



XANADU MINES



Sustainability Report **2020**

FORWARD-LOOKING STATEMENTS

This document contains **forward-looking statements**, which are based on certain assumptions and analyses made by the Company derived from its experience and perceptions. The forward-looking statements in this document are subject to important risks, uncertainties, and assumptions, which are difficult to predict and which may affect the Company's operations that may include, amongst other things, statements regarding targets, estimates and assumptions in respect of mineral reserves and mineral resources and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions. These forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Xanadu, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies and involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements. The words **believe, expect, anticipate, indicate, contemplate, target, plan, intends, continue, budget, estimate, may, will, schedule** and similar expressions identify forward-looking statements. The forward-looking statements included in this document are made as of the date of this document and other than as required by law, the Company disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.



In this report

03

Messages from the
Chairman and CEO

20

Sustainability
Governance

42

Caring for the
Environment

06

Company Profile

29

Sustainability
Frameworks

48

Supporting Our
Communities

13

Statement
of Values

32

Climate Change

55

Corporate
Directory

14

About This
Report

38

Promoting a
Safe Workplace





Message from the Chairman

Dear Reader,

On behalf of the Board of Xanadu Mines, I am pleased to present our first Sustainability Report.

This report recognises the growing focus on and importance of sustainability on the business of exploration and development. This is particularly important for globally significant copper districts, such as Xanadu's Kharmagtai and Red Mountain projects.

Project owners must consider and integrate sustainability principles to earn and maintain their social license to operate. This means demonstrating to host governments, communities and capital markets that they are responsible corporate citizens and understand the impact their business can have on the people and environment where we operate.

Xanadu believes that a strong sustainability mindset is fundamental in early, exploration stages of the mining lifecycle to facilitate successful transition to operating mines of the future. We are setting up those systems and baselines now, both for our current operations and to move our projects into the next stage of development.

Yours faithfully,



Colin Moorhead

Chair



Message from the CEO

Dear Reader,

Xanadu's Management are excited to present our 2020 Sustainability Report, built on our company values and our aim to be a leader in safe, environmentally conscious and socially responsible exploration.

This report signals a change in the way we view sustainability, as we evolve from our current foundation of doing the right thing into a more integrated, sustainable focus across our business.

It is important to acknowledge that Xanadu has operated safely and effectively, with limited interruption, through the COVID-19 pandemic. This outcome highlights some key sustainability achievements:

- Health and safety programs with immunisation support for our workforce and their families;
- Risk-based supply chain management, isolation and quarantine systems at our operations; and,
- Effective people development, with a 100% Mongolian team in country, demonstrating skills and capabilities to operate safely and independently for an extended period.

Relationships with our host communities in the Gobi Desert remain strong, and we maintain ongoing programs to access clean ground water, develop small businesses, provide medical support and educational assistance.

Looking forward, Xanadu is using technology to improve our environmental and social impacts as projects transition across the value chain into production.

As an example, the Kharmagtai scoping study includes design of a modern cave and processing facility project that minimises energy and natural resource use, environmental impact, and risk to health and safety.

I would like to acknowledge and thank our staff, contractors, and partners for their ongoing contributions, and I look forward to taking the next step together in our sustainability journey.

Yours faithfully,



Dr. Andrew Stewart

CEO and Executive Director



“

This report signals a change in the way we view sustainability, as we evolve from our current foundation of doing the right thing into a more integrated, sustainable focus across our business.



An aerial photograph of a mining operation in a vast, arid desert landscape. The terrain is characterized by rolling sand dunes and deep, winding erosion channels. In the lower right quadrant, a mining facility is visible, featuring several large, cylindrical storage tanks, various industrial buildings, and a network of roads. The sky above is a clear, deep blue, transitioning into a warm orange and red glow from the setting or rising sun, which casts long, soft shadows across the desert floor.

**Xanadu Mines Limited
is an exploration
company that discovers
and defines globally
significant porphyry
copper-gold deposits
in Mongolia.**

We leverage the experience and relationships developed in-country to deliver low-cost discovery and resource growth.



Company Profile

Our position in Mongolia is a strategic advantage, with:

- **Scale:** Multiple globally significant discoveries, still underexplored.
- **Location:** Close to copper smelters in Japan, South Korea and China, with significant land area and sparse population.
- **Infrastructure:** Established grid power, roads, rail and water supply nearby enable short time-to-production and low capital development intensity.
- **Educated Mining Culture:** Able to draw on significant mining expertise in-country, with mining representing 23% of GDP and 70% of export revenues, and >40,000 Mongolian mining professionals in the national workforce, per Institute of Economics of the National University of Mongolia¹.
- **Competitive regulatory regime:** International investment agreements for mining.
- **Stable and democratic:** Supported by a 30-year history of democratic elections.

¹ Investment Monitor, Mining Vulnerability Index 2021, Mongolia and Australia among countries that will suffer the most in a mining downturn.



employees & contractors

Xanadu is led by an experienced team of exploration and mining professionals who have a track record of discovery and value creation.

We create value for our shareholders by:

