

IMPOSSIBLE
— METALS —

ESG and ANNUAL REPORT

January - December 2023



Welcome

From Our Board Chair

Humanity has made significant strides in the Anthropocene era. Acknowledging the reality of climate change and taking responsibility for it, we've identified the primary culprit: human activities, notably the burning of fossil fuels. To address this, the transition to electrification is underway. Recognizing the pivotal role of efficient and economical energy storage in this transition, we're faced with a challenge: the depletion of critical minerals crucial to electrification.

A solution lies in the seabed's polymetallic nodules, which contain more critical minerals than all terrestrial mines combined. However, accessing these resources economically and with minimal environmental disruption is complex.

Organizations, businesses, and individuals have expressed opposition to mining the ocean floor due to potential environmental risks. However, opposition without offering viable alternatives is not a solution to the critical metals shortage, especially considering the impacts of land mining in Indonesia and Africa. Impossible Metals aims to address this challenge through advanced technologies such as robotics, artificial intelligence, and machine vision in our nodule harvesting system. This approach minimizes environmental impact while providing a more economical alternative to traditional dredge and riser methods.

In 2023, we made good progress toward making this a commercial reality. In May we successfully demonstrated Eureka I, our shallow water prototype robotic system. By November, we had completed the initial development

of the much larger second prototype, Eureka II, and had demonstrated successful performance in shallow water. Eureka II will demonstrate deep water performance in the Atlantic in 2024. In July, we welcomed former US Assistant of State for Resources Frank Fannon as a key advisor. On the regulatory front, the International Seabed Authority has committed to delivering final rules, regulations, and procedures for harvesting seabed minerals in 2024.

Through responsible practices and innovative use of advanced technology, we aim to contribute to the responsible utilization of seabed resources to benefit humanity and the planet.

Dan Lankford

Dan Lankford | Board of Directors Chair



From Our CEO/Co-founder

We founded Impossible Metals based on the belief that deep sea minerals will play a crucial role in the energy transition. As we electrify everything, we need 500% more critical metals, according to the International Energy Agency (IEA).

Deep sea minerals are our planet's largest source of nickel, cobalt, and manganese. Mining for millennia has depleted high-grade ore deposits, making the economics of land-based mining challenging. The remaining deposits are low-grade and often situated in remote locations, requiring the construction of new infrastructure (highways, train lines, villages, power plants, etc.), long-term extraction activities, and processing of mine waste. In addition, lengthy permitting

processes for this infrastructure jeopardize the timeliness of the energy transition to avoid severe climate impacts.

Adding to the equation are some jurisdictions' damaging environmental and social impacts of land-based mining. Indonesia, the world's largest nickel producer, extracts nickel laterite ore from beneath rainforests, causing significant destruction of biomass and biodiversity and substantial carbon emissions fueled by coal. In the Democratic Republic of the Congo (DRC), the largest cobalt producer, child artisanal mining is well-documented, leading to tragic consequences highlighted in the book 'Cobalt Red: How the Blood of the Congo Powers Our Lives' by

Siddharth Kara. In this book, Siddharth estimates a child dies every day in a cobalt mine in the DRC. We need an alternative source.

Deep sea minerals have the potential to provide enough nickel and cobalt to replace the need for new land-based mines. We anticipate that our selective harvesting technology will not only reduce costs, making electric vehicles accessible to everyone, but will also be proven to have the lowest environmental, social, and governance (ESG) impacts in mining.

Looking ahead to 2024, I am excited about the potential of retrieving a real nodule from the deep ocean using our Eureka II autonomous underwater

robot. This achievement will mark only the second time in the last 40 years that such an integrated collection system has been successfully tested. Additionally, I am eager to advance Eureka III, our full-size production vehicle, and make strides in our permitting strategy.

Finally, I want to thank our team and their families again for their incredible work in 2023 as we look forward to providing a path toward producing truly responsible metals.

Oliver Gunasekara

Oliver Gunasekara | CEO & Co-Founder



A Year in Review

In 2023 our robotics team hit multiple milestones on the road to transforming selective harvesting from an idea to a reality, and our bioextraction team has achieved successful proof of concept, demonstrating the dissolution of cobalt, nickel, and copper at laboratory scales.

Seabed harvesting *without* destroying the habitat.

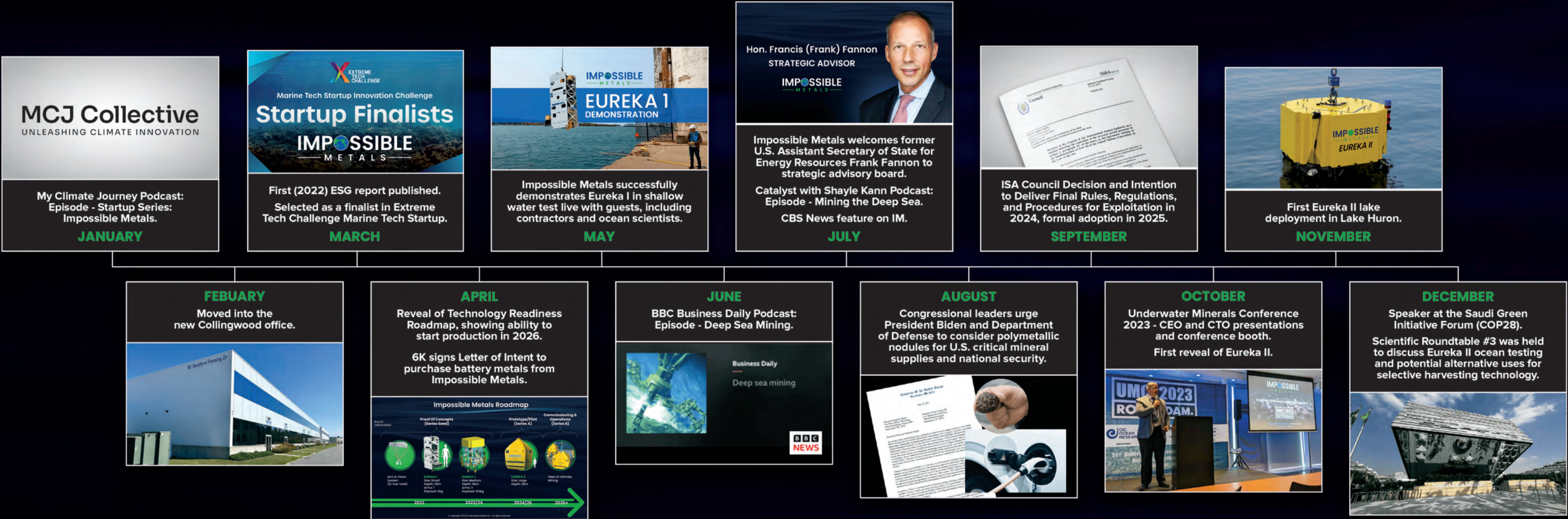


Table of Contents

A Year in Review.....04

Introduction..... 08

Vision, Mission & Core Values 09

Selective Harvesting (Robotics)..... 10

Mineral Processing (Biorefining).....11

Responsible Metals.....12

Our Reporting Commitment12

Technical & Strategic Performance.....14

Selective Harvesting (Robotics).....14

 2023 Goals.....14

 2024 Goals.....15

 Beyond 2024.....16

Mineral Processing (Biorefining).....16

 2023 Goals.....17

 2024 and Beyond18

Environment.....19

Carbon & Climate 20

 Climate Mitigation - Carbon Footprint..... 20

 Climate Adaptation - Risk Assessment..... 20

Water 20

Waste22

Biodiversity.....23

Green Building24

Environmental Incidents/Complaints.....24

Environmental Goals24

Social.....28

Employees.....28

 Health & Safety28

 Employee Numbers30

 Employee Demographics.....30

 Living Wage.....31

 Benefits & Wellness32

 Employee Satisfaction.....34

 Annual Review of Working Conditions.....35

Community35

 Giving Back34

 Industry.....36

 Academia.....38

Stakeholder Engagement38

 Stakeholder Engagement Plan40

 Required Consultation.....42

 Summary of Stakeholder Engagement Undertaken in 2023.....42

 Scientific Community.....42

 Media44

 Public Outreach46

 Eureka I Demonstration49

Contractors & Suppliers..... 50

Social Incidents/Complaints 50

Social Goals 50

Governance52

Board of Directors.....52

Advisors52

Ethics and Transparency53

 Ethics53

 Transparency.....53

Policies & Procedures54

Risk Management.....55

Governance Goals 56

Appendix A.....57

Internal Impossible Metals

Annual ESG & Performance Report

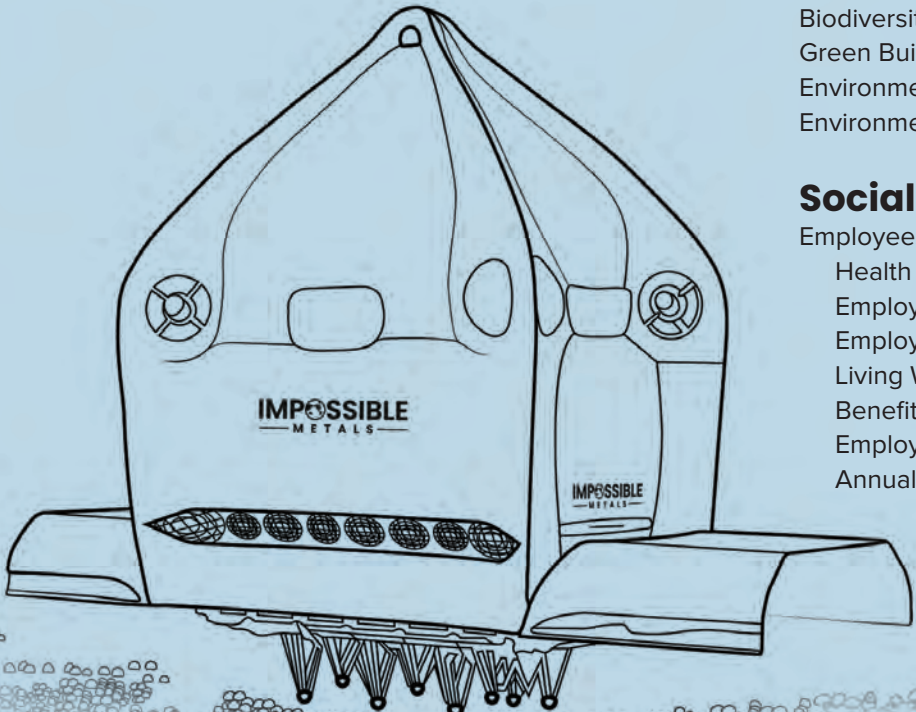
Requirements Checklist

Appendix B 60

Impossible Metals Contributions to UN Sustainable Development Goals

Appendix C..... 66

Impossible Metals Compliance with Workers Rights



Introduction

Impossible Metals was established in September 2020, and since then, we have been building our team and rapidly progressing on technical milestones. This report showcases not only our technical progress but also how we are embedding the highest levels of environmental, social, and governance oversight into our technology development, and how we conduct ourselves. We seek to align with and transparently report our performance against our Core Values at all stages of our technology development and deployment.

Impossible Metals aims to deliver mining solutions that are vastly better for people and the planet than land-based mining and other concept seabed mining approaches. Our solutions will be responsible, ethical, cost-effective, and profitable. In time, it may be possible to stop mining new minerals entirely and rely on recycling. Until then, mining can and should be dramatically different. We want to show that raising the bar on environmental and social metrics is possible while still competing on cost.

Impossible Metals is developing technology in two key areas: Selective Harvesting of marine minerals and Mineral Processing using bacterial respiration. Our technology development goals are synonymous with our Public Benefit Statement,

“To deliver responsibly mined and processed battery metals to the market in a manner which promotes sustainability, transparency, and accountability, and to render a public benefit by acceleration of the world’s transition to sustainable energy to mitigate the climate crisis.”



Vision, Mission & Core Values

Vision: Accelerating clean energy by delivering the most sustainable critical metals.

Mission: To harvest and process critical metals from the seabed, while protecting the environment.

What we do: We are building underwater robotic vehicles for harvesting battery metals and have invented a new form of mineral processing that uses bacteria metal respiration.

Core Values:



**Planet comes first:
environment and
people before profit**



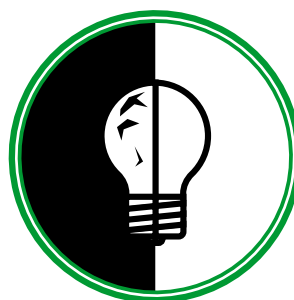
**We are determined,
striving to make the
impossible possible**



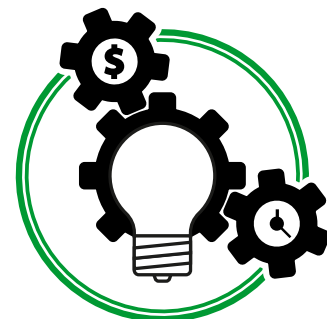
**We encourage, share
and respect all
perspectives**



**We move fast,
separating what must
be done now from what
can be improved later**



**We embrace and learn
from every success
and failure**



**We act as owners,
managing resources
responsibly and
efficiently**

Selective Harvesting (Robotics)

Impossible Metals is developing engineering for selective harvesting of deep sea polymetallic nodules. An Autonomous Underwater Vehicle (AUV) robotics fleet is in development that will use “pick and place” manipulator technology to harvest nodules individually, minimizing disturbance of the sediment and seafloor ecosystems. Image sensing technology will identify megafauna on the nodules and will leave those nodules untouched, allowing for the preservation of nodule-dependent fauna. The system can also leave behind a percentage and pattern of nodules, with an aim of maintaining ecosystem function.

The significant advantages of this system include:

- **Low environmental impacts** – avoidance of nodule fauna, minimal sediment disturbance, no return water/mid-water plume, low noise and light pollution
- **Scalable** – no single point(s) of failure, ability to start with a low production rate and increase over time
- **Lower cost** – Significantly less CAPEX and OPEX than dredging with riser pump systems¹



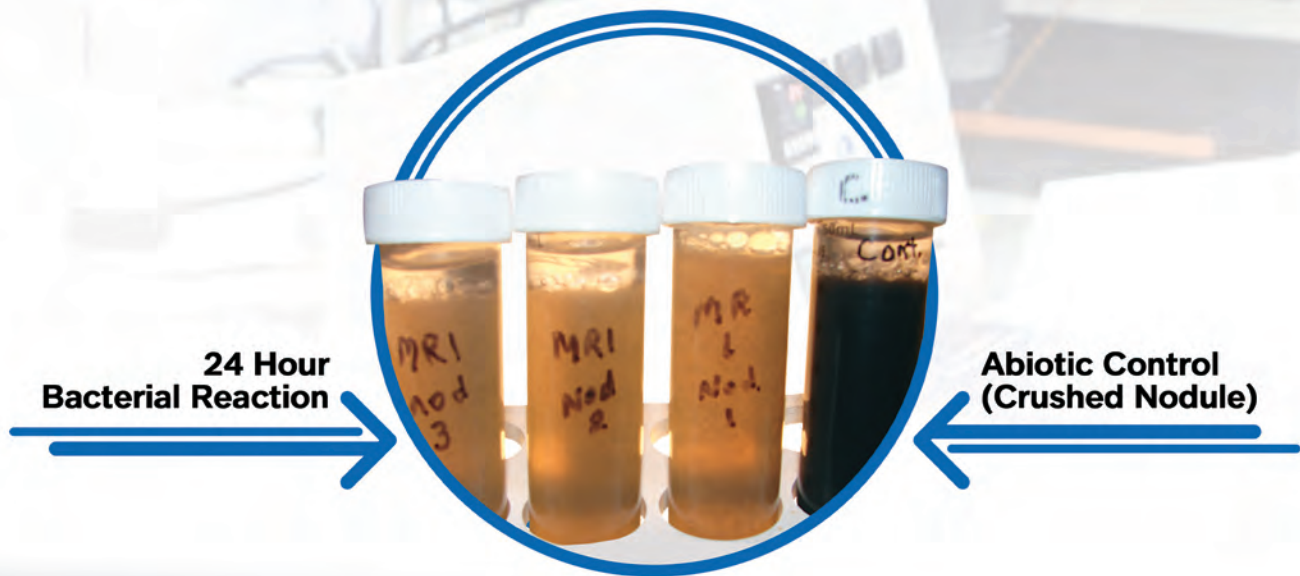
¹ Based on concept economic modeling, publicly available [here](#).

Mineral Processing (Biorefining)

Impossible Metals is developing a methodology to enable ore dissolution using bacterial respiration, called biorefining. This patented process will use specific bacterial strains to liberate metals into solution, without the use of acids, toxic chemicals, or extreme heat. When proven at scale, this process will integrate with traditional comminution (crushing and grinding) processes, and will disrupt existing mineral extraction technology such as flotation, roasting, and leaching.

