financial pressures on coal mining continue, demand for high-quality Australian black coal remains strong, giving Centennial and Australian coal a competitive and real advantage.

## Initiatives

Global demand for coal is strong. In providing high-quality coal to growth markets, Centennial has a role in ensuring access to secure, reliable and affordable energy. It is more evident than ever that, to remain sustainable, we must balance financial returns with environmental and social concerns. Strong and positive environment, social and governance outcomes are critical, together with the deployment of new technologies.

The key initiative for 2018 was the substantial groundwork performed under the Greener & Smarter framework to unlock the Company's digital future. This Digital Transformation includes not only giving greater real-time access to information and communication tools, but substantially upskilling our people, enhancing physical and virtual digital capability centres, and providing a positive economic return over four years.

## Supply Chain Management

Our large and complex supply chain includes providers across Australia and around the world equipping us with everything from steel, mining equipment and conveyors to oils and fuels, and personal protective equipment.

Our Supply Chain (procurement) has been subject to an extensive review by McKinsey as part of the Digital Transformation project during 2018. This has resulted in a procurement project with a renewed focus of "category management". The project is progressing well and is expected to realise considerable savings and a consolidation of suppliers. Further category management initiatives will be identified and progressed during the first half of 2019.

The Digital Transformation for procurement also includes the integration of two new software components that will better manage suppliers' performance and introduce contract management to reduce the labour-intensive paper-based processes currently used within Procurement. These initiatives also provide a useful platform as we prepare for our first Modern Slavery Statement in 2020.



# Social Sustainability

## Health and safety

↓  
LTIs

↓  
TRIs

2  
Significant Incidents

Safety is at the core of all we do. We achieve little if we do not do it safely.

## Management Approach

We are committed to principles that guide our approach to health and safety. We take responsibility for our safety and the health and safety of others. The nature of the work we do contains inherent risks and therefore it remains critical that these risks are identified and appropriately managed.

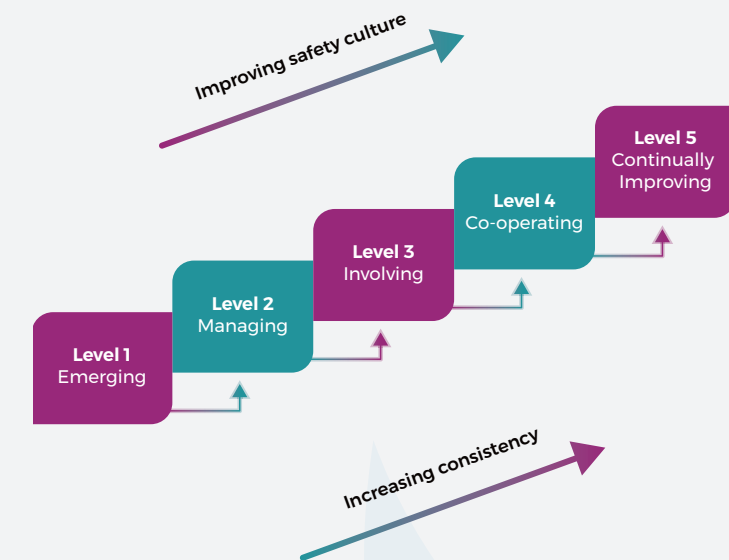
Each of our sites operates within a safety management system, containing processes and procedures designed to identify and mitigate risk of injury. These well-developed, fully integrated management systems support our employees in their daily work, assisting us to adopt safer work practices and prevent injury. Centennial will continue to develop and implement processes that provide support to our employees in pursuit of a safer working environment.

Because workplace injuries impact people in so many ways, including causing physical impairment, putting stress on relationships, and affecting the ability to enjoy life, it is imperative we continue to focus on health and safety. We want our people to end the day as they started, safe and free from harm.

## Creating a Safety Culture

Centennial firmly believes a positive culture is essential to improving safety performance, led and practised by the CEO and senior managers.

A "safety culture" is organisational. It places a high level of importance on safety beliefs, values and attitudes, and is shared across the Company. A positive safety culture can result in improved workplace health outcomes, and as such, improved performance. During 2018, Centennial partnered with the Keil Centre to conduct a Safety Culture Survey across its mine sites, coal handling and preparation plants, support offices and senior management. The Keil Centre model for cultural maturity was used as the guideline for the survey. The outcomes from the survey will form the basis for safety improvement strategies moving forward.



Based on the Keil Centre Model for Cultural Maturity.

## 10 Steps to a Safer Culture

To develop an improving safety culture, several broad behaviours are essential.

The 10 elements are:

- Visible management commitment
- Health and safety resources
- Safety communication
- Participation in safety
- Productivity versus safety
- Risk-taking behaviour
- Learning organisation
- Contractor management
- Supervision
- Competence



Performance

During 2018, Centennial experienced a 34% improvement in its key performance indicator, lost time injury frequency rate (LTIFR), together with a 6% reduction in total recordable injury frequency rate (TRIFR). However, as a reminder that we need to do more than just settle for improved safety performance, two significant safety incidents occurred.

At Clarence, two employees were struck by a piece of stone that fell from the roof/rib corner, causing one to sustain a broken leg. At Springvale, an employee was struck in the face by an object ejected from a continuous miner as it was cutting. These incidents show the constant need for improved risk management and review of “how we do things”.

Although investigations are still under way, we have initially responded by implementing a policy that all ribs will be supported as a component of primary strata control.

In its initial stages, this additional support has negatively impacted on productivity (rate of coal production). However, we believe that with time and improved systems, productivity will be regained, and consequently this will be a demonstration of safety and productivity outcomes being aligned. Indeed one of the focuses of the OpEx team is to use agile management and technology to concurrently provide both high productivity and a safer working environment.

To strengthen our safety leadership and culture we have made a significant investment into investigating and understanding the “safety culture” within Centennial. We have previously benchmarked safety culture through the Department of Industry and Resources Mine Safety Advisory Unit. Centennial sought to continue to further understand safety culture through engagement of the Keil Centre.

The Keil Centre comprises behavioural safety specialists who focus on applying psychology and human factors for business success and were engaged to conduct a company-wide safety culture survey. The results will be available in the first part of 2019 and will guide our actions for improved safety culture for the remainder of 2019 and beyond.

In recognition of the importance of mental health and wellbeing in not only our industry or our mine sites, but to the broader community, we have completed a Mental Health First Aid Training programme for all site safety superintendents.

Mental health within our society is a key focus area of medical practitioners and counsellors and we understand that this can impact on our employees lives, family and working relationships.

It is vitally important that Centennial supports our employees who may be impacted by issues both from the workplace and personal lives. Members of our site safety teams have now undertaken specific training in supporting our people to seek professional advice should they be impacted by mental health issues.

Challenges and Opportunities

Our challenge is to continue to reinforce the importance of safety, and improve our safety culture, reducing exposure to risk and maintaining quality of life for our people. We must understand our opportunities and focus our efforts – harnessing the benefits of technology that involves automation is a key opportunity.

Centennial recognises that improving statistics does not mean we have it right; there is always more work to do.

Our opportunities for 2019 include completing and implementing the Pulse Analytics WHS Dashboard. This is a Work Health and Safety performance dashboard that will provide real-time information through the Centennial intranet on incident data and trending for each site, and the Company as a collective.

We will further improve visible leadership by active engagement with our workforce of all sites and on all shifts.

We will reinforce the belief that no job is so important that it can't be done safely.

Improvement Project – Task Rotation

For three years, Centennial has been involved in a significant industry research programme to determine if staff rotation within an underground mining operation could impact on the prevalence of musculoskeletal injuries. The research was undertaken by Coal Services Health in partnership with the University of Newcastle. Centennial's Mandalong and Springvale mines have been host sites for the research. The study was conducted over a 12-month period and involved three rounds of workforce survey and shift reporting on work practices. Coal Services Health was regularly on site during the study.

More than 240 participants, namely roof bolters, shuttle car and continuous miner drivers, chock operators and shearer drivers participated across the three rounds of the study. Task rotation involves alternating people between process tasks to lessen the risk of injuries associated with repetitive actions.

Although the reported injuries remained constant, physical discomfort decreased and the participants' quality of life improved. Several learnings included the requirement for careful planning of task-rotation schedules, the number of rotations per shift was dependent on manning levels, adequate communication and crew involvement was important to the process. Task rotation is now embedded at Mandalong, and under consideration for implementation at Clarence and Myuna. As part of our commitment to industry advancement and knowledge sharing, the results of the Task Rotation Project were presented at the 2018 NSW Minerals Council Health, Safety, Environment and Community Conference, where it received positive feedback.