Giving exposure to large-scale copper-gold discoveries in Mongolia; and,

**Delivering low
cost discovery and
inventory growth**

Progressing projects from Discovery towards Pre-Feasibility

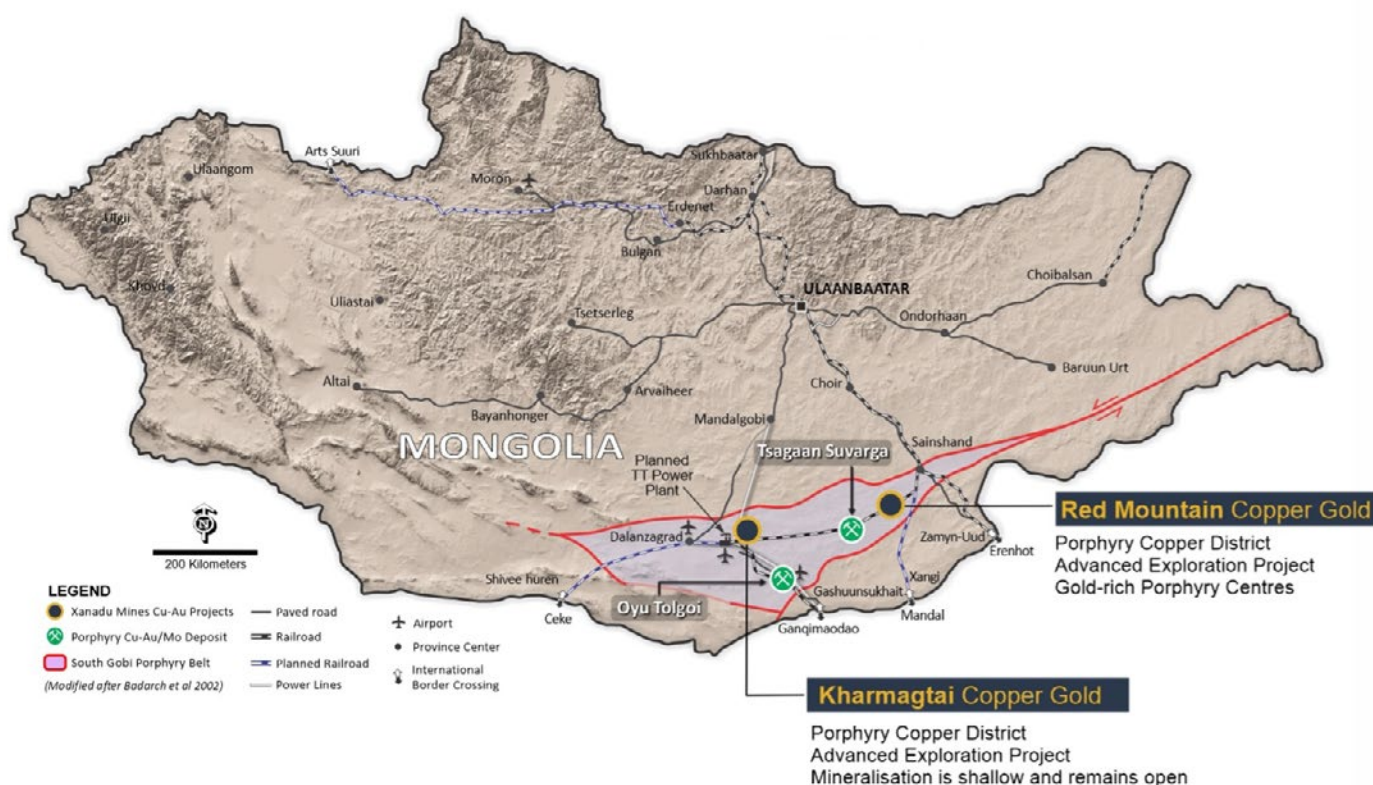


Figure 1: Location of Xanadu's copper-gold projects, within Mongolia's highly mineralised and vastly underexplored mineral belts.

Xanadu's key projects in Mongolia include:

Kharmagtai District (Xanadu 76.5%)

The flagship Kharmagtai District has continued to emerge as one of the premier undeveloped copper and gold assets globally. Kharmagtai is a highly prospective copper-gold porphyry district, located within the Omnogovi Province, approximately 420 kilometres southeast of Ulaanbaatar and 120 kilometres north of the Rio Tinto-controlled Oyu Tolgoi deposit.

There are three styles of mineralisation at Kharmagtai; porphyry style stockwork Cu-Au mineralisation, tourmaline breccia style Cu-Au mineralisation and epithermal gold associated with carbonate base metal veins. Kharmagtai currently has a JORC Compliant Mineral Resource Estimate of 600Mt containing 2.6Mt copper equivalent (1.9Mt copper and 4.3Moz of gold) and is actively exploring to drive growth in this resource².

² ASX/TSX Announcement 31 October 2018 - Major Increase in Kharmagtai Open-Cut Resource to 1.9Mt Cu & 4.3Moz Au



Red Mountain District (Xanadu 90%)

The Red Mountain copper-gold district is located in the Dornogovi Province of southern Mongolia, approximately 70 kilometres west of the planned industrial centre of Sainshand. Red Mountain is a highly prospective and underexplored porphyry copper-gold district, comprising approximately 40 square kilometres. Its geology consists of multiple co-genetic porphyry copper-gold centres, mineralised tourmaline breccia pipes and copper-gold/base metal magnetite skarns.



Development and Technology

At Xanadu, we are committed to using modern, contemporary exploration methods to minimise our sustainability footprint and to remain at the forefront of our industry.

This includes the use of modern geophysical tools to identify targets better and reduce the number of drill holes, energy and resource consumption to make a discovery.

Once drilling commences, Xanadu uses advanced, multi-spectrum core scanning technology to pull the maximum amount of data from each drill hole.

Artificial intelligence and machine learning are used to analyse the data and determine chemical composition, geological structure, geotechnical and geo-metallurgical characteristics. This analysis enables effective exploration with the least drilling and sustainability impact.

As Xanadu develops its exploration projects from discovery into study phases, we use technology and contemporary design to optimise safety and health outcomes and minimise environmental footprint, to enable modern and productive mines of the future.



Statement of Values

The Xanadu Board has established a *Statement of Values*, which are the guiding principles for what Xanadu aspires to be, setting the standard required by the Board from its directors, senior executives, and employees to achieve that aspiration.

Xanadu's Values create a link between the Company's purpose and its strategic goals, by expressing the standards and behaviours the Board expects from its directors, senior executives and employees to fulfill its purpose and meet its goals.

There are five values that guide how we work:



SUSTAINABILITY

We are good corporate citizens and neighbours to our partners in Mongolia. We operate and explore in a way that keeps our team safe, cares for the environment, and supports the communities where we operate.



INTEGRITY AND HONESTY

We understand our reputation is our most valuable asset.



SCIENTIFIC BASIS

We apply good science to everything we do.



DISCIPLINED CAPITAL MANAGEMENT

We behave as owners and emphasise long-term value creation over short-term gains.



CULTURE AND PERFORMANCE

We value technical excellence and innovation, and we aim to attract and retain the best people for jobs at all levels.

We lead by example, supporting each other to act with integrity, be accountable, and consistently live our values every day.

This is Xanadu's first Sustainability Report, outlining our environmental performance, social impact and corporate governance, and setting a benchmark for future reports.

We believe that sustainability principles should be embedded in all stages of the mine lifecycle, and we seek to lead this mindset as an exploration company.



About this Report

This report covers Xanadu's activities during the 2020 calendar year (1 January 2020 to 31 December 2020).

As an ASX-listed company, we acknowledge ASX's Corporate Governance Principles and Recommendations, and draw on leading industry frameworks and processes (such as the GRI Standards and ICMM's Sustainable Development Framework) for progressively reporting on this information in the coming years.

As part of this approach, we conducted our first materiality assessment to help define the scope of this report. We have adopted Accountability's Five-Part Materiality Test to help identify and prioritise our most material sustainability aspects to Xanadu and our key stakeholders. Further information on our key stakeholders is outlined in the sub-section below.



Figure 2: Materiality approach using Accountability's Five-Part Materiality Test to define our most material issues.

Research:

In determining our most material aspects, we researched and reviewed several inputs. These include an internal document review (*i.e. policies, risk register*), a media scan, peer benchmarking, and internal stakeholder discussions.

Prioritise:

This information was then consolidated, streamlined and prioritised on our risk matrix (*Figure 3*) to identify our most material risks.

Validate:

An internal workshop was held to validate these risks, with the risks of highest importance disclosed in this report.