We expect that the significant advantages of this system over traditional processing will include:

- No tailings or environmental pollutants
- No use of toxic chemicals or acids
- Low energy intensity
- Neutral pH wastewater stream
- Lower CAPEX and OPEX than traditional processing methodologies



Responsible Metals

In line with our Core Values and Mission, we aim to deliver Responsible Metals, defined by [BetterEV.org](https://betterEV.org) as meeting the eight criteria set out in **Table 1** (at right).

Our Reporting Commitment

We are committed to reporting on our ESG and technical performance annually, including all topics described in our [Annual ESG & Performance Reporting framework](#), publicly available on our website. The performance of this report compared to this policy is described in **Appendix A**. Additionally, this report aims to meet B Labs best practices for transparency as we work toward applying for B Corp certification.

Impossible Metals has stated [our proposed contributions toward the United Nations' Sustainable Development Goals](#) on our website. These are described in **Appendix B**, as well as how we worked toward those contributions in 2022. We will continue to report our contributions toward these goals in each Annual ESG & Performance Report.

Impossible Metals has been following the development of the first handbook for Environmental, Social and Governance (ESG) disclosure in relation to marine minerals, being led by GSE Ocean Technology. We provided feedback on the draft handbook at a workshop, and are looking forward to seeing the final document in 2024. We plan to begin integrating the handbook recommendations in our 2024 ESG & Annual Report.



Responsible Metals Criteria	Impossible Metals Contribution
1. Protects safety and human rights	Impossible Metals will target seafloor resources, which will not displace or affect local communities at the resource location. Impossible Metals will work with host nations and impact assessment processes to ensure that the port, mineral processing, and associated infrastructure are designed, constructed, and operated in a manner that does not negatively impact local communities. Impossible Metals implements its Human Rights Policy and Workplace Health and Safety Policy throughout all its operations. The Impossible Metals Board reviews performance against these policies on an annual basis. As Impossible Metals' technology is deployed to full-scale operations, Impossible Metals will undertake independent safety and human rights auditing. They will report the outcomes of these independent audits annually in its ESG Report.
2. Is carbon neutral	Impossible Metals is committed to achieving net-zero Scope 1 and 2 emissions at or before reaching full-scale technology production.
3. Maximizes the potential for recycling and circularity	In 2023, Impossible Metals did initial studies on biorefining on mineral waste streams and battery black mass. The results are encouraging, and there are plans to continue this work in 2024. Impossible Metals aims to apply our novel techniques to these waste streams to reduce waste volume and facilitate the recycling of valuable metals in the battery industry.
4. Eliminates toxic waste	Impossible Metals is developing novel mineral processing methods using bacterial respiration (biorefining) that aim to replace traditional ore processing technologies, which eliminates the production of toxic waste/tailings from mineral processing.
5. Avoids widespread habitat destruction	Impossible Metals is developing technology that hovers over the deep sea floor to selectively harvest mineral resources (polymetallic nodules). This technology avoids the habitat destruction associated with dredge and riser-based technology. Impossible Metals takes into consideration the specific concerns of the scientists who signed the Seabed Mining Science Statement when developing our technology and environmental impact assessment criteria. Impossible Metals engages with the scientific community early and often to gather input on environmental considerations/studies in order to create a robust impact assessment methodology.
6. Avoids water scarcity	Impossible Metals is developing biorefining to use seawater or saline water as the base medium, thus avoiding the need for large quantities of fresh water in the minerals processing stream. Water reuse and recycling will also be investigated during the pilot plant(s) development, to confirm the volume of water that can be reused throughout the process.
7. Avoids loss of biodiversity	Impossible Metals is developing technology that hovers over the deep sea floor to selectively harvest mineral resources (polymetallic nodules). This technology avoids the habitat destruction associated with dredging technology and will allow nodules to be selectively excluded from harvesting, where they are identified to host seabed life. Impossible Metals uses the specific concerns of the scientists who signed the Seabed Mining Science Statement to inform the development of our technology and environmental impact assessment criteria. Impossible Metals engages with the scientific community early and often to gather input on environmental considerations/studies to create a robust impact assessment methodology.
8. Avoids displacing Indigenous people or communities	Impossible Metals is committed to developing technology for the seabed minerals industry that will enable mineral extraction without the displacement of any indigenous peoples or communities. Further, Impossible Metals' biorefining technology has potential applications for terrestrial mining, which will reduce the impact on indigenous peoples and communities that are currently associated with traditional terrestrial mine footprints.

Table 1: Description of how the [Responsible Metals](#) criteria are implemented through Impossible Metals' technology and processes.

Technical & Strategic Performance

In 2023, the strong performance of our robotics and mineral processing teams allowed us make significant progress toward our goal of designing and demonstrating the technologies and processes to produce responsible metals.

As detailed in the Introduction section, each step we take toward our technical goals is another step toward achieving our public benefit statement, *“To deliver responsibly mined and processed battery metals to the market in a manner which promotes sustainability, transparency, and accountability, and to render a public benefit by acceleration of the world’s transition to sustainable energy to mitigate the climate crisis.”*

The future-looking goals below represent a summary of Impossible Metals’ Annual Operating Plan for 2024 and its 5-Year Plan.

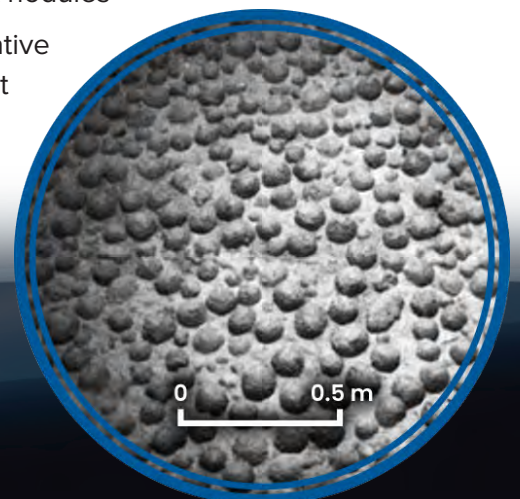
Selective Harvesting (Robotics)

In 2023, the Impossible Metals robotics team achieved two significant milestones. In May, the Eureka I system performed a fully autonomous collection of rocks (nodule analogues), achieving over a 90% pick success rate. By December, our Eureka II autonomous underwater vehicle (AUV) was built and system functional testing was successful in testing to approximately 50 metres water depth. This achievement allows us to continue to prove out the operation of this platform on a real nodule field with Eureka II in the ocean in 2024.

2023 Goals

Goal 1 - Shallow-water autonomous collection (achieved)

- At 5 metres depth, the Eureka I AUV collected nodules autonomously using the buoyancy engine to offset added mass from the collected rocks.
- This milestone demonstrates:
 - Technical feasibility of using autonomous, AI-driven systems to over above the seabed and selectively harvest nodules
 - Concrete progress toward a viable alternative to dredge and riser-based technology that prevents biodiversity loss and minimizes sediment disruption



Goal 2 - Full-depth AUV selective nodule pick-up by Eureka II (deferred to 2024)

- Eureka II was designed and built in 2023 and operation of Eureka II in shallow water including the arms used for selective collection of nodules was completed in shallow water (~50 metres). Selective harvesting on a deep ocean nodule field is deferred to 2024 (see 2024 goals below).

Goal 3 - Establish Component Sourcing, including ESG (partially achieved)

- Supplier screening was updated to include questions regarding human rights but not other environmental aspects, which will be incorporated prior to parts sourcing for Eureka III (roll out in 2024; see 2024 goals below).

Goal 4 - Refine the techno-economic model for AUV selective harvesting (achieved)

- Based on the learnings from Eureka II and refined optimization of the techno-economic model, we have determined in concept that the selective harvesting approach can exceed cost savings of 1/3 compared to dredge and riser-based solutions with published economics. The selective harvesting approach can achieve a cost per dry kg of nodule material to shore of \$110.
- Eureka III is not the predicted final production vehicle size, but it has been modified to a 6 tonne system. This size can achieve a cost per dry kg to shore of \$160 (USD) which is comparable to published economics of dredge and riser-based solutions.

2024 Goals

Goal 1 - Full-depth AUV selective nodule pick-up by Eureka II

- In the first half of 2024, ocean testing will be carried out in which Eureka II will autonomously collect polymetallic nodules from a deep sea nodule field (~800 m depth)
- Full-depth testing of Eureka II is planned for later in 2024 (4000-5000 metres depth). During this deployment, independent scientists will be involved in environmental monitoring, and will publish data and findings related to environmental impact.

Goal 2 - Design and initial construction of Eureka III

- Eureka III is the first production size selective harvesting AUV. Design of this system will commence in '24 with initial construction and integration testing of the AUV underway

Goal 3 - Establish Component Sourcing, including ESG

- Prior to sourcing parts for Eureka III, establish and implement ESG screening processes for significant suppliers that align with the goals and values of B Labs.
- We will report against the ESG metrics of our significant suppliers annually.

Beyond 2024

In **Figure 1** we lay out our Technology Readiness Roadmap, which identifies we plan to carry out test mining in late 2025 (or early 2026). At that point, we will have a viable and economic nodule harvesting vehicle, and will be ready to begin nodule collection and/or further refinement of our vehicle (Eureka IV), and any associated legislative processes.

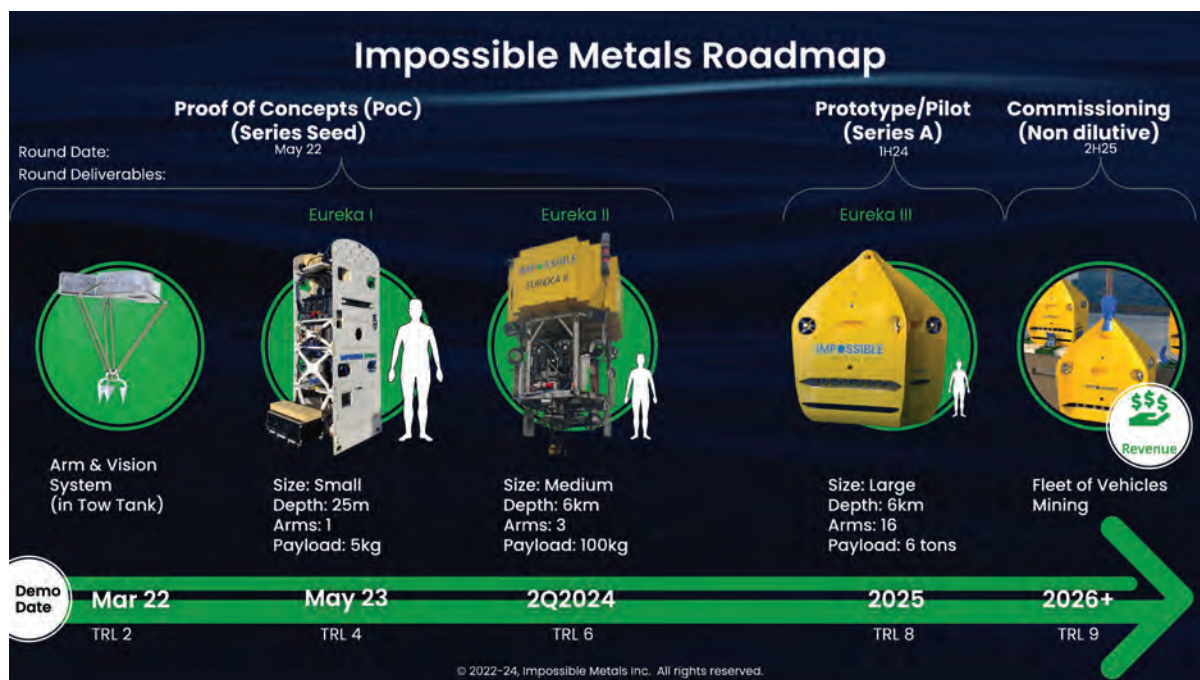


Figure 1: Technology readiness roadmap - Impossible Metals' selective harvesting technology.

Mineral Processing (Biorefining)

The mineral processing team was established in 2022 at the [Pasadena Bio Collaborative Incubator](#). The team has made significant progress in establishing effective bioextraction at the laboratory scale on polymetallic nodules, including identifying bacterial strains targeted to polymetallic resources and improving the efficacy of mineral dissolution using different media, electron transfer catalysts, and temperatures. In addition to working with polymetallic nodules, the team is progressing studies on applying bioextraction to terrestrial targets, including both mineral ore and waste streams. We have continued to develop and protect intellectual property relating to biorefining for terrestrial and seabed targets.

2023 Goals

Goal 1 - Optimize and Scale Polymetallic Nodule Processing

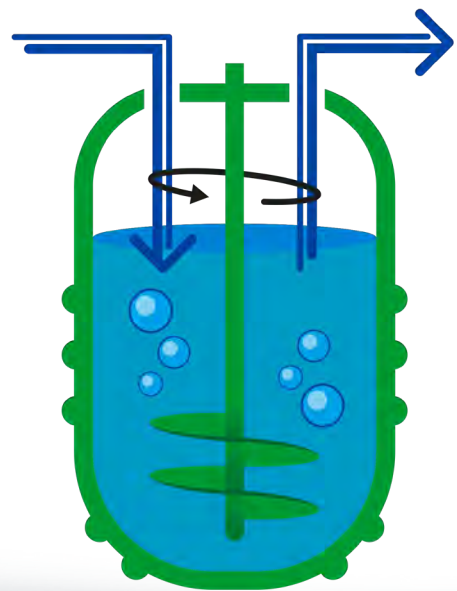
- To optimize costs and have a meaningful economic and environmental impact, we must scale our processing technology to massive volumes. Having demonstrated in 2022 that our process is viable at a small scale (20 mL), throughout 2023, we focused on working with larger bioreactor volumes, first scaling by a factor of five (to 100 mL) and then, in late 2023, scaling by another factor of 10 (to 1L). At these higher volumes, our process matched the performance we achieved at a smaller scale – for example, extracting 75+% of the nickel from polymetallic nodules.
- In our 2023 scaling studies, we also worked to increase the concentration of ore – another important factor in making our process viable. We increased ore concentration by a factor of five, to 2.5% weight to volume, with promising results. At higher concentrations, we encountered challenges that we are continuing to analyze.

Goal 2 - Explore the application of biorefining to terrestrial mining

- In partnership with a global mining company, in 2023, we completed an initial study applying bacterial respiration to terrestrial ore and associated waste streams. The results are promising, and discussions are underway regarding a second phase of work.

Goal 3 - Spin out biorefining as a separate business

- To accelerate and clarify the work of the company's robotics and biorefining efforts, we made a strategic decision in 2023 to spin out the biorefining work as a new company, Viridian Biometals. The work of creating and funding the new company is ongoing.



2024 and Beyond

Goal 1 - Complete the spin-out of Viridaian Biometals

- Having completed numerous preliminary steps to spin out the new company, we anticipate that the separation will be complete in the first quarter of 2024.

Goal 2 - Complete the spin-out of Viridian Biometals

- We are now developing a novel prototype bioreactor that will enhance our processing technology’s effectiveness at higher ore concentrations with the aim of building a significantly scaled pilot plant economically.
- We are developing techniques and technologies to accelerate the pace of our work and optimize our biorefining technology for specific ore types rapidly. Ultimately, this work will be vital to unlocking multiple customers and revenue streams.
- We are also beginning work to reduce the cost of input materials for the bio-refining process.

The progress we made in 2022 and 2023 paves a promising pathway for Impossible Metals to implement its public benefit “to deliver responsibly mined and processed battery metals to the market in a manner which promotes sustainability, transparency, and accountability and to render a public benefit by an acceleration of the world’s transition to sustainable energy to mitigate the climate crisis.” Achieving this public benefit will come when we achieve full-scale technology deployment. We will continue to report progress towards this outcome in our Annual & ESG Reports.

Environment

The environment is at the core of our business. We are developing sustainable technologies for harvesting and refining metals critical for transitioning to a low-carbon economy.

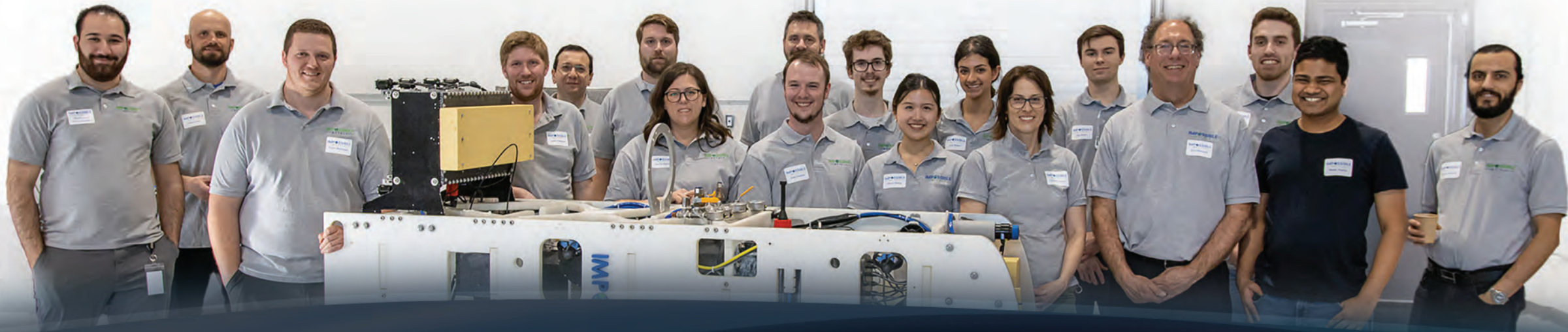
Our ultimate goals are to harvest and refine the metals in polymetallic nodules from the deep sea in a genuinely responsible way - that means harvesting metals with minimal disturbance to the ecosystem and refining those metals with no harsh chemicals and no tailings. Also, we plan to achieve net-zero carbon emissions by the onset of full production. We know these are big goals, but we’ve already made progress and we have a plan to get there.

Carbon & Climate

Climate Mitigation – Carbon Footprint

Impossible Metals has two development facilities in Collingwood, Ontario, Canada, and [Pasadena Bio Collaborative Incubator](#), California, USA. This section presents the first carbon footprinting exercise for these two facilities. The Collingwood team moved into a new facility in 2023, which is submetered for electricity and natural gas, providing accurate data on which to base carbon footprint calculations. The Collingwood data will be used as a baseline for this facility moving forward. The Pasadena facility is a shared-use space, and as such the carbon footprint is an estimation based on share of facility square footage. It is likely that Impossible Metals will move out of this facility, and therefore the Pasadena carbon footprint estimation is likely to have limited function as a baseline.

The scope 1 and 2 greenhouse gas footprint, for Impossible Metals’ 2023 operations was **45 tCO₂e**. This total is broken down in the table below. This carbon footprint was calculated using the [Greenhouse Gas Protocol](#).



Emissions Summary: Impossible Metals GHG Inventory (2023)

	CO ₂ (tonnes)	CH ₄ (tonnes)	N ₂ O (tonnes)	tCO ₂ e
Scope 1 Direct Emissions				
General Stationary Combustion				
Natural Gas (Ontario)	26.22	0.01	0	27.62
Natural Gas (California)	1.47	0	0	1.47
Sub-total:	27.68	0.01	0	29.09
Mobile Combustion (Ontario)				
Gasoline	8.19	0	0	8.22
Diesel	5.37	0	0	13.65
Sub-total:	13.56	0	0	13.65
Scope 2 Indirect Emissions				
Electricity (Ontario)	1.57	0	0	1.6
Electricity (California)	0.57	0	0	0.58
Sub-total:	2.14	0	0	2.17
Total Scope 1 + Scope 2	43.39	0.01	0.01	44.92

As we grow, we will implement a path to net zero, committed to achieving net-zero Scope 1 and 2 emissions by 2030.

Climate Adaptation – Risk Assessment

Impossible Metals is committed to implementing its technology solutions in a manner that mitigates, as far as possible, the risks associated with climate change. While still in early stage development, Impossible Metals is including in its technology development pathway:

- Launch and recovery technology that enables safe and effective operation in a wider window of weather variables;

- Design and construction of port and mineral processing infrastructure that considers 1:1000 year rainfall and storm events, and encompasses asset protection and spill/runoff containment infrastructure designed for this magnitude of climatic events;
- Incorporation of green energy and, where appropriate, off-grid energy into its operations to facilitate both the transition to net-zero and the ability to operate and maintain infrastructure during power outages and/or extreme weather events;
- Incorporation of rainfall harvesting infrastructure, where possible, into its facilities.

We will work with host nations to ensure that all our infrastructure is designed, constructed, and operated in accordance with relevant domestic climate adaptation guidelines and, where in existence, any National Adaptation Plans submitted under the United Nations Framework Convention on Climate Change (UNFCCC) Upon commencement of full-scale technology deployment, we will report transparently the extent to which our operations in host nations align with these domestic climate adaptation guidelines and/or National Adaptation Plans.

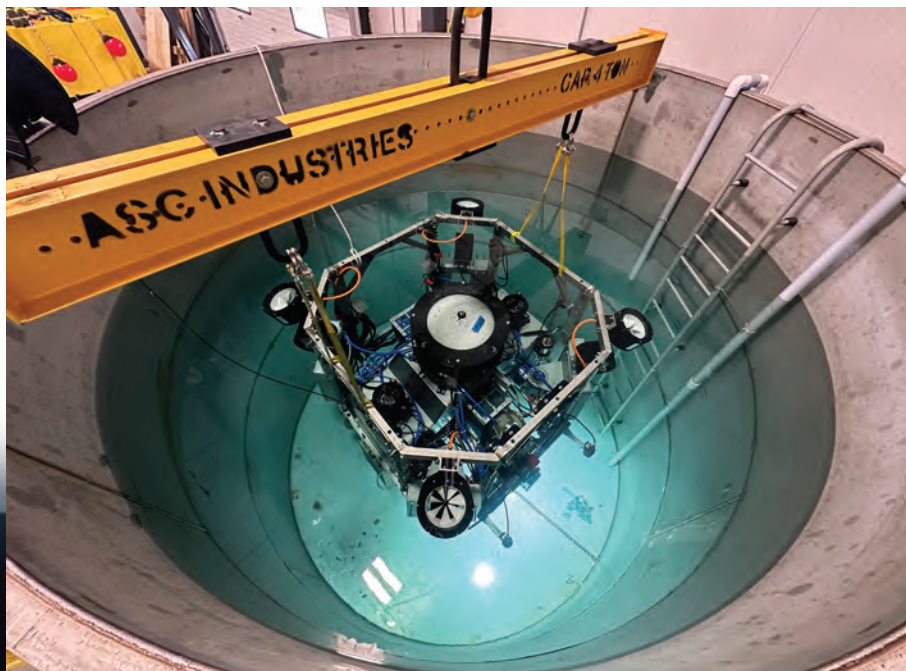
Water

It is estimated that in 2023 Impossible Metals used **119 m³** of municipality-treated (potable) water. We will again estimate our water consumption in the 2024 ESG & Annual Report.

Collingwood, Ontario, Canada

In the 2022 ESG & Annual Report, Impossible Metals committed to quantifying its 2023 water footprint for its Collingwood, Ontario robotics facility. In late February 2023, the robotics team moved into a new facility in Collingwood. From March 1 through December 31, the facility used 84 m³ of municipality treated (potable) water. This water was used for:

- Filling testing tanks (including large “dunk tank”, capacity 24 m³)
- Kitchen/bathroom sinks, toilets, and shower



Based on an average water consumption of 5 m³ per month (for months that did not include “dunk tank” fill), water usage for January and February 2023 was estimated to be 10 m³, for a **total consumption of 94 m³**.

Collingwood’s municipal water is sourced from Georgian Bay (surface water), part of Lake Huron, and is subsequently treated at the Collingwood Water Treatment Plant. The Town of Collingwood publishes annual water quality reports and has established a Source Water Protection Plan, as required under the Clean Water Act (2006).

Water is delivered to the Impossible Metals facility through municipal water infrastructure, except for 15 m³ delivered by water truck as part of filling the “dunk tank”.

Wastewater was directed to the municipal wastewater system for treatment at the [Collingwood Wastewater Treatment Plant](#), which publishes Wastewater Performance Reports annually.

Moving forward, this will be considered the baseline water footprint for the Collingwood, Ontario facility.

Pasadena, California, United States

- Although Impossible Metals’ Pasadena operations are in a rented, shared-use facility, we **estimate our water usage to be 25 m³** of municipality-treated (potable) water, based on the total water volume used by the facility, divided by Impossible Metals’ portion of the square footage (10%). However, this calculation has significant limitations since the facility is a laboratory collective, which may include different levels of use for potable water by other occupants.

Pasadena municipal water is supplied from [various sources](#) and treated at multiple treatment plants. 40% of municipal water comes from the Raymond Basin aquifer, local to the Pasadena area. The remaining 60% is sourced from the Metropolitan Water District of Southern California (MWD), which supplies water to areas that cannot meet the demands of residents with local water supply only. The MWD sources water from the Colorado River and Sacramento-San Joaquin River Delta. Pasadena Water and Power publishes annual water quality reports and has established a [Water System & Resources Plan](#) and an [Urban Water Management Plan](#) (UWMP). In addition to planning for long-term water supply and demand, the UWMP establishes a Water Shortage Contingency Plan for operations during water shortages, an increasingly common occurrence in arid southern California.

Wastewater is directed to the municipal wastewater system, managed by Los Angeles County. The Whittier Narrows and San Jose Creek Water Reclamation plants treat Pasadena wastewater.

Waste

In 2023, our waste was primarily general office waste (non-hazardous solid waste), primarily composed of packaging materials. **Table 2** identifies the types of waste streams and how they were managed in 2023.

Facility	Collingwood	Pasadena
Waste Types	• Office waste such as paper, office supplies/packaging, food waste/packaging • Robotics workshop waste, such as packaging for parts/materials and office waste.	• Office waste such as paper, office supplies/packaging, food waste/packaging • Scientific lab waste includes minimal volumes of chemicals.
Waste Management	• Wastes are separated on-site by staff into three categories (recyclables, organics, and garbage) that are put into designated bins. • A contracted waste management company collects all three types of waste on a regular basis.	• Non-hazardous solid waste all goes into one container. It is unknown if the waste is separated at the waste management facility after collection. • Management of lab (chemical) waste is contracted to a specialized waste company.

Table 2: Waste information for Collingwood, Ontario, Canada, and Pasadena, California, USA facilities.

In our previous report, we committed to a waste audit in 2023 to quantify our waste generation. Though efforts were made, carrying out such an audit in Collingwood and Pasadena was deemed impractical. In Collingwood, the amount of waste generated fluctuated significantly as parts arrived for the construction of Eureka II, significantly complicating the process of selecting representative sample week(s). In Pasadena, the shared waste facilities complicate the audit process.

In 2024, we will undertake an audit of waste types (not quantity) at each location, to ensure they are being directed to the appropriate waste management stream, and potential for adjustments to decrease waste generation.

Biodiversity

The most prevalent environmental concern about deep sea mining are impacts to biodiversity and habitat, so in turn, it's top of mind for our team. To that end, we are considering the specific concerns of the scientists who signed the [Seabed Mining Science Statement](#):

- Loss of species and populations as a result of destruction or elimination of habitat
- Production of large sediment plumes
- Interruption of ecological processes connecting midwater and benthic ecosystems
- Resuspension and release of sediment and toxins from dewatering discharge
- Noise pollution and impacts to marine species
- Impacts on carbon sequestration dynamics and deep ocean carbon storage

Additionally, we are committed to engaging with marine scientists early and often to determine how we can best study potential impacts of our robotics technology on the seafloor ecosystem. Scientists with expertise in the field of benthic ecology and abyssal ecosystems, are encouraged to [contact us](#) if they would like to be involved in further scoping and subsequent environmental studies related to the selective harvesting methodology proposed by Impossible Metals. Outcomes of engagement with scientists are shared publicly on our website at impossiblemetals.com/sustainability/scientific-engagement.

Engagement with the scientific community is described in the **Stakeholder Engagement** section of this document (under Social).

Green Building

In February of 2023, the Impossible Metals robotics team moved into two units (rented) in a newly constructed building in Collingwood, Ontario. The building meets the Ontario Building Code, which includes up-to-date efficiency elements, but is not green building certified. Our team customized the 9840 ft² (914 m²) space for our purposes, including equipment construction/testing, open-concept desk spaces, meeting rooms, kitchen/lunch room, and bathrooms. Energy efficient lighting and appliances, as well as water efficient water fixtures (taps, toilets, shower head) were installed during the renovation.

As we expand, and develop our own facilities, including manufacturing facilities and pilot plant facilities for bioextraction, these will be designed and constructed according to the Green Building Code(s) relevant to each jurisdiction.

Environmental Incidents/Complaints

There were no environmental incidents or complaints in 2023

Environmental Goals

In the 2022 ESG & Annual Report, we set goals for 2023 and beyond. **Table 3** describes our performance over the last year, and **Table 4** describes our goals moving forward.

Environmental Aspect	2023 Goals	Beyond 2023	2023 Performance
Carbon Emissions and Reporting	Baseline scope 1 and 2 carbon footprint for new Collingwood facility (targeted occupancy February 2023). Results will be reported in the 2023 Annual ESG & Performance Report.	- Baseline scope 1 and 2 carbon footprint for bioextraction pilot plant (targeted for 2024). Results will be reported in the Annual ESG & Performance Report. - Following delivery of baseline carbon data, development of transition plan to achieve net-zero Scope 1 and 2 emissions by 2030.	- Baseline Scope 1 and 2 carbon footprint for Collingwood facility achieved. - Preliminary discussions with consultants regarding net zero carbon planning.
Water	Baseline water footprint for new Collingwood facility (targeted occupancy February 2023). Results will be reported in the 2023 Annual ESG & Performance Report.	- Projected pathway towards net zero freshwater use in mineral processing - Develop plan for implementation of water recycling and reuse in all Impossible Metals owned or controlled facilities, with interim targets and pathway to achieving 100% water recycling or reuse by commencement of full scale technology production. These plans will be reported in the 2023 Annual ESG & Performance Report.	Baseline water footprint for Collingwood facility achieved.
Biodiversity	Involve independent scientists in testing selective harvesting robot v4 (Eureka 2), who will then publish findings related to environmental impact, including biodiversity, habitat, ecosystem function.	- Continue to engage with independent scientists throughout development of selective harvesting technology. - Outcomes of studies undertaken as part of v4 testing will be reported in the 2023 Annual ESG & Performance Report (scientists engaged to undertake these studies may choose to independently report this data also).	- Engaged with scientists regarding testing Eureka II on the Blake Plateau and potential for technology to be used for ocean science. - No studies of v4 (Eureka II) tests were carried out in 2023, (postponed to 2024) therefore no results are reported.
Waste	Waste audits of Collingwood and Pasadena facilities. Results will be reported in the 2023 Annual ESG & Performance Report.	Develop a circular resources plan with interim targets and the objective of achieving 80% resource recycling/reuse by the commencement of full scale technology production (est. 2026).	Waste audits were not undertaken due to significant constraints (described in the Waste section above).
Supply Chain Sustainability	Establish and implement ESG screening processes for significant suppliers ¹ that align with the goals and values of B Labs.	We will report against the ESG metrics of our significant suppliers and track scope 3 emissions by 2024, and will, as part of that reporting, include scope 3 emission reduction targets in our carbon reporting by 2024.	Supplier screening was updated to include questions regarding human rights but not other environmental aspects.
Environmental Management System (EMS)	Establish an EMS for Impossible Metals including a continual improvement mechanism so it can grow with the company.	Annual internal audit (as described in the EMS) to seek opportunities for improvement in our operations or the EMS itself.	New policies and procedures were implemented in 2023 toward the goal of establishing an EMS. Goal will be rolled forward into future years

Table 3: 2023 Performance on Environmental Goals.

¹ [B Impact Assessment](#) (used for the purpose of B Corporation certification) defines “significant supplier” as “those suppliers who collectively represent approximately 80% of your purchases in currency terms. Significant Suppliers can include both suppliers of physical items and service providers like accountants and web designers. Goods or services sourced through a cooperative should be considered one Significant Supplier.”

Environmental Aspect	2024 Goals	Beyond 2024
Carbon Emissions and Reporting	- Publish 2024 scope 1 and 2 carbon footprint in 2024 Annual & ESG Report. - Create plan for pathway to net zero carbon by start of full scale technology production, integrated into Impossible Metals planning processes.	- Baseline scope 1 and 2 carbon footprint for bioextraction pilot plant (targeted for 2024). Results will be reported in the Annual ESG & Performance Report. - Following delivery of baseline carbon data, development of transition plan to achieve net-zero Scope 1 and 2 emissions by start of full scale technology production.
Water	Publish 2024 water footprint in 2024 Annual & ESG Report.	- Projected pathway towards net zero freshwater use in mineral processing - Develop plan for implementation of water recycling and reuse in all Impossible Metals owned or controlled facilities, with interim targets and pathway to achieving 100% water recycling or reuse by commencement of full scale technology production. These plans will be reported in the 2023 Annual ESG & Performance Report.
Biodiversity	Involve independent scientists in testing selective harvesting robot v4 (Eureka II) related to environmental impact, including biodiversity, habitat, ecosystem function. Results will be published on our website and a summary will be provided in the 2024 Annual & ESG Report. Scientists may choose to independently report this data also.	Continue to engage with independent scientists throughout development of selective harvesting technology.
Waste	Waste types will be cataloged at Collingwood and Pasadena facilities to ensure they are being directed to the appropriate waste stream.	Develop a circular resources plan with interim targets and the objective of achieving 80% resource recycling/reuse by the commencement of full scale technology production (est. 2026).
Supply Chain Sustainability	Prior to sourcing parts for Eureka III, establish and implement ESG screening processes for significant suppliers³ that align with the goals and values of B Labs.	We will report against the ESG metrics of our significant suppliers annually.
Environmental Management System (EMS)	Continue to establish policies and procedures that operationalize sustainability (ESG) in key areas that are most impactful for the current phase in the company's growth.	Establish an EMS for Impossible Metals including a continual improvement mechanism so it can grow with the company.

Table 4: 2024 & Beyond Environmental Goals.



Social

As a public benefit corporation, Impossible Metals is committed to social responsibility. We know that a low-carbon future is beneficial to everyone around the world, and we are striving to provide a responsible solution. Additionally, we understand that our social performance must go beyond our public benefit statement to include our employees' wellness, being a positive part of the community, and authentic and transparent stakeholder engagement.

Employees

Health & Safety

Impossible Metals recognizes that the health and safety of all employees, contractors and directors is of the utmost importance and is vital to the achievement of our mission. We believe that the provision of a safe working and learning environment is an integral and essential part of our responsibility. As per our Workplace Health & Safety Policy, all employees share a responsibility for a safe work environment to minimize on-the-job accidents and injuries. Additionally, the company leadership team and Board of Directors have specific responsibilities.

In 2023, the Collingwood Impossible Metals facility nominated a health and safety representative, per the Ontario *Occupational Health and Safety Act*. In 2024, as the company grows, a joint health and safety committee will be created.

Nodule Radioactivity

In 2023, the Impossible Metals team discovered that some of the mineral sample materials in our Pasadena lab contained trace quantities of naturally occurring radioactive material (NORM). To protect our team from potential health risks, we stopped all activities involving these materials and hired a consultant with expertise in health physics to assess potential health risks and implement safety

protocols. The consultant then evaluated the potential magnitude of radiation exposures that may have resulted from handling this material, recommended handling practices to minimize further exposure, and provided information on the regulatory implications of handling and storage of this material.

The consultant determined the following:

- The mineral samples contained naturally occurring radioactivity (NORM) at extremely low levels.
- Potential exposure to individuals from handling or storing these materials, or from exposure to radon gas emitted from them, are within the normal variability of natural background radiation. As a result, radiation dose monitoring is not required or recommended.
- Additional handling and storage practices are also not warranted.

With those determinations in place, our team then resumed working with the materials. Nevertheless, out of an abundance of caution, a number of new safety protocols were implemented, anticipating that while the materials currently in our possession do not pose a safety risk, it is possible that in the future we may receive new material samples that could pose safety concerns. The new safety protocols include radiation screening all new materials arriving at the lab, monitoring background radiation in the lab, installing a fume hood for materials handling, as well as a number of other measures.

We shared the results of this investigation with the broader industry community at the Underwater Minerals Conference 2023 in Rotterdam, and encourage anyone who would like to receive this report to [contact us](#).

Lost Time Injuries

In 2023, Impossible Metals had no lost time injuries.

Employee Numbers

The Impossible Metals team grew from 20 to 22 employees in 2023, and 3 employees were promoted (14%). 5 new employees joined the Impossible Metals team in 2023 and 3 employees separated from the company (14% turnover rate), including one retirement of Dr. Ken Nealson, one of our Founders. 3 employees were promoted, and we expanded our number of internships from 4 in 2022 to 12 in 2023. Employee data is provided in **Table 5** for 2021 through 2023.

Criteria	2021	2022	2023
Number of full time employees at end of year	Salary: 6 Hourly: 0	Salary: 18 Hourly: 0	Salary: 20 Hourly: 0
Number of part time employees at end of year	Salary: 1 Hourly: 0	Salary: 2 Hourly: 0	Salary: 2 Hourly: 0
Number of temporary workers	0	0	0
Number of interns	0	4	12
Number of promotions	0	5 (25% of employees)	3 (14% of employees)
Turnover Rate ¹	-	7%	14%

Table 5: Employee data 2021 through 2023.

Employee Demographics

Impossible Metals provides equal employment opportunities to all applicants, without regard to unlawful considerations of or discrimination against race, religion, creed, color, nationality, sex, sexual orientation, gender identity, age, ancestry, physical or mental disability, medical condition or characteristics, marital status, or any other classification prohibited by applicable local, state, or federal laws. Impossible Metals employees and Board of Directors are diverse in ethnic background, gender, and age, as noted in **Table 6**. We note that Impossible Metals does not compulsorily require its employees or directors to disclose either gender or ethnic origins, and as such, we may not always report a full dataset.

Impossible Metals aims to continue its progress building diversity in the workplace, with the goal of having a diversity of experience and knowledge informing our planning and decision-making. At this time we are not setting

¹ Calculated as # employees who separated from the company in 2023 divided by the average number of employees in 2023 [(Jan 1 number + Dec 31 number) / 2]. Does not include interns.

specific diversity targets, but will continue to track company demographics as a means of monitoring the diversity of voices across the company in employees, senior management, and board of directors.

We recognize that there is no gender diversity in our senior management at this time, due to turnover in one senior management position in 2023. Senior managers will purposefully seek opportunities to include alternate viewpoints in our decision making processes. One of the ways this is already in place is through monthly company roadmap meetings, which bring together team leads to discuss progress and next steps. This group is comprised of 25% women, 25% racial or ethnic minorities, and 25% with ages >50.

	% Racial or Ethnic Minorities ¹	% Gender Diverse ²	% age <24 or >50
Employees ³	41%	31% (2023 target 40%)	41%
Senior Management	33%	0% (2023 target 35%)	67%
Board of Directors	14%	29% (2023 target 40%)	29%

Table 6: Percentages of racial or ethnic minorities¹, female, and age diversity of Impossible Metals' employees.

Living Wage

A living wage is defined as *“The remuneration received for a standard workweek by a worker in a particular place sufficient to afford a decent standard of living for the worker and her or his family. Elements of a decent standard of living include food, water, housing, education, health care, transportation, clothing, and other essential needs including provision for unexpected events.”* ([Global Living Wage Coalition](#))

100% of Impossible Metals employees earn a living wage (at 100% full time equivalent for part time employees) as identified in **Table 7** (see next page). The calculation of Impossible Metals' wages include salary only, therefore any other benefits are above and beyond a living wage. Living wages for both Impossible Metals locations, Pasadena ([MIT Living Wage Calculator](#)) and Collingwood ([Ontario Living Wage Network](#)), are recognized by B Labs as accepted benchmarks.

1 Defined by B Labs as follows: “Ethnic minorities are groups that have a distinct cultural tradition that is contrasted with those who traditionally hold the majority of social power”.

2 Includes female, non-binary, and transgender.

3 Includes full-time employees, part-time employees, and interns. Does not include senior management.

Jurisdiction	Living Wage	Living Family Wage	Percentage of employees receiving living wage
Pasadena, California, USA (Los Angeles County) (wage/year based on 40 hr/week, 52 weeks per year)	\$21.22 USD / hour (\$43,138 USD / year)	\$30.15 USD / hour (\$61,712 USD / year)	Living Wage: 100% Family Living Wage: 100%
Collingwood, Ontario, Canada (Grey Bruce Perth Huron Simcoe) (wage/year based on 35 hours per week, 52 weeks per year)	\$22.75 CAD / hr ² (\$41,405 CAD / year)		100%

Table 7: Report on percentage of Impossible Metals employees' wages compared to individual living wage and living family wage in three relevant jurisdictions. Note that wage/year is based on different methodologies for Pasadena and Collingwood.

Benefits & Wellness

Company Ownership

100% of Impossible Metals permanent employees are granted stock options at the start of employment. This includes full-time (30+ hours per week) and part-time, and does not include interns. As at the end of 2023, Impossible Metals was over 60% owned by employees and advisors, with approximately 8.5% ownership (stock options) by non-executive employees.

Employee Retirement Plan

Impossible Metals instituted an Employee Retirement plan in November 2022. Under this plan, Impossible Metals matches employee contributions, up to a maximum of 1% of their salary annually. Full time and part time employees are eligible after 3 months of employment.

Employee Healthcare Plan

All permanent full-time employees are enrolled in the Impossible Metals employee healthcare plan. This plan varies for employees in different jurisdictions (California, USA and Ontario, Canada) as government programs vary widely. All employees have at least base coverage, including varying packages relating to health, dental, prescriptions, eye care, physiotherapy and other wellness services including mental health.

1 Includes full-time and part-time employees. Does not include interns.

2 The Ontario Living Wage Network calculates the living wage as a weighted average of costs for three different household types (family of four, single parent with one child, single adult). [Full report available here.](#)

Paid Time Off (Vacation, Sickness, and Parental Leave)

Impossible Metals provides more paid time off than required in all jurisdictions where we operate. Paid days off (above and beyond statutory holidays) for full-time employees 21 days per year at the start of employment, increasing by 1 day per year to a maximum of 23 days per year.

In 2023, Impossible Metals added two key benefits for employees regarding paid time off:

1. **Sick leave** was extended from 10 days per year to unlimited. This includes days when the employee cannot perform their duties due to their own sickness, or to care for a member of their immediate family.
2. A **Parental Leave Policy** was established, providing benefits for new parents beyond jurisdictional requirements, including (but not limited to):
 - Salary top-up from government benefits for 12 weeks for birthing parents (including primary caregivers of adopted children) and 8 weeks for non-birthing parents.
 - Medical benefits will continue to be provided through the parental leave period.
 - Job retention for 12 months in United States to accommodate for extended leave (Canadian employees may take up to 18 months leave as per legislative requirements).
3. This policy goes above and beyond the requirements of both the [Ontario](#) and [California](#) jurisdictions, where our workforces are currently based.
4. All full-time employees were granted 2 paid **volunteer days** per year and part-time employees 1 paid volunteer day per year.

Other Wellness Initiatives

- Monthly lunch & learns, including wellness topics, industry-related topics, and other topics of interest that may be suggested or nominated by staff.
- Employees have flexible working locations, including remote working options where feasible.
- As part of our Pledge 1% commitment, we pay staff for 2 volunteer days per year.

Employee Satisfaction

Impossible Metals uses [Officevibe](#) to track our employee satisfaction across a number of metrics, to give and receive both named and anonymous feedback, and to assist the leadership team to interpret trends and feedback in a manner that promotes our values and culture. Average scores for 2022 and 2023 across a variety of metrics are listed in **Table 8**. Impossible Metals has the objective to maintain average scores of 8/10 for each metric on an ongoing basis. Average 2023 engagement scores are fairly consistent with those from 2022, and achieved a score of at least 8/10 in 9 of 11 metrics.

In 2024, senior managers will continue to review engagement scores on a monthly basis and take action to actively address any downward trends, as well as specific feedback provided through the Officevibe site (both anonymous and named).

Metric	Average Score in 2022 (out of 10)	Average Score in 2023 (out of 10)
Overall Engagement	8.5	8.3
Relationship with manager	9.0	8.6
Alignment	8.8	8.6
Feedback	8.7	8.2
Satisfaction	8.4	8.3
Happiness	8.2	8.2
Ambassadorship	8.9	8.9
Relationship with peers	8.8	8.9
Personal growth	8.7	8.7
Recognition	8.2	7.7
Wellness	7.7	7.7

Table 8: 2022 - 2023 Impossible Metals employee engagement metrics*.

Annual Feedback

In November, as part of the annual review process, employees provided anonymous feedback in three categories - things to keep, start, and stop. Employees appreciate the supportive, low-ego team environment, as well as the emphasis on innovation and leveraging emerging technologies. Additionally,

there was a request to grow the structures within our company, both operationally and related to team cohesion/support. These recommendations will be part of the solution for the last category of feedback, which identified that employees are concerned about mental health impacts and burnout related to our aggressive technology development schedule.

Annual Review of Working Conditions

Impossible Metals has committed to providing a summary of internal and (where relevant) external auditing of labor conditions and employee benefits according to relevant best practice guidelines and the legislative framework(s) in which we operate. Employee benefits are described above in the Benefits and Wellness section and a summary of how Impossible Metals is compliant with basic workers rights requirements in both jurisdictions where we operate (Ontario, Canada and California, USA) is located in **Appendix C**.

Community

Impossible Metals strives to be a positive member of the communities we are part of or work with. We are proud to report our community involvement for 2023 and our goals for 2024.

Giving Back

Impossible Metals is a member of Pledge 1%, and we have committed to contribute 1% of our equity, time, and profit to non-profit organizations by becoming a [Pledge 1%](#) member.

1% equity: 1% of our company equity has been officially designated for donation to non-profit organizations via a Tides Capital Warrant.

1% time: Starting in 2023, employees receive 2 paid volunteer days per year (1% of work time per year) that they can use during company-organized volunteer events, or with organizations they are passionate about.

1% profit: 1% of future profits will be donated to non-profit organizations.

2023 was the first year of our paid volunteer days program, and 9.4% of paid volunteer days were used. Impossible Metals plans to encourage more use of paid volunteer days in 2024 by organizing volunteer events.



Industry

Impossible Metals aims to be an active member and sustainability leader in the industries in which we operate (mining and cleantech) and in which our customers operate (electric vehicle companies, battery manufacturers, etc.) To that end, we participate in industry cooperation through a number of working groups and councils, in addition to attending and participating in events like conferences and trade shows (Table 9).

Additionally, Oliver Gunasekara (CEO) leverages his 30+ years of entrepreneurial experience to mentor other start-up companies. He held approximately 10 such meetings in 2022.

In 2023, Impossible Metals participated in and/or was a member of the following:

- Deep Ocean Stewardship Initiative (DOSI) [Minerals Working Group](#)
- [Forbes Technology Council](#)
 - Oliver Gunasekara ([member profile](#))
 - Renee Grogan ([member profile](#))
- [International Marine Minerals Society](#) (member)
- [NAATBatt International](#) (member)
- [Suppliers Partnership for the Environment](#) (member)
 - [SP Responsible Battery Work Group](#) (participant)
- [Volta Foundation](#) (member)
 - [Battery Bunch](#) (speaker and participant)
 - [Annual Battery Report](#) (contributor)

Events

Our team is excited to spread awareness of our developing technology and the potential for responsibly-sourced critical metals. In 2023, we took our message on the road and participated in a wide range of conferences, trade shows, and other events as described in **Table 9** (at right).



Date(s)	Conference/Trade Show	Type of Participation
January 5-8, 2023	Consumer Electronics Show (CES 2023)	Attendance
February 20-23, 2023	NAATBatt : Charging Ahead 2023	Presentation - Impossible Metals Update
March 22-24, 2023	ARPA-E Summit 2023	Attendance
March 28-29, 2023	SAFE Summit 2023	Attendance
April 16, 2023	Sustainable Ocean Solutions Summit	We were chosen as 1 of 16 shortlisted finalists for the Marine Tech Startup Innovation Challenge
April 18-20, 2023	WCX Leadership Summit 2023	Expert Panel Participant - Battery: Today, 2030 and Beyond)
May 3-4, 2023	Deep Sea Mining Summit 2023	Presentation - Update on Selective Harvesting Autonomous Underwater Vehicle Technology
July 5, 2023	Marine Technology Society - Marine Mineral Resource Committee Webinar	Guest Speaker - Overview of Deep Sea Mining & Introduction to Impossible Metals
July 26-27, 2023	2023 Suppliers Partnership (SP) Innovation Summit	Presentation - Solving the Looming Battery Metals Supply Crisis
September 12-14, 2023	The Battery Show North America 2023	CEO Panel Participant - Battery Demands: Solving the US Critical Battery Metals Supply Chain Leveraging Deep Sea Minerals
September 26-27, 2023	SOSV Climate Tech Summit 2023	Expert Panel Participant - Greener Mining for Critical Minerals (video)
October 1-6, 2023	Underwater Minerals Conference (UMC) 2023 Rotterdam	Booth Presentation - Eureka I Selective Harvesting AUV Shallow Water Test Results (slides) Presentation - Impossible Metals Roadmap Update & Sneak Peek at Eureka II (slides)
October 30-31, 2023	2023 BERC Resources Symposium	Expert Panel Participant - Innovations in Mineral Extraction
November 14-26, 2023	Benchmark Week 2023	Presentation - The inconvenient truth of LFP, why nickel rich chemistries dominate
November 15, 2023	Global Underwater Hub (GUH) Underwater Robotics Conference 2023	Presentation - A new class of AUV for Underwater Sampling
December 5-7, 2023	Deep Sea Minerals Conference 2023 (Bergen, Norway)	Presentation - Roadmap Update and a Sneak Peak at Eureka II

Table 9: 2023 conferences and tradeshow in which Impossible Metals participated.

Academia

Impossible Metals understands the importance of industry cooperation and partnership with academia. We are fortunate to have strong connections through internships, presentations, and informal mentorship.

Internships

In 2023, we expanded our internship offerings with our robotics team through [WaterlooWorks](#) (University of Waterloo) with 12 interns working with us over the course of the year. These hard working interns have made lasting contributions to our technology, and have been an integral part of our fast-paced technology development. We look forward to welcoming more interns in 2024.

