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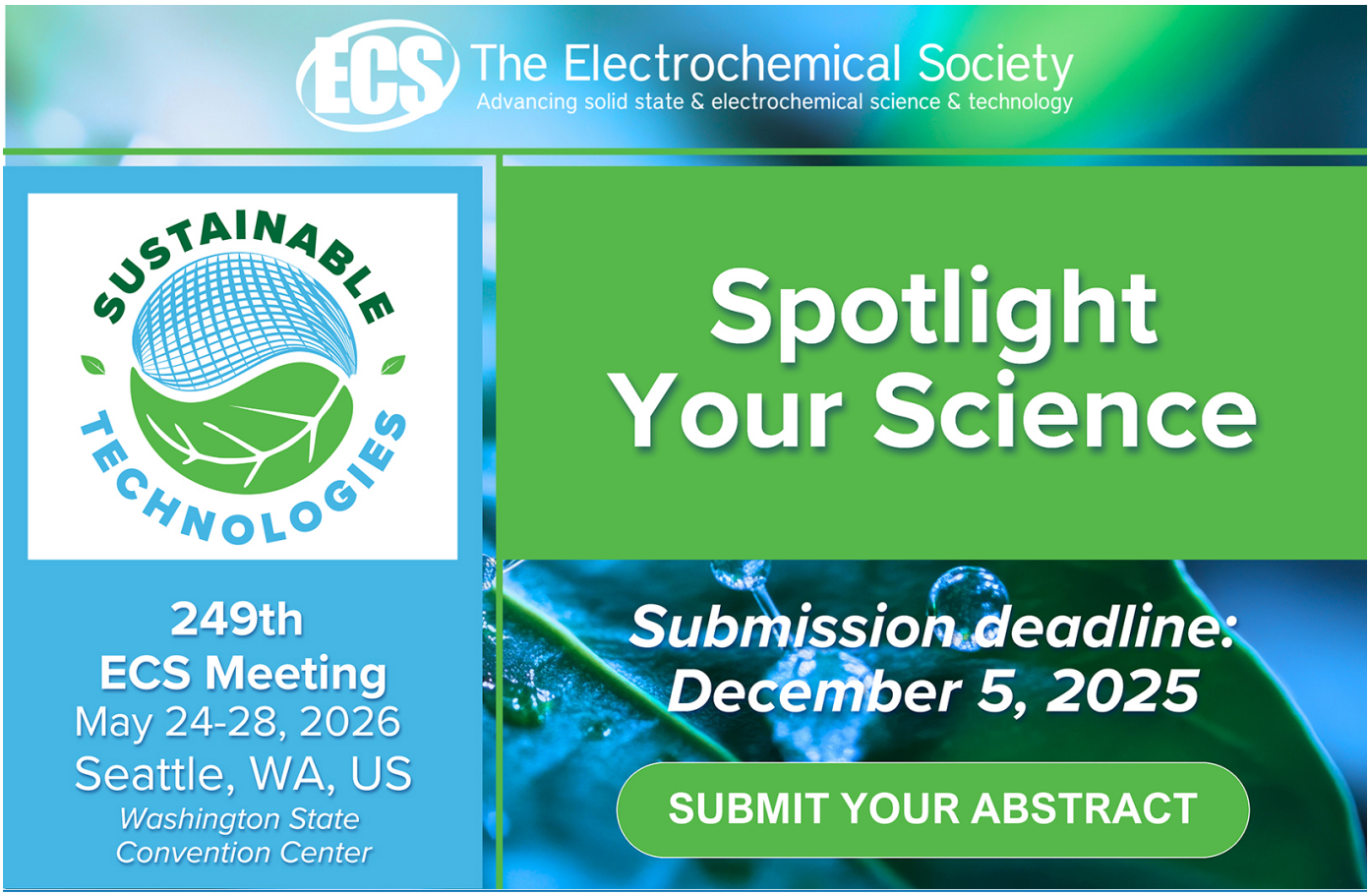

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Between a rock and a hard place: sourcing critical minerals for a green future in the European Union

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1. Introduction

As the world moves towards a low carbon economy, questions are being raised about the most effective way to achieve the goal of a green energy transition. For example, how we will secure the metals, mineral and materials that will be needed? Or, as governments develop strategies to support net zero emissions, how can interest in environmental social and governance (ESG) matters be harnessed via raw material production to deliver sustainable development while protecting society not corporate self interest?

