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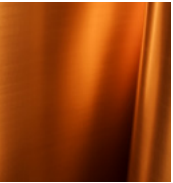


Independent Field Study of the Copper Mark's Impact in Antofagasta, Chile

FEBRUARY 2026

Prepared by Transformancy Limited





This field study was conducted by **Transformancy Limited**, an organization dedicated to promoting and facilitating transformative change amongst individuals and organisations. The report was authored by Daniel Guijarro, Giulio Ghirardo and Nancy Perez.

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Executive Summary

Purpose of the Study

This field study examines how the Copper Mark assurance framework operates at assured sites in Chile's Antofagasta region and what these site-level changes mean for people, ecosystems, and local institutions. Conducted from June to August 2025 within the Copper Mark's Monitoring & Evaluation system, the study asks whether improved practices at assured sites contribute to broader goals of rights protection, fair access to resources, and sustainable livelihoods.

To protect confidentiality while preserving analytic value, the report anonymizes all participating sites throughout the narrative and analysis and does not identify any specific locations or site names anywhere in the document. Fieldwork combined document review with almost 100 interviews and focused discussions in Calama, Antofagasta, including production and mining sites and affected communities and supported by desk analysis of socioeconomic and environmental indicators.



Methodology & Scope

- **Document review:** The Copper Mark assessment materials, policy frameworks, and independent analyses.
- **Field research:** 90+ semi-structured interviews with workers, unions, Indigenous representatives, community leaders, local authorities, site staff, regulators, and experts.
- **Workshops/group discussions:** Multi-stakeholder sessions held across several production and mining sites and affected localities in Antofagasta y Calama.
- **Desk analysis:** Regional socioeconomic and environmental indicators.
- **Scope note:** The study does not evaluate the global ToC or provide an international baseline; it focuses on Antofagasta as a critical test case.

The Copper Mark's Theory of Change

- **Desired change:** Mining contributes to sustainable development while respecting people, rights, and ecosystems.
- **Conditions:** Human rights protections; fair access to land and water; credible grievance and participation systems; transparent governance; environmental safeguards.
- **Contribution pathway:** Requirements and independent verification drive site-level practice improvements backed by evidence.
- **Assumptions:** Sites internalize requirements; implementation is consistent; benefits accrue to workers, communities, and ecosystems.

Findings in Brief

The Copper Mark has produced clear gains at the site level. Large operations show a shift from broad sustainability rhetoric to evidence-based, auditable practices: policies are documented, roles clarified, and data systems strengthened. Across assured sites, the framework has standardized a common language that improves dialogue with regulators, workers, and community actors. These changes are not cosmetic they create the scaffolding (governance routines, datasets, audit trails) necessary for more substantive impacts.

The most visible transformations emerged in medium-scale mining, where assurance acted as a genuine driver of cultural change. Where leadership was engaged and stable, teams reported stronger risk anticipation, tighter resourcing behind commitments, and greater openness to stakeholder input. By contrast, in some large, complex operations, progress depended heavily on internal champions; without them, assurance felt more like a compliance exercise.

External constraints limit how far site-level improvements can travel into territorial outcomes. A persistent centralism concentrates decisions and public revenues in Santiago while Antofagasta bears extraction's impacts. State capacity gaps lead communities to look to companies for services and infrastructure, blurring responsibilities and fuelling distrust of corporate initiatives perceived as substitutes for public duties. In this context, even when an assured site meets requirements, communities may not perceive meaningful improvements in water access, health, or everyday security.

Within sites, visibility and inclusiveness of assurance are uneven. Many workers and community members are unclear about what the Copper Mark is, how assessments occur, or how they can engage. Participation is often experienced as informational rather than influential. Grievance channels exist but are not always known, trusted, or communicated in ways that build confidence. This contributes to the impression that assurance can be a checklist rather than a driver of lived improvements.

Resource and social pressures heighten the stakes. In the interior, water stress is cumulative, with wetlands and aquifers under strain; on the coast, fishers cite combined effects of port activity and desalination on marine ecosystems. The energy transition brings new siting conflicts as solar and wind infrastructure expands, feeding concerns about "green extractivism." Clinicians and residents report elevated burdens of respiratory illness and other conditions, while territory-wide epidemiological baselines remain limited. Meanwhile, over a hundred informal settlements coexist with substantial mining wealth – a visible gap between corporate governance improvements and equitable social outcomes.

Positive Contributions of the Copper Mark (site-level)

Assurance has:

- Catalysed cultural change in several medium-scale sites, embedding sustainability in everyday decisions.
- Accelerated documentation and audit readiness at complex operations, improving traceability of commitments.
- Clarified accountability lines and risk ownership through defined roles and controls.
- Provided standardized datasets that support external reporting and dialogue.
- Enhanced market credibility for Chilean production in downstream markets.
- Assumption Testing
- Internalization: Partial; stronger in medium-scale sites, more uneven in large operations.
- Implementation: Mixed; procedures exist but consistency varies.
- Community/ecosystem benefits: Not yet validated at territorial scale within the study window.
- Cultural influence: Emerging; often linked to individual leaders more than fully institutionalized systems.

Strategic Direction

Looking forward, the Copper Mark is well-placed to build on these foundations. Assessments can be used more deliberately as facilitated learning processes, not only compliance checks; criteria and guidance can emphasize the performance and trust of participation and grievance systems; and site-level metrics (e.g., water-use intensity, grievance resolution quality, worker awareness) can be leveraged to inform basin and municipal dialogues. Clearer articulation of contribution versus attribution what assurance can reasonably claim and what depends on state policy, market dynamics, and long-term investment—will help manage expectations and strengthen legitimacy. With these evolutions, the Copper Mark can support the shift from procedural assurance to territorially relevant accountability, helping move Antofagasta's narrative from sacrifice to shared prosperity.