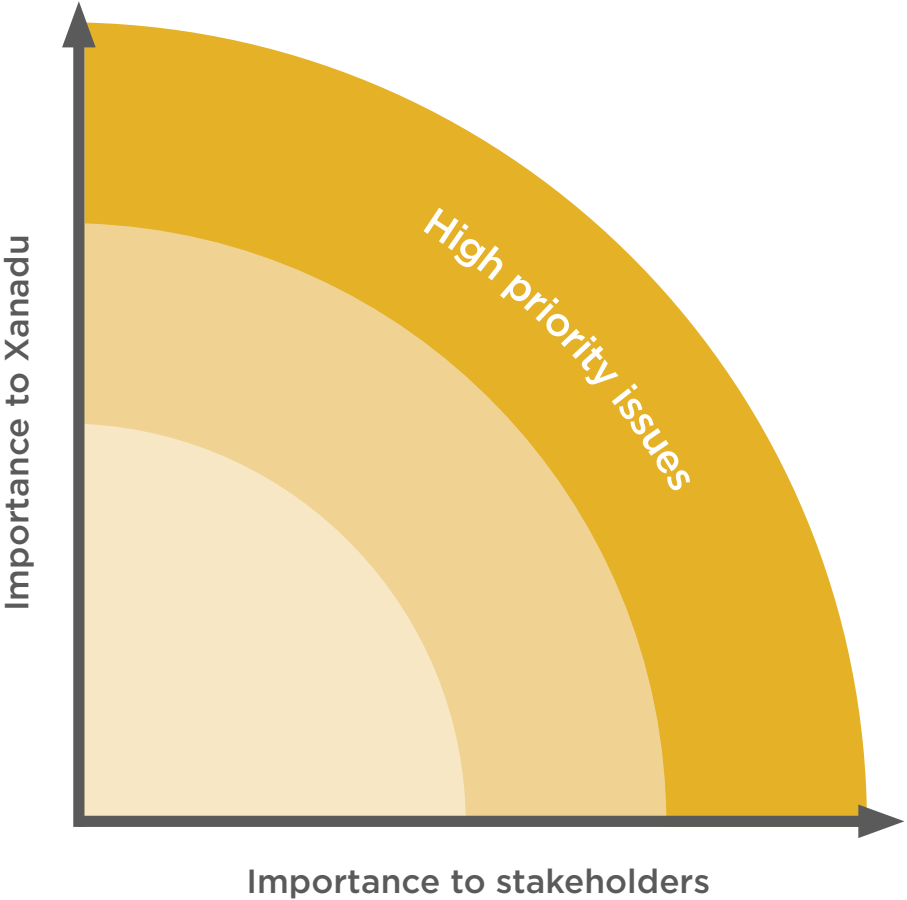


Figure 3: Xanadu's risk matrix for rating sustainability risks of importance to the business and key stakeholders.



Xanadu's material issues of highest importance are listed below, aligned to the Sustainable Development Goals that are considered most applicable.

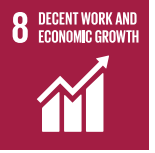
HIGH MATERIAL ISSUE	SUSTAINABLE DEVELOPMENT GOAL	PAGE REFERENCE
Conducting business ethically and transparently		26
Climate change		32
Safety and health	 	38
Environmental management	 	42
Water management		44
Managing our land and biodiversity impacts		46
Engaging and supporting our local communities, partnerships and businesses	   	50
Local community development and investment		52

Table 1: Xanadu's material issues of highest importance for 2020.

Engagement with our Stakeholders

Engagement with our key stakeholders underpins our business performance and the livelihoods that are impacted through our business.

We acknowledge the need for effective engagement, and continually strive to build and improve our relationships through open and honest dialogue and respecting other points of view to bring about mutually-beneficial outcomes.

Xanadu regularly engages a broad network of key stakeholder groups. The way we engage these groups and their areas of interest during the reporting period is summarised in the table below.

We have dedicated personnel responsible for developing and maintaining these relationships. Due to the nature of our business and location, we put specific focus on our local communities and governments to ensure that we understand their views and that they are effectively informed about our activities.



STAKEHOLDER GROUP	STAKEHOLDER TYPE	METHOD OF ENGAGEMENT	AREAS OF INTEREST
Shareholders	Shareholders, analysts	- Annual reports, quarterly reports, half-yearly financial reporting - Website and email, investor briefings, one-on-one discussions - Market announcements - Annual General Meeting - Industry conferences - One on one meetings	- Safety performance - Exploration results - Development profile - Executive remuneration - Community relations - Financial performance - Share price
Employees and Contractors	Management, employees, contractors	- Employee briefings - Email, social events, notice boards, toolbox meetings, performance reviews - Town hall meetings - Whistleblower service - Direct engagement between people leaders and their teams	- Operational performance - Safety and environmental performance - Employee involvement - Employment development opportunities
Local Communities	Local residents, communities, landowners	- Community relations team visits - Resident/community meetings - Site visits - Regular communication with leaders and community generally, providing feedback forums - Sponsorships and partnerships	- Impact on, and relations with, communities - Environmental impacts - Contributions to community services and infrastructure - Land use
Suppliers	Local suppliers, non-local suppliers	- Out to market approaches - Open and collaborative face-to-face engagement and discussions - Regular performance meetings - Contractual agreements	- Long-term relationships and collaboration - Supply chains free from modern slavery
Government	Mongolia federal, state, regional and local governments; Australia federal government	- Open and collaborative face-to-face engagement - Annual reports, website and email, compliance audits and inspections - Regulatory submissions - Direct engagement on matters of local importance - Industry body involvement	- Royalty and licence fees - Safety performance - Employment - Proposed changes in legislation and regulations - Environmental management and rehabilitation
Industry	Mining and/or exploration industry, business and professional associations, local country and regional business associations	- Meetings, reports and discussions around the specific considerations of mining and considerations for policy - Reports, face-to-face discussions, presentations, collaborative agreements	- Environmental impacts - Safety performance - Mental health
NGOs	Environmental, community, mining	- Meetings, reports - Exploring collaborative opportunities	- Impacts to people, communities and the environment - Bribery, corruption and disclosure of payments
Education	Tertiary & vocational institutions	- Conference attendance - Meetings, reports, face-to-face discussions	Education and opportunities for those in host communities

Table 2: Methods of engagement and areas of interest across Xanadu's key stakeholder groups for the 2020 reporting period.

Sustainability Governance

Our Board of Directors monitors Xanadu's sustainability performance through its sub-committee, the Safety, Health and Environment Committee.

The Committee meets regularly to review:

- Processes in place to ensure that workplace health, safety and environment is a priority at all Xanadu operational sites;
- Processes in place to facilitate compliance with all workplace health and safety, environmental, legal and regulatory requirements in each jurisdiction that Xanadu operates;
- Processes in place to manage community relationships;
- The adequacy of reporting systems for health, safety and environment actual or potential accidents, breaches and incidents;

- Subsequent safety investigations and remedial actions conducted by management;
- Performance against Board-approved targets; and,
- Appropriate opportunities to address community sensitivities in the areas in which Xanadu operates.

A copy of the Safety, Health and Environment Committee Charter can be accessed via our website, www.xanadumines.com.

The Audit and Risk Committee further assists the Board in identifying and managing potential or apparent business, economic, environmental, social sustainability and other non-financial risks.

The Committee will also oversee Xanadu's environmental risk management and workplace health and safety processes. A copy of the Charter can be accessed at www.xanadumines.com.



Figure 4: Xanadu's sustainability governance structure.

In 2020, Xanadu's Board of Directors comprised the following members.



Colin Moorhead

Independent
Non-Executive Chairman

(B.Sc (Hons) FAusIMM (CP) GAICD)



Andrew Stewart

Executive Director &
Chief Executive Officer

(BSc, PhD, MAIG & MSEG)



Ganbayar Lkhagvasuren

Executive Director
& Country Manager

(M.IBL)



Michele Muscillo

Independent
Non-Executive Director

(LL.B)



Tony Pearson

Independent
Non-Executive Director

(B.Com, MAICD)

All Non-Executive Board members sit on each Board sub-committee.
Further information on Xanadu's Directors and Executives can be found on
the Xanadu website, www.xanadumines.com.



Our Approach to Sustainability

At Xanadu, we aim to be a leader in sustainable exploration.

To help us achieve this, we have integrated Sustainability into our core business (refer to 'Statement of Values' section within this report).

We endeavour to be good corporate citizens and neighbours to our partners in Mongolia and will operate and explore in a way that keeps our team safe, cares for the environment, and supports our host communities.