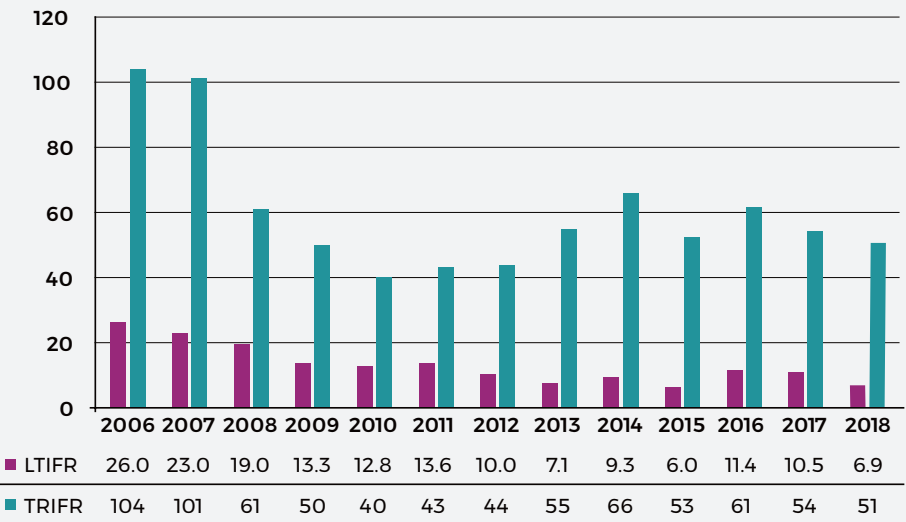
Task Rotation Results

Outcomes

Reported Injuries	Remained constant
Physical Discomfort	↓
Quality of Life	↑
Fatigue	Remained below that of the general population
Psychological Distress	Consistent, but higher than general population
Production	No change in outputs

Key Learnings

- Crew felt fresher (mentally and physically)
- Time passes quickly
- Increased skills and versatility
- Improved flexibility and efficiency
- Increased satisfaction
- Better able to accommodate absenteeism
- Improved crew relations





## Our People



Hosted **19** apprentices, **7** trainees and **5** graduates

Centennial is a firm believer that our people are critical to our success.

## Management Approach

We have formal and informal processes in place to ensure we directly engage with our people in an open, transparent and honest manner. The pathways that exist between management and staff to allow this to occur are:

- annual staff performance development reviews, which provide the opportunity for feedback and improvement
- quarterly reviews of staff performance
- employee surveys
- health, safety and environmental committee (HSEC) meetings
- informal meetings between supervisors and staff.

A programme of executive “walk the talk” continued in 2018. This included face-to-face engagement from the CEO and Deputy CEO and a series of regular mine-site discussions facilitated by general managers, mine managers and human resources (HR), where prevailing business conditions and performance were discussed. Mine managers also hold quarterly mine-performance information sessions for the workforce.

Centennial has a suite of human resource policies on a variety of issues, including an Employee Code of Conduct, Harassment and Bullying Policy, Gifts and Benefits Policy and a Whistleblower Policy. In addition to being a part of the Company’s governance framework, these policies also act as protection mechanisms for our people. The Code of Conduct and all policies are regularly reviewed to ensure they reflect an evolving workplace and societal expectations. In 2018, reviews and updates were made to the Employee Code of Conduct and Ethics, Study Assistance Policy, Social Media Policy, Privacy Policy and Whistleblower Policy.

Our policies are provided through our intranet and to new employees through an electronic on-boarding system.

## Performance

Centennial and Banpu continue to invest in developing and supporting business leadership. The Global Leadership Programme, aimed at developing and supporting the capability of leaders within the Company, continued in 2018. There were nine participants across two different courses (First Line Leaders and Business Leaders). The participants worked with multinational teams, learned about the habits and approaches for successful leadership and spent time on developing value-add projects for Banpu. The knowledge and networking have established a strong basis for these people to be future leaders within Centennial, delivering value for both Centennial and Banpu.

In 2017, the NSW Resources Regulator introduced the Maintenance of Competency (MoC) requirement for mine statutory duty holders to obtain and maintain a Practising Certificate, necessitating that duty holders obtain a prescribed level of continuing professional development (CPD). Centennial has taken a unique approach to this by managing and maintaining these obligations at a company level. A working group has been formed to identify risks and opportunities, facilitate the undertaking of specified hours of learning in the required competency areas according to the type of Practising Certificate (training plan), develop a system for recording and reporting on learning activities, and assist certificate holders to renew their Practising Certificate with the Resources Regulator every five years.

A staged implementation commenced in 2017 with Statutory Engineering roles. At the end of 2018, all persons in functioning Statutory Engineering roles have applied for, and or received, their Practising Certificates.

A five-year training plan for Continuing Professional Development is being developed, to both support workforce planning and develop better leaders. The initial group of block training commenced in March 2019 in the Western region, conducted by Western Mines Rescue Service (WMRS). The WMRS has developed training modules that include both written and practical exercises. After industry-level discussions, Centennial believes it is in an industry-leading position on this matter and meets all compliance criteria to this point.

Engaging our people assists in maintaining focus and enthusiasm for shared goals. In 2019, we will continue with CEO business updates on sustainability at sites together with regular manager and employee interactions.

In addition to the ongoing stakeholder engagement throughout the year, we undertook an employee stakeholder engagement programme. Through small focus groups, we identified the sustainability issues of relevance and significance to our employees. This valuable feedback not only shapes our reporting, but will contribute greatly to strategy development and roll-out.

We maintain membership of a range of industry associations and related bodies.

Details of our memberships can be found at [www.centennialcoal.com.au](http://www.centennialcoal.com.au)

# BanpuHeart

Passionate  
Innovative  
Committed

## Opportunities

We believe people are our greatest asset, and we want to attract and retain good people. We do that by providing training, leadership and an evolving agile workplace. However there are two more critical factors that will help us deliver on our strategies and be an employer of choice; our culture and our brand.

During November 2018, the Banpu programme “Banpu Heart” was launched within Centennial. This is the Banpu corporate culture and core values statement and is an evolution of the former Banpu Spirit. Various programme days were held with about 300 management and staff interacting and embracing three core values

– **Passionate, Innovative and Committed.**

The Banpu Heart core values are supported by 10 “key behaviours” to guide expectations and empower people. The refreshed corporate culture aims to strengthen and transform the Banpu family, taking all into a sustainable future together.

Our HR team looks forward to implementing “B-Success” in 2019; a common and fulsome HR system that covers all 10 countries of Banpu’s operations. B-Success includes, in one place, a real-time staff database and information about employee data, recruitment, onboarding, succession plan, learning management, performance and goal setting and compensation management.

The B-Success Project will help strengthen our people, in and across each country, encouraging collaboration, building synergy and networking towards our shared success.

## 10 BEHAVIOURS

### Passionate

– Striving for the future –

1. Pursue for success
2. Can do more
3. Be agile and change
4. Express care and share

### Innovative

– New ideas, New solutions –

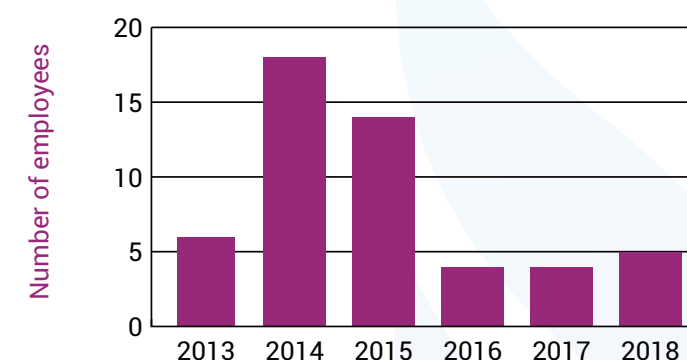
1. Transcend the trend
2. Ideate and get real
3. Learn fast, do first

### Committed

– Success is the only option –

1. Adhere to integrity and ethics
2. Synergize and network
3. Engage to sustainability development

Employee Turnover %







2018 Graduates (L-R) Sarah Dunne, Matt Pryor, Ashleigh Hundy and Joanne Piggott. Absent – Joshua van Bezouwen

### Young Passionate Professionals

Our Graduate Programme provides an exciting opportunity for university graduates to join the Centennial family. Each year, Centennial employs graduates across a broad range of disciplines, including mining and mechanical engineers, geologists, accountants and environmental scientists. Appointed for a period of two years, graduates learn and grow as they master the business world through training, hands-on experience and mentoring. During the two years they also work at different mines across the Group, providing a wide range of environments and diverse experiences.

Introducing young professionals to mining in a structured and supportive way ensures the graduate programme helps them identify where their professional passion lies, and allows Centennial to make a positive impact on our future leaders.

In 2018, Centennial also hosted eight undergraduate students from various disciplines for vacation work placement during their holiday breaks from university.

Vacation work is a great opportunity for students to explore their career aspirations in their chosen field and Centennial recognises the importance of developing and maintaining a strong professional skills base.

The contacts and networks developed within the vacation work programme aim to benefit the student in completing their studies and gaining exposure to the industry, with the potential to apply for and transition into the Graduate Programme once they finish their degree.

### Community



We seek to build relationships, and to gain and maintain trust.

### Management Approach

Centennial places a priority on proactive engagement with our communities. We operate in the Local Government Areas of Lake Macquarie, Lithgow and Mid-Western Region, which despite having long associations with mining and power generation, are diverse in both their natural and social environments.

Through our daily business activities, stakeholders we regularly engage with include:

- employees
- community
- policy makers and regulators
- suppliers
- customers
- industry groups
- non-government organisations (NGOs)
- financial institutions
- media.

Centennial is committed to developing and maintaining meaningful relationships across the communities in which we operate and as such our consultation and engagement reflects the diversity of each community's characteristics, including their values and aspirations. We also recognise that our community is not just located within the immediate areas of our operations, but now reflects a broader network of attitudes and opinions about our industry. We know that open communication and listening to our stakeholders' concerns is of great value.

The frequency and nature of this engagement is adapted to the needs of various stakeholder groups. For example, we have structured established Community Consultative Committees (CCCs) that operate with a genuine two-way open dialogue to provide information about our activities and provide a forum for stakeholder feedback on our operations. We also regularly engage with our industry groups, interest groups, local committees and regulators on matters of importance to our business and stakeholders.

