Natural wealth to enduring value, knowledge, and skill

YEAR IN REVIEW-2018

to the shareholders of Oyu Tolgoi LLC
Safety is the single most important priority at Oyu Tolgoi. If a job is not safe, we don’t do it that way.
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Forward-looking statements
This report contains forward-looking statements and information. Forward-looking statements and information relate to future events or future performance and reflect the Company’s current assumptions, expectations or beliefs regarding future events. Forward-looking statements are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from future results, performance or achievements expressed or implied by such statements or information. There can be no assurance that forward-looking statements or information will prove to be accurate. Readers are cautioned not to place undue reliance on such statements or information.
The Year at a glance

All Injury Frequency Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>AIFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>0.47</td>
</tr>
<tr>
<td>2015</td>
<td>0.33</td>
</tr>
<tr>
<td>2016</td>
<td>0.22</td>
</tr>
<tr>
<td>2017</td>
<td>0.21</td>
</tr>
<tr>
<td>2018</td>
<td>0.16</td>
</tr>
</tbody>
</table>

Oyu Tolgoi achieved a very strong safety performance, an AIFR of 0.16 per 200,000 work hours in 2018, which is its all-time best. This performance was achieved even though the workforce doubled year on year as the ramp up of the underground project progressed.

Concentrate Produced

<table>
<thead>
<tr>
<th>Year</th>
<th>Concentrate Produced (Dry Metric Tonnes, 000's)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>504</td>
</tr>
<tr>
<td>2015</td>
<td>788</td>
</tr>
<tr>
<td>2016</td>
<td>847</td>
</tr>
<tr>
<td>2017</td>
<td>723</td>
</tr>
<tr>
<td>2018</td>
<td>735</td>
</tr>
</tbody>
</table>

Concentrate produced was in line with 2017 as average copper concentrate grades were consistent year on year. Improvements in recovery were offset by lower throughput compared to 2017, a result of processing harder ore.

Concentrate sales

<table>
<thead>
<tr>
<th>Year</th>
<th>Concentrate sales (Dry metric Tonnes, 000's)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>734</td>
</tr>
<tr>
<td>2015</td>
<td>830</td>
</tr>
<tr>
<td>2016</td>
<td>829</td>
</tr>
<tr>
<td>2017</td>
<td>724</td>
</tr>
<tr>
<td>2018</td>
<td>735</td>
</tr>
</tbody>
</table>

Concentrate sales were higher in 2018 compared to 2017 and customer collection performance continued to improve in 2018, as the congestion at the border in December 2017 eased in 2018, allowing the build-up of inventory to be sold during the first half of the year.

Sustaining Capital

<table>
<thead>
<tr>
<th>Year</th>
<th>Sustaining Capital (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>200</td>
</tr>
<tr>
<td>2015</td>
<td>165</td>
</tr>
<tr>
<td>2016</td>
<td>125</td>
</tr>
<tr>
<td>2017</td>
<td>100</td>
</tr>
<tr>
<td>2018</td>
<td>82</td>
</tr>
</tbody>
</table>

Sustaining capital expenditure increased in 2018 due to the purchase of two haul trucks, increases in maintenance componentization, tailings storage facility construction, partially offset by lower capitalization of deferred stripping.

Development capital

<table>
<thead>
<tr>
<th>Year</th>
<th>Development capital (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1,200</td>
</tr>
<tr>
<td>2015</td>
<td>1,000</td>
</tr>
<tr>
<td>2016</td>
<td>800</td>
</tr>
<tr>
<td>2017</td>
<td>230</td>
</tr>
<tr>
<td>2018</td>
<td>1,900</td>
</tr>
</tbody>
</table>

Notwithstanding the delay to the overall project schedule, the Underground Project team have successfully managed many challenges during 2018. Several key facilities have been completed including Shaft 5, Underground support facilities, mine air heaters, shaft 2 slick lines, a 5,500 - person camp and Batch Plant 4.

Lateral development

During 2018, the underground team completed 10 kilometres of lateral development and at the end of the year project to date development was 18,057 equivalent metres. As lateral development continued, the Underground Project team learned more about the rock mass around and under the orebody and have access to more detailed geotechnical data than was available from surface drilling. This data reveals there are areas of the mine footprint where the strength of the rock mass is more variable than anticipated in the 2016 feasibility study. This will require some potentially significant changes to the design of some future elements of the development, and the development schedule.

With the structural, mechanical and electrical fit out of Shaft 2, it is now clear that the completion of this technically complex installation and commissioning work will be delayed by several months. Delayed completion of Shaft 2, which provides additional hoist capacity to accelerate lateral development, will further delay the date OT will reach sustainable production beyond the nine month delay presented to the OT Board in November 2018. Detailed design work is underway, as is the work necessary to estimate the impact on cost and schedule from design changes and the delay in commissioning Shaft 2.

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1 Summary financial information has been extracted from the audited financial statements of Oyu Tolgoi LLC for the years ended 31 December 2018, 2017, 2016, 2015 and 2014, which have been prepared in accordance with International Financial Reporting Standards (“IFRS”). Amounts reported reflect Oyu Tolgoi LLC as a standalone entity and may differ from amounts reported by Turquoise Hill Resources and Rio Tinto following consolidation adjustments and other differences in the application of accounting principles.
Between 2010 and the end of 2018, Oyu Tolgoi has brought $9.08 billion of funds onshore into the Mongolian banking system.

In the fourth quarter of 2018, Oyu Tolgoi was injury-free for 88 out of 92 days. An All Injury Frequency Rate was 0.16 as safety remains our top priority. The management is committed to reducing risk and injury.

In 2018, Oyu Tolgoi used an average of 0.4 cubic metres of water per tonne of ore processed – significantly better than the global average of 1.2 cubic metres per tonne, and achieved a recycling rate of 88 percent.

At the end of fourth quarter of 2018, 92.6 percent of Oyu Tolgoi’s workforce was Mongolian, of which 20.4 percent were from the Southgobi province. 58.1 percent of the entire workforce were underground project employees.

Education and training are major focus areas for Oyu Tolgoi. We are delivering our vision to create enduring value, knowledge and skills. Oyu Tolgoi has provided trainings of 904,641 man-hours to about 17,000 employees and contractors in 2018.

In 2018, Oyu Tolgoi continued to invest in sustainable, long term projects spending US$6.2 million.

Oyu Tolgoi collaborated with 898 suppliers in 2018, 618 of which are national businesses that account for 78 percent of total operations procurement spend. Between 2010 and 2018, Oyu Tolgoi spent US$2.7 billion on national procurement.

80 Southgobi suppliers provided goods and services to Oyu Tolgoi in 2018. Between 2010 and 2018, Oyu Tolgoi spent US$413 million on procurement from Southgobi.

Between 2010 and 2018, Oyu Tolgoi spent US$8.7 billion in-country in the form of salaries, payments to Mongolian suppliers, taxes, donation and other payments to the Government of Mongolia.
Board of Directors

Chairman

Mr. Batsukh Galsan
Director
Elected June 2010

Directors

Mr. Armando Torres
Director and Chief Executive Officer
Elected May 2017

Mr. Tumentsogt Tsevegmid
Director
Elected June 2018

Mr. Arnaud Soirat
Director
Elected September 2018

Ms. Enkhjargal Danzanbaljir
Director
October 2018 - April 2019

Mr. Bagabandi Natsag
Director
Re-elected September 2016

Mr. Elias Scafidas
Director
Elected September 2018

Mr. Ulf Quellmann
Director
Elected September 2018

Mr. Luke Colton
Director
Elected April 2018
Executive Team

**Mr. Armando Torres**  
Chief Executive Officer  
Appointed May 2017

**Mr. Marco Pires**  
Chief Development Officer, Underground  
Appointed March 2016

**Mr. Tim Eckersley**  
Operations Director  
Appointed January 2018

**Mr. Amarbayasgalan Dashnyam**  
Chief Counsel  
Appointed October 2014

**Ms. Dulamsuren Begzjav**  
General Manager, Strategic Projects and Commercial  
Appointed January 2018

**Mr. Michel Charron**  
Project Director, Underground Project  
Appointed June 2016

**Ms. Baigalmaa Shurka**  
General Manager, Communities  
Appointed July 2013

**Mr. Paul Mullins**  
Chief Financial Officer  
Appointed May 2017

**Ms. Laura Thomas**  
General Manager, People & Organisation  
Appointed May 2017

**Ms. Sunjidmaa Jamba**  
General Manager, External Affairs and Communications  
Appointed September 2018

**Mr. Murray Swyripa**  
General Manager Health, Safety, Environment and Security (HSE)  
Appointed June 2017

**Ms. Tserenkhuu Tserevsuren**  
Head of Corporate Affairs and Company Secretary  
Appointed August 2010
2018 has been not only a very productive year for our mine operation, but also another year of advancement in our underground development which will underpin the future prosperity of our business.

We have delivered tangible results for all of our shareholders through the sustainable and efficient operation of the open-pit mine and further advanced the underground development project. Oyu Tolgoi has firmly maintained its position as a safe and globally competitive mining company despite the volatilities observed in the commodity market.

In all aspects of our operation and underground development including social performance and corporate social responsibility, Oyu Tolgoi has made a huge effort in creating and sharing knowledge and skills with all key stakeholders and the Mongolian public. In June 2018, the Board approved the 10 year business development strategy of the company. The strategy defines the key priorities and the development path for the next 10 years. The key priorities include a strategic mine development plan, enhancing employees’ skills and capabilities, construction of a power plant, the development of partnership opportunities and the local workforce in the Southgobi province, the implementation of the marketing strategy and as well as the maintenance of our compliance framework.

Within this strategy, we have set goals to improve the working and living conditions of employees on site and in Khanbogd.

Our workforce continues to be highly engaged and committed to our business strategy of building a bigger and better Oyu Tolgoi. I am confident that the commitment of our people to our strategy will enable us to be one of the top global copper businesses in the near future. As a leading mining company in Mongolia, Oyu Tolgoi has significantly contributed to the country’s social and economic development through the payment of taxes, fees and royalties to the Government of Mongolia. We have created jobs, developed local suppliers and helped establish small and medium enterprises through our Made in Mongolia.
strategy; and supported local communities through the Community and Social Responsibility programmes and interventions. Our contribution to Mongolia was recognised this year as Oyu Tolgoi was awarded with one of the Top Ten Entrepreneurs, which is a highly recognised business award in Mongolia.

Our partnership with the South Gobi province has been truly productive this year. Together with the local community, we completed construction of various infrastructure necessary for the future development of Khanbogd under the Cooperation Agreement, which was first established in 2015 and is now in its third year of providing benefits to the communities surrounding Oyu Tolgoi, and South Gobi province as a whole.

2019 will be a very important year for Oyu Tolgoi. As we continue to ramp up development of the project, we will also continue to deliver value to our shareholders from operating the open pit sustainably. By leading by example and best practices, Oyu Tolgoi will continue to contribute substantially to the development of responsible mining in Mongolia for the benefit of both the Company and Mongolia in collaboration with all our stakeholders.

On behalf of the Oyu Tolgoi family, I would like to thank you all for your continued support, and I look forward to continuing to work together for shared results and values.

Ambassador Batsukh Galsan, Ph.D 
Chairman of the Board of Directors
Oyu Tolgoi had a very productive year in 2018 with great achievements in all aspects, from the great performance of our operations and from meeting our social obligations, to making good progress on the underground project which is all part of our continued journey of supporting the development of communities and Mongolia.

We continue to deliver on our key agreement commitments through our firm and consistent efforts for the benefit of all our stakeholders. Considering only 5 years of operations, Oyu Tolgoi is already considered a global benchmark on several business and social parameters and an important pillar for the development of Mongolia.

Our workforce has demonstrated a strong safety performance with an achievement of the All Injury Frequency Rate (AIFR) of 0.16 per 200,000 person hours against a target of 0.25. This is an all-time best performance and was achieved even though the workforce doubled year on year as the ramp up of the underground project progressed.

Despite the many challenges of operating a mine and developing an underground project in a remote location in the southern region of Mongolia, Oyu Tolgoi has maintained its strong focus on HSE activities. All employees have demonstrated high levels of engagement and rigor to meeting the HSE goals as we continue towards our overall goal of zero harm. We have also had a good exchange and sharing of our leading practices on safety via a MoU with Erdenet Mining Corporation.

Throughout 2018, construction of the underground project continued with the successful completion of several critical path assets, from fully commissioning of the ventilation shaft 5 to completing the sinking of Shaft 2, one of the largest shafts on the planet. The detailed engineering design work is near to be completed and overall construction reached the mark of 46% of progress. However, more detailed geotechnical information and difficult ground conditions have required a review of the mine design. This, combined with the technically complex fit-out and commissioning work on the main production and service shaft, is ultimately expected to result in a further revised ramp-up schedule and delayed sustainable production date beyond the nine months indicated in October 2018. Detailed estimates are being calculated to assess financial impact and amended schedule.

We have now also awarded $2.3 billion of project commitments to our local suppliers which is a great result and is above our original target. As well as exceeding our local supplier target, we have also established new alliances with international suppliers to help the development of our national underground mining capability.

2018 was also a year of progress with improvements to the productivity and development in skills of our workforce for Oyu Tolgoi. The focus of our Business Transformation Programme this year has been on delivering improvements in productivity and reductions in costs supporting the solid finance performance with very good free cash flow coming from open pit operations.
Significant efforts on human capital development were made and resources allocated to deliver quality training and up-skilling opportunities for our employees and contractors. A total of 904,641 man-hours of training on safety, compliance and technical areas were delivered at Oyu Tolgoi during the year. As of the fourth quarter of 2018, 92.6% of Oyu Tolgoi’s approximately 17,000 workforce were Mongolian, 20.4% of which were from the Southgobi province. 58.1% of the total workforce is now the underground workforce.

This year, “Made in Mongolia” strategy was implemented. It has been very successful with 90% of operational spend now with businesses which operate in Mongolia. The Southgobi province spend has grown from $0.5m in 2010 to over $126m in 2018 and several new businesses were developed.

We also maintained our world-class environmental performance, with only 0.4 cubic metres of water per tonne of ore processed – three times less, compared to similar operations worldwide and achieved an average water recycling rate of 88% in 2018.

With this outstanding environment performance, Oyu Tolgoi was awarded as the Best Water Saving Mine in the Voluntary Code of Practice Water Stewardship initiative by the International Finance Corporation jointly with key stakeholders in Mongolia.

Oyu Tolgoi has accomplished some significant milestones this year by continuing to partner with the local communities as provided for under the Cooperation Agreement. The milestones include the commissioning of the Khanbogd School and the Kindergarten complex which has capacity for 600 students and over 200 children, and the construction of the Inter-Soum Animal Healthcare Centre and the commissioning of the road from Khanbogd to the Oyu Tolgoi mine site. Also, contributions to social projects in Ulaanbaatar were delivered to initiatives supporting disabled people and safety training in schools.

Oyu Tolgoi remains one of the top tax payers in the country. We have paid $2.3 billion in Government taxes and fees between 2010 and 2018, including $200 million of taxes paid directly to the Government and $122 million of value added taxes paid on local purchases in 2018.

In the last month of the year, Oyu Tolgoi signed an agreement with the Government of Mongolia that sets out a pathway to construct a power plant, and so secure the long-term domestic power for the entire operation.

The Oyu Tolgoi family looks forward to 2019 which will be a crucial year. We need to sustain our rate of improvements into 2019 and continue to deliver on our commitments for benefits to our shareholders. We need to continue to progress the critical development of the main production and services shaft and continue to maximize local employment opportunities and leverage the skills developed through project execution.

We thank you sincerely for your continued support and commitment to Oyu Tolgoi as we strive towards making it one of the top global copper businesses and making a significant contribution to the prosperity of Mongolia.
Oyu Tolgoi LLC is owned by Turquoise Hill Resources Ltd (66%) and Erdenes Oyu Tolgoi LLC (34%). Erdenes Oyu Tolgoi is wholly owned by the Government of Mongolia. Turquoise Hill Resources is majority owned by Rio Tinto (51%). Since 2010, Rio Tinto has been providing strategic and operational management services to Oyu Tolgoi.

The Oyu Tolgoi mine site is approximately 550 kilometres south of Ulaanbaatar and 80 kilometres north of Mongolia’s border with China. The Oyu Tolgoi deposit was discovered in 2001.

Oyu Tolgoi is currently an open pit only operation with a concentrator and support infrastructure to process 100,000 tonnes of ore per day.

Development of the underground mine recommenced in mid-2016 and $4.3 billion of project finance was secured which is being used to develop the underground project. Once ramp up to full production is completed then it is expected that Oyu Tolgoi will be a globally competitive low cost producer and one of the top producers of copper in concentrates in the world.

Oyu Tolgoi sells its copper-gold concentrate to international customers through a combination of long-term and spot contracts.

In 2018, Oyu Tolgoi focused on five key areas - safety, people, partnership, cash and growth. Oyu Tolgoi remains in a strong position to meet continuing market challenges and deliver one of the largest mining projects in the world.

Company profile

Oyu Tolgoi is a world class mine in the Southgobi region of Mongolia and holds one of the largest undeveloped high grade copper deposits in the world.
## Our vision, our future

<table>
<thead>
<tr>
<th>Vision</th>
<th>Natural wealth to enduring value, knowledge and skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission</td>
<td>Together deliver a safe and globally competitive copper business that contributes to the prosperity of Mongolia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Values</th>
<th>Safety</th>
<th>Teamwork</th>
<th>Respect</th>
<th>Integrity</th>
<th>Excellence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Focus Areas

<table>
<thead>
<tr>
<th>Lead the mining industry in safety, and influence broader progress</th>
<th>Build a capable and highly engaged workforce</th>
<th>Optimize business performance, increasing efficiency through continuous improvement</th>
<th>Maintain a productive and positive relationship with stakeholders</th>
<th>Deliver the underground development on schedule, with a reliable ramp up, to secure the long term future of Oyu Tolgoi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain world class environmental performance</td>
<td>Ensure fairness in employment, build a more inclusive and diverse workplace</td>
<td>Build a learning organization with an embedded ‘Owner’s Mindset’ across the whole workforce</td>
<td>Support the creation of an empowered and sustainable local community, with an entrepreneurial Southgobi</td>
<td>Continue to develop customer relationships underpinned by sustainable value</td>
</tr>
<tr>
<td>Increase focus on developing talent pipeline</td>
<td></td>
<td></td>
<td>Develop a competitive and sustainable national supply chain</td>
<td>Develop a mine-to-market supply chain capable of delivering underground volumes safely and efficiently to market</td>
</tr>
</tbody>
</table>

Oyu Tolgoi was guided throughout the year by the company’s vision, mission, values, and strategic focus, known as Our Vision, Our Future. Introduced to the business at the start of 2015, Our Vision, Our Future encompasses a plan to deliver a safe and globally competitive copper business, which contributes to the prosperity of Mongolia and provides an appropriate return to shareholders.

Oyu Tolgoi has five values, which guide our behaviour and approach to doing business. These are respect, integrity, teamwork, accountability and excellence. Our Vision, Our Future also identifies five strategic areas, covering the focus of the business.

### Our five priorities
Performance

The copper price averaged $6,552 per tonne for the year, starting the year at $7,155 per tonne and plunging to $6,092 per tonne by the end of 2018, with slowing global economic growth and worries of a continuing trade war. Despite this, the average copper price during 2018 was higher than it was in 2017 due to the strong prices in the first half. Gold prices averaged $1,255 per troy ounce during the year, fluctuating from $1,263 per troy ounce at start of year to $1,246 per troy ounce at the end of 2018.


Sales revenue was higher than 2017 due to higher volumes of gold production, a result of the higher gold contained in ore processed during 2018 and due to the sell down of high December 2017 inventories, following easing of border congestion in 2018. Copper grade processed and concentrate produced were largely in line with 2017. Higher copper and gold prices received on sales also contributed to the increase in revenue.

Total material mined reduced from 106Mt in 2017 to 91Mt as the open pit advanced to deeper levels resulting in longer haulage cycle times. Mill throughput decreased by 6 percent to 38.7Mt in 2018 due to the processing of a higher ratio of harder ore.

<table>
<thead>
<tr>
<th>Financial Performance (US$m)</th>
<th>2018</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Revenue</td>
<td>1,180</td>
<td>940</td>
<td>1,203</td>
<td>1,635</td>
</tr>
<tr>
<td>Gross Profit Margin (%)</td>
<td>26</td>
<td>9</td>
<td>21</td>
<td>33</td>
</tr>
<tr>
<td>Sustaining capital expenditure</td>
<td>91</td>
<td>82</td>
<td>101</td>
<td>125</td>
</tr>
<tr>
<td>Development capital expenditure</td>
<td>1,242</td>
<td>852</td>
<td>230</td>
<td>-</td>
</tr>
<tr>
<td>Taxes, fees, and other payments to government</td>
<td>200</td>
<td>180</td>
<td>189</td>
<td>256</td>
</tr>
<tr>
<td>National procurement expenditure</td>
<td>899</td>
<td>657</td>
<td>333</td>
<td>291</td>
</tr>
<tr>
<td>Onshore spend</td>
<td>1,223</td>
<td>1,042</td>
<td>742</td>
<td>866</td>
</tr>
</tbody>
</table>

Summary financial information has been extracted or recalculated using information from the audited financial statements of Oyu Tolgoi LLC for the years ended 31 December 2018, 2017, 2016 and 2015, which have been prepared in accordance with International Financial reporting Standards (“IFRS”). Amounts reported reflect Oyu Tolgoi LLC as a standalone entity and may differ from amounts reported by Turquoise Hill Resources and Rio Tinto following consolidation adjustments and other differences in the application of accounting principles.
Oyu Tolgoi’s sales revenue of $1,180 million was $240 million higher than 2017 as a result of the increase in gold revenue. Production and sales volumes were higher than in 2017 due to higher grade gold bearing phases of the ore body being mined in 2018 and improved metal recovery.

Despite the lower material mined and milled ore, the gross profit margin of 29% in 2018 was an improvement on the 9% achieved in 2017 due to higher gold contained in concentrate.

Sustaining capital expenditure for existing mine and mill operations was $91 million in 2018, $9 million higher than in 2017. This was driven by the purchase of two new haul trucks and higher maintenance componentisation, a result of a condition based monitoring maintenance programme being adopted, and higher expenditure on tailings storage facility construction. This was partially offset by a decrease in deferred stripping expenditure due to the lower stripping ratios in 2018 when compared to 2017.

Capital expenditure included $1,233 million development capital expenditure in relation to the Oyu Tolgoi Underground Project following a ramp up of project activities during 2018.

Development capital expenditure on the underground project reached $2.3 billion since the approval of Notice to Proceed by the Board of Directors in May 2016. Project to date commitments of $3.1 billion include the award of almost $2.3 billion to local suppliers, which exceeds the original target of $1.4 billion set in 2016 and the 2018 target of $2 billion. We have engaged nine national contractors in construction to date and have achieved an 88% national workforce participation rate, well above expectations.

National spend (spend on majority Mongolian owned companies) and onshore spend (in-country spend in MNT) have continued to increase in 2018, result of our continued focus on developing and supporting Mongolian suppliers’ capability as well as ramp up in the underground project. National procurement increased by $243 million from 2017 reaching $899 million with on-shore spend reaching $1,223 million in 2018.

We remain committed to working closely with our local suppliers to identify further opportunities for them through 2019.

Taxes, fees and other payments made directly to the Government were $200 million in 2018, $20 million higher than in 2017. This is a result of higher royalty payments (2018: $65 million, 2017: $54 million) and an increase in customs and VAT payments, a result of the ramp up in expenditure of the underground project and higher withholding tax on loan interest payments ($234 million interest paid in 2018, $201 million in 2017).

During 2018, Oyu Tolgoi received $1,270 million (2017: $820 million) from related parties to finance underground construction and project finance interest payments. Funds of $515 million were drawn as equity and $755 million as shareholder debt (2017: $280 million equity and $540 million debt). The amount required to be called from related parties was lower than would otherwise have been required because cash flow generated from operations exceeded amounts spent on sustaining capital at existing operations. Total borrowings at the end of the year were $9.2 billion (2017: $8.0 billion).
Cost saving programmes

Our Business Transformation Programme has continued to deliver value in 2018.

The Business Transformation Programme focused on using an owner’s mindset to drive how Oyu Tolgoi identifies and implements business value. The programme includes revenue improvements, operating cost reductions, net working capital reductions and sustaining capital reductions.

$99 million of cash was delivered through a combination of cost saving and productivity initiatives in 2018, against baseline of 2016, the first year of the programme ($110 million in 2017). Major cost reduction programmes were reduction of copper treatment and refinery charge & lower freight differentials through improved contract negotiations, higher haul truck payload through number of payload improvement initiatives, and record mill utilisation through downtime reduction initiatives.
Supply chain

Since 2011, Oyu Tolgoi has developed and implemented dedicated policies to develop in-country supply chain solutions with a particular focus on the Southgobi aimag region. The programme has been very successful as 90% of operational spend is now with businesses which operate in Mongolia while the Southgobi spend has grown from $0.5 million in 2010 to over $126 million in 2018. Spend with national suppliers, which are majority owned by Mongolian citizens, now accounts for 78% of overall operational spend which brings the total spend with National suppliers to $2.7 billion since 2010.

Oyu Tolgoi continued to execute its “Made in Mongolia” strategy with the release of 17 dedicated expressions of interests, which openly called for proposals to source locally manufactured products rather than source internationally. There was a positive response with 11 new “Made in Mongolia” contracts signed worth a combined $2.3 million in annual spend, increasing the “In Country Value” from 15% to 60% whilst creating a more reliable and sustainable supply chain.

Key business community engagements for 2018 included:
› 7th annual Gobi Gem – Supplier Recognition Awards attended by more than 500 guests;
› Oyu Tolgoi’s first ever Supplier Expo showcasing to over 3,300 participants the contribution from Oyu Tolgoi and its suppliers to Mongolia;
› 16 information sessions held (10 in South Gobi and 6 in Ulaanbaatar) reaching 370 businesses, educating them on doing business with Oyu Tolgoi with a strong focus on business integrity; Implementing single points of contact and a feedback system with more than 1,100 enquiries in 2018; and
› Supplier Code of Conduct policy training provided to 505 individuals (400+ suppliers).

The Supplier Capacity Building Programme was successfully implemented with our partners GIZ (German International Collaboration Agency), International Finance Corporation, Southgobi aimag and Gobi Oyu Development Support Fund to help suppliers meet Oyu Tolgoi’s requirements to provide materials and services that meet the required HSE, business integrity, and human resources standards. Additionally, Oyu Tolgoi has entered into Supply Chain Financing agreements with major commercial banking institutions to help reduce interest rates and eliminate other fees for the benefit of suppliers.

The underground project achieved a major procurement milestone in December 2018 in regards to meeting national commitments. Prior to project commencement, 40% of the $3.6 billion estimated contracts were identified as being potentially accessible for national suppliers over the life of the project. As of year-end, the Project has been able to now identify and award over $2.2 billion to national contractors and suppliers, which is well in excess of the target.

Oyu Tolgoi remains committed to delivering on its commitment to broaden and realise direct opportunities for the Southgobi and surrounding community as part of its “Made in Mongolia” programme. In 2018 the contract for the supply of aftermarket support services for heavy mobile equipment was awarded to a Southgobi supplier. Since the formal project notice to proceed in May 2016, 73% of total project contract commitments have now been awarded to local entities.
Total National procurement spend

2018 was again a record year for National procurement spend with $439 million spent with National suppliers on Operations and $460 million spent in country on the Underground project.

Oyu Tolgoi collaborated with 898 suppliers in 2018, of which 618 were in country suppliers that accounted for 78% of total procurement spend. Oyu Tolgoi has spent $3.6 billion in country between 2010 and 2018.

Oyu Tolgoi procured goods and services from Southgobi suppliers worth $126 million in 2018 and $413 million between 2010 and 2018.
Caring for our people and environment
Caring for our people and environment

2018 Objectives
› Fatality risk elimination by embedding Critical Risk Management (CRM) through frontline leadership, improved quality of verifications and better use of data to focus leadership efforts
› Specific control focus on process safety in hazardous underground mine areas
› Implementation of process safety management (PSM) elements that comply with International Safety Standards
› Integrate safety processes into the handover of underground project infrastructure to operations
› Implementation of mental health awareness and well-being strategies, with a particular focus on the underground teams
› Continue compliance with all biodiversity commitments and focus on the key strategic areas of water and rehabilitation
› Enhancement of underground mines rescue and surface emergency response capability

Performance
We continued to implement our key strategic safety pillars:
› Fatality prevention (CRM);
› Catastrophic event prevention (PSM); and
› Injury reduction.
An AIFR of 0.16 per 200,000 person-hours was achieved against a target of 0.25. This performance was achieved despite a significant increase in total Oyu Tolgoi person-hours of 40% compared to 2017 from the ramp-up of the underground project.

Despite the many challenges of operating a mine and developing the Underground project in such a remote location, Oyu Tolgoi maintained focus on strategic HSE activities. The high level of engagement and rigour applied by everyone on site to HSE remains our number one focus as we strive towards our goal of zero harm.

Oyu Tolgoi successfully completed a number of key external reviews, audits and regulatory inspections throughout 2018, including:
› Rio Tinto HSES Standards audit;
› ISO HSE Management System re-certification; and
› International lenders’ audits.

The CRM programme, which focuses on risks that could result in a fatality, remained a strategic priority during 2018 for Oyu Tolgoi with a specific emphasis on frontline leader safety coaching (including contractors).

The CRM focus shifted from quantity to the quality of the verifications and to better use of data by establishing dynamic reports such as “question level data analysis” and “CRM action management”. The targets for Leadership participation and planned critical control verifications based on risk were met with Oyu Tolgoi completing almost 225,000 verifications, an improvement on 2017 and as a result, 12,000 CRM corrective actions were implemented to improve our management of fatality risks.

The management of process safety risk was another key focus area for 2018. To achieve this Oyu Tolgoi ensured all process safety hazards were identified and critical controls verified and monitored for effectiveness, with control owners and senior leaders completing over 500 process safety critical control verifications.
Health

2018 saw a full review of the Health, Medical and Occupational Hygiene systems at Oyu Tolgoi with a raft of changes implemented to streamline and improve their usability for both front line workers and management. Health CRM verifications have all been updated, translated and entered into the site system for tracking.

In 2018, health promotions at Oyu Tolgoi included: Mental Health and Wellbeing training, Fatigue management training and research project, Smoking Cessation Programme, Flu vaccination campaign (5,000 people vaccinated), implementation of a Wellness Committee and many others. Whilst there has been many initiatives completed in 2018 there is still more work to do to improve the management of our employees’ health in 2019, particularly given the integration of the underground project into the operations. The preparation work in the areas of health, medical and occupational hygiene is well underway.
Security

The site emergency response team continued to provide effective responses to emergencies on site. This team also provided support to the local community and rendered external assistance on request from local authorities. Good progress has been made in collaborating with emergency agencies at a soum, aimag and national level.

Significant work has been put into getting all emergency response teams upskilled to support underground development as well as surface construction activities. The Voluntary Principles on Security and Human Rights underpins all of our security operations and activities.
Environment

Responsible environmental management, and in particular, water, waste management, land rehabilitation and overall environmental compliance remain key focus areas.

For 2018, Oyu Tolgoi achieved an average of 88% water recycling efficiency, which resulted in significantly below average water use for the mining sector and year on year improvement since 2014.

Oyu Tolgoi has also successfully sealed and handed over to the local government 56 old exploration water bores. The company continued a comprehensive environmental monitoring programme by collaring 30 khulan and 20 goitered gazelle with satellite collars and completed 12.47 hectares of biological rehabilitation and 13.88 hectares of technical rehabilitation.

For the first time in Oyu Tolgoi’s history, we handed over 54 hectares of rehabilitated saxaul forest to local authorities which took 6 years to rehabilitate.

Offset projects that support our commitment to a positive impact on biodiversity in the Southgobi continue to progress with support from all stakeholders. Oyu Tolgoi has developed and begun to implement a long-term non-mineral waste management strategy that focusses on reducing the waste that goes to the landfill by increasing the re-usable and recyclable wastes (including initiatives to recycle with the local communities, and composting of food wastes).
Globally competitive operations
Open pit operation
Globally competitive operations

2018 Objectives

› To meet or exceed the annual budget target production range for 2018 which was between 125,000 and 155,000 tonnes of copper in concentrates and between 240,000 and 280,000 ounces of gold in concentrate
› Improvement in concentrator milling rates in anticipation of harder ore compared to previous year, annual mill throughput target of 37 million tonnes

2018 Performance

Despite lower grade, copper production of 159,060 tonnes and gold production of 285,425 ounces, exceeded the 2018 budget target ranges.

Expansion of the open pit in 2018 increased the hauling distance which contributed to a lower total material mined year-on-year. This was partially offset by an increase in truck payload. The uplift in payload delivered the best nominal payload performance in Rio Tinto. The material mined trend is depicted in the chart attached:

The concentrator mill throughput of 38.7 million tonnes was lower than 2017 but was a very good performance after taking into account two mill shuts in 2018 compared to one and the harder ore processed in 2018.

The improvement in concentrator throughput was made through a range of initiatives from mine to mill, such as:
› Controlled high energy blasting for finer fragmentation; implementation of blast induced movement measurement technology enabling better ore loss and dilution tracking;
› Effective haulage management to improve crusher throughput; continuing improvements in maintenance planning; mill automation by implementation of ‘expert’ systems in the milling, rougher and cleaner flotation circuits, and tail thickener;
› Improved quality and design of liner and grinding media; refinement of concentrate specification limits such as minimum copper grade as payable; and
› Completed successful laboratory test work and plant trials of metallurgically challenging ore.
Skilled workforce continuously learning
Prestart meeting, Power camp
Skilled workforce continuously learning

2018 Objectives
› Continue on-boarding and providing support for the underground project
› Up-skilling and improvement of technical knowledge and expertise of the national workforce
› Development and integration of modern technologies to improve training outcomes
› Improve access to training
› Continued engagement with the regional government to improve employability as well as to lay the foundation for the Khan Bogd town development
› Collaborate with Technical and Vocational Education Training (TVET) wide sector to improve national technical training capability and as a talent pipeline for the future

Performance

2018 was a year of innovation, process improvement and skills development for Oyu Tolgoi.

3,400 additional operational contractors and 4,300 underground contractors were on-boarded to Oyu Tolgoi in 2018. Significant efforts and resources were allocated to deliver quality training and up-skilling opportunities to Oyu Tolgoi employees and contractors. A total of 904,641 man-hours of training on safety, compliance and technical areas were delivered at Oyu Tolgoi.

A risk demonstration centre opened its doors at the Oyu Tolgoi Ulaanbaatar office in 2018. This state-of-the-art facility is designed to both deliver safety training and raise the public awareness of safety. The facility supports Oyu Tolgoi’s leadership in improving workplace safety in Mongolia.

Modern technologies such as Virtual Reality are increasingly being used to help to improve the effectiveness of our safety training and our training participants understanding of work hazards, risks and safety management.

352 operational tradesmen commenced training in their respective trades towards achieving internationally recognised Australian qualification Certificate III to operate and maintain a world class mine.

In addition, 130 concentrator operators continued training to become proficient in all areas of the concentrator plant. Oyu Tolgoi developed the training curriculum to be equivalent to Australian Certificate
Ill in metallurgy, which provides our operators with the opportunity to become accredited professionals in the plant operation.

We also trained 150 open pit and tailing storage facility operators as part of a Top Gun training programme to address specific gaps and shortages in skills impacting productivity and safety.

Oyu Tolgoi continues to support regional development by developing and supporting community training programmes. 176 local residents were trained in work-readiness and pre-apprenticeship training programmes, where 80% of graduates found employment at Oyu Tolgoi or contractor companies.

In 2018, our community training programmes were expanded to the Aimag centre in Dalanzadgad, to help improve access to training for the province and communities. Training programmes targeted at enhancing the awareness of safety hazards was conducted. In addition, 25 graduates progressed from pre-apprenticeship training to Oyu Tolgoi apprenticeship training which will help them progress towards obtaining full Australian trades qualification.

The Dalanzadgad Polytechnic College has successfully passed the requirements of Holmesglen College, an Australian registered training organization, which is a clear endorsement on the quality of training conducted and the potential for local development.
The Dalanzadgad Polytechnical College is now developing into a regional centre of excellence for trades training, particularly in welding and mechanical trades.

Oyu Tolgoi continued to support the TVET sector by partnering with the Ministry of Labour and Social Welfare of Mongolia and with international donor organizations such as the German International Collaboration Agency to improve the quality of trainers and training provisions provided. In 2017, the flagship programme of the partnership was the support of the World Skills Championship.

Oyu Tolgoi provided financial support for two employees to train and compete on a full time basis in the international events leading up to the final championship with successful results. This will be an ongoing initiative to not only help develop international recognition and appreciation of the quality of workers in Mongolia, but also to continue to build National Mongolian pride in the pursuit of trade qualifications.

Trainers from three centres of excellence – Dornod, Darkhan and Dalanzadgad Polytechnic Colleges were trained by Oyu Tolgoi and obtained international recognised qualifications and to further disseminate mining knowledge and skill.

The future pipeline of talent was also a focus during 2018. Oyu Tolgoi continued to support the development of a talented youth pipeline. In summary:

› Over a hundred high school students participated in the Oyu Tolgoi initiated Youth Development programme from Ulaanbaatar city and Khan Bogd soum. It is a soft skill training programme to develop and support young aspiring students from their high school years and into their tertiary education to become future Mongolian leaders. Since 2013, almost a thousand high school students have participated in this programme, both from Ulaanbaatar and Southgobi province areas.

› Oyu Tolgoi domestic scholarship programme provided financial assistance and development opportunities help Mongolian students obtain undergraduate degrees in mining-related fields at Mongolian universities. Scholarship for study in 2019 were awarded to 62 students and 30 scholars were selected to assist them to study in 2018. Since 2010, 260 domestic scholarships have been awarded.

› Oyu Tolgoi has awarded 30 international scholarships has since 2010 as per the Memorandum of Understanding between Oyu Tolgoi and the Ministry of Education of Culture and Science.

› Oyu Tolgoi initiated a scholarship programme for a further 25 master degree students to be disbursed over the next 5 years with the objective of building
underground mining capability and increasing Southgobi employment.

› Four industrial research projects were completed by students from Mongolian Institutions for Higher Education in concentrator maintenance and concentrator technical services areas. This programme will continue in 2019 with six research groups of three to five students per group from various universities completing important projects across Oyu Tolgoi.

› An initiative titled “Safe School” methodology was introduced to Khanbogd soum schools to improve the knowledge and skills of school staff to create schools free from bullying and unsafe learning conditions. This initiative helps to leverage, at a systemic level, the concepts of The Way We Work that is a core Oyu Tolgoi value.

› 14 graduates commenced employment in 2018. Since 2011, 128 young professionals upon graduation have obtained employment at Oyu Tolgoi. The Graduate Excellence programme focuses on building the Oyu Tolgoi’s leaders of the future.
Achieving with our stakeholders
The Khanbogd Soum Tri-Partite Council and CAO Dispute Resolution Process Meeting
Achieving with our stakeholders

2018 Objectives
› Evaluate the Resettlement Action Plan
› Local employment and procurement through implementation of the “Welcome to Khanbogd” strategy
› Implement the Cooperation Agreement and further promote sustainable development whilst ensuring implementation of projects through the Gobi Oyu Development Support Fund (DSF)
› Compliance to the Environmental and Social Impact Assessment requirements and completion of 10 year baseline review
› Support social groups who are most in need through corporate social responsibility interventions

Performance

The vision of Oyu Tolgoi’s work with communities is to maintain a strong social license to operate by identifying opportunities for sustainable community development and minimising social and environmental impacts. We do this by contributing to the economic, social and environmental development of the communities and maximizing opportunities for sustainable development while striving to do so in a way that reflects our company values. We work closely with our community partners, including continued implementation of projects under the Cooperation Agreement, which was signed in 2015 by the Southgobi aimag, Khanbogd soum and Oyu Tolgoi LLC.

During the year, Oyu Tolgoi completed an evaluation of the Resettlement Action and reported the findings of the evaluation to the displaced herder households, the Tripartite Council (TPC), local government authorities and third-party advisors. All displaced households indicated that they had received their compensation entitlements in full. Another key finding was that the majority of resettled households (81) now had economic livelihoods at a level above their 2011 baseline. The evaluation also found that the livelihoods of seven impoverished households had not been restored, and that an additional four households, whilst maintaining their livelihood, had only slightly increased their income when compared to 2011. The evaluation also found that five households with restored or improved livelihoods continued receiving water deliveries from Oyu Tolgoi in 2017 and 2018.

The Outcomes Evaluation report also recommended that Individual Herder Livelihood Improvement Plans (HLIPs) be established in 2019 for the 11 displaced households whose livelihoods have not improved and for the five households receiving water deliveries. Following active engagement and agreement with the herder representatives and soum authorities, compensation agreements have now been closed out following the full restoration of livelihoods and water self-sustainability of all compensated herder households.

The TPC and the Compensation Claims Committee decided to close the dispute resolution process as the...
implementation of measures to resolve the herders’ complaints filed with the Ombudsman Office in 2012 and 2013 is progressing sufficiently. This decision was made on 29 November 2018 as the implementation of measures reached 80%. Consequently, the Compliance Advisor Ombudsman will no longer monitor the process of resolving complaints or the mediation provided by the Ombudsman Office. The TPC members decision reflects the strong mutual trust established among the parties. In the future, the TPC’s activities will continue without the involvement of the Ombudsman Office.

Under the Cooperation Agreement, Oyu Tolgoi makes an annual contribution of $5 million to the Gobi Oyu Development Support Fund (DSF), an independent Fund that supports sustainable community development. Since inception of the DSF, Oyu Tolgoi has invested $15.2 million in 78 sustainable development projects and programmes which have resulted in the creation of more than 350 permanent jobs, provided benefits to over 240,000 community members and issued scholarships to 142 students, among many other achievements. With the DSF’s investment, a school and kindergarten complex at Khanbogd was constructed in 2018. The facilities include a sports hall, kitchen, day care centre and playground, with capacity for 840 children. Additional large projects initiated in 2018 with DSF support were a museum in Dalanzadgad soum and a health care centre in Mandal-Ovoo soum. Construction of both projects is expected to be completed in Q3 2019. DSF also provided $193,200 of micro loans to 21 entrepreneurs from Southgobi aimag in 2018.

In addition to the infrastructure projects implemented by DSF, Oyu Tolgoi has directly financed and completed the construction of 35km paved road between Oyu Tolgoi mine site and Khanbogd soum in 2018.

Since 2015, the United Nations Fund for Population Affairs and Oyu Tolgoi have been partnering to support young people in Khanbogd soum to realise their potential. Phase I of a “Youth Development Programme” has been running for 3 years between 2015-2017 and has reached more than 6,000 young
people and given them access to youth friendly health services, gender-based violence prevention, life-skills education, and inclusive participation on policies that impact young people. Phase II – "Accentuating the positive: youth for development in Khanbogd" launched in April 2018. Phase II will be implemented between 2018 and 2020 with a focus on providing a comprehensive education on reproductive and life-skills, as well as promoting youth entrepreneurship. The Southgobi baseline study will be carried out in collaboration with UNFPA and the National Statistical Office and will be completed by Q2 2019.

In 2018, Oyu Tolgoi continued its focus on contributing to the economic benefit of the community through local employment and procurement. At the end of the fourth quarter of 2018, 92.6% of Oyu Tolgoi’s workforce was Mongolian, of which 20.4% were from the Southgobi. Local employment provides substantial economic benefit for the Southgobi region.

Independent audits continued in 2018 assessing Oyu Tolgoi’s environmental and social management systems and performance against international standards. The results from these audit reports have been fully disclosed. In addition, the Government of Mongolia has an extensive compliance and assurance process, which requires audits to be conducted by provincial and national regulatory agencies each year. Any actions found as part of these processes are addressed and used to improve Oyu Tolgoi’s social and environmental performance.

Corporate Social Responsibility

Apart from sustainable development projects and programmes funded by Gobi Oyu Development Support Fund, Oyu Tolgoi supported 21 projects and programmes in Ulaanbaatar and other provinces outside of Southgobi as part of our corporate social responsibility in 2018.

As a part of this, Oyu Tolgoi donated to the Kidney Centre of the State Central Hospital #1 a Doppler ultrasound machine to help kidney diagnosing, at a cost of MNT67 million. With this ultrasound machine, Hospital #1 is now able to reduce the kidney diseases to a certain level and potentially save many lives. Moreover, patients can visit the facility for diagnosis without spending a large amount of money on seeking treatment overseas.

In August 2018, we worked with the National Emergency Management Agency and Australian Embassy in Mongolia to support an initiative to protect the health and safety of volunteer firefighters/rescuers. Specifically, Oyu Tolgoi funded “Let’s Rescue Our Rescuers”, a wildfire prevention project, initiated and implemented by participants from the Australia Awards Women’s Leadership Initiative. We were able to hand over fire-resistant safety clothing and tools to the rescuers from the Huder soum, Selenge province and Zaamar soum, Tuv provinces. The aims of the wildfire prevention project were to increase public awareness of wildfire prevention, improve the working conditions of the volunteer firefighters who battle wildfires on the front line and to support and encourage volunteers to join firefighting operations.

We have also supported 6 other projects aimed at improving the learning environment and development of disabled children and youth. Oyu Tolgoi-funded the successful implementation of a “Gerelt 25” project at Special School No. 25 which was first established in 1967 and now has over 250 disabled children. The project activities included the installation of an elevator, repair of the building interior and the provision of training aids and tools. The elevator was constructed and installed by Urmukh Khuch Engineering LLC with over MNT140 million of donated funds. The installation of the elevator has eliminated the need for parents and teachers to carry up and down stairs over 130 children who use wheelchairs.

Oyu Tolgoi also administers domestic and international scholarship programmes to assist in the education of talented Mongolian students.
Let's Rescue our Rescuers

Donation to NEMA

'Gerelt-25' project

Road safety project

Mother and Child Hospital
As of today, we have granted more than 1,000 scholarships at a cost of $4 million, of which $2.6 million has been spent on international scholarships.

36 students are currently studying abroad as part of our international scholarship which is aimed at developing Mongolian youths into globally competitive, skillful professionals. 21 are studying in Canada, 10 in the USA and 5 in Australia. The purpose of this year’s international scholarships is to support studies in local sustainable development, specifically in the fields of healthcare management, educational management and urban planning. After returning from their studies abroad, the students will be required to work in developing the local communities for at least 3 years in Khanbogd soum and Southgobi.

30 students were awarded domestic scholarships from Oyu Tolgoi for the academic year 2018-2019. The scholarships paid for the students’ tuition fees, monthly living allowance of MNT200,000, the cost of their dormitory or accommodation (for non-local students) and for the cost of their participation in Oyu Tolgoi’s Youth development programme and internship programme.

Oyu Tolgoi plans to fund another 25 scholarships for Masters level study in 2019 - 2022.

We have also implemented a Youth Development Programme, which is designed to develop high school students and further upskill Oyu Tolgoi scholarship recipients. Since 2013, a total of 994 high-school students and scholarship recipients have been trained in this programme.

128 young engineers and professionals have now completed the Graduate Excellence Path (GEP) Programme, which first started in 2011 and more than 70 have gained permanent employment at Oyu Tolgoi.
Youth Development Programme first training

Scholarship ceremony

Khanbogd School
Driving strategic growth
Driving strategic growth

2018 Objectives
› Continue to implement mining optimization systems and Lean in Construction to drive performance and productivity improvements
› Increase focus on Underground risks to achieve the next level in safety performance
› Construct the Oyut II camp to provide a global standard of accommodation for Project workforce
› Hand over critical facilities

Underground

The Oyu Tolgoi underground project (Underground Project) is a significant development project aiming to access and mine the high-grade orebody at the upper lift of Hugo North. Average copper grades of 1.66% are expected over the mine life.

The Underground Project involves sinking a total of 6.1 kilometres across five shafts and mining 203 kilometres of tunnel at a depth of 1.3 kilometres underground, with construction of associated crushing and materials handling infrastructure and surface facilities.

The Underground Project officially commenced in May 2016 after receiving formal notice to proceed from the board and shareholders of Oyu Tolgoi LLC following the signing of the Underground Mine Development and Financing Plan, which paved the way to securing project financing in 2015 to fund the Underground Project’s development. The total forecast capital spend for the underground project is $5.3 billion.
Throughout 2018, construction of the underground project continued with the successful completion of several critical path assets. The detailed engineering design work and overall construction is progressing. However, more detailed geotechnical information and difficult ground conditions have required a review of the mine design. This, combined with the technically complex fit-out and commissioning work on the main production and services shaft, is ultimately expected to result in a further revised ramp-up schedule to sustainable first production (beyond the nine month delay indicated in October 2018). Detailed estimates are being calculated to assess financial impact and amended schedule.

Work continues on critical Shaft 2 equipping activities, central heating plant, mine infrastructure, underground materials handling systems and on priority underground development. Pre sinking works for Shaft 3 and Shaft 4 have commenced.

Throughout 2018, the Underground Project construction continued with the commencement and completion of the construction of several critical path assets both above ground and underground. During the year, over 18 million hours of work was undertaken in construction related activities. Although 15 reportable injuries were recorded, an AIFR of 0.16 was achieved against a target of 0.31. This is an exceptional achievement given the challenges of a considerably complex construction environment, with many interacting contractors, and the mobilisation of 2,500 new personnel during the year.

The continued rollout of the Khamtdaa programme across the Underground Project helped to ensure that the diverse teams had a common set of values and a safety focus for their respective work along with a clear understanding of the business expectations of them as members of the Oyu Tolgoi project team. An extensive training programme was implemented for all personnel arriving at the Project site, covering topics from safety requirements, leadership, business improvement, to working underground and job-specific requirements. This training was necessary to ensure that every worker had the necessary skills and understanding required to safely and effectively deliver their respective contribution to construction activities on site.

By the end of 2018, the total Underground Project workforce had peaked at more than 9,400 people. The site based workforce was at 88% Mongolian, exceeding the original target of 60%. By the end of the year there were, on average, over 5,300 people working on construction related activities on site on any given day.

At the end of 2018, overall engineering progress was 97.2% complete. Engineering remains focused on supporting Shaft 2 completion, expediting outstanding design for Material Handling System Stage 2 engineering, Shaft 2 logistics, Shaft 3 and 4 ventilation design and supply, and vendor close-out.

The Underground Project is managed by the Oyu Tolgoi owner’s team with the support of experienced engineering, procurement and construction management specialists. Critical contracts awarded during 2018 totalled $1,146 million, of which $460 million has been awarded to local suppliers and service providers. Project to date commitments of $3.1 billion include the award of almost $2.2 billion to local suppliers, which exceeds the original target of $1.4 billion set in 2016 and the 2018 target of $2 billion. Of particular note, the Underground Project has successfully executed the procurement strategy and delivered diversification of the supplier base with new companies awarded contracts for the provision of services and supplies for underground development. Also new partnerships and joint ventures with International suppliers are contributing to the development of national underground mining capability.

Notwithstanding the delay to the overall project schedule, the Underground Project team have successfully managed many challenges during 2018. In early January 2018, the sinking of Shaft 2 to a final depth of 1,284 metres was completed. The equipping
of the shaft commenced shortly thereafter, with the sinking and lining of the 40 metre Bin 11 Ore facility progressing in parallel.

Shaft 5 sinking was completed in March to a final depth of 1,174 metres and the three Shaft 5 ventilation fans were commissioned in April. Shaft 5 provides additional ventilation to the underground enabling an increase in underground development and underground construction capacity.

By May, the completion of the end-to-end batch plant facility from quarry through concrete production and delivery system was completed by a Mongolian owned contractor, working over 1 million hours injury free. The first blast was carried out in the quarry in February, heralding the start of the onsite aggregate supply. The batch plant, which is the largest of its kind in Mongolia, is important as it provides all of the aggregate and concrete required for construction and mining for the life of the mine.

During the year, the Project team also delivered Oyu Tolgoi Camp II to alleviate accommodation constraints and to provide an improved standard of worker accommodation at site. At the end of November, the full camp facility with an installed capacity of 5,500 beds, was complete and available for occupancy. The key contracts for the pre-sinking earthworks, infrastructure and sinking for Shafts 3 and 4 were awarded, with the pre-sinking activities complete by year-end. Also awarded was a major contract for the Material Handling System, which will enable a key component of the mining infrastructure to be constructed through 2019.

The Lean in Construction (LinC) team delivered several value-adding initiatives through 2018. However, focus for the team was on improving productivity. Early in the year, work focused on Shaft 1 shift change and tag out procedures, along with improving the on-boarding processes to limit the time spent by people prior to working on site. In the latter part of the year, focus shifted towards supporting critical path work on Shaft 2 equipping through the implementation of tools to aid improvements in steel install cycle times, installation quality and action management. Furthermore, attention was focused on ensuring effective management of interacting work teams at the Central Heating Plant expansion towards achieving schedule improvements. Significant progress was also achieved by the Technical Services team. In particular,
real time communications systems were established to enable internet access and live video monitoring throughout the underground development. Moveable cameras now record progress and movements at all active work fronts, facilitating continuous management oversight of activities and providing real time opportunities to identify safety and productivity improvements.

Underground development achieved a project to date total of 18,057 equivalent metres to the end of the year. During 2018, the team completed nearly 10 kilometres of lateral development.

In support of the underground development, significant resources have been directed towards the installation and implementation of an extensive geotechnical monitoring system. The system measures and records the orebody characteristics and the geotechnical specifics of ground conditions being mined. Underground development is now progressing through the mining footprint and based on the data being generated, actual conditions are consistent with what was predicted through early modelling. Much of the geotechnical monitoring system is now functional and includes seismic monitoring, open-hole monitoring, displacement and crack-monitoring, quarterly whole-of-mine mapping and convergence-monitoring. A Cave tracker will be installed and implemented which will enable continuous monitoring of the ore movements through the draw bells once production commences, to support real time decision making.

Throughout 2018 the business focused significant effort on defining and planning the transition of Mining teams from the Project to the Operations team. Fortunately, the ongoing skills development and business capacity building of in-country underground mining capability, supported through the Project, will enable many employment opportunities and contracts to continue seamlessly into operations. This transition work will continue through 2019 to ensure not only that the Project prepares the assets for seamless handover but also that Operations is ready to receive the assets in handover.
Power and Infrastructure

Power

After extensive negotiations between the Government of Mongolia (the Government) and Oyu Tolgoi, the Power Source Framework Agreement (PSFA) was signed by the parties on 31 December 2018. The PSFA sets out the pathway for Oyu Tolgoi to construct the Tavan Tolgoi Power Project (TTPP) and to secure a long-term domestic power solution for the operation, including the underground mine.

The PSFA reflects the Government’s strong preference for Oyu Tolgoi to develop a power plant at the Tavan Tolgoi coalfields instead of the Oyu Tolgoi mine site. To expedite the TTPP development process, the PSFA enables Oyu Tolgoi to step into and take majority ownership of the existing TTPP project owned by Tavantolgoi Tsakhilgaan Stants LLC (TTS LLC, a subsidiary of MCS Holdings) and to develop a 300 megawatt coal power plant. To ensure reliable supply to Oyu Tolgoi and subject to negotiation with Oyu Tolgoi’s current energy provider, TTPP would be backed-up by power imported by the Mongolian national grid until such time the Mongolian grid is able to provide a reliable domestic back-up solution.

Construction of the TTPP is scheduled to start in 2020 provided that extensive studies and commercial negotiations between the parties succeed. Commissioning of the TTPP is expected in 2023. This indicative timeline assumes prompt and successful conclusion of all the required commercial arrangements, including agreement with the Government on the financing for the project, and timely receipt of all the necessary approvals, permits and licenses from the Government and other stakeholders.

In addition to the power plant at Tavan Tolgoi, Oyu Tolgoi and the Government will work together to assess the potential for Oyu Tolgoi to purchase some power from the Mongolian national grid. As provided in the PSFA, Oyu Tolgoi will also investigate the potential to utilise renewable power sources as part of its overall supply solution.
Logistics to market

Oyu Tolgoi’s current production capacity is ~800 ktpa and it will increase to over 2 Mtpa once the underground project is fully commissioned. Concentrate is trucked to the Mongolian/Chinese border at Gashuunsukhait / Gantsmod. Oyu Tolgoi continues to engage with different stakeholders to improve the safety and efficiency of the concentrate shipment process and to serve, in a timely manner, its customers today and in the future.

Developing new markets

Oyu Tolgoi pursued building its market position throughout 2018 by setting and implementing the contracting strategy approved by the Board. Negotiations of spot and long-term contracts gave the Marketing team the opportunity to improve price and value, to achieve a balanced and diversified portfolio, and to pursue the development of our customer portfolio to achieve full value for the pending ramp-up in underground volumes.

As part of its obligations under the 2012 Framework agreement with the Bayannur regional government (Inner Mongolia), Oyu Tolgoi and Feishang smelter executed the first year of the five-year long-term contract through close partnership on diverse commercial fronts.

In 2018, two trial lots were successfully delivered to customers located outside China.
Looking forward to 2019

Focus for 2019
› Maintain World class safety performance
› Continue Underground Project Development
› Progress Power Station Solution
› Maximise cash flow from the existing operation
› Complete the definitive estimate to review of the underground project cost and schedule by year end

The search for further initiatives to enhance the competitiveness of our operations will remain a key priority to ensure that Oyu Tolgoi’s open pit operation remains cash flow positive in any market environment.
Appendices

List of Board, Committee and Shareholder meetings 2018

Meeting of Shareholders
Shareholders’ Meeting No.15 – 26 April 2018 (AGM)

Regular meeting of the Board of Directors
Meeting No. 32 – 6 March 2018
Meeting No. 33 – 6 June 2018
Meeting No. 34 – 12 September 2018
Meeting No. 35 – 28 November 2018

Special meeting of the Board of Directors
Meeting No. 26 – 4 July 2018

Audit and Finance Committee (AFC) meeting
AFC Meeting No. 31 – 5 March 2018
AFC Meeting No. 32 – 5 June 2018
AFC Meeting No. 33 – 11 September 2018
AFC Meeting No. 34 – 27 November 2018

Operation Committee (OpCo) meeting
OpCo Meeting No. 28 – 5 March 2018
OpCo Meeting No. 29 – 5 June 2018
OpCo Meeting No. 30 – 11 September 2018
OpCo Meeting No. 31 – 27 November 2018

Human Resources and Training Committee (HRTC) meeting
HRTC Meeting No. 30 – 5 March 2018
HRTC Meeting No. 31 – 5 June 2018
HRTC Meeting No. 32 – 11 September 2018
HRTC Meeting No. 33 – 27 November 2018

Partnership Committee (PC) meeting
PC Meeting No. 3 – 5 March 2018
PC Meeting No. 4 – 5 June 2018
PC Meeting No. 5 – 11 September 2018
PC Meeting No. 6 – 27 November 2018
Monnis tower, Chinggis avenue, Sukhbaatar district, Ulaanbaatar - 14240, Mongolia, www.ot.mn