In order to ensure that interns have the best possible experience at Impossible Metals, we enacted an Internship Policy in 2023 that describes onboarding training requirements, and a mechanism for interns to provide feedback on their experience.

Mentorship

Sharing our expertise and experience through one-on-one student mentorship is both our responsibility and our pleasure. Eager and dedicated students are the future of our industry, and inspire us with their questions and ideas. Our interns receive regular mentorship throughout their work terms with our robotics team, and our team takes the time to meet with students who reach out to our company to discuss the deep sea mining industry and answer questions. We will continue to keep our doors open to students who wish to learn about our industry, what we do, and how they can have an impactful career in the future.

Stakeholder Engagement

Impossible Metals understands the importance and benefits for all parties of genuine and transparent stakeholder engagement. We embrace the [core values of public participation set forth by the International Association of Public Participation](#) (IAP2), identified in **Figure 2** (at right).

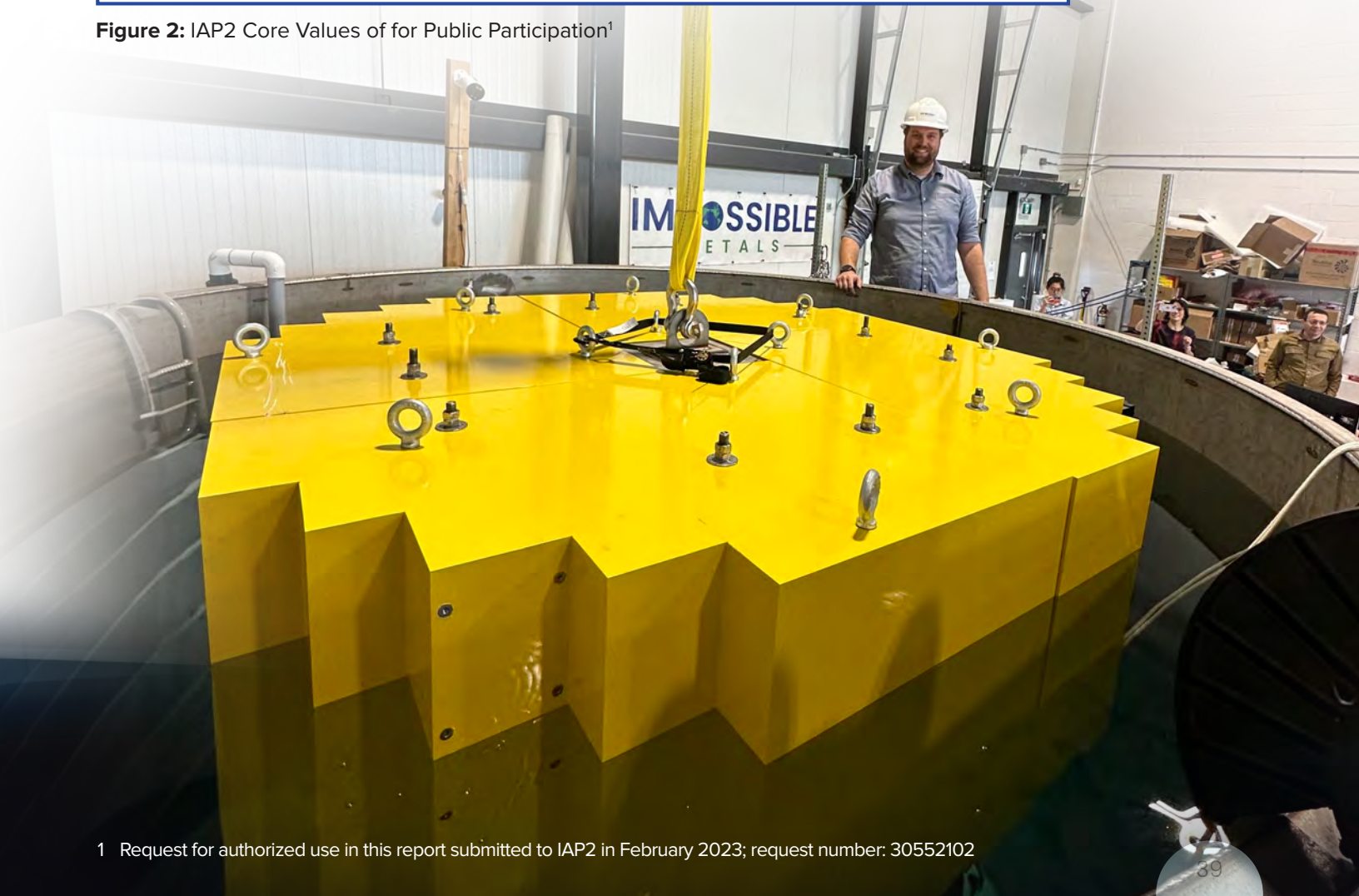
CORE VALUES

As an international leader in public participation, IAP2 has developed the "IAP2 Core Values for Public Participation" for use in the development and implementation of public participation processes. These core values were developed over a two year period with broad international input to identify those aspects of public participation which cross national, cultural, and religious boundaries. The purpose of these core values is to help make better decisions which reflect the interests and concerns of potentially affected people and entities.

Core Values for the Practice of Public Participation

- 1** Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process.
- 2** Public participation includes the promise that the public's contribution will influence the decision.
- 3** Public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.
- 4** Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
- 5** Public participation seeks input from participants in designing how they participate.
- 6** Public participation provides participants with the information they need to participate in a meaningful way.
- 7** Public participation communicates to participants how their input affected the decision.

Figure 2: IAP2 Core Values of for Public Participation¹



¹ Request for authorized use in this report submitted to IAP2 in February 2023; request number: 30552102

Stakeholder Engagement Plan

Impossible Metals maintains a stakeholder engagement plan, which is written in a phased approach. In 2023, we were in Phase 1 of our business development (Series Seed), which has an associated Phase 1 Stakeholder Engagement Plan.

In 2024, we will prepare a stakeholder engagement plan for Phase 2 of our business development plan (Series A), and we will report on our goals and progress in our 2024 Annual ESG & Performance Report.

Objectives

The objectives of the Phase 1 Stakeholder Engagement Plan are as follows:

- To establish positive connections and relationships with stakeholders, and raise the profile of Impossible Mining;
- To listen to current concerns and priorities for each stakeholder group, and to capture these concerns and priorities as part of project planning and development;
- To create and maintain a reputation for transparency and information sharing with stakeholders that fosters trust and builds a positive reputation;
- To obtain input from stakeholders in relation to the sustainability and environmental aspects of technology and engineering in order to ensure that the outputs reflect the sustainability objectives of Impossible Metals as well as, to the greatest extent practicable, the priorities and concerns of stakeholders;
- To develop the pathway for independent, external verification of the ESG performance of Impossible Metals.

Identification of Stakeholder Groups

Impossible Metals identified the following stakeholder engagement groups in our stakeholder engagement plan (alphabetical):

- Customers (critical metals users)
- Government agencies/regulators
- Non-government organizations
- Partners/potential partners
- Scientific community
- Standards bodies & market intelligence publishers
- Traditional and community stakeholders



Required Consultation

Impossible Metals was not required to undertake any consultation in 2023 (i.e. as the result of regulatory or permitting requirements).

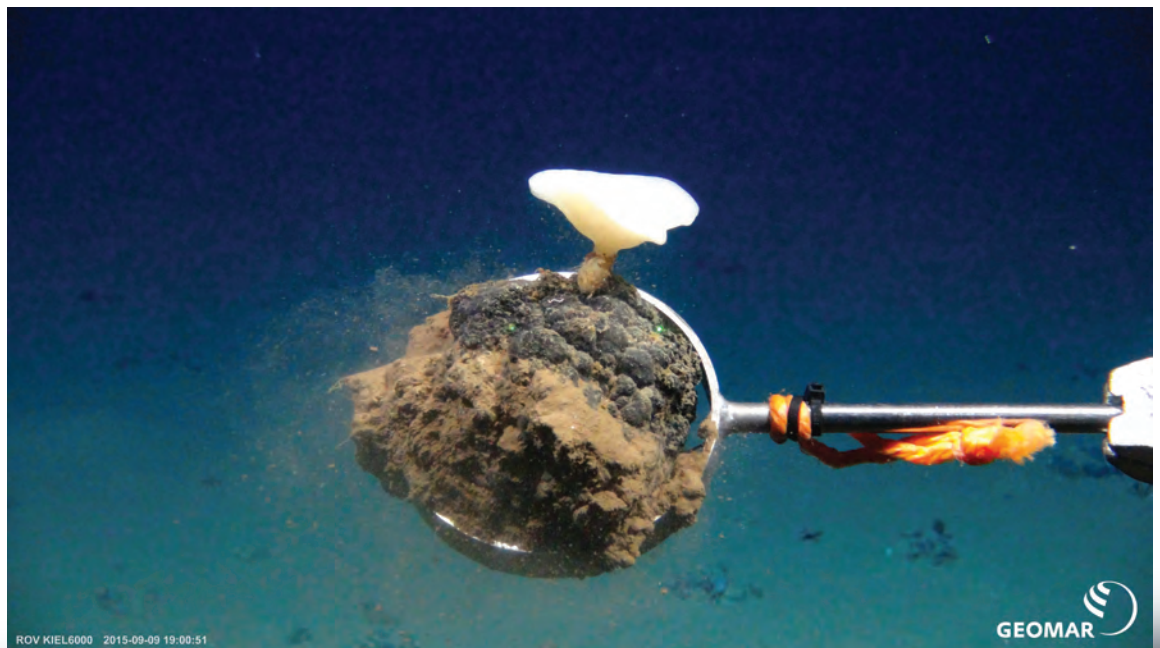
Summary of Stakeholder Engagement Undertaken in 2023

A summary of stakeholder engagement undertaken in 2023, in accordance with the Stakeholder Engagement Plan, is provided in **Table 10** (at right).

Scientific Community

Impossible Metals is developing the technology to responsibly harvest polymetallic nodules from the deep ocean, which means ocean conservation is an essential part of values. We have engaged with ocean scientists and non-government organizations (NGOs) who focus on ocean health and conservation.

Impossible Metals is committed to designing its selective harvesting system in a way that ensures “serious adverse impacts” and “serious harm” are engineered out, or avoided, from the design phase onwards. In developing its preliminary concept design for selective harvesting of nodules, Impossible Metals has considered the specific concerns of the marine science and policy experts who signed the [Seabed Mining Science Statement](#), as noted in the **Biodiversity** section of this report.



Stakeholder Group	2022 Engagement	Outcomes
Customers (critical metals users)	Meetings with potential partners to develop both our selective harvesting and bioextraction technologies, including regular updates to a variety of companies in the fields of: - Automotive (EV batteries) - Battery manufacturing	- Users of critical metals recognize the imminent shortage and are interested in a reliable, responsibly-sourced supply to achieve their own sustainability objectives and meet the expectations of customers. - Numerous cathode, battery and automotive manufacturers are actively following Impossible Metals's progress, and we have signed over \$1 Billion in Letters of Intent for the supply of sustainable metals to customers.
Government agencies/regulators	Interacted with regulators in Cook Islands (SBMA, NES), USA (BOEM, NOAA), ISA, including: - Progress updates provided via email - Meetings with BOEM and ISA to discuss progress updates - Meetings with BOEM to discuss testing on the Blake Plateau and potential for exploration activities in the U.S. EEZ	Continued interest in receiving progress updates Letter of Acknowledgement from BOEM that proposed activities on the Blake Plateau are within the scope of a Scientific Permit (provided early 2024). BOEM provided information regarding the process for exploration activities within U.S. EEZ.
Non-government organizations (NGOs) including scientific bodies	- Invitation to attend May 2023 demonstration of Eureka I selective harvesting AUV was extended to: Blue Climate Initiative Deep Ocean Stewardship Initiative (DOSI) Greenpeace Ocean Frontier Institute - Sustainability Manager joined the DOSI Minerals Working Group	A DOSI representative attended the May 2023 demonstration of Eureka I and shared their experience and advice (described below in section Scientific Community).
Partners/potential partners	Meetings with potential partners to develop both our selective harvesting and bioextraction technologies, including regular updates to a variety of companies in the fields of: - Deep sea mining - Terrestrial mining (re: biorefining)	We continue to work with our partners to understand the feasibility of integrating our technology into both seabed and terrestrial mineral harvesting. The scope(s) of this work reflect both Impossible Metals priorities and the opportunities to positively impact on mineral supply more broadly, aligning with the goals of our partner organizations.
Scientific community	- Two scientific experts attended the May 2023 demonstration of the Eureka I selective harvesting AUV, including one representative from DOSI and another independent scientist. - December 2023 Scientific Roundtable with leading experts to discuss plans for testing Eureka II on the Blake Plateau and the potential alternate uses for our technology as a scientific tool. (see section Scientific Community below) - Informal interactions throughout 2023 at conferences and catch-up/update meetings. - Sustainability Manager established relationship with two scientific expert mentors, who provide their advice and expertise and receive updates on Impossible Metals' progress.	- Event summary for May 2023 demonstration of Eureka I and all presented materials are publicly available (demonstration data, video, presentations, and concept economic model). - Event summary includes input from all attendees, including scientific experts, who actively participated in discussions. - Summary of December 2023 Scientific Roundtable - Scientific Community Input on Eureka II (V4) Testing and Potential Use as Scientific Equipment. - Sustainability Manager brings insights and advice from scientific mentors to broader Impossible Metals team.
Standards bodies/market intelligence	Invitations to meet and some subsequent meetings to convey our support for the development of an independent ESG standard or certification of seabed minerals. Invitation to attend May 2023 demonstration of Eureka I selective harvesting AUV was extended to: Aspen Institute Initiative for Responsible Mining Assurance Benchmark Mineral Intelligence	Impossible Metals continues to engage with standards bodies (both industry and consumer facing) to advocate for the development of an independent ESG standard or certification for seabed minerals.
Traditional and community stakeholders	Invitation to attend the May 2023 demonstration of Eureka I selective harvesting AUV was extended to an indigenous leader from Hawai'i upon the recommendation of another invitee.	In 2024 Impossible Metals will engage with traditional and community stakeholders as part of Eureka II testing as appropriate for the testing location.

Table 10: Summary of 2022 stakeholder engagement and outcomes by stakeholder group (alphabetical).

In December 2023, Impossible Metals held a scientific roundtable where those with expertise in deep ocean ecosystems [shared their input](#) on the uses for samples and data from testing Eureka II on the Blake Plateau, and the potential for selective harvesting technology as/for scientific equipment. Input included:

- **Data Repositories & Format** - participants provided recommendations for how data can be organized/tagged, and various data repositories we could provide the data to
- **Uses for Monitoring Data** - most likely use for data (temperature, pH, etc.) will be as background data for those doing studies in the area
- **Uses for Video Footage** - there is interest in video footage for fauna identification
- **Uses for Samples** - interest in meiofauna living in the nodule pore space (*note: there is a plan in place to send nodules samples to a university for this work in 2024 if possible*)
- **Use of Eureka II as scientific equipment** - consensus that most likely use is for regular monitoring at the same locations, for the same types of samples, as exploratory cruises depend on scientists to determine what is important and worth exploring (not autonomous vehicle work).
- **Alternate Uses**
 - Potential for vision system to be used in concert with samples for resource estimation;
 - Potential for on-board geochemical analyzer to sample seafloor sediments for regional metals studies
 - Potential for nodule replacement technology with adjustments
 - Potential as support vehicle for other types of deep sea mining (not nodules)

Media

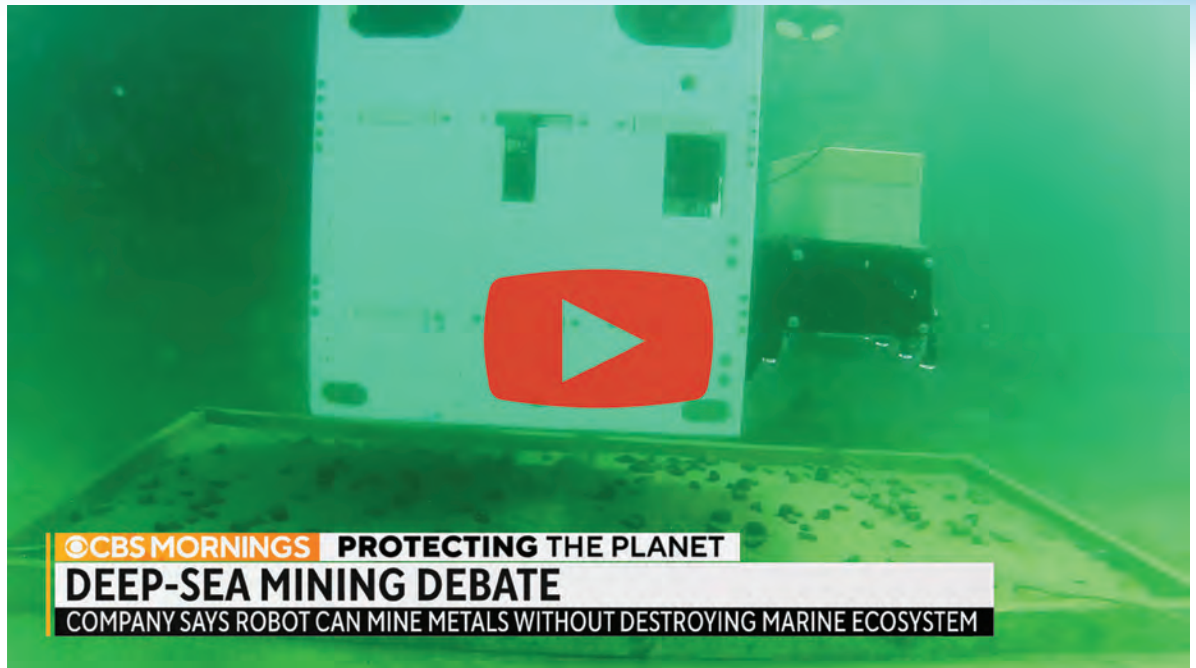
While not a stakeholder per se, media plays an important role in stakeholder engagement. Impossible Metals aims to contribute to meaningful dialogue in the public arena, with the objective of furthering and enhancing public knowledge around both deep sea mining and the issue of critical metals supply. To this end, we engage transparently with the media to answer questions about deep sea mining, provide our viewpoint, and discuss the technologies we are developing.

The following is a selection of media from 2023:

- **March 4** - IEEE Spectrum - [How Roboticists Can Tackle Climate Change](#)
- **March 22** - Forbes Technology Council - [Why The Critical Metals Issue Could Dominate Global Economies Over the Next Decade](#) (authored by Renee Grogan)
- **April 26** - Forbes Technology Council - [Three Critical Metals Supply Chain Challenges And How Businesses Can Address Them](#) (authored by Oliver Gunasekara)
- **March 29** - Grit Daily - [5 Climate Tech StartUps Tackling Existential Global Problems](#)
- **July 10** - S&P Global - [Deep-sea mining key to energy transition: Impossible Metals](#)
- **July 28** - CBS News - [Underwater robotics could usher in a high-tech future for deep sea mining](#), and video: [CBS News “Protecting the Planet” Interview with Impossible Metals](#)
- **August 11** - Thomas - [AI-Driven Robots Eliminate Damage of Deep Sea Mining](#)
- **August 23** - Forbes Technology Council - Resolving the Critical Metals Shortage To Meet Net-Zero Goals ([PART 1](#)) ([PART 2](#)) (authored by Oliver Gunasekara)
- **September 2** - Fast Company - [How deep-sea mining for EV materials could wipe out tuna populations](#)
- **September 9** - Sydney Morning Herald - [‘A battery in a rock’: the ancient treasures kilometres under the sea](#)
- **September 29** - AZO Mining - [Can Deep-Sea Mining Ever Be Sustainable?](#)
- **November 15** - Reuters - [The promise and risks of deep-sea mining](#)
- **November 24** - GeoExpro - [Environmentally responsible mining: Not so impossible](#)

In 2023 we also engaged with media and content producers via podcasts and webinars, including:

- **January 10** - MCJ Collective - [Startup Series: Impossible Metals](#)
- **January 17** - SETI Institute - Big Picture Science: [Testing Your Metal](#)
- **March 21** - [Exploring the Depths: Navigating the Complexities of Deep Sea Mining](#)
- **April 16** - Brave New Earth - [Responsible Deep Sea Mining of Battery Metals with Autonomous Underwater Vehicles](#)
- **June 26** - BBC Business Daily - [Deep Sea Mining](#)
- **July 1** - Marine Technology Society - [Overview of Deep Sea Mining and Introduction to Impossible Metals](#)
- **July 27** - Catalyst with Shayle Kann - [Mining the deep sea](#)
- **October 23** - The Weekly Anthropocene Interviews - [Oliver Gunasekara, CEO of Impossible Metals](#)
- **December 6** - Temy - [Oliver Gunasekara: Navigating Tech and Oceans for Sustainable Future](#) Public Outreach



Public Outreach

Monthly Webinar Series

In 2023, Impossible Metals held a webinar to discuss results of the May demonstration of Eureka I. The significant number of registrants inspired us to create a webinar series where we can discuss topics related to deep sea mining, both from our perspective and from the perspective of guest speakers. These webinars are open to everyone, and recordings are available as a [Youtube playlist](#).

- **June 19** - [Eureka I Demonstration Results & Event Summary](#)
- **August 18** - [Where do we get the metals needed to meet net zero goals?](#)
- **September 15** - [Concept Economic Model Deep Dive](#)
- **October 19** - [The Complex World Batteries: How Impossible Metals Changes the Landscape](#) (Guest Speaker - Bob Galyen, Impossible Metals Advisor)
- **November 10** - [Deep Sea Mining from a Norwegian Perspective](#) (Guest Speaker - Egil Tjøland)
- **December 15** - [Inconvenient Facts About LFP Batteries](#)

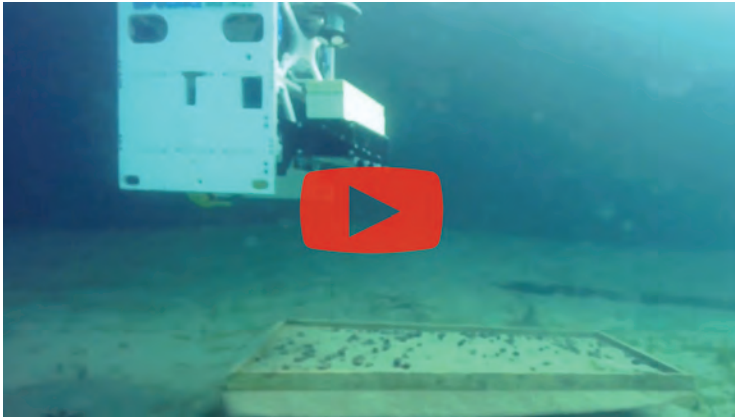
Blogs

Impossible Metals is committed to providing accurate information to stakeholders about our progress and the deep sea mining industry. In addition to webinars, we published several blog posts on a variety of topics in 2023. Four of these blogs focused on United Nations Sustainable Development Goals (SDG) and how Impossible Metals plans to contribute towards their realization. This series of SDG blogs is a continuation from 2022. All Impossible Metals blogs are available on our website.

- **January 28** - [SDG Goal 5 - Achieve Gender Equality and Empower All Women & Girls](#)
- **February 10** - [SDG Goal 13 - Climate Action](#)
- **February 23** - [The EV Battery Debate: Which Battery Chemistry Is Better?](#)
- **February 24** - [SDG Goal 14 - Life Below Water](#)
- **March 8** - [SDG Goal 15 - Life on Land](#)
- **April 3** - [First Combined ESG and Annual Report is Now Available](#)
- **April 25** - [Fascination with Critical Minerals in the Deep Seabed: Over 150 Years of History](#)
- **June 2** - [How Archimedes Influenced the Naming of Our Autonomous Underwater Vehicle](#)
- **June 12** - [How the Inflation Reduction Act Impacts Deep Sea Mining of Critical Metals](#)
- **August 4** - [Congressional Leaders Urge President Biden and Department of Defense to Consider Polymetallic Nodules for U.S. Critical Mineral Supplies and National Security](#)
- **August 11** - [Nuclear Power and Deep Sea Mining: What Do They Have in Common?](#)
- **September 25** - [Minimizing Sediment Plume: Innovating AUV Technology for Polymetallic Nodule Collection](#)
- **October 9** - [Insights from the 2023 Underwater Minerals Conference](#)
- **October 20** - [Current Status of Deep Sea Mining Regulations](#)

Videos

Impossible Metals produced two videos in 2023 to describe our technology and progress, as part of our commitment to transparency for all stakeholders.



Successful Shallow Water Demonstration of Eureka I

A recap of the May 2023 Eureka I demonstration, plus a dive into how the company was founded, selective harvesting technology, and using bacterial respiration for mineral processing.

[Click here to view video](#)



How Our AUVs Will Harvest & Transfer Critical-metal Nodule Payloads

Animation with audio description explaining how we plan for our production-scale technology to operate.

[Click here to view video](#)

Eureka I Demonstration

May Demo

On May 17-28, 2023 Impossible Metals hosted a demonstration event of our selective harvesting technology. Our guests, including industry peers and scientists, attended the first fully tetherless mission of the Eureka I prototype in the waters of Georgian Bay in Collingwood Ontario. Video and data from the Eureka I missions, as well as presentations and our concept economic model from the event are [publicly available](#).

We're grateful for the feedback and advice from our guests, who actively participated in a strong dialogue throughout the event. Input included:

- Deep sea abyssal sediment has unique characteristics that are difficult to replicate. Eureka 2 testing will be useful for learning:
 - How sediment interacts with end effectors (claws); realistic test may require additional arms (Eureka 2 currently designed with 3)
 - Possibility of sediment clinging to nodules & how that would be removed
 - How the vision system may be affected by suspended deep sea sediment and how planned mitigation techniques will help.
- Consideration for different nodule field types (dispersed nodules vs. closely packed; mostly uncovered vs. mostly buried).
- Cycle time considerations of nodule picks and launch/recovery is key to economics.
- Broad environmental impacts should be measured as part of testing, including sediment suspension from arms, light spectrums, and noise.
- There is interest in bioextraction, as polymetallic/manganese nodule processing technology is not as well-developed as nodule mining technology.
- Continued stakeholder engagement and collaboration will be important, including discussing design, operations, and environmental considerations.

Contractors & Suppliers

At Impossible Metals, we understand that our impacts go beyond our operations. Our interactions with and the actions of our contractors and suppliers are an essential aspect of our company's social sustainability. In our previous report, we committed to implementing a procurement policy that includes measures to screen the social and environmental sustainability of contractors and suppliers, as well as set out initial sustainable purchasing plans in 2023. We did not reach our full goal, but our supplier screening was updated to include questions regarding human rights.

As we move into development and construction of Eureka III in 2024, we commit to establishing and implementing ESG screening processes for significant suppliers that align with the goals and values of B Labs. This screening process will be put in place prior to sourcing parts for Eureka III. We will report our performance toward this goal and its implementation in our 2024 ESG & Annual Report.

Social Incidents/Complaints

There were no social incidents or complaints in 2023.

Social Goals

In the 2022 ESG & Annual Report, we set social goals for 2023. **Table 11** describes our performance over the last year and our goals moving forward.

Stakeholder Group	2023 Goal	2023 Performance	2024 Goal
Health & Safety	In 2023, Impossible Metals will create and implement additional Health & Safety procedures and systems appropriate to the size and nature of our operations, as we continue to develop and grow our business.	In 2023, the Collingwood Impossible Metals facility nominated a health and safety representative, per the Ontario Occupational Health and Safety Act. Pasadena operations do not require a health and safety representative. Health & safety is the top priority for our team, and 2023 health & safety actions are described in the Health & Safety section above.	In 2024, Impossible Metals will update H&S onboarding training.
Interim Diversity Targets	In our 2023 Annual ESG & Performance Report, we will report on our performance against our 2023 interim diversity targets as described in Table 6.	Performance against targets is reported in the Employee Demographics section above.	No specific targets, see Employee Demographics section above for more information about how diverse viewpoints are purposefully considered in planning and decision-making.

Table 11: 2023 Goals & Performance.

Stakeholder Group (cont.)	2023 Goal	2023 Performance	2024 Goal
Parental Leave Policy	Since 2023, our parental leave policy relied heavily on local jurisdictional requirements, with additional maternity leave allowance for our US facility. In 2023, we will establish a Parental Leave Policy that provides additional benefits beyond those required in the jurisdictions in which we operate. Parental Leave is provided to both birthing and non-birthing parents.	A Parental Leave Policy was put in place in 2023. This policy goes above and beyond the requirements of the jurisdictions in which we operate. Additional information about this policy can be found in the Benefits and Wellness section above.	- [Complete]
Audit of Working Conditions	As part of our goal to submit an application for B Corp certification in 2023, we will undertake a full audit of working conditions for all employees. We will report the outcomes of this audit in our 2023 Annual ESG and Performance Report and incorporate any required changes into required policies or procedures.	The goal to apply for B Corp certification has been postponed at this time, to allow time for Impossible Metals to grow its ESG program with company growth. We did not undertake a full Audit of Working Conditions in 2023. However, we did provide a review of working conditions in Appendix C of the 2022 ESG & Annual Report, and have reviewed and updated that appendix in this year's report to reflect our continued compliance.	- [Audit of working conditions will be carried out at an appropriate time prior to B Corp certification application]
Pledge 1% of Time	Starting in 2023, we will commit two paid volunteer days per year (1% of work time per year) that our employees can use during company-organized volunteer events, or with organizations they are passionate about. We will report data regarding the use of volunteer time in our 2023 Annual ESG & Performance Report.	In 2023 Impossible Metals provided all full-time employees with 2 paid volunteer days per year and part-time employees 1 paid volunteer day per year.	- [Complete]
Internship Policy & Feedback Mechanism	In 2023, we are launching an internship policy that will enable interns to provide anonymous feedback about their experience. We will report the results of this feedback in our 2023 ESG & Annual Report.	In 2023 Impossible Metals enacted an internship policy late in the year. Surveys and reporting of results will be rolled out in 2024.	Provide all interns with an opportunity to provide anonymous feedback of their experience and report results in the 2024 ESG & Annual Report.
Stakeholder Engagement Plan	In 2023, we will prepare a stakeholder engagement plan for Phase 2 of our business development plan, and we will report on our goals and progress in our 2023 ESG & Annual Report.	In 2023 Impossible Metals remained in Phase 1 of our business development plan, so planning for Phase 2 was pushed forward to 2024 (see Table 12).	Prepare the Phase 2 Stakeholder Engagement Plan and report on our goals and progress in the 2024 ESG & Annual Report. In 2024 Impossible Metals will engage with traditional and community stakeholders as part of Eureka II testing as appropriate for the testing location.
Contractors & Suppliers	In 2023, we will implement a procurement policy that includes measures to screen the social and environmental sustainability of contractors and suppliers, as well as set out initial sustainable purchasing plans. We will report our performance and the performance of our contractors and suppliers against this policy in our 2023 Annual ESG & Performance Report.	Supplier screening was updated to include questions regarding human rights but not other environmental aspects. Remainder of this goal is pushed forward to 2024 (see Table 12).	Prior to sourcing parts for Eureka III, establish and implement ESG screening processes for significant suppliers ¹ that align with the goals and values of B Labs.
Traditional & Community Stakeholders	-	-	Impossible Metals will engage with traditional and community stakeholders as part of Eureka II testing as appropriate for the testing location. The engagement activities and input received will be reported in the 2024 ESG & Annual Report.
Employee Engagement	-	-	In 2024, Impossible Metals will implement more organizational structures to support technical progress and employee well-being as our company grows.

1 B Impact Assessment (used for the purpose of B Corporation certification) defines "significant supplier" as "those suppliers who collectively represent approximately 80% of your purchases in currency terms. Significant Suppliers can include both suppliers of physical items and service providers like accountants and web designers. Goods or services sourced through a cooperative should be considered one Significant Supplier."

Governance

Strong, transparent governance structures are the foundation on which a responsible and ethical company is built. The transparency of governance structures and performance is an integral part of our ESG reporting and commitment to our stakeholders.

In 2023, we planned to submit an application for independent certification as [B Corporation](#). We have decided to defer this goal in order for us to build our company ESG infrastructure as we grow our company. We anticipate that we will apply for certification at or before selective harvesting technology readiness. In 2024 and beyond, we will continue to implement best practices for ESG metrics, as recommended by the B Corporation assessment.

Board of Directors

The highest level of oversight at Impossible Metals is the Board of Directors (BOD). Profiles of our Board members are publicly available on [our website](#). The BOD meets quarterly and consists of 7 individuals, including 2 independent members¹ and 5 owners/executive members. The current board consists of two women and 5 men.

Quarterly meetings include review of financial information, as well as our performance against technical and ESG objectives, strategy, risk, and financial reporting. Additionally, our performance against our policies and procedures is reviewed in detail as part of the annual policy review.

In 2023, we set environmental and social targets as identified in preceding sections, and performance against these targets was reported to the Board in December 2023. This process identified several actions outstanding, in order to achieve the rigorous level of governance we aim for. These actions are reflected in our governance goals for 2024, outlined below.

Advisors

Impossible Metals benefits from the expertise of a range of advisors, whose biographies are available on our website at <https://impossiblemetals.com/about/board-advisors/>. In 2023, we were pleased to welcome former U.S. Assistant Secretary of State for Energy Resources, [Frank Fannon](#) to our strategic advisory board. Frank was unanimously confirmed by the United States Senate to serve as the inaugural assistant secretary of

¹ An independent Board Member is defined as someone who is: not an employee of the company, not a material investor (i.e. owns less than 5% or represents an investor who owns less than 5%), and not a spouse or immediate family member of a material owner.

state for energy resources in May 2018, a position he held until January 2021. As “America’s Energy Diplomat,” he led global whole-of-government initiatives championing responsible development, transparent, open markets, and resilient supply chains for clean energy minerals.

Ethics and Transparency

Ethics

Directors, employees and contractors of Impossible Metals are expected to conduct themselves to the highest ethical standards, and with integrity, professionalism and honesty at all times. We have the following Policies in place to set the standards for ethical conduct at Impossible Metals:

- [Complaints & Disputes Policy](#) - describes steps Impossible Metals takes to ensure the actions and behavior of employees, contractors and directors is at all times of the highest ethical standard
- [Ethical Conduct Policy](#) - describes the steps Impossible Metals takes to ensure the actions and behavior of employees, contractors and directors is at all times of the highest ethical standard
- [Human Rights Policy](#) - describes our commitment to ensuring its operations and supply chains comply with the United Nations Guiding Principles on Business and Human Rights
- [Whistleblower Protection Policy](#) - describes how Impossible Metals protects persons who identify and call out misconduct or harm

Transparency

As per our [Transparency & Knowledge Sharing Policy](#), Impossible Metals is committed to transparently sharing knowledge and data for the purposes of:

- Increasing the understanding of the environmental values of the ocean;
- Continuously improving technical engineering and organizational practices to ensure the ongoing sustainable use of ocean resources;
- Being held accountable for our performance; and
- Development of capacity in the communities and nations in which we operate.

Table 12 outlines our approach to transparency and knowledge sharing, and notes how we have acted on this approach in the last year.

Approach	Actions in 2023
All environmental reports, including baseline environmental study reports, modeling reports and operational environmental monitoring reports will be made publicly available on our website.	No reports of this nature were commissioned or developed in 2022. However, all technical data and video footage of the May 2023 demonstration of Eureka I is publicly available, in addition to all presented information, including concept economic model.
We will collaborate with respected institutions and scientists, and encourage independent publishing amongst the scientific community.	To our knowledge there were no independent studies published using data obtained from Impossible Metals in 2023.
We will share the processes of collaboration we use to ensure that scientific studies inform our project design, operations and monitoring.	No work on these types of reports was carried out in 2023.
We will use independent peer reviewers to review scientific reports and operational environmental data, and we will publish these peer review findings on our website.	There were no scientific reports or operational environmental data in 2023.
Where appropriate external standards can be applied to our project (such as the Standards of the Initiative for Responsible Mining Assurance) we will apply those standards, undertake external auditing of our performance against those standards, and publish these audit reports on our website.	In 2023 we continued the process of auditing ourselves for B Corp certification. Our 2023 greenhouse gas footprint was prepared using the Greenhouse Gas Protocol .
We will report our environmental, social and governance performance to the highest level of transparency, and in collaboration with our stakeholders, to ensure that our reporting data is aligned with the expectations, interests and priorities of our stakeholders.	This Annual ESG & Performance Report document contains the public reporting of our environmental, social, and governance performance.

Table 12: Impossible Metals performance against our stated transparency and knowledge sharing approach.

Policies & Procedures

In 2023, Impossible Metals enacted or updated the following policies after review and approval by our board of directors:

- **Employee Wellness Policy** - new policy to formalize Impossible Metals' wellness policy and associated initiatives
- **Ethical Conduct Policy** - updated to include ethical marketing standards
- **Financial Controls Policy** - new policy to formalize the system of financial controls used by Impossible Metals, including responsibilities
- **Internship Policy** - new policy to formalize Impossible Metals' internship program, as well as a mechanism for anonymous feedback of their experience and public reporting of this feedback
- **Parental Leave Policy** - new policy describing updated parental benefits for employees that go above and beyond legislated requirements in all jurisdictions where we operate

- **Privacy Policy** - privacy statement pulled from Ethical Conduct Policy and updated into new Privacy Policy that meets best practices described in B Corp audit
- **Stakeholder Engagement Policy** - new policy enacted to describe the core values of Impossible Metals' stakeholder engagement, and how they direct our stakeholder engagement approach

Other policies in place at Impossible Metals:

- Climate Policy
- Sustainability Policy
- Community Policy
- Transparency & Knowledge Sharing Policy
- Complaints and Disputes Policy
- Whistleblower Protection Policy
- Human Rights Policy
- Workplace Health & Safety Policy
- Risk Management Policy

All policies were reviewed by the Sustainability Manager in Q4 of 2023, and our performance against these policies was presented during the Q4 Board of Directors Meeting in December 2023.

In 2024 we will enact a new **Significant Suppliers ESG Policy** and update our **Annual Employee Performance Evaluation & Feedback Procedure**

Risk Management

We implement risk management according to our [Risk Policy](#) and our Risk Management Procedure. We assess risk on the basis of likelihood and consequence, and document these risks for internal review and board oversight.

In 2023, Impossible Metals completed a risk register. At present, there are no extreme or catastrophic risks relating to environment, social, health and safety, or governance. Impossible Metals acknowledges that assessment of our risks will change as conceptual strategies move into pre-feasibility and feasibility development stages. We will continue to assess, manage and report on our environmental, social and governance risks, as we move through these developmental stages.

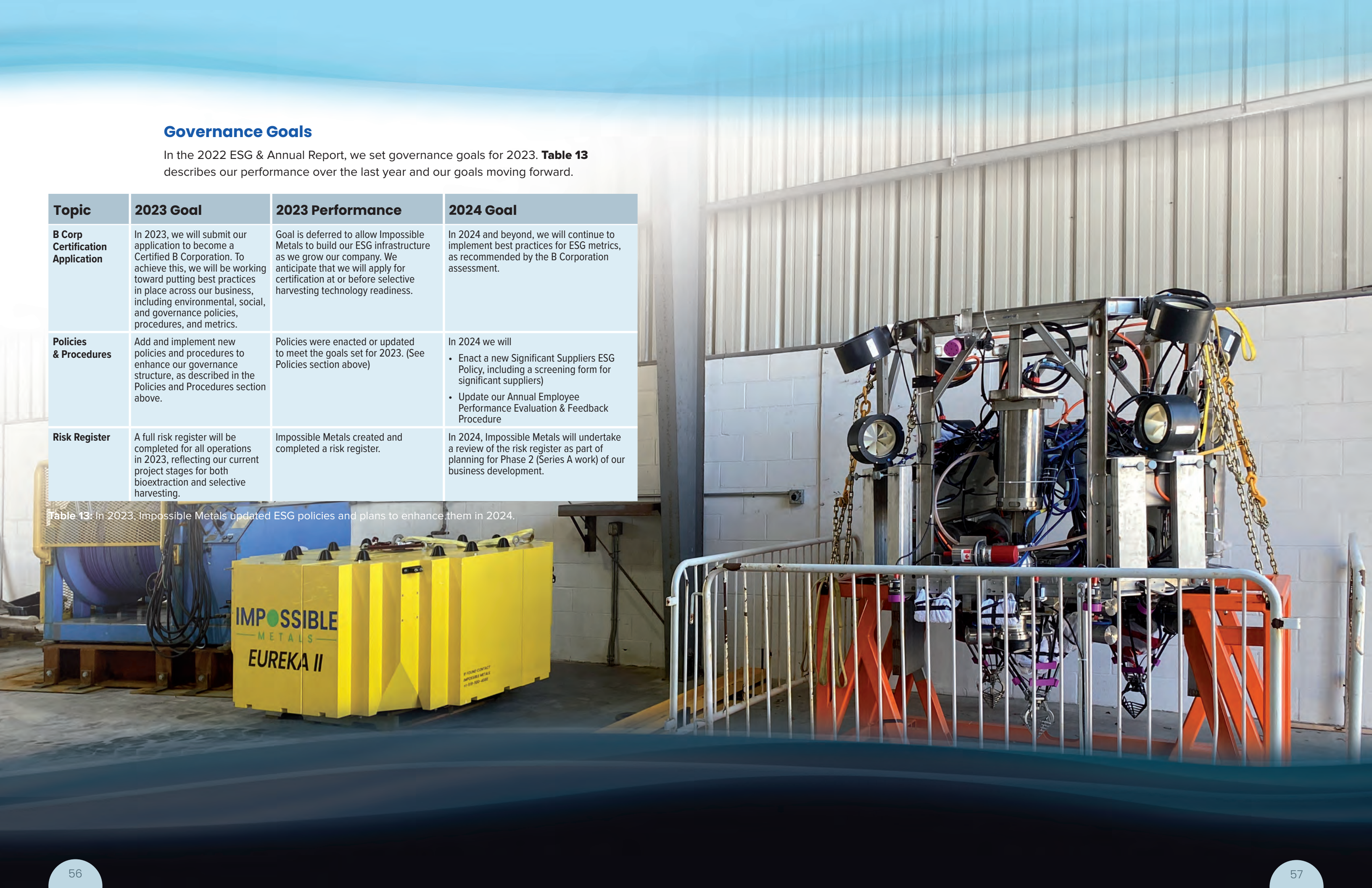
In 2024 Impossible Metals will undertake a review of the risk register as part of planning for Phase 2 (Series A work) of our business development.

Governance Goals

In the 2022 ESG & Annual Report, we set governance goals for 2023. **Table 13** describes our performance over the last year and our goals moving forward.

Topic	2023 Goal	2023 Performance	2024 Goal
B Corp Certification Application	In 2023, we will submit our application to become a Certified B Corporation. To achieve this, we will be working toward putting best practices in place across our business, including environmental, social, and governance policies, procedures, and metrics.	Goal is deferred to allow Impossible Metals to build our ESG infrastructure as we grow our company. We anticipate that we will apply for certification at or before selective harvesting technology readiness.	In 2024 and beyond, we will continue to implement best practices for ESG metrics, as recommended by the B Corporation assessment.
Policies & Procedures	Add and implement new policies and procedures to enhance our governance structure, as described in the Policies and Procedures section above.	Policies were enacted or updated to meet the goals set for 2023. (See Policies section above)	In 2024 we will • Enact a new Significant Suppliers ESG Policy, including a screening form for significant suppliers) • Update our Annual Employee Performance Evaluation & Feedback Procedure
Risk Register	A full risk register will be completed for all operations in 2023, reflecting our current project stages for both bioextraction and selective harvesting.	Impossible Metals created and completed a risk register.	In 2024, Impossible Metals will undertake a review of the risk register as part of planning for Phase 2 (Series A work) of our business development.

Table 13: In 2023, Impossible Metals updated ESG policies and plans to enhance them in 2024.



APPENDIX A

Internal Impossible Metals Annual ESG & Performance Report Requirements Checklist

Technical and Strategic Performance

Requirement	Reference
Summary of the progress towards technical and strategic milestones.	page 14-17
Summary of the progress of engineering design and construction in accordance with the Environmental Basis of Design, including summary of the aspects of engineering developed to specifically meet environmental or social targets, including those related to end-of-life product/component reclamation.	page 14-17
Summary of our performance in relation to our public benefit statement – <i>“to deliver responsibly mined and processed battery metals to the market in a manner which promotes sustainability, transparency, and accountability and to render a public benefit by acceleration of the world’s transition to sustainable energy to mitigate the climate crisis”</i> .	Technical progress pages 14-17 This report is prepared to promote transparency and accountability for our sustainability performance.

Environmental Performance

Requirement	Reference
Energy use and efficiency measures implemented, including performance against stated targets.	page 20
Water use and efficiency measures implemented, including performance against stated targets.	page 20-21
Information regarding emissions from our facilities (if any), including performance against stated targets.	page 20
Waste minimization and recycling measures, including performance against stated targets.	page 22
Summary of the measures in place (or planned) for our facilities to meet the requirements of accredited green building programs.	page 26
Summary of Board oversight of environmental performance against stated targets.	page 46
Summary of the most significant environmental risks, and management strategies currently in place to manage those risks.	page 50
Summary of environmental incidents and/or complaints, and measure taken to both address those complaints and any underlying causes.	page 26

Social Performance

Requirement	Reference
Summary of the most significant social and community risks, and management strategies currently in place to manage those risks.	page 50
Summary of independent contractor and supplier practices, including the extent of auditing and oversight of supply chain and contractor parties, with performance against stated governance, social and environmental targets.	page 43
Summary of stakeholder engagement undertaken in accordance with the Stakeholder Engagement Plan, and measures taken to address stakeholder concerns.	page 39-40
Summary of Board oversight of social performance against stated targets.	page 46
Summary of social incidents and/or complaints, and measure taken to both address those complaints and any underlying causes.	page 43
Summary of demographics of employees and contractors, including performance against targets in relation to gender and cultural diversity, and pay equality.	page 29-30
Summary of internal and (where relevant) external auditing of labor conditions and employee benefits according to relevant best practice guidelines and the legislative framework(s) in which we operate.	page 33, Appendix C
Summary of employee satisfaction surveys, including reporting of any trends, attrition rates and performance against targets in relation to employee satisfaction.	page 32-33
Summary of in-kind or financial contributions to social, environmental and corporate citizenship programs, including disclosure of organizations and/or institutions supported.	page 34-37

Governance

Requirement	Reference
Governance structures, including the report of the Board of Directors.	page 46
Summary of bonuses and incentives paid to employees, including Leadership Team members, and the metrics used to measure performance.	- company is not yet publicly traded
Composition and representation of the Board of Directors.	page 46
List of Impossible Metals policies and confirmation of annual review process for all policies.	page 49
Summary of governance risks, and management strategies currently in place to manage those risks.	page 50
Statement of the independent auditor in relation to company financials, endorsed by the Board of Directors.	- company is not yet publicly traded

APPENDIX B

Impossible Metals Contributions to UN Sustainable Development Goals

All Impossible Metals proposed contributions to SDG goals on [our website](#).



SDG 5 – Achieve Gender Equality And Empower All Women And Girls

Proposed Contributions	2023 Performance	Planned Actions
Provide equal opportunities to all genders in regard to hiring, promotion, compensation, schedules, job assignments, discipline, training, working conditions, and all other aspects of employment.	Ethical Conduct Policy describes commitments to equal opportunity, and diversity metrics are reported herein.	Continue to support equal opportunity, and purposeful inclusion of a diversity of voices in planning and decision-making. Data will be reported annually.
Clearly communicate expectations for the ethical conduct of our employees, including zero tolerance for gender or other types of discrimination, harassment, or bullying.	Ethical Conduct Policy describes expectations and commitments. Policy was updated with a new ethical marketing section.	Continue enforcement of the ethical conduct policy and review the policy annually and after a related issue if it should arise.
Provide paid parental leave for both birthing and non-birthing parents that meets or exceeds the requirements of the local jurisdiction.	A Parental Leave Policy was implemented in 2023 that goes above and beyond legislative requirements in all jurisdictions where we operate.	Continue to support parents, including policy review annually and after a related issue if it should arise.
Measure and report on company diversity (including gender) for employees, management, and board of directors annually, including goal setting and progress reporting.	Company diversity is reported in the Social section of this Annual ESG & Performance Report.	Continue to report on our company diversity and when applicable, goals and related performance.
Work with our host nations to support the development and/or strengthening of gender equality policy and legislation, and the actions that support those policies in the communities where we work.	At present, our teams are located in cities and towns in the United States and Canada, where gender equality legislation is in place.	As we move into broader community settings, we will work with government and community partners to contribute both financially and in-kind to meaningful, effective projects that align with the needs of the community and the relevant government framework.

6 CLEAN WATER AND SANITATION



SDG 6 – Clean Water And Sanitation

Proposed Contributions	2023 Performance	Planned Actions
Access to safe drinking water: • Ensure access at all times for our workforce to safely managed drinking water and sanitation • Contribute to government and community programs in the communities in which we operate	At present, our teams are located in cities and towns in the United States and Canada, where government-provided infrastructure is already achieving this goal.	As we move into broader community settings, we will work with government and community partners to contribute both financially and in-kind to meaningful, effective projects that align with the needs of the community and the relevant government framework.
Reduce stress on water resources by bringing to market a mineral processing methodology that does not use freshwater, and therefore does not compete with, or place pressure on, freshwater resources. This would be a considerable innovation and step forward for the mining industry as a whole, particularly if it were able to be deployed for terrestrial mineral processing as well as processing of seabed minerals.	2023 advancements in biorefining are reported in the Technical & Strategic Performance section. Summary: Initial work to scale up volume and % ore was carried out, in addition to continued progress developing effective bacterial strains and consortia.	In 2024, biorefining will be spun out as a separate company, Viridian Biometals. This team will work to secure the implementation of biorefining through development of a novel prototype bioreactor, as well as technologies and techniques to accelerate the pace of development. We will continue to transparently report our technical progress performance.