Our Sustainability Policy outlines clear objectives and actions to grow and operate sustainably. We aim to have safe and healthy operations, minimise our environmental footprint, develop and maintain strong relationships with our communities and governments, and act in a transparent and ethical manner.

A copy of our Sustainability Policy is below and can be found on our website at www.xanadumines.com.

Sustainability Policy

Xanadu Mines aims to be a leader in sustainable exploration.



Objectives

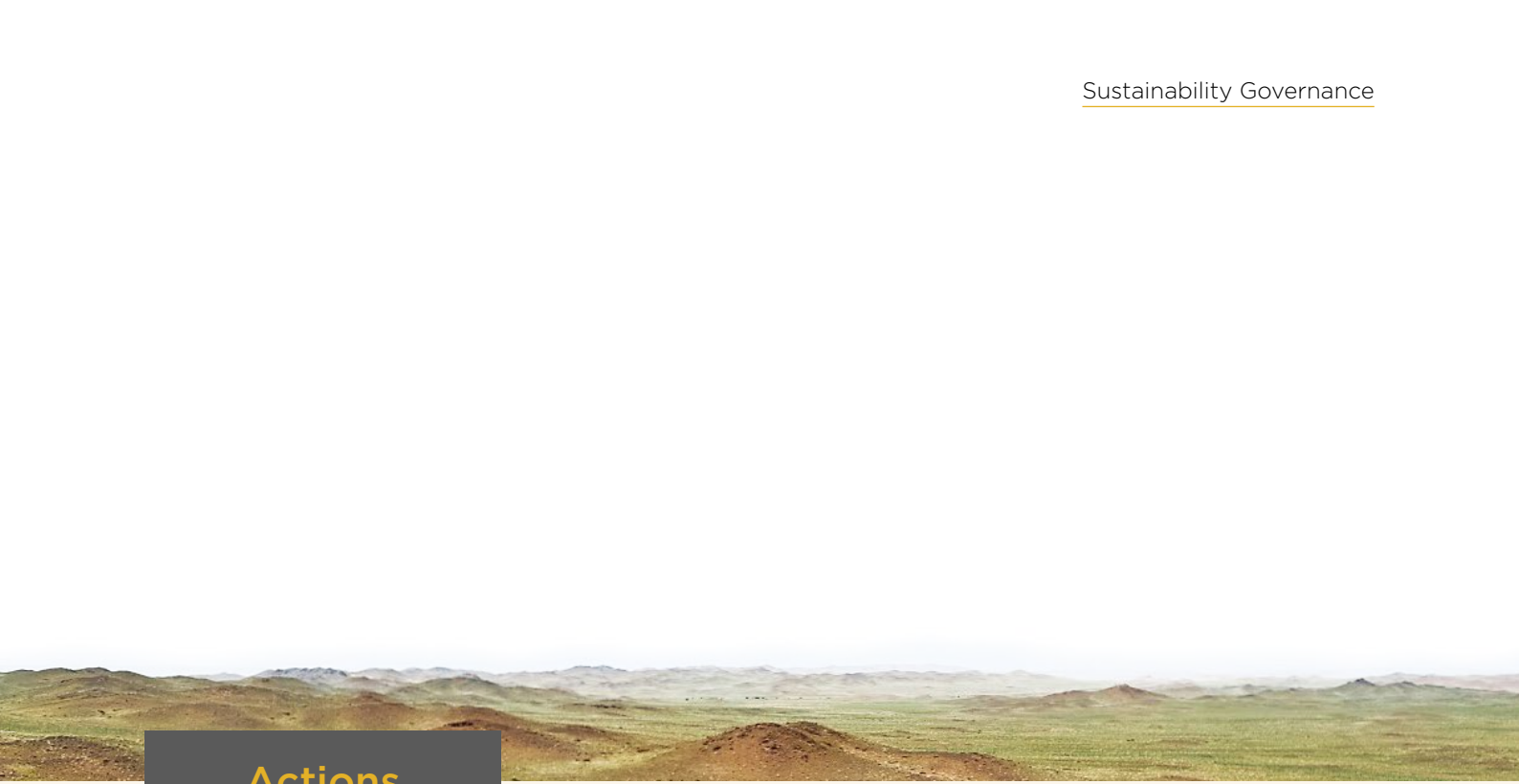
Xanadu Mines has the following sustainable goals.

**Safe and
Healthy Operations**

**Minimising our
Environmental Footprint**

**Developing and Maintaining
Strong Relationships with
Communities and Governments**

**Acting in a Transparent
and Ethical Manner**



Actions

To achieve our Sustainability Goals, Xanadu will strive to:

- Engage all stakeholders to create a safe and healthy work environment.
- Create a diverse and inclusive workplace where everyone feels safe, valued and supported.
- Respect and protect the human rights of our employees, contractors, suppliers and community members.
- Build a workforce representing the communities in which we operate to attract and retain the right people.
- Deliver benefits to host communities in a manner that supports and respects their rights and aspirations.
- Honour cultural heritage, customs and traditions of people touched by our activities.
- Engage openly, honestly and regularly with our host governments and communities and consider their views in our decision-making.
- Build relationships with suppliers to optimise value through safe, efficient, continuous improvement.

- Uphold ethical business practices and comply with legal requirements in jurisdictions where we operate.
- Establish processes to identify and manage risks and opportunities for efficient use of energy and water, to minimise waste generation, and to manage emissions that cause climate change.
- Contribute to conservation of biodiversity by effective planning and environmental management in areas affected by our operations.
- Monitor, measure, report and assure sustainability performance against public objectives and targets.

By delivering on these commitments, we will maintain and enhance our licence to operate.

Xanadu will aim to align its sustainability policies and self-assessment practices to International Council on Mining & Metals (ICMM) 10 Mining Principles.

We will apply our Risk Management Framework to manage sustainability risks.

This policy is to be read in conjunction with all other Xanadu policies available on our website. All Xanadu employees, contractors and suppliers are required to comply with these commitments.

Conducting business ethically and transparently

As part of ensuring we maintain a sustainable and profitable business, Xanadu is committed to upholding ethical business practices across all our sites and offices.

Our position is clearly stated in our Code of Conduct and is reflected in our Sustainability Policy. All our employees, contractors and suppliers must comply with our Code of Conduct. The Code outlines mandatory requirements in:

- ethical business (including anti-bribery and corruption);
- employment practices (including equal opportunity and anti-discrimination, harassment and offensive behaviour);
- workplace health and safety; and,
- community and environment.

A copy of our Code of Conduct can be accessed on our website, www.xanadumines.com.

Further to our Code of Conduct, Xanadu upholds its ethical business practices through its Anti-Bribery and Corruption Policy (available on our website). The purpose of this Policy is to protect the interests of Xanadu stakeholders, the integrity of Xanadu's reputation and to set out the position of Xanadu and its controlled entities (Xanadu or the Company) on bribery and corruption.

This outlines the responsibilities of all individuals working for or with Xanadu in observing and upholding Xanadu's commitment to conducting business in an ethical and honest way and with the highest level of integrity. This policy also provides information and guidance on how to recognise and deal with bribery and corruption issues.

This policy applies to all directors and employees of Xanadu, as well as contractors, agents and consultants of Xanadu and any third party who conducts business activities on Xanadu's behalf or distributes Xanadu's products (including suppliers, distributors, resellers, and consultants).