Our key community engagement and community relations building activities include:

- Established Community Consultative Committees (CCCs) for each mine site
- Community consultation and engagement strategies for projects and exploration activities
- Sponsorship (financial and in-kind)
- Active participation and support of a broad range of community organisations, activities and events
- Dedicated phone and email for community contact at each site.

In conducting operations we are not satisfied with simply complying, our challenge is to inform and educate our community to better understand our business and the contribution we deliver locally, while also listening and responding to the issues that are raised by the community. We also recognise the contribution that our employees and their families make within the community. Many of our employees are home owners, have families with children who attend local schools, live locally and participate in many social and cultural activities within their communities, all of which add to the social capital that makes our communities what they are. **For example, Springvale Mine Employee Snapshot:**

- 77% of employees reside within a 15km radius of Springvale Mine. All employees reside within 67km.
- Average household size of 3.3 persons.
- Tenure in the area (years in residence), at an average 31 years, and approximately 93% either fully own or are buying their present homes.
- Approximately 62% of the workforce reported being involved with local community, service, cultural and sports organisations.
- Approximately 72% of take-home pay is spent in the local area.



## Performance

Throughout 2018, Centennial strived to improve engagement with our diverse stakeholders. For example, each year Centennial hosts an internal Sustainability Conference, which brings together employees from across the Group and provides a platform to discuss concepts of sustainability.

This year, our guest speaker was the Director of The Colong Foundation for Wilderness, Keith Muir. Mr Muir outlined to our employees, Executive Management and Centennial's Board, Colong's vision for the reservation of Gardens of Stone Stage 2 as a State Conservation Area.

The Gardens of Stone Stage 2 proposal still allows underground coal mining and other benefits, including ongoing use and enjoyment of the area for tourists and visitors. The proposal has been incorporated into our future planning, and consultation with stakeholders such as The Colong Foundation for Wilderness will be ongoing.

Centennial has also commenced regular Environmental Group Stakeholder Meetings to provide parties with the opportunity to discuss mining operations, including planned modifications as well as hearing, and dealing with, any concerns. Centennial believes this forum has provided a greater level of understanding and appreciation of our respective positions on key matters and has facilitated opportunities for consultation that otherwise may not have occurred. For example in 2018, representatives from environmental groups in Lithgow and the Blue Mountains visited Clarence Colliery and were briefed on the technical assessments under way for the decommissioning and rehabilitation of the Reject Emplacement Area (REA) III, which was the source of the 2015 coal fines spill into the Wollangambe River. The presentation, including the site visit, provided an insight into the REA characteristics, and the tasks moving forward.

Centennial understands the important role that each Community Consultative Committee (CCC) plays when informing the community about our operations and environmental performance. Centennial has implemented a standard agenda that is a similar format to the Annual Review each mine site is required to prepare for the Department of Planning and Environment.

This approach aims to ensure that information is meaningful and presented in a consistent format. Holding specially convened meetings to ensure early consultation in relation to planned modifications has occurred on several occasions to facilitate feedback in our internal assessment process and for any issues to be responded to throughout the environmental assessment.

Centennial also hosts a CCC Chairs' meeting to discuss each of the respective operations and share ideas for improvement. An annual site visit for each CCC has also been introduced to provide members a better understanding of operations and infrastructure, such as monitoring locations/equipment, water management infrastructure and coal-handling facilities.

Centennial has achieved some positive outcomes in the area of mine rehabilitation. Under the leadership of Centennial's rehabilitation specialist, Charbon is undergoing extensive rehabilitation that includes bulk earthworks, reshaping, contouring and seeding.

Despite the drought, positive progress has been made. Given the work under way, numerous high school students have visited the site as part of the Earth and Environmental Science component of the Higher School Certificate.

The site tour provides students with an appreciation of the required approvals and legislative requirements, technical assessments and physical work to achieve mine-site rehabilitation.

Aboriginal Cultural Heritage is an important part of our business, and we accept that our operations can impact on places and sites of significance. We continue to host a minimum of two Aboriginal Cultural Heritage Meetings per annum in each of our regions, enabling discussion about our operations and plan for cultural heritage surveys.

In late-2018, Centennial developed a policy in consultation with the Aboriginal Cultural Heritage Groups requiring members of Registered Aboriginal Parties to complete a medical assessment to ensure the safety of participants when undertaking field surveys.

Centennial's sponsorship programme demonstrates the value placed on the relationship with the community. We actively participate and invest in many community networks, volunteering activities that are not directly mine related because we understand they are important to the communities where our people live and work. In addition to any financial sponsorship, many groups receive in-kind contributions.

This has included our ongoing participation in Meals on Wheels, the use of non-operational land for community activities, use of equipment (including donating surplus equipment) and participating in events such as the Toronto Sunrise Rotary Paddlefest and the Westpac Rescue Helicopter's Wests Cycle Classic to name only two.

Our employees have also supported a range of charities, involving fundraising activities whereby they seek the support of their colleagues.

## Opportunities

In 2019, we will continue to build relationships with our communities and stakeholders. Some of our activities will include improved planning for our CCCs. We will host the second combined CCC Chairs' meeting to discuss how we can best support CCC members to ensure they receive appropriate information and be well informed about our business. Each site will facilitate at least one visit to help members gain a good understanding of infrastructure and operational matters.

We will review our complaints/enquiries procedure to ensure that any community stakeholder initiated contact is recorded and acted upon appropriately and with the support of all required personnel.

The 2019 Sustainability Conference will again be an opportunity to outline community stakeholder initiatives and ensure that our social licence to operate is understood across the Company.

Our stakeholder engagement plans will be reviewed for each site and for the Company as a whole. This will involve stakeholder mapping and consultation to ensure that concerns and issues are taken into account when we conduct our business and consultation and engagement is undertaken as appropriate and as determined by our stakeholders. This will also feed into our Social Impact Assessment (SIA) reporting.



### Jarjum Soar – Building Cultural Knowledge

Local schools in western Lake Macquarie (Bonnells Bay, Wyee, Dora Creek, Wangi, Cooranbong, Morisset and Morisset High School) again held their annual "Jarjum Soar" Aboriginal cultural event. The eagle represents Awabakal country and the translation is "children soar".

This event is for Aboriginal and Torres Strait Islander children in Years 4–8, with each student inviting a friend to join them for the day. The aim of Jarjum Soar is to build the cultural knowledge and understanding of all students within the community of schools through a range of activities such as storytelling, art and music.

The day started with a traditional "Welcome to Country" by Uncle Bill Smith, and was followed by a fantastic performance from the Morisset High School Didge Group (didgeridoo players). Students then participated in a range of activities relating to traditional games, art appreciation, bush tucker, native plants, indigenous language, and weaving. The day finished with a swim in the pool.

Centennial was proud to sponsor this important cultural event.



# Environmental Sustainability

## Environment



We must minimise our impacts and contribute to improved environmental stewardship.

## Management Approach

Centennial appreciates that access to natural resources is a privilege, not a right, and we must treat these assets responsibly now and into the future. We are answerable to ourselves and our stakeholders and we must minimise our impacts and contribute to improved environmental stewardship.

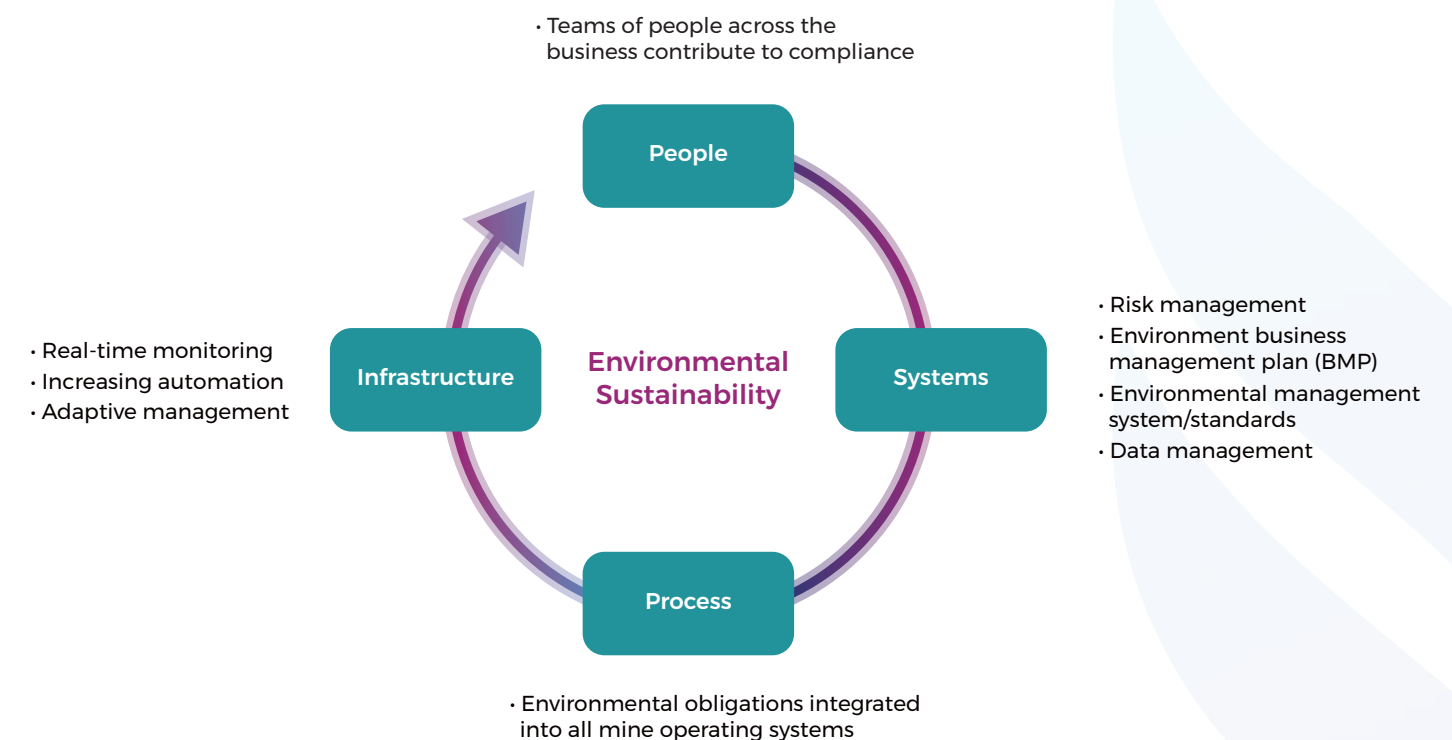
Our aim is to surpass compliance and improve environmental performance, while developing and maintaining effective community relationships.