7 AFFORDABLE AND CLEAN ENERGY



SDG 7 – Affordable and Clean Energy

Proposed Contributions	2023 Performance	Planned Actions
Work with our host countries to ensure any energy generation and use by Impossible Metals: • Complies with their targets • Contributes to the development of renewable energy infrastructure and services in the host country • Does not impact negatively on the host country's targets and pathway for achieving carbon neutrality • Energy generation and use by Impossible Metals meets the energy efficiency targets of the host country, or in the absence of targets, the guidance provided by the World Bank	A baseline carbon footprint was calculated for our Collingwood, Ontario facility. The carbon footprint for our activities in Pasadena, California (biorefining R&D) were estimated, but are not to be considered a baseline moving forward as they are estimated as a percentage of square footage within a collaborative rented lab space, and will not be reflective of any operations in the future.	Annual carbon footprint reporting, including a baseline for biorefining activities when appropriate. Following delivery of baseline carbon data, development of transition plan to achieve net-zero Scope 1 and 2 emissions by 2030.
Power our bioextraction plant(s) by renewable energy, which we will develop in the context of our host country's national plans for renewable energy and pathway for achieving carbon neutrality.	-	Given our biorefining technology is still in the proof of concept stage, we anticipate reporting the formulation of these metrics and strategies when possible in the development process.



SDG 9 – Innovation, Industry and Infrastructure

Proposed Contributions	2023 Performance	Planned Actions
Work with our host countries to ensure any infrastructure developed by Impossible Metals (such as port and energy generation infrastructure) is developed in consultation with host nations, and to the highest quality of innovation, sustainability, and climate resilience. Further, any infrastructure developed by Impossible Metals in collaboration with host nations and other partners will be developed in accordance with the National Plan(s) of those host countries, with the objective of contributing to economic development, human well-being, equality and sustainable development, both during and following closure of any projects we are involved in.	No infrastructure development in 2023.	Meet our proposed contribution commitment when applicable during our business development.
Apply innovations to the critical metals industry that deliver ground-breaking progress towards sustainable industrialization, making significant contributions to the industrialization of our host nations, particularly any developing nations or small island states with whom we collaborate. We will prioritize the implementation of the technology enabling sustainable industrialization in developing and small island states, in alignment with the National Plans of those nations, and in close collaboration with the host nation governments.	2023 advancements in selective harvesting are reported in the Technical & Strategic Performance section. Robotics summary: Successful demonstration of Eureka I (shallow water prototype) and construction/initial testing of Eureka II (deep water prototype) Biorefining summary: Initial work to scale up volume and % ore was carried out, in addition to continued progress developing effective bacterial strains and consortia	Robotics: In 2024, we are aiming to successfully pick up nodules from the deep seafloor, with associated environmental monitoring, in order to quantify our level of impact, which we anticipate will be significantly lower than alternatives. Biorefining: In 2024, biorefining will be spun out as a separate company, Viridian Biometals. This team will work to secure the implementation of biorefining through development of a novel prototype bioreactor, as well as technologies and techniques to accelerate the pace of development. We will continue to transparently report our technical progress perform
Transparently share any scientific advancements in relation to sustainable development and sustainable industrialization, including the support of, and collaboration with, host nation educational and research institutions.	Engagement with scientists is described in this report, and documentation can be found on our Scientific Engagement webpage .	We will continue to share scientific engagement, studies, and advances transparently, as well as encourage independent publishing of environmental monitoring.



SDG 12 – Responsible Consumption & Production

Proposed Contributions	2023 Performance	Planned Actions
Develop robotics technology to sustainably collect mineral resources from the deep sea floor.	2023 advancements in selective harvesting are reported in the Technical & Strategic Performance section. Summary: Successful demonstration of Eureka I (shallow water prototype) and construction/initial testing of Eureka II (deep water prototype).	In 2024, we are aiming to successfully pick up nodules from the deep seafloor, with associated environmental monitoring, in order to quantify our level of impact, which we anticipate will be significantly lower than alternatives. We will continue to transparently report our technical progress performance.
Develop biorefining technology to extract metal resources from ore, avoiding the use of harsh chemicals like arsenic, delivering improved energy efficiency, and reducing waste generation.	2023 advancements in biorefining are reported in the Technical & Strategic Performance section. Summary: Initial work to scale up volume and % ore was carried out, in addition to continued progress developing effective bacterial strains and consortia.	This team will work to secure the implementation of biorefining through development of a novel prototype bioreactor, as well as technologies and techniques to accelerate the pace of development. We will continue to transparently report our technical progress performance.



SDG 13 – Climate Action

Proposed Contributions	2023 Performance	Planned Actions
Measure and report our GHG emissions annually.	A baseline carbon footprint was calculated for our Collingwood, Ontario facility. The carbon footprint for our activities in Pasadena, California (biorefining R&D) were estimated, but are not to be considered a baseline moving forward as they are estimated as a percentage of square footage within a collaborative rented lab space, and will not be reflective of any operations in the future.	Annual carbon footprint reporting, including a baseline for biorefining activities when appropriate. Following delivery of baseline carbon data, development of transition plan to achieve net-zero Scope 1 and 2 emissions by 2030.
Implement a pathway to net-zero by the commencement of production, including the setting and reporting of interim targets to measure our progress.		
Improve education and awareness-raising by transparently publishing our scientific data, encouraging independent publishing by scientists who work together, and, as we expand into other communities, working with educational institutions to further the scientific knowledge of the seabed environment.	Engagement with scientists is described in this report, and documentation can be found on our Scientific Engagement webpage .	We will continue to share scientific engagement, studies, and advances transparently, as well as encourage independent publishing of environmental monitoring.
Work with our host nations to develop and implement climate-change related infrastructure, including (where relevant) renewable energy infrastructure and climate resilient port infrastructure.	-	Meet our proposed contribution commitment when applicable during our business development.





SDG 14 – Life Below Water

Proposed Contributions	2023 Performance	Planned Actions
We are working to develop selective harvesting technology that minimizes impacts to the seafloor ecosystem in a way that is measurable and observable. We will communicate our performance in respect to this objective transparently to all stakeholders.	2023 advancements in selective harvesting are reported in the Technical & Strategic Performance section. Summary: Successful demonstration of Eureka I (shallow water prototype) and construction/initial testing of Eureka II (deep water prototype).	In 2024, we are aiming to successfully pick up nodules from the deep seafloor, with associated environmental monitoring, in order to quantify our level of impact, which we anticipate will be significantly lower than alternatives. We will continue to transparently report our technical progress performance.
Work with our suppliers to develop technologies that are based on closed loop supply chains and recyclable materials, to reduce the volume of waste to landfill.	Supplier screening was updated to include questions regarding human rights.	Prior to sourcing parts for Eureka III, establish and implement ESG screening processes for significant suppliers that align with the goals and values of B Labs. We will report against the ESG metrics of our significant suppliers annually.
Work to implement technology that does not require the use of large volumes of hydrocarbons in the subsea environment, to minimize the risk of spills to the marine environment.	Robotics technology utilizes batteries rather than hydrocarbon fuels.	Limiting use of hydrocarbons will be considered in all aspects of development of manufacturing and operations, including support ship fuel and AUV battery charging.
Monitor and report our waste management strategies, and waste volumes, both in our on-shore and off-shore operations, and will ensure all off-shore operations comply with the International Convention on the Prevention of Pollution from Ships (MARPOL).	Hiring of waste services for waste diversion (recycling & organics) at new Collingwood facility.	In 2024 waste types will be cataloged at Collingwood and Pasadena facilities to ensure they are being directed to the appropriate waste stream Long term - development of a circular resources plan with interim targets and the objective of achieving 80% resource recycling/reuse by the commencement of full scale technology production.
Comply with all domestic and international laws, including the provisions of the United Nations Convention on the Law of the Sea (UNCLOS) at all times, and will transparently report any incidents or breaches of any relevant domestic or international legislation, including the outcome of any investigations.	Impossible Metals complied with all relevant legislation in 2023.	We will continue to comply with all relevant legislation, implement policies and procedures as applicable to assist in compliance, and report any incidents.
Work with our host countries to ensure any infrastructure developed by Impossible Metals (such as port, mineral processing and energy generation infrastructure) is designed to minimize or eliminate waste production and the potential for offsite impacts, spills and pollution.	Not relevant to 2023 operations (no significant infrastructure development).	Meet our proposed contribution commitment when applicable during our business development.
Develop our bioextraction technology, which we believe will minimize or eliminate the generation of waste from mineral processing. In an industry where this waste has historically been disposed of in ocean environments, we aim to deliver mineral processing technology that can not only prevent pollution from our operations, but can be applied to existing terrestrial mining operations to further reduce impacts of pollution to the ocean from the minerals industry.	2023 advancements in biorefining are reported in the Technical & Strategic Performance section. Summary: Initial work to scale up volume and % ore was carried out, in addition to continued progress developing effective bacterial strains and consortia.	In 2024, biorefining will be spun out as a separate company, Viridian Biometals. This team will work to secure the implementation of biorefining through development of a novel prototype bioreactor, as well as technologies and techniques to accelerate the pace of development. We will continue to transparently report our technical progress performance.
Transparently share any scientific advancements in relation to marine science, ocean health and the ecosystems in which the seabed minerals are located, including the support of, and collaboration with, host nation educational and research institutions.	Engagement with scientists is described in this report, and documentation can be found on our Scientific Engagement webpage .	We will continue to share scientific engagement, studies, and advances transparently, as well as encourage independent publishing of environmental monitoring.





SDG 15 – Life on Land

Proposed Contributions	2023 Performance	Planned Actions
We believe the responsible development of seafloor minerals can, and will, replace proposed terrestrial mines in fragile ecosystems in mountain, forest and alpine regions. While it is critical that seafloor mines are developed in a manner that also protects biodiversity and natural habitats, we believe that selective harvesting will make this possible, and will have the added benefit of displacing lower grade, higher risk mines in fragile terrestrial ecosystems.	2023 advancements in selective harvesting are reported in the Technical & Strategic Performance section. Summary: Successful demonstration of Eureka I (shallow water prototype) and construction/initial testing of Eureka II (deep water prototype).	In 2024, we are aiming to successfully pick up nodules from the deep seafloor, with associated environmental monitoring, in order to quantify our level of impact, which we anticipate will be significantly lower than alternatives. We will continue to transparently report our technical progress performance.
Work to develop bioextraction technology for both seabed mining and terrestrial mining to minimize or eliminate the generation of tailings (waste liquid and crushed ore) that results from traditional mineral processing. This would significantly reduce the impact, and future risk of impact, to terrestrial and freshwater ecosystems which is currently occurring as a result of long term terrestrial tailings liabilities.	2023 advancements in biorefining are reported in the Technical & Strategic Performance section. Summary: Initial work to scale up volume and % ore was carried out, in addition to continued progress developing effective bacterial strains and consortia.	In 2024, biorefining will be spun out as a separate company, Viridian Biometals. This team will work to secure the implementation of biorefining through development of a novel prototype bioreactor, as well as technologies and techniques to accelerate the pace of development. We will continue to transparently report our technical progress performance.



APPENDIX C

Impossible Metals Compliance with Workers Rights

Worker Rights	Ontario Requirements	California Requirements	Impossible Metals Implementation
Hours of Work Links: - Ontario - California	Unless there is written agreement, Employers can require employees to work a maximum of: - Daily: 8 hours - Weekly: 48 hours Written agreement does not absolve employer of overtime pay requirements	With some exceptions, there is a maximum of 40 hours per week that employees can be required to work. This can be 8 hours over 5 days, 10 hours over 4 days, or 12 hours over 3 days. Overtime is paid for any hours over this number.	Compliant: Full-time employees are expected to work 8 hours per day, 5 days per week (40 hours) with some flexibility as needed for additional hours, for which lieu time can be taken. Additionally, Impossible Metals uses OfficeVibe to monitor and measure employee engagement indicators, including work-life balance.
Rest Periods Links: - Ontario - California	Relevant requirements: 30 minute eating period for 5+ hour work periods 11 consecutive hours off each 24 hour period 24 hours off each week or 48 every 2 weeks 8 hours off between shifts	- An uninterrupted 30-minute unpaid meal break when working more than five hours in a day. - An additional 30-minute unpaid meal break when working more than 12 hours in a day. - A paid 10-minute rest period for every four hours worked.	Compliant: All employees have rest periods meeting the minimum requirements. Typical full-time employees have at least 16 hours off between each work day and have flexibility regarding breaks and lunch periods.
Minimum Wage Links: - Ontario - California	Employers must pay at least the minimum hourly wage. - Jan - Sept 2022: \$15.00/hour - Sept - Dec 2022: \$15.50/hour	Employers must pay at least the minimum hourly wage. Jan - Dec 2022: \$14.00/hour for 25 employees or less \$15.00/hour for 26 or more employees	Compliant: All employees make more than the minimum wage and the living wage (see Living Wage section of this report).
Public Holidays Links: - Ontario - California	Employees are entitled to take public holidays off work and be paid public holiday pay (with some alternatives and exceptions). There are 9 public holidays observed in Ontario each year.	No requirement to provide employees with paid holidays, that it close its business on any holiday, or that employees be given the day off for any particular holiday. Additionally, there is nothing in the law that mandates an employer pay an employee a special premium for work performed on a holiday, Saturday, or Sunday. There are 11 public holidays observed in California each year.	Compliant: All employees are able to take public holidays off with pay. In some cases, they may decide with their manager to take an alternative day off in lieu of the public holiday, which is agreed to in advance.
Vacation Time Links: - Ontario - California	<5 years of work at the organization: 2 weeks (business days) 5+ years of work at the organization: 3 weeks (business days)	There is no legal requirement in California that an employer provide its employees with either paid or unpaid vacation time. However, if an employer does have an established policy, practice, or agreement to provide paid vacation, then certain restrictions are placed on the employer as to how it fulfills its obligation to provide vacation pay.	Compliant: Full-time employees receive 21 vacation days per year at the start of employment, increasing by 1 day per year to a maximum of 23 days per year.
Pregnancy & Parental Leave Links: - Ontario - California	- Up to 18 months of maternity/parental leave - Continue company-provided medical benefits for employees during parental leave - Count parental leave into employee’s length of service at the organization - Upon return from parental leave, provide the same job or a comparable job if the employee’s previous role no longer exists (including equal or higher salary and benefits)	- Up to 12 weeks of bonding time with new child - Continue company-provided medical benefits for employees during parental leave - Upon return from parental leave, provide the same job or a comparable job if the employee’s previous role no longer exists (including equal or higher salary and benefits)	Compliant: Impossible Metals complies with all requirements for pregnancy and parental leave in the jurisdictions where it operates. A Parental Leave Policy was enacted in 2023 that extends parental leave benefits beyond legislative requirements, including: Salary top-up from government benefits for 12 weeks for birthing parents (including primary caregivers of adopted children) and 8 weeks for non-birthing parents. Medical benefits will continue to be provided through the parental leave period Job retention for 12 months in United States to accommodate for extended leave (Canadian employees may take up to 18 months leave as per legislative requirements).
Paid Sick Days Links: - Ontario - California	Employees are entitled to 10 days of personal emergency leave per year with pay (with some alternatives and exceptions).	Employees are entitled to 24 hours (3 days) of Paid Sick Leave (PSL) per year with pay (with some alternatives and exceptions).	Compliant: In 2023, sick leave was extended from 10 days per year to unlimited. This includes days when the employee cannot perform their duties due to their own sickness, or to care for a member of their immediate family.
Health and Safety Links: - Ontario - California	Employees have the right to: - Know about dangerous materials or equipment used in your work. Your employer has to give you this information. - Say no to work that is not safe. They do not have to do that work until it is safe. You must tell your boss right away. They cannot be suspended, fired, or not get paid for saying no to work that is not safe.	Employees have the right to: - Be brained in the company’s injury and illness prevention program (IIPP) that includes instruction on safe work practices and the system for effective communication about health & safety with co-workers and the employer. - Right to refuse hazardous work without retaliation from the employer in any form.	Compliant: Employees receive training after employment regarding dangerous materials or equipment used in their work. Employees may say no to unsafe work without repercussions. Impossible Metals has a Workplace Health & Safety Policy and will implement health & safety procedures as needed during company growth/development.
Anti-discrimination Links: - Ontario - California	Employers cannot treat you unfairly or discriminate against you because of your race, ancestry, place of origin, ethnic origin, citizenship, religion, sex, sexual orientation, gender expression, gender identity, ag, family status or marital status,disability.	It is illegal for employers of 5 or more employees to discriminate against job applicants and employees because of a protected category , or retaliate against them because they have asserted their rights under the law.	Compliant: Impossible Metals has an Ethical Conduct Policy that includes equal opportunity commitments.

IMPOSSIBLE
— METALS —
EUREKA II

Contact Us

IMPOSSIBLE METALS USA

2265 E Foothill Blvd
Pasadena, CA 91107
U.S.A.

IMPOSSIBLE METALS CANADA

93 Sandford Fleming Dr., Unit 1
Collingwood, ON
L9Y 5A6
Canada

Website

<https://ImpossibleMetals.com>

Email

info@impossiblemetals.com

Phone

[+1 \(408\) 660-3944](tel:+14086603944)

IMPOSSIBLE
— METALS —