100%

of employees educated in anti-bribery & corruption practices

The key principles of our Anti-Bribery and Corruption Policy state that:

- Xanadu conducts business in an ethical and honest way and Xanadu is committed to instilling a strong anti-corruption and anti-bribery culture. It is the aim of Xanadu to maintain the highest level of integrity in all interactions with third parties.
- Xanadu strives to participate as a strong competitor in its global market, and is committed to doing so without the use of bribery or other corrupt practices.
- Xanadu applies a zero-tolerance approach to acts of bribery and corruption by its workforce and any third parties. Any breach of this policy will be regarded as a serious matter and will result in disciplinary action which may include termination of employment or other contract as applicable.

Xanadu takes the issue of modern slavery and exploitation seriously and takes steps to ensure this does not occur within our supply chain.

We source our drilling, geophysical survey and core analysis services within Mongolia, via long term supplier relationships, and on terms and conditions that comply with Mongolian laws. Looking forward, Xanadu will continue to work with its suppliers to understand their supply chains and partner with them to develop awareness of the risk of Modern Slavery.

In addition to conducting ethical business, we also endeavour to engage with our key stakeholders wherever possible. Some of our key methods for engaging transparently include: face-to-face discussions; regulatory report submissions; employee briefings and townhalls; community visits; contractual agreements; and, industry meetings and events.

A full list of the ways we engaged with our key stakeholder groups is identified in the section above, *'Engagement With Our Stakeholders'*.



Sustainability Frameworks

At Xanadu, we believe that sustainable development should be considered in all stages of the mining lifecycle. As an exploration company, we endeavour to integrate sustainability principles into our current exploration activities as well as the studies we undertake to prepare projects for future operation.

We acknowledge and strive to align with international frameworks and benchmarks to crystallise this vision.

United Nations' Sustainable Development Goals

Xanadu strongly supports the UN Sustainable Development Goals (SDGs). To help meet the intent of these Goals, we have mapped these against our most material issues within this report (refer to page 17). We aim to further integrate these Goals within our strategy moving forward.



International Council on Mining and Metals

Xanadu considers the International Council on Mining and Metals (ICMM) Sustainable Development Framework to be leading practice in providing appropriate standards on sustainability performance. We aim to align with ICMM's 10 Principles. A summary of how we seek to align is outlined in the below table.



ICMM Principle	Our Alignment	Report Section (page)
Principle 1 Implement and maintain ethical business practices and sound systems of corporate governance.	Xanadu's Code of Conduct and Anti-Bribery and Corruption Policy governs the company's approach to ensuring ethical business practices are maintained. All employees receive education in these corporate policies as part of their onboarding.	Sustainability Governance (page 20)
Principle 2 Integrate sustainable development considerations within the corporate decision-making process.	Sustainability considerations are integrated into the company's decision-making. Sustainability aspects are included within the Board's sub-committees on Safety, Health and Environment, as well as Audit and Risk. Xanadu's Sustainability Policy outlines the company's key objectives and commitments.	Sustainability Frameworks (page 29)
Principle 3 Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.	Human rights considerations are integrated in the way that Xanadu engages and supports its host communities, whether through providing water to local families and herders or through school scholarship grants. For more information, refer to our case studies on pages 45, 51 and 53.	Caring for the Environment; Supporting Our Communities (pages 42, 48)
Principle 4 Implement risk management strategies based on valid data and sound science.	Risk management is governed by the Board's Audit and Risk Committee and strategies developed and implemented in association with Xanadu's Risk Management and Sustainability Policies.	Sustainability Governance (page 20)
Principle 5 Seek continual improvement of our health and safety performance.	Xanadu's approach to Safety and Health is governed by the Board's Safety, Health and Environment Committee and facilitated through the implementation of its Sustainability Policy and site standards.	Promoting a Safe Workplace (page 38)
Principle 6 Seek continual improvement of our environmental performance.	Xanadu's environmental performance is governed by the Board's Safety, Health and Environment Committee. The company endeavours to minimise its environmental footprint through adhering to its Sustainability Policy and site standards.	Caring for the Environment (page 42)
Principle 7 Contribute to conservation of biodiversity and integrated approaches to land use planning.	Xanadu's people respect the land and its native flora and fauna in which it operates and endeavours to minimise its impact by complying to site environmental standards.	Caring for the Environment (page 42)

ICMM Principle	Our Alignment	Report Section (page)
Principle 8. Facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products.	Xanadu's Scoping Study, for future development of its products, uses technology to design in process safety and modern, contemporary caving operations and processing systems to ensure maximum re-use of resources, minimise waste production, and dispose of tailings in a responsible manner.	Climate Change (page 32)
Principle 9 Contribute to the social, economic and institutional development of the communities in which we operate.	Xanadu regularly engages its host communities to build and maintain strong relationships, and understand what social, economic and institutional opportunities are important to them. We pride ourselves on supporting and contributing to our local communities to encourage benefits that are meaningful to them, as well as long-term development opportunities for their future growth.	Supporting Our Communities (page 48)
Principle 10 Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.	In line with our Sustainability Policy, Xanadu endeavours to engage all stakeholders to create a safe and healthy work environment. Understanding our stakeholders and their needs makes good business sense and is critical to the growth of our business and the communities in which we operate.	About This Report (page 14)

Table 3: Xanadu's alignment to International Council on Mining and Metals' sustainable development principles.

Global Reporting Initiative

Xanadu has considered the Global Reporting Initiative (GRI) Standards in preparing our first Sustainability Report. Xanadu will progressively align to those standards which are applicable to our business, and we will provide transparency in future reports as to our progress toward this alignment.



Climate Change

Xanadu acknowledges the climate change science and supports the Paris Agreement goals, and we recognise that the mining sector has a role to play in reducing global greenhouse gas emissions.

As an explorer, Xanadu has a relatively small emission footprint. However many of the discoveries we make will be developed, by experienced operators, into mines which have a larger climate footprint. We set the groundwork for these to be modern, low energy intensity mines through our early stage studies.



In addition to reducing our own energy intensity through camp upgrades and efficient equipment, Xanadu aims to make a larger impact to the future emission of others by integrating low energy intensity technologies and design into concept studies for its projects.

Through use of technology and design, our discoveries prepare to become new mining projects with a low carbon footprint from their earliest stages of planning.

At Xanadu, our Climate Change Policy outlines our objectives and actions to manage and mitigate against its impacts.

Within this policy, our objectives are to:

- Provide transparent reporting of our energy use and greenhouse gas emissions;
- Look for opportunities to reduce our climate change impact; and,
- Consider risks and opportunities from climate change as part of business decisions.

To learn more about our position on Climate Change, please view our Policy below or visit our website at www.xanadumines.com.

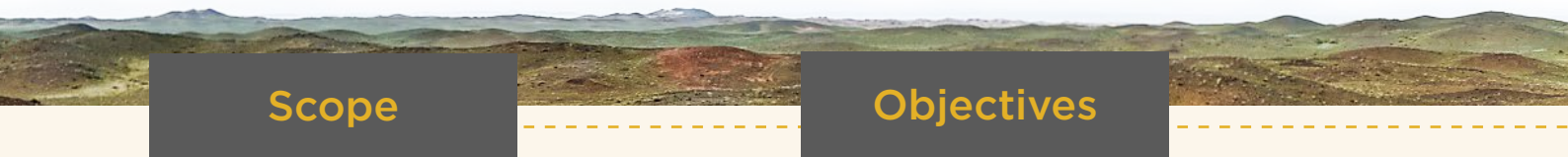
Climate Change Policy

Xanadu Mines is committed to the sustainable discovery, definition and development of world class copper – gold deposits.