One interesting region to consider is the European Union (EU). In the EU, the government has established public policy for a stable, sustainable, and climate-neutral economy by 2050: the European Green Deal (EGD). Unveiled in 2019, the EGD includes ambitious 'socially fair' targets for greenhouse gas (GHG) emission reduction and promotes the use of renewable energy, energy efficiency, and a circular economy (European Green Deal 2019). The EDG was complemented in 2023 with the introduction of the European sustainability reporting standard (ESRS), a legislated reporting requirement for companies subject to the EU's corporate sustainability reporting directive (CSRD). The CSRD covers ESG issues and will affect 50 000 companies within the EU, including 10 000 non-EU based companies with European operations. Collectively these companies account for 75% of total European company revenue (Ellman 2024).

The role of critical raw materials (CRMs), those commodities needed for a green future, is noted in the EGD and in September 2023 the EU Parliament approved the CRMs Act. The objective of the act is to ensure the EU's access to 'a secure, diversified, affordable and sustainable supply of critical raw materials' (European Commission 2023). The act aims to reduce the EU's current dependencies on supply of CRM from just a few non-EU countries by improving the mining, refining, processing, and recycling of CRM within Europe, and by supporting the development of a domestic supply chain (European Critical Raw Materials Act 2023).

2. ESG standards: too many choices, lack of comparability, lack of transparency

The first standards for ESG reporting were launched by the global reporting initiative (GRI) in 1998. By 2024, options for ESG reporting had vastly increased with a plethora of instruments available within the mining sector (table 1). Some of these reporting options focus solely on a specific emission (for example, 2001 Greenhouse Gas Protocol) or commodity such as steel, gold, cobalt, or copper. Some cover only social issues (e.g. 2000 Voluntary Principles on Security and Human Rights) or financial accountability (EITI). The UN SDGs offer an agenda with no reporting requirement while standards such as GRI and SASB have detailed requirements. Some standards, such as TSM and IRMA, require third party verification of results. A few standards such as the Kimberly Process seek to provide assurance across the value chain. Until 2022, with the introduction of the EU CSRD, all reporting options had two things in common: reporting is voluntary, and materiality is defined by each company making comparability difficult even when the same standard is used by different companies. The intent of ESG

Table 1. Principal ESG reporting options and disclosure protocols used by mining companies listed by year established.

Year	Reporting and Disclosure
1989	International Labor Organization -Convention 169 (Rights of Indigenous Peoples)
1997	Global Reporting Initiative (GRI)
1999	UN Global Compact
2000	Voluntary Principles on Security and Human Rights (VPs)
	Carbon Disclosure Project (CDP)
	International Cyanide Management Code
2001	Greenhouse Gas Protocol
2002	Extractive Industries Transparency Initiative (EITI)
2003	Equator Principles
	Kimberley Process
2004	Towards Sustainable Mining (TSM)
2006	International Finance Corporation (IFC) performance standards
	IFRS Foundation's International Sustainability Standards Board (ISSB)
	Initiative for Responsible Mining Assurance (IRMA)
2011	Sustainability Accounting Standards Board (SASB)
2012	Aluminum Stewardship Initiative
	Conflict Free Gold Standard
2014	EU Non-Financial Reporting Directive (NFRD)
2015	UN Sustainable Development Goals
2016	EU Conflict Minerals Regulation
	Responsible Steel
	Responsible Cobalt Initiative
2017	Task Force on Climate-Related Financial Disclosures (TCFD)
	ISO 20 400
2019	CopperMark
	Responsible Gold Mining Principles (RGMPs)
2020	Global Industry Standard Tailings Management (GISTM)
2021	Task Force on Nature Related Financial Disclosure (TNFD)
	International Sustainability Standards Board (ISSB)
	Science Based Targets Initiative
	EU Sustainable Finance Disclosure Regulation (SFDR)
2022	EU Corporate Sustainability Reporting Directive (CSRD)
	Corporate Sustainability Due Diligence Directive (CSDDD)
2023	European Sustainability Reporting Standards (ESRS)
2024	GRI revised mine sector reporting requirements

reporting is to provide data to increase awareness of the sustainability impacts of companies and guide investment decisions. While a worthy goal, there are concerns about the standards themselves, the narrow focus of ESG reporting as a financial mechanism for risk management, and the potential disconnect between ESG reporting and sustainable development. Of +1000 senior finance leaders surveyed in 2022, 53% stated that investors' desire for short-term earnings restricts the company's ability to fund longer-term investments in sustainability (Corson 2022).