Centennial's approach to environmental management is set out in our Environment and Community Policy, forming

part of a broader Environmental Management Strategy and supported by environmental standards.

We see environmental management as an integral part of the way we operate, led and assisted by a team of people across the breadth of our business, supported by systems and infrastructure.

Compliance with our requirements is checked by our internal audit processes, as well as periodic external audits, to ensure we identify and address areas for improvement. Greenhouse gas emissions are subject to an annual independent audit and are also reported publicly.





## Performance

Centennial seeks improved environmental outcomes in its activities and further integration of environmental obligations into all mine-operating systems. In order to help achieve this, a workshop was conducted during 2018 to review dissemination of environmental compliance obligations and risks to operational departments; perception, management and integration of approval requirements into operating and engineering systems; and to identify opportunities where environmental obligations can be assimilated into site operational systems. An environmental management standard will be developed with subsequent site integration workshops in 2019.

As a result of stakeholder engagement, issues of significance to environmental sustainability include: water, tailings management, biodiversity, greenhouse emissions and compliance.

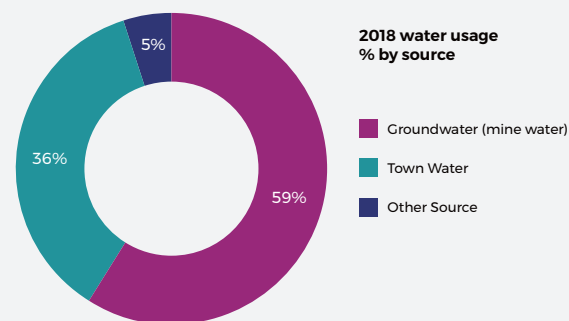
## Water

Water is an essential shared resource, with high environmental, social and economic value and as such remains a key focus area for Centennial.

Security of water supply is currently not a material issue for our business. With only one exception, our mines have excess water. However, this does not reduce our commitment to using water responsibly.

Over recent years there has been a shift in thinking of water as an asset/resource managed at a mine-site level, to employing a catchment-based approach to water management, actively engaging and considering the needs and priorities of other users.

Where possible and where geological conditions allow, we use in-seam mine water for our operations, reducing the dependence on municipal water supply. In 2018, our total water input was 1,679ML. Of this water, 59% was mine water and 36% from town supply. A small portion (5%) was sourced from harvested rainwater. About 220% of water was recycled (more than twice the water used was recycled) and mainly used in coal preparation. The recycled volume is a significant increase from previous years due to Western Coal Services washing coal during the year.



The use and discharge of water presents an opportunity to better use and share this resource for the benefit of the community.

Our broad approach to water resource management encompasses community-based initiatives, water balance modelling, monitoring and mitigating impacts and developing alliances/partnerships with neighbouring industry to facilitate the beneficial reuse of mine water.

A key focus in 2018 has been on continuing water management improvements at Clarence and Springvale, adopting this notion of community benefit.

The Springvale water transfer project commenced construction towards the end of 2018. The project will remove Springvale's mine water discharge from the Coxs River catchment through the transfer of water from existing underground mine dewatering facilities for reuse at the Mount Piper Power Station (MPPS) cooling towers rather than discharge into the upper catchment of the Coxs River.

This will be achieved by constructing and operating a pipeline and ancillary facilities to transfer water from the existing dewatering facilities on the Newnes Plateau, for treatment and reuse at MPPS.

The project is significant in geographical extent, cost and environmental benefit. It comprises a 15km water transfer pipeline, transfer of up to 42ML a day of mine water, a desalination plant and 5km pipeline to the Springvale Coal Services Area (for residual water).

Clarence was involved with a detailed regulatory review of its water management and environmental protection licence (EPL) in 2017. As a result, the EPA varied the licence to include revised water quality discharge limits for metals and pH.

Following this variation, consultation with a range of agencies and stakeholders continued during 2018 regarding options for reuse of the mine-site discharge water for community benefit.

Considerable consultation and negotiation was undertaken with the EPA regarding the salinity levels of the discharge, along with options to cease the discharge from LDP2 (Licence Discharge Point) into the Wollangambe River catchment.

As a result of the review, by the end of 2019, Centennial will complete an environmental assessment (including stakeholder consultation) into the construction and operation of infrastructure to transfer treated water into the Coxs River, which would otherwise be discharged into the Wollangambe River.



## Tailings Management

In light of recent international and local events, tailings management remains a key focus for us. Centennial has three tailings management facilities — Northern Coal Services, Western Coal Services and Clarence Colliery. As previously reported, a discharge involving coal fines material occurred from Clarence in 2015.

"Tailings" for Centennial are quite different to the materials involved in well-publicised significant environmental incidents at an international level. More commonly called "rejects" within Centennial, we have both coarse and fine rejects that are emplaced into either walls (coarse) or dams (fines) in reject emplacement areas (REA).

Despite the difference in composition, the recent well-publicised events have caused us to more closely assess our reject emplacement risks and has driven changes in our approach to tailings facility management. Over the past few years, Centennial has implemented an REA Oversight Committee that has carriage of an REA Standard and the management of an audit process. All REAs are designed by external experts and are periodically inspected by experts, with reporting to the CEO through the REA Oversight Committee.

## Biodiversity

Centennial is a significant landholder, the majority of which is not impacted by our mining operations. Much of this land is of high ecological value and Centennial carries out management for the maintenance or improvement in value, and where feasible, seeks beneficial co-existence of agricultural grazing activities with biodiversity conservation.

Centennial oversees all actual and potential negative and positive impacts under Regional Biodiversity Management Plans. These plans meet the relevant regulatory requirement for each operation. A site-specific plan identifies baseline ecological values, land-management actions to improve biodiversity and an ecological monitoring programme. Other biodiversity management plans that may be required for the site, for example, Biodiversity Offset Management, or Extraction Plan Management, are part of the Regional Management Plan.

As part of a project approval process, Centennial identifies, assesses and enters in to biodiversity offset agreements for the protection of biodiversity significant flora, fauna and ecological values on land it owns. Centennial, where feasible in consideration of the NSW

Office of Environment and Heritage guidelines, targets biodiversity offset values that are of a higher conservation value than being impacted.

Before 2018, Centennial already had 514ha biodiversity offset land protected in perpetuity. In 2018, Centennial undertook with the NSW Office of Environment and Heritage the drafting of agreements to secure a further 314ha as outlined in its Western Region Biodiversity Offset Strategy.

In 2018, Centennial commenced a 10-year programme to protect, restore and enhance in-stream native vegetation and the riparian corridor of the Coxs River upper reaches. The programme is described within the Coxs River Catchment Improvement and Land Management Plan and encapsulates 66ha over an approximate of 5km length of the river.

The works are significant for the upper reaches of the Coxs River in improving aquatic habitat and in-stream health, for better water quality. The works are enhancing endangered ecological communities and supporting habitat for known threatened species.



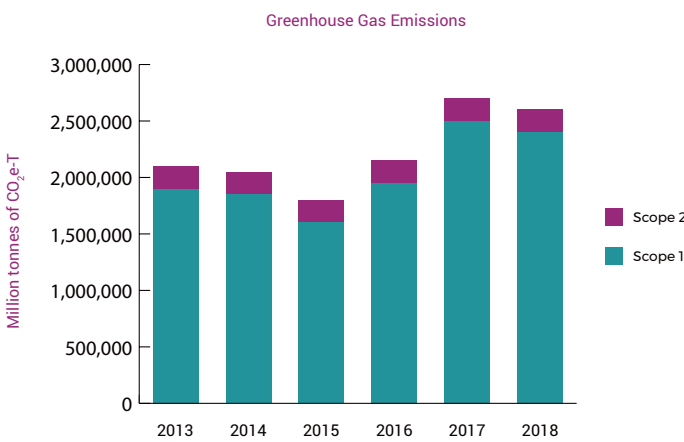
Climate Change

Climate change response remains a high priority issue not only to us as a Company, but society more broadly. Our response strategy involves active research, engagement of regulators and industry and an approach to understand greenhouse gas emissions reduction as an opportunity rather than just a challenge.

The dynamic nature of coal seam gas resulted in greater-than-anticipated emissions at Mandalong, our gassiest mine, in 2017 and 2018. The gas emissions exceeded the capacity of our abatement systems and caused an upward trend in our emissions. With a new gas management system in place, we seek to have our downward emission trajectory back on track in 2019.

We have reported our involvement in research and development into ventilation air methane (VAM), abatement over many years. We have trialled small-scale proprietary technology, which has provided us many valuable insights to build upon for future research. We remain committed to leading the industry in research for effective future VAM abatement.

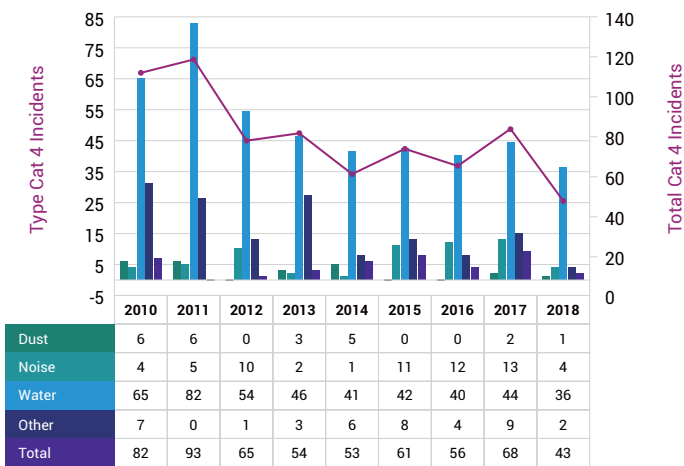
Centennial recognises the potential for renewable and alternative energy to play a significant role in the resources sector. To that end, we are advanced in our pursuit of a small solar array at Airly and gas engines at Mandalong. These projects will generate electricity for mine site consumption and offset grid consumption.



Environmental Compliance

All of our sites are subject to environmental protection licences from the Environment Protection Authority (EPA) and conditions of consent from the Department of Planning and Environment (DPE). Compliance with these environmental regulations is always a focus. All of our sites maintain environmental incident response plans.

We are committed to eliminating material environmental events and incurring no fines, penalties or prosecutions. Compliance performance showed a pleasing improvement on previous years. The key indicator of performance for Centennial is the number of Category 4 (non-compliance) incidents that occur during the reporting period. A significant reduction of Category 4 incidents was recorded in 2018 compared to 2017 and previous years.



Opportunities and Innovations

Water issues remain a focus for environmental management and performance. Centennial believes compliance is a precursor for sustainability and all water non-compliances are avoidable. In 2018, we continued a project to modernise technology and re-engineer all LDPs to install early warning and mitigation options and have all LDPs digitally connected to site control rooms. A review of technology gaps and preferences was undertaken and a capital works programme developed. This significant step-change uses "smart" technology data analytics and will continue in 2019.

To support this smart technology, Centennial has investigated an improved data management platform, which will be progressed in 2019. The aim is to better inform environmental decision making, reporting, strategy and action. Key outcomes are to improve the environmental data management system by implementing digital tools, and prepare the data for use, integration and visibility through our Geographic Information System (GIS). Environmental data processes have been mapped, with the outcomes analysed and prioritised. The project will initially focus on environment but, in due course, will consider synergistic opportunities for other reporting areas of the business such as health and safety.



Improving environmental performance with real-time monitoring

Centennial's mines operate in some sensitive environmental areas and also in proximity to local communities. Real-time monitoring (RTM) is used for day-to-day operational activities at each mine site and provides immediate feedback on noise, water quantity, air and water quality.

This real-time feedback allows for immediate action to be taken. If elevated noise levels are recorded they can be linked back to the source and managed. This ensures compliance with site licences and planning consents and minimises adverse impacts to the local community and stakeholders.

Centennial is also working to improve the management of each LDP across the Group.

This will allow sites to:

- maximise upstream containment and management of water flows on site
- provide real-time monitoring and management of all water discharged from site.





# Future Focus Areas

## Initiatives

### United Nations Sustainable Development Goals (SDGs)

SDGs represent the ambitious comprehensive plan of action for social inclusion, environmental sustainability and economic development to address the world's most pressing challenges. These are viewed as opportunities to deliver a net positive impact from our business activities. As such, Centennial considers these matters as part of its sustainability agenda. We plan to consider these five priority SDGs as a platform for future targets, beyond our current Vision 2020.



#### Climate Action

Goal 13  
Indicator 13.2  
Topic: GHG Emissions



#### Affordable and Clean Energy

Goal 7  
Indicator 7a and 7.2  
Topic: GHG Emissions



#### Clean Water and Sanitation

Goal 6  
Indicator 6.3 and 6.4  
Topic: Water Management



#### Responsible Consumption and Production

Goal 12  
Indicator 12.2 and 12.5  
Topic: Efficient use of natural resources



#### Life on Land

Goal 15  
Indicator 15.1, 15.2 and 15.5  
Topic: Biodiversity

### Climate Change

Climate change and energy matters continue to dominate discussion from a global environmental impact aspect. Climate change response is a pivotal component of Centennial's sustainability journey and will remain a focus area.

### Modern Slavery

During 2018, both the NSW and Commonwealth parliaments enacted legislation dealing with Modern Slavery. Both of these will come into force in 2019 with implications and requirements for Centennial. We are supportive of the introduction of a legislative regime addressing Modern Slavery. Centennial aims to use the reporting requirements of the legislation to take a genuine approach to mitigating risk, review existing systems, and improve social performance. Deloitte has been engaged to work with us to undertake a Modern Slavery Act (MSA) Readiness Assessment. The outcome of this is a three-year roadmap for human rights compliance and a foundation for practical action.

### A New Logo

Centennial is a well-regarded supplier of quality thermal coal, but after 30 years in operation, with more than eight of those as part of Banpu, 2019 ushers in the delivery of a new logo. We will continue to deliver the quality and service that our customers expect, but we will seek to more closely align with the Banpu brand as we set ourselves towards a future as a leading integrated-energy solutions company.







# Airly

## Highlights

- 1 Record-breaking year**  
Highest-recorded annual production of more than 906,000 tonnes.
- 2 Recruitment**  
Workforce grew by more than 50% including reaching our target of 20% recruitment of inexperienced local people.
- 3 Pivotal Change**  
Mining practices to include rib support on advance.
- 4 Improvement**  
Airly reached more than 530 lost time injury (LTI) free days.
- 5 Stewardship**  
No reports of community complaints, discharges and environmental harm, and continued local community support.
- 6 Investment**  
Significant investment made in subsidence monitoring of Mt Airly, the mine's first narrow panel extraction mining area.

### AREAS FOR FOCUS

Improvement in health and safety, requires continued leadership. The aim is to drive further improvement in recordable injuries statistics. This will be assisted by a reduction in manual handling through various capital projects in 2019.

Delivery of project milestones will also be a focus in 2019. The mine suffered significant time impacts caused by environmental approval delays, along with minor impacts from late overhauls and small project delivery, hence a renewed focus on project management.

*"2018 was our watershed year with the decision to change our mining practices to include rib support on advance. This significant change will be embedded for life of mine. This, together with a doubling of our workforce in preparation for the introduction of narrow panel extraction, will see Airly set to achieve its goals for the year ahead and beyond."*

— Dennis Wallace, Mine Manager





# Springvale

## Highlights

- 1 Mine Best**  
Monthly production record, 568,293 tonnes, in March. In excess of 12.6km of development achieved over the year.
- 2 Mining Programme**  
MATES in Mining initiative, focused on suicide prevention and mental health, progressed to the final stage.
- 3 Adaptive Management**  
Introduced an optimised roof and rib support programme for roadway development. Developed and introduced the Mining Supervisor's electronic reporting system. Commenced installation for introduction of the underground mining assistant (UMA) as part of the Digital Transformation process.
- 4 New Technology**  
Introduced CleanSpace Respirators to assist in the protection of operators from the hazards of airborne dust.  
Progressed the installation of real-time monitoring to proactively aid in the management of water and noise from surface operations.
- 5 Environmental Collaboration**  
Water Treatment project (facility and pipeline at Energy Australia) progressed, with completion scheduled for 2019. The result will enable Springvale to be a zero-discharge site.

### AREAS FOR FOCUS

Implementation of Digital Transformation initiatives at site is a key focus area for Springvale. This important enabler will assist agile decision making and enhance efficiencies to allow our workforce to help drive improved safety, environment and productivity performance.

Other focus areas are to continue the southern area exploration programme to validate accuracy of geological predictions and develop strategies to improve efficiencies when mining in known zones of lithological complexity.

*"2018 has been a significant year for Springvale in terms of change. We experienced exceptionally challenging geological conditions, but as a result gained valuable knowledge that will carry the mine forward into the future. Through adaptive and agile management, we successfully completed the extraction of the last of the longwall faces in the northern area with the transition of all mining activities into the southern blocks."*

— Brian Nicholls, Mine Manager



# Clarence

## Highlights

- 1 Mining and Development**  
FCT record 250 metres developed and supported in a 24-hour period (5,771 tonnes). Introduction of the BOSS 7 mining system resulted in an immediate improvement of productivity.
- 2 Committed Workforce**  
Positive acceptance by the workforce of rib-bolting processes and changes to processes and systems. Positive participation in mental health and workplace injury prevention initiatives.
- 3 Training**  
Completed Ethos health interactive workplace injury prevention assessment and training programme across all shifts and whole-of-workforce training in cable management standards.
- 4 Environmental Management**  
Upgrade of Water Treatment Plant facility towards compliance with tightened regulatory water quality discharge limits.
- 5 Sustainable Strategy**  
Developed detailed remediation strategy for REA 3 that includes resource recovery for sale, approved and supported by various government agencies, thereby reducing reject emplacement.

### AREAS FOR FOCUS

A significant strata-related safety incident occurred during the year, regrettably resulting in injury. Clarence has responded with a change in rib-bolting processes and systems. Further rib-bolting process improvements to reduce risk and increase productivity will take place during 2019.

Clarence also remains focused on:

- workplace injury reduction and mental health
- continuation with site water management improvement strategy in consultation with regulators
- improvement in housekeeping standards.

*"A difficult period ensued during the second half of the year as a result of a strata-related incident at the mine resulting in two employees being injured. Despite this unfortunate occurrence and a significant loss of production, focused leadership and innovative commitment from the workforce was particularly commendable. Clarence is in a sound position to achieve its goals for 2019."*

— Jacques Le Roux, Mine Manager



# Mandalong

## Highlights

- 1 Digital Transformation**  
Commenced a Digital Transformation to give greater real-time access to information and communication tools to drive improved performance. Diagnostic work showed Mandalong to be among the top quartile in the world, but has also highlighted opportunity for continued performance improvement.
- 2 Focused Management/Committed Workforce**  
Continued to work with task rotation, embedding the practice sustainably. Safely negotiated fault structure associated with longwall 25 development. Responded efficiently and safely to the challenging strata conditions during the latter part of longwall 24.
- 3 Recognition**  
Following our belief of promote from within, numerous people were promoted to deputies, undermanager and engineering co-ordinator roles; a succession planning success.
- 4 Gas Management**  
Further improvement to gas capture and flaring resulted in improved and effective control of the risk in the underground environment and record levels of methane destruction, minimising Mandalong's impact to the environment and providing a foundation for methane utilisation opportunities.

### AREAS FOR FOCUS

Refining systems for longwall changeovers for "step around" moves necessitated by the fault zone.

Continue to work on understanding injury mechanisms and designing them out of the business.

Reduce greenhouse emissions by maximising opportunities for gas capture and beneficial reuse.

*"During 2018, development for longwall extraction in the southern extension area was the main focus for the mine, with the first longwall to commence extraction in early 2019 as planned. This development has been challenged by the intersection of a previously undefined fault zone, but everyone at Mandalong worked together effectively to meet this challenge and negotiate this zone in a safe and efficient manner."*

— John Turner, Mine Manager





# Myuna

“Whilst each year has its challenges, 2018 was a very successful year for Myuna, with the full implementation of super panels to align with the mine’s long-term strategy. The mine achieved its highest level of production throughout its nearly 40 years of mining; this is a credit to the efforts of the workforce and management team.”

— Mal Yule, Mine Manager



## Highlights

- 1 Record Production**  
Produced 2.17MT in 2018, the highest production year in the history of the mine. Implemented the third super panel in accordance with our long-term strategy of placing bolter miners in the Fassifern seam.
- 2 Safety Improvement**  
Recorded significant improvement in injury rates, with a 12-month moving average lost time injury frequency rate of 10, down from 28 in 2017. Myuna’s innovative mining system and continual hazard awareness reinforcement have been important contributing factors in this reduction.
- 3 Innovation**  
Development of a monorail bracket to allow monorails and vent tubes to be installed without having to install mesh straps on the roof, thereby reducing manual handling risk and musculoskeletal injuries. The monorail bracket will be presented to the Banpu Innovation Conference 2019 in Bangkok.
- 4 Change Management**  
Implemented a roster change to improve productivity and long-term sustainability, facilitating the employment of an additional 56 personnel in pursuit of the full super panel strategy.
- 5 Heritage Management**  
Undertook a post-mining cultural heritage survey on Pulbah Island with local indigenous groups in accordance with Centennial’s Northern Region Aboriginal Cultural Heritage Management Plan. No mining-related impacts have been experienced due to the conservative pillar design.

AREAS FOR FOCUS

- Strive for zero harm and improve the overall health and safety of employees at the mine.
- Achieve the 2019 Business Plan production targets with full super panel operation in three production units.
- Achieve engineering availability targets in 2019 within the Engineering Strategic Plan for all equipment.
- Continue with the Centennial-Banpu strategy of Digital Transformation, including introduction of UMA for underground mining supervisors.
- Investigate feasibility and development of a digital continuous miner driver training package.



# Non-operating Sites



## Angus Place

*"Our team is small, but dynamic. A positive culture and a committed team continue to develop the operation in readiness for the future success of the business."*

**Terry O'Brien, Mine Manager**

Whilst Angus Place remained on "care and maintenance" during 2018, the mine site team was actively assessing future feasibility for mining. In preparation for re-commencement of full production whenever the business requires, several life-of-mine critical projects were completed to establish a solid base for the future. These projects included underground pumping from flooded goaf areas and the installation of a significant amount of secondary support among other key projects to effectively mitigate the major hazards at the mine (water and strata control). The outbye conveyors were re-commissioned to facilitate a housekeeping programme to clean up the mine and improve long-term efficiency. The increased pumping required an increase in discharge. To undertake that with minimal environmental impact, a reverse osmosis water treatment plant was commissioned, after relevant Project Approval modification, Environment Protection Licence and Mining Operations Plan (MOP) approvals were secured.

An 18-month plan was established in 2018 that provides a clear road map for future projects and challenges that need to be achieved to complete site preparation for an effective re-start of production. The transition from the feasibility project to full production will remain the primary objective for the year ahead and ensure no roadblocks impede implementation.

Although a small workforce is on site, safety and environmental management remain paramount. The mine finished the year with no lost time injuries (and 595 LTI free days at the end of 2018) and we sought to maintain effective stakeholder engagement with our local community. There were no environmental or community incidents recorded in 2018.



## Newstan

*"A sustainability mindset will underpin the planning and design of Newstan's new mining project from day one. We will propose a future-proof mine with a flexible, low-impact mining system, where cost-effective coal is extracted, energy is generated on site and greenhouse emissions are minimised."*

**Grant Watson, Mine Manager**

In 2014, Newstan, Centennial's oldest mine, was placed on care and maintenance in response to poor market conditions. Since that time, a small site workforce has remained in place to maintain mine integrity and standards as well as assess options to reopen the mine, should favourable conditions prevail.

In preparation for a more productive future, an approval was granted in 2018 to allow some first-workings mining and extend current planning approvals.

Any future mining beyond these first workings will be a brownfield project and be subject to rigorous environmental assessment. A feasibility study was completed to assist in internal decision making. This feasibility confirmed that any new project will be approached through the lens of a "sustainable mine". Options for alternative and renewable energy sources will be considered, whilst a small-scale solar trial (approved during 2018) will be deployed in 2019. A reduction in methane emissions has been achieved as a result of work done repairing and improving seals in the old workings.

A programme of exploration drilling was completed in 2018. Some capital works will be undertaken in 2019 to upgrade infrastructure critical to future access for mining. A small crew of underground workers were employed to start to prepare the mine for the future.

Although a small workforce, the mine still seeks excellence in safety performance and at the end of 2018, had not had an LTI since 2014. Environmental compliance is a priority and, disappointingly, 2018 saw some minor non-compliance of noise conditions. However the water treatment plant continues to operate successfully treating water discharges such that all are compliant and no exceedance of Environmental Protection Licence conditions occurred.



## Charbon – Rehabilitation

*"The Mine Closure and Rehabilitation Plan objective for Charbon is to provide a low-maintenance safe and stable final landform that returns the land disturbed to a native forest ecosystem, commensurate with the surrounding area and pre-mining condition. The closure design aims to facilitate beneficial post-mining landuse including future economic activity, conservation and or social use."*

**Bob Miller, Mine Manager**

Charbon is undergoing rehabilitation, where the focus of its small, high-performing team is on achieving maximum benefit from the application of the best technology available for an optimum final landform and delivering beneficial use of the site at least equal to that when we arrived. Whilst weather conditions have proved most favourable for the completion of earthworks and the maintenance of surface water controls, rainfall for the year remained well below average, resulting in some impact on vegetation growth.

Charbon's policy that reputation is a core contributor to its ongoing success has been drawn from effective engagement with stakeholders in seeking regular feedback on potential areas for improvement in the way we conduct our operations.

Commitment to the local community is embodied through employment of local contracting personnel for earthworks, environmental monitoring and the provision of essential services, in lieu of awarding contracts to larger companies. Experience gained over the past year has convinced the Charbon management team, that in terms of health, safety, environmental and productivity performance, the local team, with the support of Charbon specialist personnel is more than capable of delivering the project in a safe and efficient manner. With the key focus of our work being rehabilitation, other environmental matters are still prioritised. There have been significant improvements to water management, and no environmental incidents occurred in 2018.

Safety still remains our highest priority. At the end of 2018, the site further extended its record of no lost time injuries, exceeding 1,600 days.

We will continue to look at optimisation of the site in 2019, by considering alternative options and landuses to maximise stakeholder benefit.



# Performance Data

## People

People	2014	2015	2016	2017	2018
<b>Number of employees</b>					
Male	1,493	1,353	1,415	1,496	1,598
Female	59	56	58	63	68
Total	1,552	1,409	1,473	1,559	1,666
<b>Number of employees by employment category</b>					
Mine workers	712	630	645	689	739
Electrical Trades	149	133	139	148	159
Mechanical Trades	176	158	171	180	190
Washery	24	24	44	44	46
Deputies	147	131	134	143	152
Staff – Male	249	240	251	260	279
Staff – Female	51	51	51	57	62
Senior Management – Male	36	37	31	32	33
Senior Management – Female	8	5	7	6	6
<b>Number of employees by region</b>					
North	770	712	741	797	872
West	747	664	699	731	761
Sydney	35	33	33	31	33
<b>Number of employees by employment type</b>					
Permanent	1,533	1,397	1,415	1,488	1,592
Fixed term	1	0	46	57	62
Part time	18	12	12	14	12
<b>Employee Age Distribution (years)</b>					
Under 30	200	173	170	184	189
30-39	402	368	380	415	483
40-49	406	377	404	435	457
Over 50	544	491	519	525	537
<b>Number and rate of employee turnover by gender<sup>1</sup></b>					
Total number and per cent	286 (18%)	184 (13%)	51 (4%)	65 (4%)	76 (5%)
Male	279 (98%)	180 (98%)	50 (98%)	62 (95%)	71 (93%)
Female	7 (2%)	4 (2%)	1 (2%)	3 (5%)	5 (7%)
<b>Number and rate of employee turnover by age group</b>					
Under 30	42 (15%)	15 (8%)	13 (25%)	11 (17%)	6 (8%)
30-39	32 (11%)	28 (15%)	9 (18%)	10 (15%)	15 (20%)
40-49	39 (14%)	26 (14%)	8 (16%)	7 (11%)	8 (11%)
Over 50	173 (60%)	115 (63%)	21 (41%)	37 (57%)	47 (62%)
<b>Number and rate of employee turnover by region</b>					
North	136 (48%)	62 (34%)	21 (41%)	26 (40%)	42 (55%)
West	144 (50%)	117 (64%)	30 (59%)	34 (52%)	33 (43%)
Sydney	6 (2%)	5 (2%)	0 (0%)	5 (8%)	1 (1%)
<b>Number and rate of new employee hires by gender</b>					
Total number	46	22	108	150	185
Male	44 (96%)	20 (91%)	105 (97%)	142 (95%)	176 (95%)
Female	2 (4%)	2 (9%)	3 (3%)	8 (5%)	9 (5%)
<b>Number and rate of new employee hires by age group</b>					
Under 30	18 (39%)	11 (50%)	45 (42%)	60 (40%)	67 (36%)
30-39	17 (37%)	7 (32%)	27 (25%)	51 (34%)	72 (39%)
40-49	8 (17%)	3 (14%)	16 (15%)	27 (18%)	35 (19%)
Over 50	3 (7%)	1 (4%)	20 (18%)	12 (8%)	11 (6%)
<b>Number and rate of new employee hires by region</b>					
North	38 (83%)	11 (50%)	48 (44%)	81 (54%)	118 (64%)
West	8 (17%)	10 (49%)	60 (56%)	67 (45%)	66 (36%)
Sydney	0 (0%)	0 (0%)	0 (0%)	2 (1%)	1 (0%)



Performance Data

Environment

Energy	Unit	2014	2015	2016	2017	2018
Energy consumption – by fuel type						
Direct energy						
Diesel (Company and Contractor)	GJ	356,729	252,525	175,630	223,877	221,243
Petroleum Oils and Greases	GJ	53,700	46,310	41,376	40,221	48,015
Gasoline (Company)	GJ	4,706	3,819	4,046	3,444	3,669
Energy use (other) <sup>2</sup>	GJ	0	0	0	0	2,122,732
Indirect energy						
Electricity purchased (Company)	GJ	1,155,540	1,068,839	1,010,749	1,074,774	1,112,066
Energy intensity	GJ/ROM T	0.08	0.09	0.08	0.09	0.10
Greenhouse Gas Emissions (GHG)						
Direct GHG emissions <sup>3</sup>						
Scope 1 emissions						
CO <sub>2</sub>	Tonnes of CO <sub>2</sub> e	95,790	84,491	85,172	82,364	146,290
CH <sub>4</sub>	Tonnes of CO <sub>2</sub> e	1,733,414	1,495,085	1,800,277	2,419,853	2,336,521
N <sub>2</sub> O	Tonnes of CO <sub>2</sub> e	88	68	58	62	94
SF <sub>6</sub>	Tonnes of CO <sub>2</sub> e	38	42	39	36	36
Total Scope 1		1,829,330	1,579,686	1,885,546	2,502,315	2,482,940
Indirect GHG emissions <sup>3</sup>						
Scope 2 emissions						
Total GHG emissions (Scope 2)	Tonnes of CO <sub>2</sub> e	277,623	252,647	235,841	249,446	254,816
Direct and Indirect emissions						
Total scope 1 and Scope 2		2,106,953	1,832,333	2,121,387	2,751,761	2,737,628
Scope 1 & 2 intensity	CO <sub>2</sub> e/ROM T	0.11	0.12	0.14	0.19	0.20
Indirect GHG emissions <sup>4</sup>						
Scope 3 emissions						
Total GHG emissions (Scope 3)	Tonnes of CO <sub>2</sub> e	45,608,668	36,971,653	36,492,690	35,930,303	32,958,640
Air Quality						
Air emissions – by type						
NOx emission	Tonnes			230	190	190
SOx emission	Tonnes			0.2	0.13	0.12
Persistent organic pollutants (POP) emission	Tonnes			0	NA	NA
Volatile organic compounds (VOC) emission	Tonnes			26	25	19
Particulate matter (PM) emission	Tonnes			340	349	255
Water Input						
Water withdraw – by source						
Surface fresh water	ML	0	0	0	0	0
Salt/blackish water	ML	0	0	0	0	0
Ground water <sup>5</sup>	ML	4,052	4,230	1,433	1,533	994
Rain water	ML	150	47	52	48	84
Waste water from external organisation	ML	0	0	0	0	0
Municipal water	ML	640	655	634	544	601
Other source (please specify)	ML					0
Water recycled and reused	ML	329	232	155	521	3,669

Performance Data

Environment

Water Output						
Water discharged – by destination						
Surface water	ML	17,938	19,220	22,527	16,578	20,266
Compliance status of water quality						
pH	% Compliance status			99.5%	100.0%	100.0%
TSS	% Compliance status			99.3%	99.9%	100.0%
Fe	% Compliance status			100.0%	100.0%	100.0%
Mn	% Compliance status			100.0%	100.0%	100.0%
Arsenic	% Compliance status			79.4%	100.0%	100.0%
EC	% Compliance status				99.9%	98.0%
Cobalt	% Compliance status				99.9%	90.0%
Nickel	% Compliance status				99.9%	90.0%
Zinc	% Compliance status				99.9%	89.0%
Land	Unit	2014	2015	2016	2017	2018
Land disturbed and rehabilitated						
Amount of land owned	Hectare	16,197	16,042	15,958	15,335	12,375
Accumulated area disturbed	Hectare	1,007	1,038	1056	992	845
Area disturbed during the year	Hectare			1	19	9
Accumulated area rehabilitated	Hectare					354
Area rehabilitated during the year	Hectare	21	13	11	102	49
Biodiversity						
High biodiversity area & Biodiversity Management Plan (BMP)						
High biodiversity area						
Number of sites owned or operated by Company <sup>6</sup>	Site	6	6	5	10	10
Number of site operations located inside to protected area	Site			0	0	0
Number of site operations located adjacent to protected area	Site			0	1	1
Number of site operations that contain a portion of protected area	Site			5	9	9
Number of site operations located in relation to high biodiversity area outside protected area	Site				1	1
BMP implementation						
Sites operations implemented BMP	Site			3	5	10
Waste						
Hazardous waste – by disposal						
Reuse	Tonnes	0	0	0	0	0
Recycle	Tonnes	1,137	743	743	722	1,221
Landfill	Tonnes	0	0	0	0	0
On-site storage	Tonnes	2,032	1,326	2,532	2,256	4,005
Other	Tonnes	19	11	15	254	70
Non-hazardous waste – by disposal						
Reuse	Tonnes	0	0	0	0	0
Recycle	Tonnes	1,733	2,411	1,459	1,236	2,137
Landfill	Tonnes	2,909	2,509	2,404	2,372	2,678
On-site storage	Tonnes	0	0	0	0	0
Other	Tonnes	0	0	0	0	0
Transport of hazardous waste						
Hazardous waste transported						
Hazardous waste imported from external sources	Tonnes			0	0	0
Hazardous waste exported to external sources	Tonnes			758	976	1,291
Hazardous waste transported among the Company's sites	Tonnes			0	0	0
Hazardous waste treated						
Hazardous waste treated within Company	Tonnes			2,532	2,256	4,005
Hazardous waste treated outside Company	Tonnes			758	976	1,291



Performance Data

Environment

Tailings & Mineral Waste	Unit	2014	2015	2016	2017	2018
Tailings						
Tailings generated	Tonnes dry weight			322,843	333,596	295,066
Mineral waste (overburden)						
Total overburden generated	BCM	3,158,990	1,017,273	0	0	0
Potential Acid Forming (PAF) material generated	BCM			0	0	0
Significant spill – by material						
Tailings spill	Case	0	1	0	0	0
	Litre	0	180,150	0	0	0
Return on Environmental Investment						
Enviornmental expenditures and cost saving						
Capital investment	AUD	1.9M	0.6M	0.8M	1.2M	1.9M
Operating expense	AUD	11.1M	12.7M	13.0M	14.6M	31.5M
Compliance						
Enviornmental non-compliance <sup>7</sup>						
Significant fines/penalty (\$15,000 and above/case)	Case	2	1	2	2	0
	AUD	245,000	1,153,000	30,000	30,000	0
Non-monetary sanctions	Case			0	2	0
Case brought though dispute resolution mechanism				0	0	0

<sup>1</sup> Voluntary and retrenched employees.  
<sup>2</sup> Energy use from waste gas flared and vented from gas drainage plant.  
<sup>3</sup> Centennial currently uses Global Warming Potentials (GWP) from the Intergovernmental Panel on Climate Change (IPCC) Assessment Report 4 (AR4).  
<sup>4</sup> Scope 3 emissions have been calculated in line with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and includes processing of sold coal product only.  
<sup>5</sup> Mine water is classed as groundwater.  
<sup>6</sup> Definition of Centennial "operations" changed in 2017 to include both operating and non-operating sites.  
<sup>7</sup> Non-compliances are recorded against the year the incident occurred for consistency and not when a fine was levied.