This requires us to identify, assess and report our impact to the climate, which is one of the most significant challenges facing the world today.

We acknowledge the climate change science and support the Paris Agreement goals, and we recognise that the mining sector has a role to play in reducing global greenhouse gas emissions.

Xanadu recognises the need to identify and integrate climate change and energy use into our strategic planning as we manage our portfolio. We will work with our stakeholders including governments, investors, lenders, insurers, customers, suppliers, host communities and industry associations to develop strategies that contribute to a future low carbon economy in our operating countries.



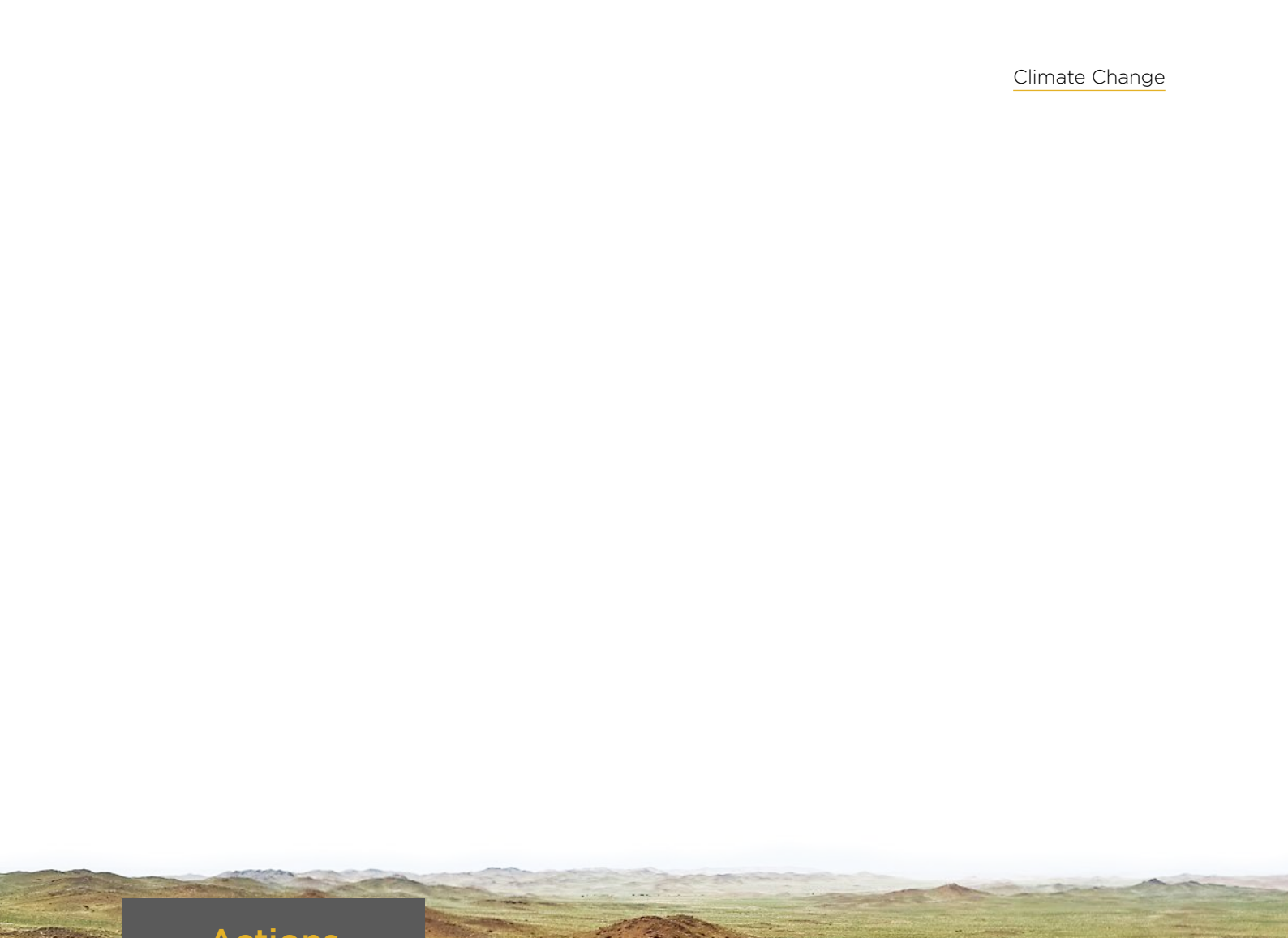
Scope

This policy applies to all Xanadu operations and exploration projects.

Objectives

Xanadu Mines aims to:

- Provide transparent reporting of its energy use and greenhouse gas emissions
- Look for opportunities to reduce our climate change impact
- Consider risks and opportunities from Climate Change as part of business decisions



Actions

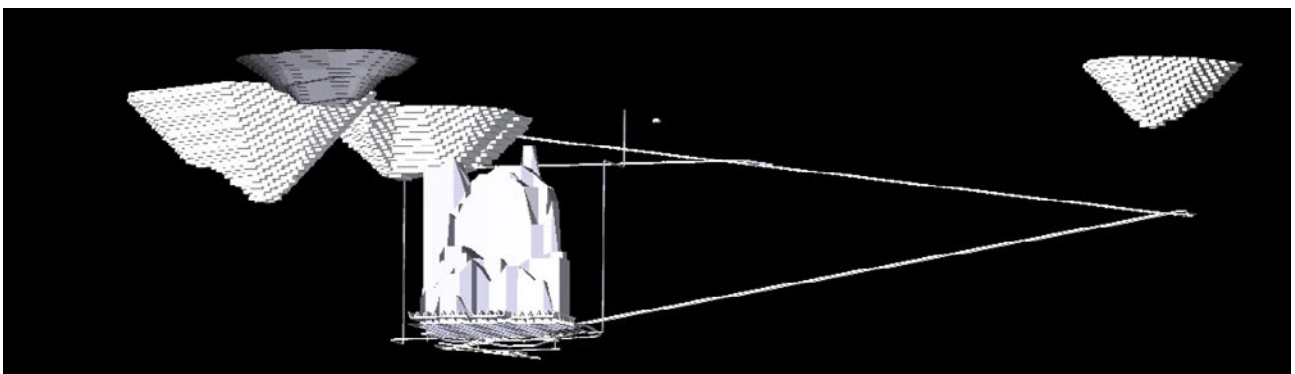
- Seek to identify and manage climate change risks and opportunities, consistent with our objective to sustainably deliver superior returns to our shareholders.
- Develop transparent climate change reporting of performance metrics and targets to meet the needs of our stakeholders, including governments, investors, lenders, insurers, customers and communities.
- Utilise measurement and verification methods of our energy use and greenhouse gas emissions that are consistent with international sustainability standards.
- Pro-actively assess options to increase our use of renewable power and low emission energy technologies to reduce intensity of greenhouse gas emissions.
- Assess climate change scenarios that impact future energy prices, ensuring the cost of carbon informs business decisions.
- Partner with experts to identify potential physical threats from climate change at current and planned project locations and invest in an appropriate manner to build resilience.
- Contribute constructively to policy development in our host countries, sharing learnings with industry bodies and governments to promote stable, predictable regulatory regimes that facilitate investment.