The current focus of much ESG reporting on issues of financial materiality identified by individual companies has 'somewhat divorced discussions from the universal concepts of justice, rights, harm, deprivation and fairness that underlie the need for reference to ESG' (Responsible Mining Foundation 2023). To close that gap, several reporting protocols, including the ESRS, now require companies to identify both issues of financial materiality (economic value creation for the benefit of shareholders) as well as information on a company's impact materiality, its impact on the economy, environment, and people (Global Reporting Initiative 2022). This 'double materiality' approach should help companies to differentiate between the risk to their operations (business risk) and the risk their operations pose to the nearby communities (social risk). Although it will not be easy to resolve the tension between ESG reporting, short -term financial returns, and advancing progress on sustainable development, maintaining the focus on sustainability is critical.

Sustainability is one of the biggest challenges facing society. Yet it is seldom the core focus of business. Meeting sustainability challenges will require a significant change in business thinking and operations and, in the case of mining, greater collaboration with communities of interest. Research conducted in the EU found that a lack of social acceptance was one of the greatest barriers to European mining and production of CRMs (Williams and MacCallum 2018). A view reinforced by polling conducted in 2022 suggesting that trust in the mining sector is at an all time low (Dhawan 2023). For mining companies to overcome the social acceptability barrier public

engagement with all stakeholders and rightsholders—opponents as well as advocates—is required.

3. ESG, sustainable development and the need for public engagement

There is a vast body of knowledge concerning what mining companies can do to engage communities. There is also understanding of what factors relating to mineral exploration and development are likely to cause loss of community acceptance and drive incidents of conflicts between mining companies and communities. These factors include competing demands for land access, concerns about social and cultural change, issues related to resource governance or transparency, human rights impacts, competition for scarce resources, and inequitable distribution of benefits. Despite this knowledge, there is no consistency across the various voluntary and legislated ESG requirements for public engagement for proposed mining projects. Even in the EU, where the CRM Act has addressed some aspects of policy and governance, public engagement as part of project permitting is required in only six EU States (Finland, Sweden, Denmark, Germany, France, and Austria).

In the absence of policy requirements for public engagement or a regulatory framework for social acceptability, mining companies frequently reply upon corporate social responsibility (CSR) to reduce risks associated with community opposition. Today, the breadth of CSR activities implemented by mining companies is wide, yet the problem CSR shares with ESG initiatives is that neither have reduced conflict and frequently do not improve social, economic or environmental outcomes for host communities. Furthermore, research suggests that despite industry investment in philanthropic community engagement and social responsibility initiatives, mining companies are not meeting society's expectation for community well-being (Responsible Mining Index 2022, p. 26). This failure has led to calls for companies to treat sustainability as business strategy, to complement traditional risk mitigation approaches to CSR with collaboration across stakeholder groups, and to open the door for more strategic CSR by linking ESG issues to a company's core business.

There is the potential for mining to act as a catalyst for the sustainable development of resource-rich communities. However, a paradigm shift is needed to position mining companies not just as entities that extract minerals but as key contributors to social and economic development. Success will require four attributes: trust-based relationships with host communities and regions; complementing community investment based on philanthropy with collaborative partnerships; transparent, ongoing engagement throughout the life of mining projects; and, negotiated consent with resource-rich communities. Mining companies will need business strategy for the systemic change envisioned. One option for a more strategic approach is an economic strategy called creating shared value.

4. Creating shared value

The term 'creating shared value' (CSV) was introduced to characterize an approach whereby companies develop 'policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates' (Porter and Kramer 2011, p. 66). Successful CSV initiatives require an understanding of the convergence between local priorities, regional development goals, and company interests. The collaborative effort required to create shared value relies upon a commitment to the long-term sustainable development of a region. For mining, the points of convergence between mining and society map to specific UN sustainable development goals (SDGs) figure 1, such as water, infrastructure, energy, healthy communities, access to education, decent work, and equality, further reinforcing the link between mining and sustainable development with evidence dating back twenty years (Fraser 2019). Creating shared value, especially in the context of sourcing CRMs could therefore enhance ESG reporting, community engagement, and sustainable development.

5. The path forward

Securing CRMs and using mining to catalyze sustainable development and contribute to the EGD, requires dialogue to enhance understanding of the values and needs of the various communities of interest, and to build confidence that mining can be in done in a socially-just and environmentally responsible manner. There are roles for government, industry, the financial sector, and citizens.

Public policy is also be needed. Whereas national planning laws are not something that can be regulated by the EU through central legislation, a framework for the development and delivery of CRMs that underpins strategic investments by the EU could be. EU structural funds provide a programme of grants for projects that stimulate economic regeneration in areas where a decline of traditional industries has led to serious economic and social problems (European Commission 2022). Also at the public policy level, there is an opportunity to develop a taxonomy to guide investment in mining. The fact no taxonomy exists is peculiar, given the complexity of other EU sectors which have one such as agriculture and wind power generation. Providing the investment sector with legally defined metrics to guide decisions around mineral exploration and extraction would be a useful way to orientate strategic investments to enable CRM sourcing in the EU.

Figure 1. The 2030 UN SDGs set out a global agenda to deliver a shared blueprint for addressing the most pressing sustainability challenges. Figure from www.un.org/sustainabledevelopment the content of this publication has not been approved by the United Nations and does not reflect the views of the United Nations or its officials or Member States. United Nations Sustainable Development Goals web site: www.un.org/sustainabledevelopment/ 'The content of this publication has not been approved by the United Nations and does not reflect the views of the United Nations or its officials or Member States'.

At both the public policy level and in practice, distinguishing between ESG reporting (an output) to provide guidance for investors and ESG performance (an outcome) to drive sustainable development is important. The difference between output and outcome can be illustrated using water as an example. Water is a shared resource and one in increasingly short supply. The Intergovernmental Panel on Climate Change (2014) predicted that by 2025, 60% of the world's population will be living in countries classified as 'water stressed'. With two thirds of the world's large mines located in areas of water scarcity, the need for effective water management is clear. ESG reporting on annual water use by a mine site is an output, or activity. If the reporting measures the results of a collaborative partnership to improve water availability within the catchment area and advance progress on SDG#6 it would be classified as an outcome: a change resulting from outputs that is moving towards a long-term impact. The role for reporting should be to steer capital towards the most sustainable companies and those that can demonstrate the quickest measurable progress. Sustainable development should be the resulting impact of good ESG performance.

Ongoing effort is also required to improve access to, and transparency of, data. Given that the EU has substantial knowledge of CRM locations within its territory, there could be value in creating a centralized public data repository, accessible to the public, to which companies could upload ESG data as well as geological information. The transparency of such a database could improve trust between the various actors interested in CRMs. In the absence of such a database, companies should report site level, disaggregated, data so communities can make a science-based assessment of impacts from mining and identify potential opportunities to collaborate on sustainable development initiatives.

6. Conclusion

Society needs mining to source the CRMs required for the transition to a green energy future. Yet mining is frequently an unwanted activity. Mining and society's common interest in a green future presents industry with an opportunity to improve its reputation and build trust with communities of interest by acting as a catalyst for the sustainable development of the communities and regions where mining occurs. To secure this opportunity, the current conversation on ESG needs to be reframed to focus not just on investor needs but on the long-term goal of sustainable development. ESG reporting will continue to be important provided it can provide information to help steer investment towards companies that are advancing sustainable development. This will require systemic change. In addition to good public policy that enables better engagement with communities of interest across the full life cycle of mining projects, we conclude that to achieve the EGD, a comprehensive social regulatory framework is needed to effectively capture the social impacts of exploration and mining projects and drive genuine progress towards a sustainable and socially responsible economy.

There is a tremendous opportunity to increase collaboration between mining companies, communities, and governments to create shared value and advance sustainable development. As the Business and Sustainable Development Commission (2017) noted, the result of greater collaboration to advance the UN SDGs could be both better business and a better world.

Data availability statement

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