Conclusion

The study demonstrates that the Copper Mark is a meaningful site-level driver in Chilean mining. Its strongest effects appear in medium-scale operations, while influence in larger, more complex sites is often contingent on leadership continuity and the depth of operational integration.

At the same time, the research underscores the structural limits of assurance acting alone in Antofagasta. Weak state presence, centralism, and fragmented governance shape expectations and reinforce community distrust of initiatives viewed as substitutes for public functions. In this environment, compliance with requirements does not automatically produce perceived improvements in daily life, particularly where water stress, housing deficits, and health burdens remain unresolved at the territorial scale.

Internally, assurance processes must become more visible, inclusive, and performance-oriented. Awareness among workers and communities is often low; participation is too frequently informational; and grievance systems are judged by their existence rather than by accessibility, timeliness, and remedy. The Theory of Change offers a sound direction, but it must be operationalized with clearer boundaries around what assurance contributes and what depends on public policy, multi-actor coordination, and long-term investment.

Crucially, the work already done lays a foundation for future gains. The governance routines, auditable datasets, clarified roles, and shared vocabulary created through the Copper Mark can underpin forward-looking improvements if leveraged intentionally:

- Higher-quality participation that can influence decisions, not just inform them.
- Grievance mechanisms assessed for actual performance and communicated transparently to build trust.
- Site-level metrics that feed into basin water planning and municipal health strategies, aligning corporate data with public priorities.

Realising these benefits will require partnerships: stronger territorial state capacity, continuity of corporate leadership, and sustained engagement with communities and Indigenous organizations. With targeted adjustments positioning assessments as learning processes, sharpening guidance on contribution vs. attribution, and emphasizing function over form, the Copper Mark can evolve from a procedural seal into a platform for territorially relevant accountability. In doing so, it can help shift Antofagasta's trajectory from sacrifice zones toward shared prosperity and responsibility, demonstrating how site-level assurance can seed durable, territory-scale improvements when coupled with public action and multi-actor collaboration.

Introduction

Background: The Copper Mark and Its Monitoring & Evaluation System

The Copper Mark is a global assurance framework designed to promote **responsible production practices** in the copper, molybdenum, nickel, and zinc industries. Established in 2020, it provides companies with a **voluntary assurance framework** based on independent verification of performance across a broad set of criteria, including human rights, environmental management, labour standards, and community relations.

To track its effectiveness, the Copper Mark has developed a **Monitoring and Evaluation (M&E) system**. This framework aims to assess not only whether companies meet minimum conformance requirements but also whether assurance contributes to **broader outcomes and impacts**. These include improved respect for rights, equitable access to resources, enhanced livelihoods, and strengthened governance. The M&E system is therefore central to validating the Copper Mark's **Theory of Change (ToC)**: the assumption that improved practices at company level translate into measurable improvements in people's lives, ecosystem health, and sustainable development.

Focus of the Field Study

This report presents findings from a **field-based assessment in northern Chile (Antofagasta region)**, conducted between June and August 2025. The purpose was to test whether the Copper Mark's ToC holds true in a high-intensity mining context and to identify both positive impacts and persistent gaps.

The study concentrated on three thematic areas of direct relevance to rightsholders and communities:

1. **Respect and Remedy of Rightsholders** – including labour conditions, grievance mechanisms, Indigenous rights, and access to justice.
2. **Access to Land, Water, and Resources** – evaluating how mining activities, assured under the Copper Mark, interact with local and Indigenous claims over territory, ecological systems, and water security.
3. **Sustainable Livelihoods** – exploring whether mining under the Copper Mark assurance contributes to diversified, equitable, and sustainable forms of local development, or whether extractive dependency persists.

Intended Use and Audience

The report is intended for **Copper Mark leadership, participating companies, policymakers, civil society stakeholders** in both Chile and internationally. Its findings will inform:

- The Copper Mark's internal reflection on the effectiveness of its assurance framework and strategies.
- Ongoing debates in Chile about the **role of mining in sustainable territorial development**.
- International stakeholders seeking evidence of whether responsible production assurance frameworks deliver on their promises.

Scope and Limitations

This study provides an **in-depth contextual analysis** of Antofagasta but is not a comprehensive global evaluation. Limitations include:

- **Not a full ToC assessment:** The report does not test every element of the Copper Mark's Theory of Change but focuses on a subset of critical assumptions.
- **No global baseline:** Findings are not benchmarked against other regions or countries; instead, they reflect the Chilean case in 2025.
- **Qualitative emphasis:** Evidence is based primarily on interviews, focus groups, and document analysis, complemented by secondary data. Quantitative impacts (e.g., emissions reductions, biodiversity outcomes) are outside the study's scope.

Reference to the Theory of Change

The Copper Mark's Theory of Change is structured around a **Desired Change**: that metals production contributes to sustainable development while respecting people and ecosystems. Achieving this desired change requires a set of **Conditions**, such as effective human rights protections, fair access to land and water, functioning grievance mechanisms, and transparent governance of environmental impacts. The Copper Mark assurance is expected to make a **Contribution** by requiring companies to adopt improved practices, demonstrate evidence of conformance, and align with international sustainability standards. Underlying this causal chain are key **Assumptions**—for example, that assurance requirements will be internalized by companies, that improved practices will be enforced consistently, and that these practices will translate into measurable outcomes for communities and ecosystems.

This study seeks to **validate these assumptions in the Antofagasta context**, testing whether the Copper Mark's contribution is sufficient to produce the conditions necessary for the desired change to materialize.