Case Study

Technologies a focus in Kharmagtai studies

Through our Kharmagtai Scoping Study, Xanadu designs in modern and contemporary technologies and practices to ensure the project is energy efficient, safe, and commercially viable. Some of these include:

- **Mobile electrification:** a fully electrified mobile fleet significantly reduces diesel particulate risk underground, and reduces heat generation and cooling requirements;
- **Conveyor haulage:** using a conveyor for material movement to the surface replaces diesel equipment, further reducing particulates, and improves safety by getting traffic off the roads, plus it provides a scalable solution as the mine grows and changes;
- **Modern caving:** use of block caving reduces energy use per tonne mined and reduces the number of personnel in higher risk environments;
- **Underground beneficiation:** crushing and sorting material underground reduces energy demand by reducing the amount of material to hauled to the surface;
- **Surface beneficiation:** the next stage of sorting at surface further reduces energy as less material goes through the process facility, and it reduces waste tailings to be disposed and rehabilitated;
- **Green power:** use grid power contracts that incorporate and support Mongolian solar and wind clean energy suppliers, reducing secondary emissions caused by demand on local coal power plants; and,
- **Rail haulage:** leveraging the Mongolian rail infrastructure within 7 kilometres of Kharmagtai enables shipment of concentrate at lower energy intensity and reduces the number of long haul trucks on the road.



Concept Study Pits and Block Cave Design for Stockwork Hill

17

litres of diesel
per metre drilled*



**Based on 528,000 litres of diesel used in 2020.*



Promoting a Safe Workplace

Safety and Health

Xanadu is committed to maintaining a healthy and safe working environment for all its people.

Xanadu employees and contractors are required to comply with all applicable workplace health and safety laws and regulations, as well as Xanadu's policies and procedures, to ensure that its people work in an environment that is safe and without risk to one's health.

Our position on Safety and Health is reflected in our Sustainability Policy. Through our Policy, we aim to:

- Engage all stakeholders to create a safe and healthy work environment.
- Create a diverse and inclusive workplace where everyone feels safe, valued and supported.
- Respect and protect the human rights of our employees, contractors, suppliers and community members.

A copy of Xanadu's Sustainability Policy can be accessed on our website, www.xanadumines.com.

O
lost time
injuries



Case Study

Xanadu's protection of its people during the COVID-19 pandemic

The impact of the COVID-19 pandemic is unprecedented both in Mongolia and on an international scale. Xanadu carefully considered the associated risks and established processes to ensure the safety of its workforces at the Kharmagtai and Red Mountain projects.

Impacts from the pandemic were felt in October 2020, when increases of transmission were seen in local communities to the projects. Xanadu's operational team promptly devised a two-stage approach to mitigate the risk workforce transmission.

As part of Stage 1, a risk assessment was conducted and mitigative controls put in place to ensure that the camp remained in a 'green zone'. This included shutting the camp to external access (e.g. from local community members), limiting workforce travel, implementing health questionnaires to those traveling to site, improving hygiene and sanitation measures at the camp, and ensuring that anyone traveling to camp was first PCR-tested and attained a negative result. During this stage, there was relatively low chance of infection.

Unfortunately, in March 2021, increases in infections rose due to the lifting of some local restrictions and Xanadu was forced to take more immediate and severe action. This took the form of Stage 2, with operational leadership team enabling a ramp-up of vaccinations for their workforce.

This entailed engaging local hospitals to support the vaccinations of employees at camp in Kharmagtai (whilst Red Mountain transitioned into care and maintenance between November 2020 and February 2021).

A newly-developed policy requiring that from 1 May 2021, no-one would be allowed at camp without having received their first vaccination dose (with full vaccination taking effect from 1 June 2021) was strictly enforced and quarantine procedures implemented.

The effectiveness of this approach was demonstrated when in June 2021, a contractor at camp tested positive during his mandatory quarantine period, and the security of the broader workforce was maintained. As of June 2021, 100% of all employees and contractors have been fully vaccinated.



Case Study

Safety initiatives improving culture and performance

The safety of our people and our host communities is a strong focus at Xanadu.

We continue to identify safety initiatives to continually improve the safety culture on site through improved learning and system development (e.g. implementation of our new i-auditor system, which manages safety inspection reports).

Some of the ways in which we are improving learning capability is through:

- Safety awards, to recognise the efforts made in safety performance across our three site areas, including operation, core shed and geology areas.
- Safety apprentice program, where candidates are selected from each area and appointed as safety apprentices to receive specialised training and lead safety performance in their respective area.
- Monthly safety themes, presented and discussed with teams to promote knowledge-sharing.



1.58

**TRIFR is Total Recordable Injury Frequency Rate (the number of total recordable injuries per 200,000 exposure hours. Total recordable injuries include medically-treated injuries, alternate duty /restricted work injuries, lost time injuries and fatalities. This calculation was due to one medically-treated injury occurring during the reporting period.*

TRIFR* per 200,000
exposure hours



Caring for the Environment



Environmental Management

At Xanadu, we respect and care for the environment in which we operate and on which our host communities depend.

We abide by all local laws and regulations, and we are committed to doing business in an environmentally responsible manner, whilst identifying environmental risks that may arise out of our operations.

We are committed to minimising our environmental footprint through our Sustainability Policy. Through our Policy, we aim to:

- Establish processes to identify and manage risks and opportunities for efficient use of energy and water, to minimise waste generation, and to manage emissions that cause climate change.
- Contribute to conservation of biodiversity by effective planning and environmental management in areas affected by our operations.



12,404

hectares of land under
Xanadu's stewardship



Water Management

In Mongolia where our projects are located, community access to potable water is limited.

We provide both drilling support and training to maintain ground water access for our local communities.

We acknowledge that water is a precious resource in Mongolia and we responsibly manage our water as outlined in our Environment Management Standard.

We engage a drilling contractor to help establish pollution ponds or bunds to prevent any spills of contaminated water. We ensure that the management of our impacts on local water wells are effectively communicated with our communities, encouraging open dialogue to address any concerns.



**Based on 11,548m³ groundwater used in 2020.*

<0.5
m³ groundwater used
per metre drilled*



Case Study

Ground water access for local communities

Water in the Gobi Desert is a scarce resource.

There are no rivers or streams in the desert, and herders rely on ground water wells to access water.

Water is used by our host communities for important services, including household use and providing water to their animals (which includes sheep, goats, horses and camels).

Xanadu realises the dependence on our local communities' ability to access ground water but the challenges this can present. To support local herders and the broader communities to access water, Xanadu commissions our drilling contractor to drill 100m-depth wells in each area of its projects every 2-3 years.

Xanadu conducts hydrology studies to determine water quality, provides diesel generators or pumps to support the extraction of water, and helps with ongoing maintenance of these wells to ensure the wells are healthy and up to standard.

To help financially empower our local communities, we engage and pay families salaries to monitor their own water wells, whilst donating monitoring equipment to ensure their water quality.

We train families in the use of this equipment by demonstrating how to measure water levels and water content, and we help facilitate the transportation of water samples to laboratories to determine there are no harmful chemicals caused by mining activities or any other activity in the local area.

Xanadu uses our own production wells to access water to operate, particularly for drill rigs. We ensure we effectively engage our host communities about water extraction to reinforce that our own activities do not impede on their ability to access ground water.



Instructing locals to measure well water output.

Managing our Impact to Land and Biodiversity

At Xanadu, we respect the land where we operate and endeavour to minimise impact from our exploration operations.

We manage our project activities in alignment with our Environment Management Standard.

Our Standard clearly outlines requirements to minimise land disturbance and manage rehabilitation. Some of these requirements include:

- Separating soil and vegetation within the topsoil during sampling procedures and return once the sample has been taken;
- Discretely signalling sample spots and in a manner that does not cause harm to livestock;
- Excavating trenches only when necessary, storing the soil cover separately. After mapping and sample removal, trenches must be closed and covered with the soil layer and re-vegetated.
- Protecting slopes from pluvial erosion through the execution of preventative drainage channels; and,
- Revegetating slopes immediately after any field activity with native grass seeds and plants to promote fast recovery.

This Standard also includes our management of local fauna and flora, condemning any engagement with local animals (native or feral) and protecting the habitats of local plant species by not removing or damaging any vegetation without attaining prior approval.

<1

hectare of
land disturbed

Supporting our Communities

Xanadu aims to maintain our strong location relations, based on mutual understanding and sustainable goals.



Xanadu is a responsible corporate citizen and actively supports the communities in which we live and work. All personnel are expected to uphold the Company's commitment to pursue good corporate citizenship while engaging in its corporate activity. The Company supports and encourages its people to actively contribute to the needs of the community.

We are committed to supporting our host communities through our Sustainability Policy.

Through our Policy, we aim to:

- Respect and protect the human rights of our employees, contractors, suppliers and community members.
- Build a workforce representing the communities in which we operate to attract and retain the right people.
- Deliver benefits to host communities in a manner that supports and respects their rights and aspirations.
- Honour cultural heritage, customs and traditions of people touched by our activities.
- Engage openly, honestly and regularly with our host governments and communities and consider their views in our decision-making.



community grievances



Engaging and Supporting our Local Communities

Xanadu listens to our local communities and works together with them to be a good partner

We regularly work to develop open and transparent dialogue with our local communities about our activities. We believe this is the foundation to being a responsible corporate citizen.

We listen to our local citizens and seek to better understand their needs and concerns.

We endeavour to continue to be a 'good partner', supporting local development through employment, investment in local infrastructure, donations, scholarships, various local programs and entrepreneurship support. This is based on the understanding and support of local government decisions.



Case Study

Social and economic development for our communities

Xanadu actively supports the socio-economic development of its host communities

Over the past three years and with the support of the local government, Xanadu contracted a small local sewing shop run by single mothers to tailor a variety of supplies for our Kharmagtai project.

This included them sew uniforms, developing sample sacks for the drill cores, and constructing durable drill core covers for our core shed to protect the core samples from the harsh elements (e.g. dust and wind).

This is an important service for our exploration project and ensures the protection of our core samples whilst they are being stored for study.

Other initiatives provided by Xanadu that offer socio-economic benefit to our communities includes:

- Local employment;
- Support of cultural activities, including horse-racing and local seasonal and religious celebrations;
- Distributing vitamin packages to families and donating animal feed through a feed drive at the commencement of Spring, when food stores have been depleted after typically harsh winters; and,
- Donating medical equipment to local hospitals. In 2020, our Red Mountain project donated medical supplies and equipment (including refrigerators for medicine and vaccination storage) to the local hospital, as well as help construct a new morgue.



Company manager Battur handing over a special refrigerator for storing vaccines to the local health centre near Kharmagtai project.



Local Medical Check-Ups

Local Community Development and Investment

Xanadu understands the impact our activities can have on our local communities and aims to provide support with a balance of vital services and longer term investment.

A constructive and transparent approach is important to ensure that our communities understand our activities and impacts, and benefit from us.

We understand that in such remote locations, there is much opportunity to support and develop the communities, to enable them to meet their short-term needs but to also discover new opportunities to help them thrive in the longer term, without forming dependencies on our regional presence.

Through meaningfully engaging with our host governments and communities regularly, we endeavour to continue to identify and support growth opportunities for our communities that aligns to their needs and expectations.



Case Study

Supporting our communities through educational assistance

Xanadu invests in the long term future of local communities through our educational support and company internship programs.

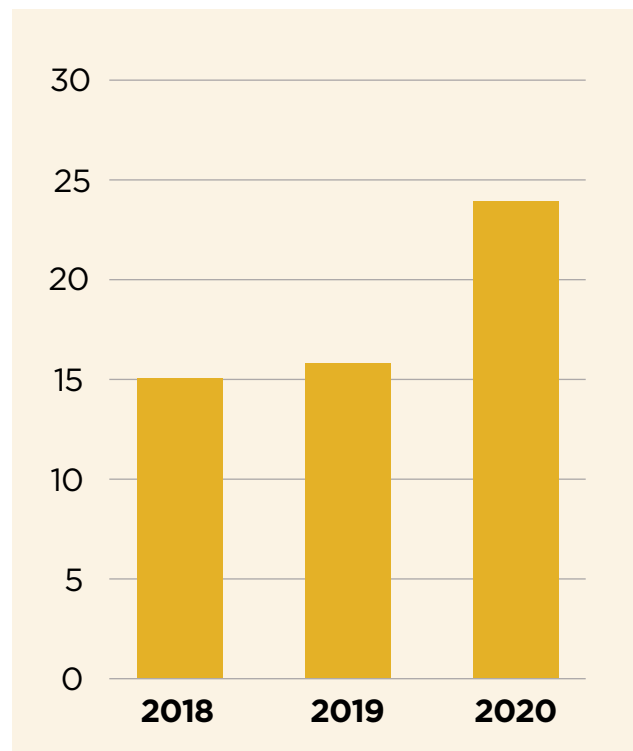
We acknowledge that an important opportunity to help develop our communities is through supporting the education of youth within these communities.

This enables young generations to develop new skills, to explore broader opportunities, and to help shape their communities in ways that weren't previously possible.

Each year, Xanadu financially supports the youth from our host communities surrounding our two projects to undertake tertiary education. Students are encouraged to attend various universities and undertake different fields of study, such as medicine, engineering, accountancy and environmental science.

During 2020, Xanadu supported 25 children across its projects to attend university; 15 from the Kharmagtai project and 10 from Red Mountain.

In addition, we grant internships to those who are seeking experience or employment with Xanadu. We're committed to continue our investment in educational support to help improve the economic development of our host communities through local employment.



Graph 1: Total number of school scholarship grants awarded in 2018-2020.



“ At Xanadu, we care about our people and the families in our communities, and we work hard to minimise our environmental impact at every opportunity.

Our people work together with our governments and communities to support their needs and expectations, and to allow our communities to develop in a sustainable way over time.

Munkhsaikhan Dambiinyam
Chief Operating Officer

Corporate Directory

Directors

Colin Moorhead

Independent Non-Executive Chairman

Andrew Stewart

Chief Executive Officer

Ganbayar Lkhagvasuren

Executive Director

Michele Muscillo

Independent Non-Executive Director

Tony Pearson

Independent Non-Executive Director

Company Secretary

Phil Mackey

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Stock exchange listing

Xanadu Mines Ltd shares are listed on the Australian Securities Exchange and Toronto Stock Exchange (ASX and TSX code: XAM)

Website

www.xanadumines.com

ABN

92 114 249 026

Corporate Governance Statement

The Company's Corporate Governance Statement can be found on the Company's website:

www.xanadumines.com/site/about/corporate-governance



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