Performance Data

Financial

Financial	2014	2015	2016	2017	2018
Saleable Production (million tonnes)	18	14.6	14.5	14.2	13.3
Sales Revenue (\$ million)	1,243	973	1,039	1,317	1,559
EBITDA – Earnings before interest, tax, depreciation & amortisation (\$ million)	246	131	177	343	347
NSW Government Royalty (\$ million)	87.6	69.0	67.0	84.5	87.2

Performance Data

Safety

Data	Unit	2014			2015			2016			2017			2018		
		Employee	Contractor	Combined	Employee	Contractor	Combined	Employee	Contractor	Combined	Employee	Contractor	Combined	Employee	Contractor	Combined
Fatal Injuries	Person	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lost Time Injury (LTI)	Person	37	6	43	22	1	23	37	0	37	28	7	35	23	2	25
Restricted Work Duty Injury (RWDI)	Person			0			0			0	104	16	120	112	5	117
Medical Treatment Injury (MTI)	Person										22	3	25	41	5	46
First Aid	Person			0			0			0	100	16	116	128	23	151
Near miss	Case			0			0			0	2	0	2	2	0	2
Total Recordable Injury (TRI)	Person	287	18	305	191	10	201	195	5	200	154	26	180	176	12	188
Working Time	People Hour	3,949,168	685,826	4,634,994	3,137,188	690,087	3,827,275	2,710,279	549,445	3,259,724	2,589,765	732,391	3,322,156	2,679,533	932,331	3,611,864
TRI Frequently Rate (TRI <sup>1</sup> FR)	Man/Million man-hour	72.67	26.25	65.80	60.88	14.49	52.52	71.95	9.10	61.35	59.46	35.50	54.18	65.68	12.87	50.90
LTI Frequency Rate (LTI <sup>1</sup> FR)	Man/Million man-hour	9.37	8.75	9.28	7.01	1.45	6.01	13.65	0.00	11.35	10.81	9.56	10.54	8.58	2.15	6.92
Lost Day	Day			0			0			0	2,969		2,969	2,585	43	2,628
Lost Time Rate	Day/million man hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,146.44	0.00	893.70	964.72	46.12	727.60
Occupational illness	Person			0			0			0			0			0
Total Recordable Occupational illness	Man/Million man-hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00





# Content Index

Disclosure	Description	Page	Detail
GRI 102: General Disclosures 2016			
Organisational Profile			
102-1	Name of the organisation	Front Cover	
102-2	Activities, brands, products, and services	4	
102-3	Location of headquarters	Back Cover	
102-4	Location of operations	4	
102-5	Ownership and legal form	4	ASIC - Statutory Accounts
102-6	Markets served	4	<a href="http://www.centennialcoal.com.au/about-us/who-we-are">http://www.centennialcoal.com.au/about-us/who-we-are</a>
102-7	Scale of the organisation	4	<a href="http://www.centennialcoal.com.au/about-us/who-we-are">http://www.centennialcoal.com.au/about-us/who-we-are</a>
102-8	Information on employees and other workers	20-22, 47	
102-9	Supply chain	15	
102-10	Significant changes to the organisation and its supply chain	—	Nil
102-11	Precautionary Principle or approach	11	
102-12	External initiatives	7, 33	
102-13	Membership of associations	—	<a href="http://www.centennialcoal.com.au/about-us/who-we-are">http://www.centennialcoal.com.au/about-us/who-we-are</a>
Strategy			
102-14	Statement from senior decision-maker	3	
102-15	Key impacts, risks, and opportunities	3, 7, 12-13, 15-33	
Ethics and Integrity			
102-16	Values, principles, standards, and norms of behaviour	5, 10	Code of Conduct and HR Policies are available to all employees on our intranet
102-17	Mechanisms for advice and concerns about ethics	20	
Governance			
102-18	Governance structure	11 and below	
Governance Structure			
	Roles & Responsibilities		
Board of Directors	Oversee and protect the Company, and enhance shareholder value while maintaining sound governance principles, awareness and responsiveness to social and environmental aspects.		
Board Committees			
Audit & Risk Committee	Assists the Board in fulfilling its responsibilities in relation to financial reporting, internal control structures, risk management and external audit functions.		
HSEC Committee	Assists the Board in fulfilling its responsibilities in relation to health, safety, environment and community (HSEC) matters; consider, assess and monitor whether or not the Company has in place the appropriate policies, standards, systems and resources required to meet the Company's HSEC commitments; provide necessary focus and guidance on HSEC matters through monitoring of regulations, performance and compliance.		
Remuneration	Considers and reviews, on behalf of the Board, the Company's remuneration arrangements and make recommendations to the Board.		



Content Index

Chief Executive Officer	Managing the Company's business operations, incorporating sustainability and an appropriate balance between business growth and social licence.		
Subsidiaries	The Centennial Group has about 30 subsidiaries, many of whom are single-purpose. Some are dormant. Each subsidiary has its own Board, made up of Executive Management. Each mine generally sits within a subsidiary.		
Management	Implements Board-approved strategy and guides the day-to-day operational functions of the business; identifies and oversees operational and corporate risk; ensures provision of sufficient, accurate and timely information relating to the organisation, its operations and business affairs, paying particular attention to corporate performance, fiscal state and prospects.		
Disclosure	Description	Page	Detail
Stakeholder Engagement			
102-40	List of stakeholder groups	23	
102-41	Collective bargaining agreements	—	77% of workforce covered by collective bargaining agreements
102-42	Identifying and selecting stakeholders	23	
102-43	Approach to stakeholder engagement	23	
102-44	Key topics and concerns raised	7, 24	
Reporting Practice			
102-45	Entities included in the consolidated financial statements	—	ASIC - Statutory Accounts
102-46	Defining report content and topic Boundaries	7	
102-47	List of material topics	7	
102-48	Restatements of information	—	Nil
102-49	Changes in reporting	—	Nil
102-50	Reporting period	2	
102-51	Date of most recent report	—	2017
102-52	Reporting cycle	2	
102-53	Contact point for questions regarding the report	—	Back Cover
102-54	Claims of reporting in accordance with the GRI Standards	2, Back Cover	
102-55	GRI content index	7	
102-56	External assurance	27, Back Cover	
Environment			
GRI 303: Water and Effluents 2018			
303-1	Interactions with water as a shared resource	28	
303-2	Management of water discharge-related impacts	28 - 30, 31	
303-3	Water withdrawal	28, 48	
303-4	Water discharge	28, 48	
303-5	Water consumption	28, 48	
GRI 304: Biodiversity 2016			
304-1	Operational sites owned, leased, managed, in or adjacent to, protected areas and areas of high biodiversity value outside protected areas	49	

Content Index

Disclosure	Description	Page	Detail
GRI 305: Emissions 2016			
305-1	Direct (Scope 1) GHG emissions	30, 48	
305-2	Energy indirect (Scope 2) GHG emissions	30, 48	
305-3	Other indirect (Scope 3) GHG emissions	48	
305-4	GHG emissions intensity	48	
305-5	Reduction of GHG emissions	8, 30	
305-6	Emissions of ozone-depleting substances (ODS)	—	NA
305-7	Nitrogen oxides (NOX), sulphur oxides (SOX), and other significant air emissions	48	
GRI 306: Effluents and Waste 2016 (only includes material issue of tailings)			
306-2	Waste by type and disposal method	49	
306-3	Significant spills	29, 50	
306-4	Transport of hazardous waste	49	
GRI 307: Environmental Compliance 2016			
307-1	Non-compliance with environmental laws	30, 50	
Social			
GRI 401: Employment 2016			
401-1	New employee hires and employee turnover	47	
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	—	Benefits are standard regardless of employment type.
401-3	Parental leave	—	50% of female employees and 100% of male employees returned after parental leave.
GRI 403: Occupational Health & Safety 2018			
403-1	Occupational health and safety management system	17	
403-2	Hazard identification, risk assessment and incident investigation	11	
403-4	Worker participation and consultation on occupational health and safety	17-18	
403-5	Worker training on occupational health and safety	17-18	
403-6	Promotion of worker health	18	
403-8	Workers covered by an Occupational Health and Safety Management System	17	
403-9	Work-related injuries	19, 51	
GRI 404: Training and Education 2016			
404-2	Programmes for upgrading employees skills	20	
404-3	Percentage of employees receiving regular performance and career development reviews		100% of employees
GRI 413: Local Communities 2016			
413-1	Operations with local community engagement, impact assessments and development programmes		100% of operations implemented local community engagement and impact assessments





## About this Report

This Sustainability Report references the GRI Standards. Centennial's greenhouse and energy data has been reasonably assured.

We plan to extend this assurance to other data sets in future reporting periods.

## Get in Touch

Your feedback and comments are welcome. To provide feedback, please email the sustainability team at: [sustainability@centennialcoal.com.au](mailto:sustainability@centennialcoal.com.au)

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