Methodology

Methodological Orientation

This study was guided by the agreed evaluation questions, but it also followed principles of **action research**. This meant two key commitments. First, the study emphasized the **subjective experiences of people**, recognizing that profound change is best understood through lived realities. For this reason, qualitative methods were prioritized, as they allow critical issues to **emerge from the ground up** rather than being predefined by researchers. Second, the research engaged directly with stakeholders as part of the mining system, privileging dialogue and participation. While such methods have limitations — particularly in terms of standardization and quantification — they are uniquely suited to reveal dynamics of power, perception, and everyday impact.

In practice, the analysis is the result of systematic review of interviews, workshops, and other interactions. Recurrent themes were identified, triangulated across different stakeholder groups, and corroborated with secondary sources such as published surveys, academic articles, and available statistical data.

Findings from the Copper Mark assessment reports were also cross-checked against community testimonies and external data, ensuring that no single narrative dominated the evaluation. This approach allowed the study to remain both rigorous and grounded in the realities of Antofagasta's mining territories.

Mixed Methods Approach

This study applied a **mixed methods design**, combining documentary review, qualitative interviews, and participatory tools. The aim was to capture both the procedural effects of the Copper Mark assurance and the lived experiences of mining stakeholders in Chile's Antofagasta region.

Three complementary strategies were used:

- **Desk review** of the Copper Mark **assessment reports** and independent analyses provided a baseline of conformance narratives and sectoral trends.
- **Semi-structured interviews** with over 100 stakeholders – including mining workers, union representatives, Indigenous leaders, community members, community-based movements, NGOs, company staff, providers, government officials, and independent experts – explored perceptions of mining impacts, assurance processes, and grievance mechanisms.
- **Participatory workshops and field visits** in Calama, Antofagasta city, Coloso, and Mejillones brought together affected groups in collective exercises such as mapping, priority ranking, and reflection on lived impacts. Workshops were not only sites of data collection, but also spaces of **co-analysis**, where participants interpreted patterns and trajectories together with researchers.

In addition, the study engaged with workers and stakeholders directly linked to operations at key the Copper Mark assured mining sites, including **Chuquicamata, Escondida, Michilla, Molynor (Mejillones), and Radomiro Tomic**. This included direct site visits to Molynor and Radomiro Tomic, which provided first-hand insights into operational practices and local engagement processes.

Stakeholder-Centered and Gender-Sensitive Design

The methodology placed **stakeholders at the centre**, treating them as rightsholders rather than informants. Workers, unions, Indigenous organizations, and local communities were prioritized alongside corporate and institutional voices.

In total, the study engaged a broad cross-section of stakeholders, encompassing 87 participants across companies, unions, communities, civil society organizations, and local institutions. Approximately **60–65%** of interviews and workshops were conducted with **community members, Indigenous groups, local organizations including citizen movements, workers, and union representatives**, ensuring that the perspectives of those most directly affected by mining were at the centre of the analysis. Around 25% of participants came from corporate and industry actors, including site-level staff, sustainability teams, providers and contractors, and sectoral associations. About **10%** were **public authorities**, including **municipal officials, regional authorities** (e.g., SEREMIs, Governor of Antofagasta, Mayor of Calama), **and national representatives from the Ministry of Mining** (including the Minister herself). The remaining **5–10%** were **academics, NGOs, independent experts, and specialised professionals**, whose contributions provided critical perspectives and contextual knowledge on mining governance in Chile.

Particular attention was given to **gender and intersectionality**. Women's participation in workshops and interviews was actively encouraged, recognizing that they often experience mining impacts differently – for instance, through health, care, and community roles. The design also accounted for how gender intersects with subcontracting status, Indigenous identity, and socioeconomic background, which together shape power and vulnerability in mining territories.

Facilitation methods were adapted to enhance inclusion. Workshops in Calama were scheduled at times that accommodated family responsibilities, and Indigenous participants were engaged using culturally respectful protocols. This strengthened both the quality of data and the ethical integrity of the research.

Comparative Logic (Before/After)

A **comparative before/after lens** was applied to identify shifts since assurance. This was not limited to formal indicators or chronological milestones; it also drew on **stakeholder narratives** that reconstructed how practices and relations have changed over time. Workers and community members were asked to describe "what has changed" since assurance, creating an experiential timeline that complemented documentary evidence.

This perceptual comparison offered a counterbalance to the quantitative indicators typically used in the Copper Mark assessments. By foregrounding experiences, the study illuminated gaps between procedural conformance and substantive change.

Use of Theory of Change Outcomes as Evaluative Lenses

The Copper Mark's **Theory of Change (ToC)** provided the analytical backbone of the study. Rather than assessing only individual assumptions, the evaluation examined progress against the three main outcomes identified in the ToC:

- 1. Respect for people and communities linked to metal supply chains, including effective remediation where rights are violated.**
 - ➔ Explored through interviews with workers, unions, Indigenous leaders, and local communities, focusing on engagement processes, grievance mechanisms, and perceptions of remedy.
- 2. Equitable access to land, water, and other natural resources by affected communities.**
 - ➔ Assessed through field visits, participatory workshops, and testimonies from fishing groups, Indigenous representatives, and urban residents, with a focus on water scarcity, pollution, and ecological degradation.
- 3. Contributions to economic and social development, especially through sustainable, inclusive, and decent livelihoods.**
 - ➔ Evaluated through evidence on labour conditions, subcontracting practices, gender inclusion, and the circulation of mining revenues in local economies.

In practice, the ToC proved valuable as a guiding framework but remains overly **abstract**, making it difficult to delimit **attribution** (direct outputs, such as the existence of grievance mechanisms) from **contribution** (broader systemic outcomes, such as reduced conflict or improved livelihoods). The evaluation therefore stress-tested the ToC by explicitly recasting it into an **attribution/contribution framework**, distinguishing what assurance can directly claim from what it may indirectly support. This methodological innovation helped clarify expectations and avoid overstatement of impacts.

Ethical Protocols and Reflexivity

The study followed **strict ethical protocols**. Participants were informed about the aims and limits of the research, gave consent, and were assured of anonymity. Sensitive themes such as labour disputes, Indigenous rights, and health impacts were treated with confidentiality and care to avoid harm or raising false expectations.

A deliberate decision was made to **avoid naming individuals** in this report, whether they were members of grassroots Indigenous movements or high-level industry actors. This choice reflects the responsibility to protect participants who shared critical perspectives, ensuring that their opinions cannot be traced back to them and that they face no personal or professional repercussions.

The research also incorporated a strong element of **reflexivity**. Team members acknowledged their positionality – working at the interface of corporate and community spaces – and reflected on how trust and credibility were negotiated. End-of-workshop reflections and interviews provided participants with opportunities to react to emerging findings, ensuring that interpretation was not researcher-driven alone.

Limitations and Mitigation Strategies

The study faced several limitations, which were both **challenges and findings in themselves**:

- **Attribution challenges:** Mining and metal production in Chile is shaped by entrenched structural conditions – weak state presence, extractivist dependence, and political centralism – making it difficult to isolate the Copper Mark's role. *Mitigation:* a clear attribution/contribution distinction guided analysis.
- **Voluntary character of assurance:** Because the Copper Mark is a voluntary scheme, many companies and sites chose not to engage. Several assured firms never replied to interview requests, limiting direct access to some operational contexts. *Mitigation:* the study broadened its evidence base by triangulating available assessment reports with testimonies from workers, unions, and communities.
- **Stakeholder access and awareness:** Outside the industry, many stakeholders – from community leaders to local NGOs – had little knowledge of the Copper Mark. Convincing them to participate required extensive trust-building. Hard-to-reach groups included **Indigenous representatives, community members in affected territories, and site-level staff**. *Mitigation:* purposive sampling, snowball techniques, and local intermediaries were used to broaden representation.
- **Awareness gaps:** More generally, limited knowledge of the Copper Mark reduced the number of participants able to speak directly about the assurance. While this restricted commentary on the scheme itself, the gap is also a key **finding on visibility**. *Mitigation:* questions were reframed around lived experiences of mining impacts, with assurance's relevance interpreted during analysis.
- **Comparative analysis and access:** The study aimed to compare assured and non-assured sites, but access was limited – non-assured companies did not participate, and engagement from some assured companies was also partial. This constrained direct comparisons. *Mitigation:* the team drew on testimonies, secondary sources, and public records, which provided valuable comparative perspectives and highlighted that access and openness themselves are uneven outcomes.
- **Limited quantitative data:** Access to detailed site-level statistics (e.g., employment, water use, grievance cases) was limited beyond what is included in public assessment reports. As a result,

the study relied more heavily on qualitative evidence. *Mitigation*: secondary quantitative sources (government, academic, civil society) were used and triangulated with perception-based data.

- **Temporal scope:** Assurance in Chile is relatively recent, and many impacts will unfold long-term. *Mitigation*: the study emphasized **early signals and trajectories** rather than definitive impacts.

By recognizing these limits as integral to the research context – not merely obstacles – the methodology contributed both to rigorous analysis and to a better understanding of the systemic environment in which The Copper Mark operates.

Final Timeline

Phase	Activities	Timeframe
Phase 1: Preparation + Desk Research	Document review, stakeholder mapping, methodology Review the Copper Mark assessments, ToC assumptions, background research	April – May
Field Visit 1: Scoping & Prep	Scoping and prep logistics in Chile: stakeholder interviews, Participatory workshops site visits, logistics, ToC alignment	9th –15th June
Field Visit 2: Main Fieldwork	Focus groups, interviews in Antofagasta, Calama and Santiago	28th July–13th August
Phase 3: Analysis	Compare baseline and field data, test ToC assumptions, synthesize findings	August
Phase 4: Reporting	Draft final report, revisions, submission	September/October

Contextual Overview

The Antofagasta region of northern Chile is often described as the **heart of the world's copper industry**. It is a territory defined simultaneously by abundance and sacrifice. On the one hand, it is home to some of the largest and most productive mining operations on the planet, generating wealth not only for Chile but for the global energy transition. On the other hand, it is a territory marked by **persistent social deficits, fragile ecosystems, and contested governance structures**, where communities carry disproportionate costs for the benefit of the nation and global markets.

This contextual overview situates the Copper Mark evaluation within the **broader socio-political, economic, and environmental realities of Antofagasta**. It draws on interviews, workshops, and secondary data to assess the current status of conditions for people, ecosystems, and local governance. The analysis is divided into three subsections:

- **Governance and Territorial Development:** exploring decentralization, the role of the State, resource dependency, and community governance.
- **Human Rights, Health, and Environment:** analysing the intersection of extractivism with social rights, labour practices, and ecological degradation.
- **Organizational Culture, Leadership, and Responsibility:** examining how mining companies frame sustainability, how workers perceive assurances, and the challenges of shifting from extractivism to responsibility.

Together, these perspectives reveal both the opportunities and the structural barriers that shape the implementation of the Copper Mark and similar frameworks in northern Chile.

Governance and Territorial Development, Decentralization, and the Role of the State

THE ABSENT STATE AND CORPORATE SUBSTITUTION

A defining feature of governance in Antofagasta is the **historical weakness or absence of the State**. Despite the region's extraordinary contribution to Chile's GDP—often exceeding 16% of global copper production—the **provision of basic services, infrastructure, and regulatory oversight has lagged behind**.

In this vacuum, **mining companies have stepped in to assume roles that traditionally belong to the State**: funding hospitals, sponsoring schools, paving roads, or providing social programs. While these interventions provide immediate relief, they create **dependency** and blur the boundary between corporate responsibility and public governance. Community members often express gratitude for these contributions while simultaneously criticizing the lack of autonomy and the **erosion of long-term development capacity**.

MINING IDENTITY AND THE NARRATIVE OF SACRIFICE

Chile's copper has long been framed as the "**wage of Chile**" (**el sueldo de Chile**). This narrative fuels **national pride** but also normalizes the idea that environmental degradation, social inequality, and community dislocation are acceptable sacrifices in the name of patriotism.

In Antofagasta, this identity manifests in ambivalent ways. On one side, there is **mining pride**, visible in local discourses that emphasize contribution to the nation. On the other, there is **resignation**: pollution, illness, and social deficits are framed as the inevitable costs of supporting Chile's growth. This cultural framing **limits demands for structural change**, reinforcing a cycle of extractive dependency.

CENTRALISM AND RESOURCE PERIPHERIES

Another recurring theme is **centralism**. Despite generating vast revenues, Antofagasta's political and economic decisions are largely made in Santiago. Communities perceive themselves as a "**resource periphery**", producing wealth that is captured elsewhere, with little reinvestment in local development.

This sense of marginalization undermines **territorial appropriation of benefits**. Local leaders and civil society groups frequently highlight the paradox: Antofagasta is wealthy in production but poor in services. The persistence of centralism also explains why regional innovation—such as the potential for renewable energy integration or lithium value chains—remains underdeveloped.

LACK OF LONG-TERM REGIONAL STRATEGY

The region lacks an **integrated long-term development strategy**. Interviews revealed scepticism toward instruments such as the **National Mining Policy (PNM)** or the **Antofagasta Region Mining Strategy (EMRA)**. Although designed to provide frameworks, they remain largely unknown: surveys show that nearly **75% of the population has never heard of EMRA**.

Instead, the logic of **short-term projects and fragmented negotiations** dominates. The recently approved mining royalty represents an opportunity for redistribution, but without a cohesive vision, it risks being underutilized.

LOCAL DEVELOPMENT CHALLENGES

The mining model itself complicates local development. Antofagasta and Calama are marked by **high rotation and fly-in fly-out (turno) systems**, which limit the creation of stable, rooted communities. The constant influx of external workers creates **floating populations**, weakens social cohesion, and reduces incentives for companies to invest in local human capital.

Housing shortages and the proliferation of **informal settlements (campamentos)** are symptomatic of this dynamic: despite high per capita income on paper, many residents live in precarious conditions.

FRAGMENTED INDIGENOUS AND COMMUNITY GOVERNANCE

Indigenous communities, especially in Alto Loa and Atacama territories, play a critical role in negotiations with mining. However, governance is often **fragmented**, with disputes over legitimacy and representativeness. Companies sometimes exploit these divisions, negotiating with select leaders and bypassing dissenting groups.

This fragmentation **weakens bargaining power** and reduces the ability to secure sustainable agreements. Moreover, the **State is often absent** from these negotiations, leaving agreements to be mediated directly between companies and communities.

JUDICIALIZATION OF PROJECTS

Finally, the **lack of clear, coherent regulation** has led to the judicialization of mining projects. Disputes are increasingly settled in courts rather than through participatory processes, prolonging conflicts and escalating tensions. This reflects both weak regulation and a lack of trusted dialogue mechanisms.

Human Rights, Health, and the Environment

GOVERNANCE DEFICITS AND HUMAN RIGHTS

Despite the wealth generated in Antofagasta, quality of life indicators reveals **persistent deficits**. Access to housing, education, and healthcare remains inadequate compared to national averages. This reflects a disconnection between **economic wealth and social development**, with mining's benefits failing to translate into improved rights and services.

PARTICIPATION AND LEGITIMACY

Communities consistently report that **consultations are non-binding and informational**. Indigenous groups and local residents feel excluded from decisions, reinforcing mistrust toward both companies and the State. This exclusion erodes the **legitimacy of projects**, fueling conflict and protest.

WEAK REMEDIES AND GRIEVANCE MECHANISMS

Workers and unions express **deep distrust** in grievance mechanisms. Formal complaint channels exist, but they rarely result in structural change. Many perceive that companies comply with **procedural formalities**—assessments, reports—without addressing the underlying issues.

LABOR INEQUALITY AND SUBCONTRACTING

A major structural issue is **massive subcontracting**, even in critical operations such as explosives handling or truck operations. Subcontracted workers face **lower wages, less stability, and reduced benefits** compared to direct employees. Women and local workers are disproportionately affected, with significant **gender and territorial wage gaps**.

WATER CONFLICTS

Water is perhaps the most visible point of contention. Mining's massive withdrawals compete with agriculture, Indigenous livelihoods, and urban use. In high-altitude areas, communities denounce the **destruction of wetlands (bofedales)**, while coastal groups such as fishermen criticize the impacts of **desalination plants and export ports** on marine ecosystems.

The lack of an integrated water management strategy exacerbates these tensions, with communities perceiving that mining always receives priority access.

ECOSYSTEM IMPACTS AND BIODIVERSITY LOSS

Mining has caused significant **loss of biodiversity**, particularly in fragile desert ecosystems. The destruction of wetlands, pressure on aquifers, and contamination from smelting and tailings undermine ecological integrity. Environmental compensations are often perceived as **symbolic**, insufficient to counterbalance the scale of damage.

ENERGY TRANSITION AND CLIMATE

The region has become a leader in renewable energy, with solar and wind projects expanding rapidly. This generates **expectations of transition**, but also scepticism: communities question whether renewable projects truly compensate for ongoing extractive impacts. Critics argue that the transition risks becoming another form of **"green extractivism"**, intensive in land and water.

PUBLIC HEALTH

The **health crisis** in Antofagasta and Calama is widely documented. Rates of cancer, respiratory illnesses, and neurological disorders are **significantly higher** than national averages. Paediatricians report an increase in **childhood autism**, linked to environmental contamination. Retired miners with silicosis face premature death when moving to less polluted climates, illustrating the long-term toll of mining-related diseases.

SHORTAGE OF SPECIALISTS

Despite these health burdens, there is a **severe shortage of medical specialists**—oncologists, neuropediatricians, respiratory doctors—willing to work in the region. Centralism exacerbates this by concentrating specialists in Santiago, leaving Antofagasta under-served.

SOCIAL DEFICITS

Beyond health, the region faces **structural social problems**: over 100 informal settlements, education gaps, and weak public services. These conditions highlight the paradox of Antofagasta as a region that produces enormous wealth yet struggles with **basic human development**.

Organizational Culture, Leadership, and Responsibility

EXTRACTIVIST CULTURE AND RESISTANCE TO CHANGE

Mining companies in the region are embedded in a **deeply extractivist culture**. The dominant logic is maximizing production and maintaining operational continuity. Sustainability and assurance frameworks are often seen as **external impositions or costs**, not as strategic priorities.

REACTIVE AND SHORT-TERM INDUSTRY

The industry tends to be **reactive**. Changes occur in response to **crises—accidents, strikes, reputational scandals—rather than proactive learning**. This reactive culture limits preventive action and undermines the potential of assurances like the Copper Mark to drive systemic change.

SILOED STRUCTURES AND VERTICALITY

Organizational structures reinforce this extractivist culture. Sustainability, CSR, and ESG departments are often based in Santiago, **detached from territorial realities**. Decision-making is highly hierarchical, leaving little room for participatory approaches.

ASSURANCES AS CHECKLISTS

Assurances such as the Copper Mark are often perceived as **checklist exercises**: requirements to pass assessments rather than opportunities for transformation. We referred to this as the **"ISO-fication"** of assurances—formal conformance without substantive change.

WORKER AWARENESS AND DISCONNECTION

On the ground, many workers are unaware of what the Copper Mark is or what it seeks to achieve. For them, it is associated with **market requirements** rather than tangible benefits for their working conditions or communities. This disconnect limits the potential for assurances to become embedded in organizational culture.

LEADERSHIP AS A CRITICAL FACTOR

Where change does occur, it often depends on **committed leaders**. Some local managers and sustainability officers push beyond conformance, seeking genuine integration of responsibility into operations. However, these remain exceptions. The majority of leadership is **defensive**, focused on protecting production and minimizing conflicts.

NEW GENERATIONS AND DIVERSITY

Younger workers show greater **awareness of socio-environmental issues** and are more willing to question extractive practices. This generational shift could represent an opportunity for cultural change.

At the same time, gender gaps remain significant. While companies have introduced measures such as gender quotas, paternal leave, and adapted infrastructure, these remain **isolated initiatives**. Diversity is not yet mainstreamed across organizations.

EMERGING INCLUSIVE POLICIES

Despite these limitations, there are signs of progress. Inclusive policies—however incipient—indicate a **slow cultural shift**. The challenge is to move from isolated measures to **systemic transformation** that redefines mining culture from extractivism to responsibility.

CONCLUSION

The contextual overview of Antofagasta reveals a paradoxical reality: a region that is both **indispensable to Chile's economy and energy transition** yet also marked by **structural inequality, fragile ecosystems, and weak governance**.

- In **governance**, the absent State, persistent centralism, and fragmented community structures hinder sustainable development.
- In **human rights, health, and environment**, mining's wealth coexists with social deficits, ecological loss, and public health crises.
- In **organizational culture**, extractivism still dominates, though small shifts toward inclusivity and responsibility are emerging.

Understanding this context is essential to evaluating the Copper Mark's impact. Assurance operates within a **complex web of structural constraints**. While it has generated positive outcomes in transparency and governance, its transformative potential remains limited unless deeper issues of centralism, inequality, and extractivist culture are addressed as we develop further in the following section

Issues of Attribution and Contribution and Factors

Building on this contextual overview, the next step is to identify the factors that most directly shape the Copper Mark's impact. These fall into two categories. On the one hand are **external factors** rooted in Antofagasta's structural context, such as the substitution of state functions by companies, the persistence of an extractivist and centralist model, and entrenched power asymmetries between companies and communities.

On the other hand, are **internal factors** linked to the design and practice of the assurance system itself — including representation in assessments, visibility and awareness, and the focus on procedures rather than effectiveness. Together, these dynamics define the space in which the Copper Mark operates and mark the line between what the assurance can directly attribute to its actions and what it can only contribute to more indirectly.

This distinction is essential for a realistic assessment of the Copper Mark's **contributive impact** (where it supports change) versus its **attributive impact** (where it directly causes change).

External Factors

WEAK STATE PRESENCE IN MINING REGIONS

Chile's mining regions illustrate a paradox: they generate extraordinary wealth for the country, yet the State's presence in these territories remains fragile. As mentioned above, in Antofagasta region, where some of the world's largest copper operations are located, residents continue to face chronic deficits in health care, housing, education, and public security. Survey data confirms this disconnect: most people believe the economy is stagnant or deteriorating, and crime consistently ranks among their top

concerns¹. These long-standing gaps in state capacity shape the environment in which the Copper Mark operates and constrain its ability to demonstrate systemic impact. Three key dynamics shape the context in which the Copper Mark operates:

- Substitution of State Functions by Companies
- Extractivist Model and Centralism
- Power Asymmetries Between Companies and Communities

SUBSTITUTION OF STATE FUNCTIONS BY COMPANIES

Mining firms often step into roles that should be performed by public institutions, such as providing scholarships, funding health programs, or supporting local infrastructure. While these initiatives may be valuable, they blur accountability lines and reinforce dependency. As one interviewee noted, *"Mining companies often provide services that should be the responsibility of the State."* In practice, people trust Big mining sites as much as the regional government, according to a 2025 survey², which highlights how companies are perceived as standing in for absent institutions.

MISMATCH BETWEEN ECONOMIC WEALTH AND SOCIAL PROVISION

Although Antofagasta boasts one of the highest GDP per capita levels in Latin America, the region lacks adequate hospitals, housing, and qualified professionals willing to stay. Public opinion surveys confirm that health care, education, housing, and security are residents' top concerns. As an investigative journalist interviewed, observed, *"Antofagasta has the highest GDP in Latin America, but there are no hospitals."* OECD data reinforces this paradox: the region has a Gini coefficient of 0.51 (very high inequality) found in countries like Mozambique, Angola, or Brazil, higher unemployment than the national average, and 40% of rural households without reliable access to safe drinking water³.

EROSION OF LEGITIMACY

Communities often view corporate initiatives, including assurance schemes, as substitutes for a failing state. Almost 40% of residents consider the use of copper and lithium revenues—royalties, taxes, and transfers—"bad or very bad," while more than 30% lack sufficient information to form an opinion⁴. The UN Special Rapporteur on human rights and the environment (2023) also reported that industries continue operating even when schools close due to pollution, reinforcing the perception that production is prioritized over well-being. In this context, assurances risk being seen as cosmetic rather than evidence of systemic progress⁵.

Why this matters for the Copper Mark's impact: Even when companies meet or exceed assurance standards, the absence of robust public services overshadows progress. Unless the state fulfills its role, the Copper Mark cannot credibly demonstrate broad improvements in quality of life, and its contribution will appear marginal compared to entrenched structural deficits.

1 Encuesta Barómetro Regional de Antofagasta. Encuesta de Opinión Pública. Junio 2025. IPPUCN/feedback research

2 *Ibid.*

3 OECD (2023), *Mining Regions and Cities in the Region of Antofagasta, Chile*, OECD Regional Development Studies, OECD Publishing, Paris

4 *Ibid.*

5 UN Human Rights Council (2024), *Visit to Chile: Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, David R. Boyd, A/HRC/55/43/Add.1*, 12 January 2024

EXTRACTIVIST MODEL AND CENTRALISM

Chile's mining economy continues to operate within a **deeply extractivist model**, in which raw materials are extracted and exported with limited local value addition or economic diversification. Antofagasta, for example, generates close to 60% of Chile's copper output, yet remains structurally dependent on global commodity cycles and decisions made in Santiago.

From a historical perspective, the extractivist model in Chile has deep roots in the Antofagasta region, which has long been treated as a resource frontier for national growth. First with the nitrate boom in the nineteenth century and later with copper in the twentieth, the region was shaped as a "sacrifice zone" functional to a centralist economic order, where wealth was extracted to sustain national development but decision-making power and benefits remained concentrated in Santiago.

As a Chilean Academic and Professor notes, this legacy entrenched a pattern of dependency and inequality in which mining territories generate immense value yet lack autonomy over their resources or the distribution of rents, reinforcing what is known as "*periferias de recursos*" – territories locked into production and dispossession without meaningful pathways for local development or diversification.

STRUCTURAL DEPENDENCY ON OUTPUT OVER SUSTAINABILITY

The extractivist model prioritizes production volume and international competitiveness over long-term social and environmental sustainability. As one of the Executive Directors of one of the largest mining companies in Chile emphasized, "*the mining industry only changes after major crises.*" Even with the Copper Mark requirements in place, companies remain driven primarily by output targets, relegating sustainability standards to secondary or reputational functions.

Interviewees in Calama linked this production-first logic directly to the health crisis in the region. High rates of cancer, silicosis, and autism are tolerated under the justification that "*copper is the sueldo de Chile*" – the national wage. In this sense, the imperative of sustaining production outweighs the imperative of protecting public health.

The implication for the Copper Mark is that, in such a system, assurances risk being sidelined. While they may encourage incremental improvements, they cannot fundamentally shift the structural emphasis away from volume-driven extractivism that underpins the Chilean mining economy.

CENTRALIZATION OF DECISION-MAKING AND RESOURCES

Strategic decisions on mining investments, fiscal policy, and resource allocation are concentrated in Santiago, leaving producing regions with little influence. This dynamic creates territories that provide wealth but lack political or fiscal control. The perception of exclusion is particularly acute in Antofagasta, where mining remains central to the economy, but regional voices are marginalized in national planning.

Local actors repeatedly stressed that regional governments and municipalities lack the capacity and authority to administer funds effectively. A local official lamented: "*We are the heart of copper, but we can't decide how royalties are spent here.*" This sense of disempowerment reinforces the structural inequality between the capital and the mining territories.

For the Copper Mark, the implication is clear. While assurance can strengthen practices at the site level, it cannot address the fundamental governance imbalance that sidelines mining regions in the national decision-making process. The structural centralism of Chilean politics and fiscal policy therefore limits the broader transformative potential of assurance schemes.

LIMITED REINVESTMENT IN TERRITORIAL DEVELOPMENT: THE ROYALTIES DEBATE

Royalties have emerged as the central mechanism meant to correct this imbalance, yet interviews reveal widespread scepticism about their effectiveness.

Although mining royalties in Chile are not entirely new—the country introduced a specific mining tax in 2006—a major reform was passed in 2023 with the approval of Law 21.591. The new regime, effective from January 2024, requires large copper producers to pay a dual royalty: a margin-based rate between 8 % and 26 %⁶ on operating profitability, plus a 1 % ad valorem royalty on copper sales⁷. This reform is expected to generate around US\$450 million per year in additional revenue for regional and local governments⁸, which could significantly affect regions like Antofagasta. For context, the Regional Government of Antofagasta had a budget of about CLP 121,857,304,000 (≈ US \$129 million) in its 2024 control and management plan⁹.

Given these figures, the influx from mining royalties could deliver a substantial boost relative to the existing regional budget. Yet, such a boost also exposes the institutional weakness of the state in the region: limited administrative capacity, historical centralism, and a decade-long brain drain have constrained the ability of regional institutions to plan and execute development projects effectively. In practice, the fiscal influx risks overwhelming existing systems rather than empowering them.

Communities had expected royalty revenues to translate into tangible improvements in health, education, and infrastructure. Instead, as one unionist put it, *"We are left with pollution; the State is left with the money."* Unmet expectations have fuelled discontent and distrust toward both government institutions and mining companies.

Civil society actors further questioned how royalty funds are allocated, stressing the absence of clear monitoring and accountability mechanisms. As one community representative noted, *"These funds disappear in bureaucracy; we don't see a school or a hospital built with them."* Such perceptions of opacity deepen the frustration of communities who bear the social and environmental costs of extractivism without perceiving commensurate benefits.

Some warned that if royalties continue to underdeliver, social conflict will intensify. *"If royalties don't reach the territories, the conflict will only deepen,"* one interviewee explained. For many, royalties thus symbolize the central contradiction of the extractivist model: revenues flow to the State, but pollution, health burdens, and social fragmentation remain local.

WHY THIS MATTERS FOR THE COPPER MARK'S IMPACT

The Copper Mark can support companies in adopting better practices, strengthening grievance mechanisms, and opening channels for dialogue with communities. These contributions are valuable at the local level, where people often face environmental and social impacts without sufficient accountability. Assurance thus provides a framework that can encourage incremental improvements and give some legitimacy to community concerns.

Yet in Chile's extractivist model—shaped by centralism and the contested use of royalties—the influence of assurance is structurally limited. Communities evaluate mining not only on corporate conduct but

6 Antofagasta plc – *Payments to Governments Report 2024*

7 EY Global – *Chile: New mining royalty is approved and ready to become law*

8 InvestChile Blog – *Key facts: mining royalty*

9 : *Informe Trimestral N° 01/2024 – GORE Antofagasta*

also on whether revenues are reinvested fairly in their territories. If the wider system of governance and redistribution does not change, assurances like the Copper Mark risk being perceived less as transformative tools and more as reputational instruments, regardless of site-level progress.

POWER ASYMMETRIES BETWEEN COMPANIES AND COMMUNITIES

The Chilean mining sector is marked by profound imbalances of power between multinational companies and local stakeholders, including workers, Indigenous communities, and regional governments. These asymmetries limit meaningful participation and restrict the transformative potential of assurance schemes like the Copper Mark.

Historically, mining projects advanced without communities being meaningfully consulted. Decisions about territory and resources were imposed from outside, reinforcing a pattern where local voices were excluded from strategic choices. As interviewees repeatedly stressed, communities were not asked “about anything” until very recently, leaving them structurally dependent on company-defined compensation and consultation mechanisms.

Yet this dynamic is beginning to shift, as companies now face greater social and political pressure in project approval processes. As a Sociologist specialised in the mining sector interviewed observed, *“Mining companies have begun to place greater importance on their relations with local communities, especially during the process of obtaining environmental permits”*. Environmental permitting has thus emerged as one of the few institutional arenas where communities can exert leverage, since project approval increasingly depends on some degree of social acceptability. At the same time, however, this opening is constrained by what several actors describe as *permisología*: a bureaucratic system where the State multiplies permits but regulates weakly. As one member of Antofagasta’s social movements explained, *“the legal framework is based on a logic of “permisología”: the State authorizes but does not regulate effectively.”* This proceduralism makes community participation reactive and limited, tied to technical studies defined by companies and consultants rather than to locally driven development priorities.

Three dynamics are particularly relevant today:

- **Dominance of corporate resources and expertise.**
Mining companies command far greater economic, legal, and technical resources than local actors. This imbalance affects negotiations over environmental mitigation, compensation, and community projects, often resulting in transactional arrangements rather than structural improvements. As one union leader noted, *“the company pays communities to avoid conflicts.”* In one of the communities visited, decades of unequal relations gave way only recently to more formal negotiations, where fishermen and divers learned to secure funds and projects from the company. Yet, as other community representatives stressed, these remain compensatory measures and do not add up to long-term development planning.
- **Weak bargaining capacity of local actors.**
Communities and unions frequently lack the institutional capacity or leverage to negotiate on equal terms. An Indigenous leader consulted, described this situation starkly: *“Indigenous peoples are becoming mere collectors of fees.”* In Calama, however, new forms of mobilization have opened space for more assertive bargaining. