

Published April 2022 SUSTAINABILITY ROADMAP

Responsible Mining. Critical Resources. Clean Future.

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LETTER FROM OUR CEO

Laurel Sayer, President & CEO

Dear Reader,

Thank you for your continued support and interest in Perpetua Resources.

I am excited to introduce our Sustainability Roadmap, which outlines our Environment, Social, and Governance (ESG) goals related to the Stibnite Gold Project (Project) as we advance through final permitting. These goals will help inform specific and measurable targets that we plan to establish upon receipt of our final permits and completion of final project engineering.



This Roadmap demonstrates Perpetua's commitment to responsible redevelopment of the Stibnite Gold Project. Together with our 9th annual Sustainability Report to be released later this year, our Roadmap is a key component of Perpetua's full suite of sustainability reporting. We plan to expand our reporting capabilities as the project continues to develop.

Later this year, Perpetua Resources will launch our annual Sustainability report and strive to align its disclosure with the Sustainability Accounting Standards Board (SASB) reporting framework. We are excited to formally join many of our peers in this initiative to ensure that the ESG issues most relevant to our business are aligned to the widely adopted SASB framework. I look forward to sharing more with you about this report upon its completion later in 2022.

This Roadmap is not our annual Sustainability Report. Instead, this Roadmap is intended to share with you our journey so far and our vision for where we are headed. By aligning our work with the United Nations' Sustainable Development Goals, this Roadmap is also intended to act as a guide for us as we move the vision of the Stibnite Gold Project into reality.

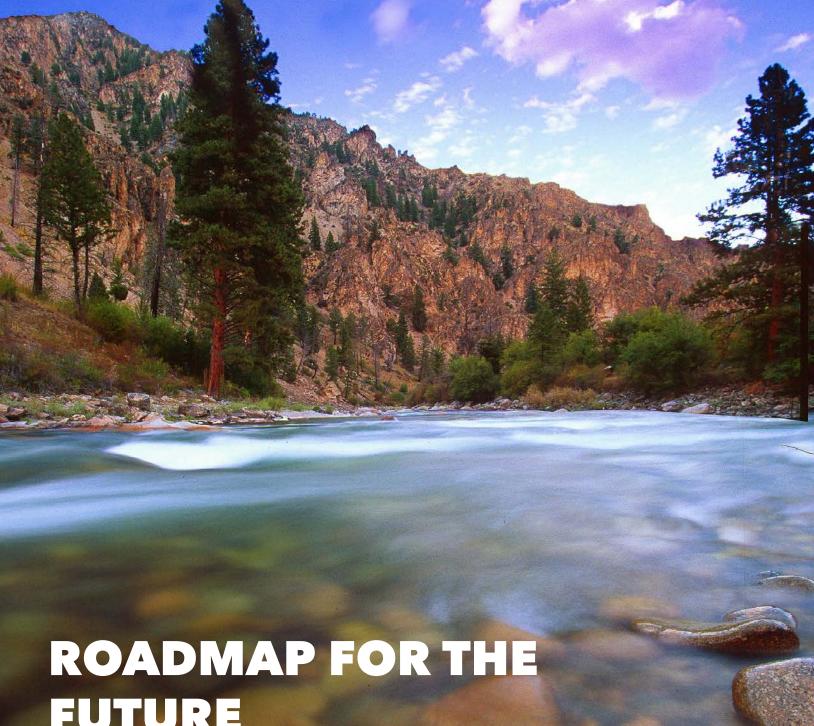
Perpetua Resources' purpose is to leave the historical Stibnite Mining District better than we found it and leave a lasting legacy of economic and social benefits to our community. We know that achieving our purpose requires being a safe, transparent, and accountable community partner and is critical to enhance our value for our company and our stakeholders.

While our purpose has been our guide, I believe it is our actions that truly matter. Our actions over the last 10 years, as reported in our annual sustainability reports, demonstrate our deep commitment to building a company where responsible redevelopment of the historical Stibnite Mining District can bring environmental, social, and economic benefits.

We are ready to work together to rewrite the history of Stibnite and create an improved legacy for generations to come. As we move forward, the goals laid out in our Sustainability Roadmap and reported on annually in our Sustainability Report, will guide us in our pursuit of responsible, American mining.

Sincerely, Laurel Sayer President & CEO





FUTURE

Over the last decade, our vision has been to restore an abandoned mine site, responsibly produce the minerals our country needs, and benefit surrounding communities.

The following document, informed by our core values, principles and ESG policies, lays out a series of goals intended to help us achieve our vision.

This roadmap is designed to help chart our course by outlining essential commitments. It does not set measurable targets. Without an approved project design, we do not yet have a final baseline from which we can set specific performance goals.

Once we gain approval on the final project design and enter the next stage of development, we will set specific metrics and report annually on our progress. Until then, we want to make sure our intentions are clear, and our path is defined.

From this roadmap, we aim to publish our Sustainabilty Report later this year aligned to the SASB framework and continue to report our progress annually. All documents supporting this roadmap are contained in appendices C and D.

THE BIG PICTURE

Responsible mining is essential to modern life and will play a central role in the transition to a clean energy future. In fact, critical mineral production needs to grow six-fold in order to combat climate change, according to the International Energy Agency (IEA) 2021 Net Zero by 2050 Report.

With a growing significance and reliance on mining, the world needs a path forward on how to ensure that environmental, social and economic justice accompany mineral extraction. Perpetua Resources recognizes that we have an opportunity to be a part of a global shift in how natural resources are obtained. Our Roadmap aligns our goals with the United Nations Sustainable Development Goals (SDGs) to illustrate how our work supports addressing society's biggest challenges.

This report uses SDG icons to indicate where Perpetua's goals align with primary and secondary SDG targets. A full list of the SDG targets supported by Perpetua initiatives are listed in Appendix A.



EXECUTIVE SUMMARY

Our roadmap for the future.

Perpetua Resources will continue being a transparent, accountable and safe community partner. The goals outlined in this roadmap are driven by our values, informed by our <u>ESG policies</u>, and are in alignment with the <u>UN's SDGs</u>. Our progress will be tracked annually in our Sustainability Reports. For questions or to meet with a project representative or get involved in the project, email: <u>community@perpetua.us</u>.

ENVIRONMENT



Goal 1: Improve and protect water quality.

The Stibnite Gold Project is designed to improve water quality over existing conditions left by previous operations. Project construction and operations will comply with the Clean Water Act and all local and federal regulations. Perpetua has adopted a citizen water monitoring program to provide community access and insight into project operations.

Aligns with





Goal 2: Conserve water.

Conserving water is important to Perpetua's mining operations. Perpetua has designed the Project to reduce water consumption and reuse water whenever possible. Once in operation, Perpetua will look for additional ways to improve water conservation.

Aligns with







Goal 3: Limit our footprint.

The Stibnite Gold Project is designed to minimize its footprint, including disturbances to land, water, air, wildlife and night skies through identifying opportunities to eliminate, reduce, mitigate or offset impacts.

Aligns with





Goal 4: Be a responsible link in the clean energy supply chain.

Perpetua Resources is taking the necessary steps to ensure supply chain partners are operating in accordance with our environmental, social and governance goals. As a critical link in the clean energy industry, we recognize the need to hold the company to a high standard and operate as a responsible partner. As such, Perpetua entered into an agreement to supply a portion of the antimony production from the Stibnite Gold Project to Ambri Inc. This was done to establish the foundation that will help facilitate the decarbonization of energy grids in the U.S. and around the world.

Aligns with

7 AFFORDABLE AND CLEAN ENERGY

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

SOCIAL



Goal 5: Work with communities and regulators to refine environmental outcomes of the Stibnite Gold Project.

Perpetua Resources knows the value of public and stakeholder feedback. We listened to comments on our proposed plans and identified opportunities to improve environmental outcomes of the Project, including positive changes to water temperature, water quality and a reduction in the overall footprint of the Project. We are committed to continually working with our neighbors to listen and assess potential opportunities to further improve environmental outcomes and will continue to work closely with regulators to ensure the best project moves forward.

Aligns with







Goal 6: Nurture connections with tribal communities and identify opportunities to collaborate.

Idaho's tribal nations have strong historical, cultural and spiritual connections and protected treaty rights to many of the places, plants, waters and wildlife across Idaho. We recognize the injustices and economic, cultural and spiritual losses sustained by tribal nations because of past mining. While we cannot alter the past, it is our obligation to ensure our actions will not repeat these harms. We are committed to having direct dialogue and ongoing solution finding with tribal leadership, staff and membership to ensure the Project protects tribal treaty rights and supports the social, cultural and economic goals of the tribes.

Aligns with









Goal 7: Foster an open and transparent relationship with local communities.

Transparency and accountability commitments are essential for modern, responsible mining. Through the 2018 Community Agreement, the Stibnite Advisory Council was created as a vehicle for direct communication between Perpetua and nearby communities throughout the life of the Project. The Council meets regularly to exchange information, address community needs and create opportunities for partnership.

Aligns with











Goal 8: Create economic partnerships that sustain beyond the life of the mine.

Perpetua recognizes the need to share economic benefits from the Project, directly with local communities. In addition to our commitment to hire and train locally wherever possible, Perpetua entered into a profit-sharing agreement to fund the Stibnite Foundation. The Stibnite Foundation is a charitable endowment that goes beyond direct economic benefits through tax dollars and wages to provide sustained economic benefits and support for local social, health, and environmental programs long after the life of the mine.

Aligns with









GOVERNANCE



Goal 9: Develop a diverse and inclusive team.

Perpetua Resources knows our team is better when we have a diverse set of experiences, expertise and identities represented. The company adopted a comprehensive diversity and inclusion policy in 2020 and is committed to following it as we recruit, build and retain a diverse workforce.

Aligns with







Goal 10: Adopt a long-term Environment, Social and Governance (ESG) reporting framework.

Perpetua Resources adopted formal Environment, Social and Governance (ESG) policies in 2019. Perpetua's Board of Directors approved additional enhancements to these policies in 2021. With a robust policy in place, Perpetua Resources will strive to align its ESG disclosure with the SASB reporting framework beginning with its 2021 sustainability report released later this year.

Aligns with





Goal 11: Disclose and report current and future GHG emissions.

Perpetua will report annual greenhouse gas emissions (GHG) through a certified third party using a global standard, the GHG Protocol, to ensure transparency in our GHG emission reporting.

Aligns with









Goal 12: Set science-based GHG emissions target.

Perpetua Resources will set a GHG emissions target before operations begin. Once the project design is approved by regulators, Perpetua will establish an anticipated baseline for GHG emissions and then develop a carbon target based on feasible offsets, mitigations and reductions.

Aligns with











Goal 13: Protect our people and our communities.

Perpetua Resources knows the health and safety of our employees, contractors and the public is foundational to our operations. Perpetua has implemented an Environmental, Occupational Health & Safety Management System to grow internal training requirements for its employees, contractors and consultants. This system will undergo third party audit and certification before the mine is in operations. Perpetua will also continually update and share emergency response plans.

Aligns with









Perpetua Resources

From the very beginning we have recognized the opportunity to rewrite the history of Stibnite, and in doing so, help transform the American mining industry.





VALUES

Our path started with strong core values.

COMPANY VALUES

Perpetua Resources is committed to our core values. They are embodied in every aspect of our organization, as they are a part of our organizational DNA. These values are the foundation of what we do and have shaped who we are and who we will become.



Safety

The health and safety of our employees, contractors working for us and the public is of the utmost importance.



Environmental Responsibility

We seek to go above and beyond what is required; we find practical solutions to manage growth, while protecting and enhancing the natural environment.



Community Involvement

As proud members of the community, we actively strive to serve the community's needs, and to collectively enhance prosperity and well-being.



Transparency

We fulfill our commitments in an open and transparent manner. We aim to be accurate, consistent and straightforward in all information delivered to our stakeholders.



Accountability

As part of our corporate governance, we ensure that accountability guides all our actions, decisions, conduct and reporting.



Integrity & Performance

We hold ourselves to high moral standards and strive to fulfill our commitments in an effective and sustainable manner.

Since 2013, Perpetua has completed annual sustainability reports to live up to the above values. Reports can be found at www.perpetuaresources.com/sustainability.



CONSERVATION PRINCIPLES

Acting with principle.

BUILDING OUR PLAN WITH CONSERVATION PRINCIPLES

Given the importance of environmental protection in the development, operation and closure of natural resource projects, Perpetua Resources has adopted the following guiding conservation principles for the Project that align with our core values:



Conduct restoration, mining, milling and reclamation activities in an **environmentally responsible manner.**



Locate Project infrastructure on previously disturbed areas whenever possible.



Design and construct facilities to **minimize impacts to aquatic and terrestrial wildlife**, improve habitat across the Project site and protect anadromous and local aquatic populations.



Protect and improve local surface water and groundwater quality.



Repair, relocate or construct new ecologically diverse stream channels and wetlands to mitigate those disturbed by legacy and new mine development.



ESG APPROACH

Transparency and accountability drive us.

ACCOUNTABILITY THROUGH ESG STANDARDS

Even though the Stibnite Gold Project is still in the permitting stage of development, we believe it is important to formalize our environment, social and governance (ESG) commitments, standards, operating procedures and policies. As the Project advances, our ESG policies will become more specific to each phase of the Project but will remain true to the ESG principles we have adopted.

The basis of our ESG policy recognizes the following guiding principles:



Our purpose is to leave the Project site better than we found it and to leave a lasting legacy of economic benefits in our community.



Responsible corporate behavior, with respect to environmental, social and governance factors, can generally have a positive influence on long-term financial performance. In other words, **doing** the right thing is good for business.



Disclosure is the key that allows stakeholders and other interested parties to better understand, evaluate and assess potential risk and return, including the potential impact of environmental, social and governance factors on Perpetua Resources' performance.



Investment analysis should incorporate environment, social and governance factors to the extent that they affect risk and return.



Division of authority and responsibilities among shareholders, directors and managers are key to corporate governance.



MILESTONES ACHIEVED

Our major sustainability milestones to date.

Community Agreement

We entered into a community agreement with eight local communities to ensure ongoing transparency and accountability and to create a mechanism for direct economic benefits through profit sharing.

Early Clean Up Agreement

We entered into an agreement with the Environmental Protection Agency and other regulators to voluntarily conduct clean up actions addressing historical waste to help improve water quality at the mine

Enhanced ESG Policy

We updated and enhanced our ESG policies. As the Project advances, our ESG policies will become more specific to each phase of the Project but will remain true to the ESG principles we have adopted.

Plan of Restoration and Operations

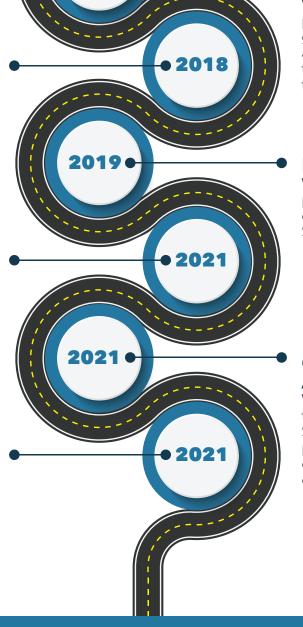
We designed and submitted a plan to regulators to produce gold and the critical mineral antimony while also restoring the environmental legacies of the abandoned mine site.

ESG Policy

We adopted principles and policies to formalize our commitments to Environment, Social and Governance goals.

Clean Energy Supply Agreement

We entered into an agreement to provide antimony from the Stibnite Gold Project to help produce liquid metal batteries essential to grid-level clean energy storage.



Perpetua Resources

We are charting our path for responsible mineral production.

The following goals outline the concrete steps we are taking to move toward a more sustainable, just and prosperous future.





ENVIRONMENT



Goal 1: Improve and Protect Water Quality.

Perpetua's Guiding Principles start with the vision that responsible redevelopment of the historic Stibnite Mining District should leave the area better than it is today, this includes protecting and improving surface and ground water quality.

In working toward this goal, Perpetua commits to:

IMPROVING EXISTING WATER QUALITY CONDITIONS

The Stibnite Gold Project was designed to improve water quality over existing conditions through the reprocessing and safe storage, or reuse, of legacy materials. In the first years of construction and operations, Perpetua will remove, reprocess and safely store legacy tailings and relocate spent ore above groundwater and underneath a liner to eliminate interaction with ground and surface water. These actions are anticipated to provide significant improvements to existing water quality.

TAKING ACTIONS NOW TO ADDRESS WATER QUALITY

We recognize solutions to help improve water quality shouldn't have to wait for the Stibnite Gold Project to move forward. In 2021, we entered into an Administrative Settlement Agreement and Order on Consent (ASAOC) with the Environmental Protection Agency (EPA). Through the agreement, Perpetua received the guidance and authority from the EPA to conduct pre-operation cleanup activity. We are investing in solutions to help improve water quality today by addressing waste left behind by previous operators.

DESIGNING THE PROJECT TO PROTECT WATER QUALITY

In the Revised Proposed Action, Perpetua has designed the project to protect water quality by eliminating the largest waste rock storage facility and applying geosynthetic liners to pit backfills, the tailings storage facility and the tailings storage facility buttress. Perpetua will treat water before discharge beyond the project site.

SUPPORTING INDEPENDENT CITIZEN WATER MONITORING

Our own actions and disturbances during operations will need to protect water quality. In addition to the required state and federal regulations and oversight, Perpetua and the Stibnite Advisory Council adopted a citizen water monitoring program. The program is intended to provide community members with direct access and insight into water quality conditions throughout the life of our Project.





Actions Taken

- Entered into an agreement to conduct pre-operation cleanup activity to improve water quality conditions on site
- Entered into an agreement to support an independent citizen's water monitoring program



SDG Alignment

6 CLEAN WATER AND SANITATION



PRIMARY

6.6. By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes





SECONDARY

6.3. By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Goal 2: Conserve Water.

Perpetua recognizes the need to design and construct facilities to minimize impacts to aquatic and terrestrial wildlife, improve habitats across the project site and protect anadromous and local aquatic populations. Reducing water consumption and reusing water are key to achieving this principle.

In working toward this goal, Perpetua commits to:

REDUCING AND REUSING WATER

In our revised project design and modeling, we identified opportunities to reduce the overall amount of excess water to be managed and treated. For example, nearly 2/3 of the water usage for our processing facility comes from recycled water from the Tailings Storage Facility. We also recognize the need to reduce our impacts by prioritizing non-fresh water sources such as stormwater and pit dewatering, as well as managing and storing excess water for use during times of lower flow availability.





→ Identified opportunities to reduce the amount of water to be managed and treated





PRIMARY



6.3. By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

CLEAN WATER AND SANITATION

SECONDARY



6.4. By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Goal 3: Limit our footprint.

Responsible redevelopment of the Stibnite Mining District involves limiting the Project footprint whenever possible by minimizing, mitigating or eliminating impacts.

In working toward this goal, Perpetua commits to:

REDUCING ON-SITE DISTURBANCE

Through years of project refinement, we have reduced the Project footprint by 13% from our original 2016 design. Today, 51% of the on-site Project footprint is on previously disturbed areas. More details about our refinements to reduce our footprint can be found here.

PROTECTING NIGHT SKIES

We recognize our footprint extends to the sky. In the 2019 Dark Skies Report, Perpetua Resources committed to creating a project lighting management plan that applies dark sky best practices while also meeting safety requirements. We are not required to do this, but we feel it is important to protect our night skies and necessary to include measures to do so in our mine plan. Additionally, we will consider using alternatives to diesel power light towers, to further reduce both lighting impacts and greenhouse gas emissions.

REDUCING WASTE

Reducing our waste and finding opportunities to reuse is important to us. Our team is already supporting composting food waste at local schools through composting programs. During operations, we will look to implement new programs at Stibnite that could help turn our waste into opportunities to produce valuable soil for areas in need of restoration.





- Reduced project disturbance by 13% from the original plan and reduced the size of the Hangar Flats pit by 70%
- Reduced waste by composting food waste at Stibnite and supported composting programs at local schools





PRIMARY

15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements



SECONDARY

15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world



Goal 4: Be a responsible link in the clean energy supply chain.

Perpetua's ESG policy recognizes that responsible mining is the first link in secure, ethical and responsible supply chains and the Stibnite Gold Project must be a responsible partner to clean energy and other essential industries.

In working toward this goal, Perpetua commits to:

ADOPTING SUPPLIER STANDARDS

In 2021, we adopted Supplier Standards to ensure our partners are operating in accordance with our environmental, social and governance goals.

BECOMING A RESPONSIBLE PARTNER IN CLEAN ENERGY

Perpetua Resources entered into an agreement to supply a portion of the antimony we produce at Stibnite to Ambri Inc. for the development of grid-scale liquid metal storage batteries to help facilitate the decarbonization of energy grids in the U.S. and around the world (Appendix B). Our Stibnite Gold Project will provide Ambri with the only domestically mined source of the critical mineral antimony.

Our current commitment of antimony for Ambri's battery manufacturing is expected to power over 13 Gigawatt hours of battery capacity, which is enough energy to power over 1 million American homes with solar energy for at least 20 years.

Partnering with Ambri directly links the redevelopment of the Stibnite Gold Project, and the restoration of the site, to technology poised to reduce carbon emissions.

Our partnership with Ambri significantly increases the strategic and long-term value of our Project and breathes further life into our guiding ESG principles.





Entered into an antimony supply agreement with Ambri Inc. to support clean energy production through the development of domestic manufacturing of battery technology





PRIMARY

12.2 By 2030, achieve sustainable management and efficient use of natural resources



SECONDARY

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix



SOCIAL



Goal 5: Work with communities and regulators to refine environmental outcomes of the Stibnite Gold Project.

From the beginning, we recognized responsible mine development requires listening to and incorporating public and agency feedback. This principle is so important to our team we codified it in our ESG Policies. Over the last decade, input from stakeholders has made our Project better. We will continue to listen and take reasonable action to address feedback on the environmental, social and economic outcomes of the Project.

In working toward this goal, Perpetua commits to:

IDENTIFYING OPPORTUNITIES FOR PROJECT REFINEMENT

Most recently, we listened to public comments on the August 2020 Draft Environmental Impact Statement. Our team identified opportunities to improve the environmental outcomes of the Project, including positive changes to water temperature, water quality and a reduction in the overall footprint of our Project.

FOLLOWING ADAPTIVE PRACTICES

Once a final design is permitted and put into operation, we commit to following adaptive management strategies to work directly with regulators and stakeholders in monitoring, reporting and adapting practices to continually improve outcomes in site management and restoration.





Listened to community, agency and tribal feedback to bring project changes that improved environmental outcomes





PRIMARY

16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels





SECONDARY6.b. Support and strengthen the participation of local communities in improving water and sanitation management



Goal 6: Nurture connections with tribal communities and identify opportunities to collaborate.

In addition to protected treaty rights, Idaho's tribal nations have strong historical, cultural and spiritual connections, as well as protected treaty rights to, many places, plants, waters and wildlife across Idaho. As a mining company, we recognize the injustices and economic, cultural and spiritual losses sustained by tribal nations because of past mining. While we cannot alter this past, it is our obligation to ensure our actions will not repeat these harms. Through the Stibnite Gold Project, we aim to repair the resources at Stibnite.

In working toward this goal, Perpetua commits to:

LISTENING, BEING TRANSPARENT AND WORKING TOWARD PARTNERSHIP

We believe the first step is for us to listen, so we may learn from the different perspectives and vast expertise brought by Idaho's tribes. Already, these perspectives have made our project better, and we know there is still work to be done.

We remain committed to an ongoing direct dialogue and solution finding with tribal leadership, staff and membership to ensure the project honors and protects tribal treaty rights and supports the social, cultural and economic goals of the tribes.

We will continue information sharing regarding the planning and evaluation of the Project and will continue transparency measures throughout the life of the Project.

We will aim to form long-term binding agreements to support cultural, social, economic and environmental benefits to tribal communities and will work collaboratively to address, mitigate and offset impacts.





- Entered into communication agreements
- Received social and cultural training from Idaho tribes
- Engaged in multiple parallel briefings and technical information exchanges with tribes





11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage sites



SECONDARY

17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

Goal 7: Foster an open and transparent relationship with local communities.

As outlined in our ESG Policies, transparency and accountability commitments are core to our values and essential for responsible mining projects. We will continue to connect with surrounding communities throughout the life of the Project.

In working toward this goal, Perpetua commits to:

UPHOLDING THE COMMUNITY AGREEMENT

Through the 2018 Community Agreement, Perpetua committed to participate in the Stibnite Advisory Council throughout the life of the Project. The group, representing eight local communities, acts as a forum for direct communication between company leadership and local representatives.

We will work with the Stibnite Advisory Council to support their efforts as they respond to community questions and needs. You can find a summary of the Council's work here.

SUPPORTING INDEPENDENT REVIEW

Through our relationship with the Stibnite Advisory Council, we recognized local communities wanted insight into water conditions at Stibnite today and during operations. Working together, the Stibnite Advisory Council and Perpetua Resources entered into a joint agreement with the University of Idaho Water Resource Department to implement a Community Accountability Program for independent water monitoring. The program is designed to support transparency and accountability in a clear and publicly available manner. The first report will be made available in 2022.





- Perpetua and the Stibnite Advisory Council implemented a Community Accountability Program for independent community water monitoring
- → The Stibnite Advisory Council. discussed topics ranging from water management to transportation and published a summary of their work
- → In 2020 and 2021, we hosted 103 webinars and office hours to ensure our team stayed connected



11 SUSTAINABLE CITIES PRIMARY

11.a Support a positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning





SECONDARY

16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements





Perpetua's Guiding Principles state our purpose is "to leave the Project site better than we found it and to leave a lasting legacy of economic benefits in Valley County and Idaho." Ensuring a positive economic impact requires meaningful investment in people, businesses and communities.

In working toward this goal, Perpetua commits to:

TRAINING & HIRING LOCALLY

We committed early on to hiring, contracting and purchasing supplies and services locally whenever possible. We will support training opportunities for Idahoans throughout the life of our project by working directly with schools, community colleges and the Idaho Department of Labor. The Project anticipates approximately 500 direct jobs during operations with \$48 million to \$51 million in annual payroll.

DIRECT PROFIT SHARING

The 2018 Community Agreement, required Perpetua Resources to fund a charitable endowment now, and through the life of the Project. In 2019, the Stibnite Foundation was created to grow a long-term and sustainable endowment that exists to support community projects that promote families, quality of life and the environment well beyond the life of our Project. The charitable fund is not intended to offset direct impacts of the Project but instead address important community needs.

Funding for the foundation is first provided based upon Project milestones and then based on a profit-sharing model that guarantees a minimum annual contribution of \$500,000 or 1% of total comprehensive income less debt repayments through the duration of operations.

A list of projects funded to date can be reviewed here.





Actions Taken

- Formation of the Stibnite Advisory Council in 2018 and the Stibnite Foundation in 2019
- Funded over \$2.6 million in charitable giving, sponsorships and community partnerships since 2014



$\hat{\mathcal{J}}$ SDG Alignment

11 SUSTAINABLE CITIES PRIMARY



11.a Support positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning







4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship



GOVERNANCE



Goal 9: Develop a diverse and inclusive team.

Perpetua Resources knows our team is better when we have a diverse set of experiences, expertise and identities represented. Perpetua is committed to fostering, cultivating and preserving a culture of diversity, equity and inclusion among our general workforce, company leadership and board of directors.

In working toward this goal, Perpetua commits to:

BUILDING A WORKFORCE FOR TODAY & TOMORROW

Representation matters. We are committed to an inclusive workforce because we know that the individual differences, life experiences, knowledge, inventiveness, innovation, self-expression, unique capabilities and talent that our employees invest in their work represents a significant part of not only our culture, but also our reputation and company's achievement as well.

We embrace and encourage our employees' and directors' differences in age, color, disability, ethnicity, family or marital status, gender identity or expression, language, national origin, physical and mental ability, political affiliation, race, religion, sexual orientation, socio-economic status, veteran status, and other characteristics that make our workforce unique.

While our senior management and staff reflect stronger than industry average gender diversity, we know there is still work to do to create a team that represents the American mosaic. That is why we expanded our diversity and inclusion policy and the accompanying set of practices, that guide hiring as we work to recruit, retain and promote a diverse workforce.

We have set near term goals to actively pursue stronger board diversity and provide opportunities for training and awareness among management and staff.





- → Appointed a female CEO
- ♦ 67% of executive management and 41% of our workforce are female as of January 2022





PRIMARY

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life



SECONDARY

10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality





With the rise of awareness of environmental, social and governance as a priority to investors and other stakeholders, Perpetua Resources will update its primary ESG reporting to follow internationally recognized reporting standards. Adopting formal ESG reporting will improve transparency and accountability, while ensuring the integrity of performance reporting.

In working toward this goal, Perpetua commits to:

REPORTING ANNUALLY

Since 2013, we have reported on our work to put our values and commitments into action. These sustainability reports can be found here.

ADOPTING SUSTAINABILITY ACCOUNTING STANDARDS BOARD (SASB) REPORTING FRAMEWORK

In 2021, Perpetua Resources adopted improved policies on Environment, Social and Governance (ESG). Perpetua enhanced these policies by adding in additional commitments to Business Integrity and Ethics, Transparency and Reporting, Climate Change Mitigation and Human Rights.

In order to be accountable to these commitments, in 2021, Perpetua evaluated three internationally vetted frameworks for disclosure and sustainability reporting [(GRI (Global Reporting Initiative), IRMA (Initiative for Responsible Mining Assurance) and SASB (Sustainability Accounting Standards Board)].

Pereptua Resources aims to align its ESG disclosure with SASB reporting framework beginning with its 2021 sustainability report released later this year.





- Inaugural ESG report published in 2013
- Perpetua's ESG Policy was updated and expanded in 2021
- Evaluated ESG reporting frameworks and selected the SASB ME SG for future reporting





PRIMARY
16.6 Develop effective,
accountable and
transparent institutions at
all levels



SECONDARY

16.7 Ensure responsive, inclusive, participatory and representative decision-making at all level



Goal 11: Disclose and report current and future GHG emissions.

Perpetua Resources recognizes that climate change presents real and pressing threats to the environment and human health. Before we set goals to reduce our greenhouse gas emissions, we first need a transparent reporting system to drive accountability.

In working toward this goal, Perpetua commits to:

REPORTING ANNUALLY

To reduce climate change related impacts, and in accordance with our Climate Change Policy and Mitigation Strategy, Perpetua Resources has committed to reporting annual greenhouse gas emissions through a certified third party using the GHG Protocol, the global standard in reporting GHG emissions. Scope 1 and 2 carbon emissions have been audited from 2017-present and will continue to be accounted for while attempting to improve rates going forward. Scope 3 emissions will be included in future audits after mining operations begin.



Download our 2020 greenhouse gas (GHG) emissions report here.



 Published our annual GHG emissions footprint provided via third party analysis





PRIMARY

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle



SECONDARY

16.6 Develop effective, accountable and transparent institutions at all levels

Goal 12: Set science-based Greenhouse Gas Emissions target.

Getting to net-zero carbon emissions will require action across every industry sector. Mining companies play an integral role in the effort to combat climate change and achieve international climate goals; both by providing the raw materials necessary for the energy transition as well as driving the adoption of practices that reduce the industry's carbon emissions. Once the final Project design is selected and approved, and before operations begin, Perpetua will set a greenhouse gas emission target utilizing offsets, mitigations and reductions that help achieve climate change goals.

In working toward this goal, Perpetua commits to:

IDENTIFYING OPPORTUNITIES TO REDUCE EMISSIONS

Once the final project design is approved, more specific data on emissions will be made available. Between now and then, we will begin identifying opportunities for carbon emission offsets and mitigations and evaluate the feasibility of renewable energy credits, carbon offsets, forestry banks and other potential programs.

Once operations commence, Perpetua will rely on Idaho Power to supply energy to the site. Idaho Power has committed to 100% clean energy by 2045 and as they continue to clean the grid, the Project will benefit from cleaner energy. Meanwhile, today, Perpetua utilizes a 25.5kW solar array to power much of the work on site (44% of our 2021 energy supply), with backup generators for nighttime and winter use.

In addition to reducing and mitigating direct emissions, Perpetua is mindful of how gold and antimony can play a role in developing clean technology solutions that will be a part of the clean energy supply chain.





Actions Taken

- The Entered into an agreement to provide antimony to Ambri, a U.S. manufacturer of stationary clean energy storage batteries
- ♦ 88 290W Solar Panels installed at site providing alternative green energy source for year round support since 2015



SDG Alignment



PRIMARY

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle



NOUSTRY, INNOVATION SECONDARY



9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

Goal 13: Protect our people and our communities.

Perpetua Resources believes the health and safety of our employees, contractors and the public is fundamental to our operations. We established safety principles that are reflected in rigorous policies and operating procedures for the protection of the health and safety of people working at the Project and the public. These principles, and the resulting policies and procedures, will continue to be refined and developed as the Project advances, reflecting the various phases of work.

In working toward this goal, Perpetua commits to:

CONTINUED INTEGRATED ENVIRONMENTAL OCCUPATION-AL HEALTH AND SAFETY MANAGEMENT:

Perpetua Resources believes that the health and safety of its employees is fundamental for the operation of its business. Avoiding work-related injury or illness is a top priority and Perpetua Resources is committed to the identification, elimination and/or control of workplace hazards to ensure the protection of all employees, contractors, consultants and visitors to site. The goal is to promote a safe workplace resulting in zero lost time incidents. Perpetua Resources is committed to implementing the operational improvements that offer superior safety and occupational health management. To reach this goal, Perpetua has implemented an Environmental, Occupational Health & Safety Management System to grow internal training requirements for its employees, contractors and consultants. This system will undergo third party audit and certification to ISO 14001:2015 and ISO

> 45001:2018 standards before the mine is in operations. Perpetua will also continually update and share emergency response plans.

SUPPORT COMMUNITY **SAFETY**

In recognition that our project will interface with local communities, Perpetua has committed to sharing and growing training opportunities and resources with local first responders and public health and safety officials.



Actions Taken

- 🔷 Adopted an Integrated **Environmental Occupational** Health and Safety Management
- Adopted OSHA training and safety standards and voluntarily undergo Idaho-OSHCON safety audits
- Implemented emergency and crisis plans
- Reached 73 months no loss time injuries in 2021
- Reached 118 months no reportable spills in 2021
- Grew our internal training programs
- Hosted local responders to share in HAZPOWER training



DECENT WORK AND PRIMARY

8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment



SECONDARY

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and





APPENDICES





Perpetua Resources' initiatives support the United Nations Sustainable Development Goals (SDGs) in addressing society's biggest challenges. The following are SDG targets directly supported by Perpetua's work.

3 GOOD HEALTH AND WELL-BEING

3. Ensure healthy lives and promote well-being for all, at all ages

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination



4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship



5. Achieve gender equality and empower all women and girls

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life



6. Ensure availability and sustainable management of water and sanitation for all

- 6.3. By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- 6.4. By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
- 6.6. By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
- 6.b. Support and strengthen the participation of local communities in improving water and sanitation management

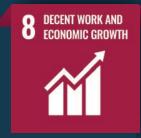




7. Ensure access to affordable, reliable, sustainable and modern energy for all

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

7.3 By 2030, double the global rate of improvement in energy efficiency



8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors

8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programs on sustainable consumption and production, with developed countries taking the lead

8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment



9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities



10. Reduce inequality within and among countries

10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality





11. Make cities and human settlements inclusive, safe, resilient and sustainable

- 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage
- 11.a Support positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

12. Ensure sustainable consumption and production patterns

- 12.2 By 2030, achieve the sustainable management and efficient use of natural resources
- 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
- 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
- 12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle
- 12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities



13. Take urgent action to combat climate change and its impacts

13.2 Integrate climate change measures into national policies, strategies and planning





15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development

15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities



16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

16.6 Develop effective, accountable and transparent institutions at all levels

16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels

16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements



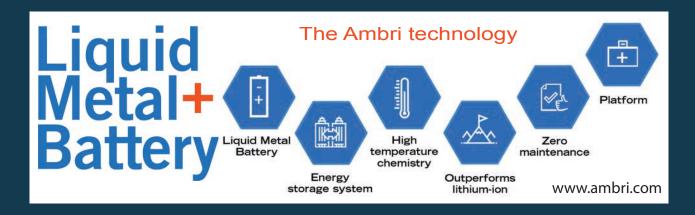
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships



Perpetua Resources entered into an agreement to supply a portion of the antimony production from the Stibnite Gold Project to Ambri Inc., establishing the foundation to help facilitate the decarbonization of energy grids in the U.S. and around the world. The Stibnite Gold Project will provide Ambri with antimony from the only responsible and domestically mined source of the critical mineral in the U.S.

The minimum commitment of Perpetua's antimony production for Ambri's battery manufacturing is expected to power over 13 Gigawatt hours of battery capacity, which is equivalent to over 8 times the total additions to the entire U.S. energy storage market in 2020.



Ambri, a U.S. company, has developed an antimony-based liquid metal battery for the stationary, long-duration, daily cycling energy storage market. Ambri batteries combine technological innovation with commercial applications for low-cost, long lifespan and safe energy storage systems that will increase the overall contribution from renewable sources to help enable the transition to clean, carbon-free power grids.

This agreement directly links the redevelopment of the Stibnite Gold Project - and the restoration of the site - to a new battery manufacturing partner that is poised to play a critical role in reducing carbon emissions. Our partnership with Ambri aligns with long-term value of our project and breathes further life into our guiding ESG principles.

APPENDIX C General Resources

Community Agreements

2018 Community Agreement

Stibnite Advisory Council

- Annual Report: Progress Report
- Independent Water Monitoring Program:
 Program Announcement
- FAQ: Frequently Asked Questions & Glossary
- Website: <u>www.stibniteadvisorycouncil.com</u>

Stibnite Foundation:

- Direct Profit Sharing: Foundation
- Grant Funding: Grant Recipients

Perpetua Resources Policies

- Anti-bribery & Anti-corruption
- Charitable Donations
- Climate Change (ESG Policy, pg. 10)
- Code of Conduct & Ethical Values
- <u>Director Travel Expenses</u>
- Directors' Confidentiality
- Disclosure and Confidentiality
- Diversity and Inclusion
- ESG
- Human Resources
- Infectious Disease Control Summary
- Information Technology & Security
- Insider Trading & Reporting
- Political Contributions Policy
- Social Media
- Supplier Standards (ESG Policy, pg. 6)
- Whistleblower
- Audit Committee Charter
- Corporate Governance Charter
- Compensation Charter

Perpetua Resources

- Agreement with Environmental Protection Agency to conduct pre-operations cleanup (Administrative Settlement Agreement and Order on Consent): EPA Agreement
- Dark Skies Commitment: <u>Dark Skies Report</u>
- Hire Local Commitment (PRO, pg.3-1): <u>Hiring</u>
 & Contracting Objectives
- Safety Commitment: <u>Site Safety and Health</u> Plan Summary
- Safety Commitment: <u>Environmental</u>, <u>Occupational Health & Safety</u>, <u>Integrated Management System Summary</u>
- Values (PRO, Section 2): <u>Values</u>
- Restoration (PRO, Section 5): Restoration
- Community Project Webinars: Recorded Webinars

Stibnite Gold Project

- 2016 Plan of Restoration & Operations: <u>Executive Summary</u>
- 2020 Refined Modified Plan of Restoration & Operations: <u>Refined Proposed Action</u>
- Improvements One Pager: <u>Proposed Project</u>
 Improvements
- Feasibility Study: <u>Technical Report</u>
- Prefeasibility Study: <u>Technical Report</u>
- Tours: Virtual Tour
- Solar Power Use: <u>Sustainability from the Sun</u>
- Sustainability Report Library
- Greenhouse Gas (GHG) 2020 Emissions Report: GHG Emissions Footprint

APPENDIX C General Resources

Relevant Resources

Forbes article: "Antimony: The Most Important Mineral You Never Heard Of"

International Environmental and Social Standards for Mining Operations: <u>IRMA (Initiative for Responsible Mining Assurance)</u>

McKinsey & Company Reports:

- "Net-zero power: Long-duration energy storage for a renewable energy grid"
- "The raw materials challenge: How the metals and mining sector will be at the core of enabling the energy transition"

Net Zero by 2050, A Roadmap for the Global Energy Sector: <u>IEA 2021 Net Zero by 2050 Report</u>

Perpetua Resources One-Pagers:

- Antimony, The Critical Component
- Defining the Future of Mining in America
- Powering the Green Future with American Antimony
- The East Fork of the South Fork of the Salmon River Needs Help
- Why Perpetua Resources

Perpetua Resources White Paper: Antimony: <u>A Critical Metalloid for Manufacturing</u>, <u>National Defense and the Next Generation of Energy</u>

<u>Sustainability Accounting Standards Board (SASB)</u>
<u>Universal Sustainability Reporting Standards: GRI (Global Reporting Initiative)</u>

United Nations Sustainable Development Goals (SDGs)

- UN Goal 3: Good Health and Well-Being
- <u>UN Goal 4: Quality Education</u>
- UN Goal 5: Gender Equality
- UN Goal 6: Clean Water & Sanitation
- <u>UN Goal 7: Affordable Energy</u>
- UN Goal 8: Decent Work & Economic Growth
- UN Goal 9: Industry, Innovation, and Infrastructure
- <u>UN Goal 10: Reduce Inequalities</u>
- <u>UN Goal 11: Sustainable Cities & Communities</u>
- UN Goal 12: Responsible Consumption & Production
- UN Goal 13: Climate Action
- UN Goal 15: Life on Land
- <u>UN Goal 16: Peace, Justice & Strong Institutions</u>
- <u>UN Goal 17: Partnership For The Goals</u>

Wilson Center Report: "The Mosiac Approach: a multidimensional Strategy for Strengthening America's Critical Minerals Supply Chain"







Responsible Mining. Critical Resources. Clean Future.

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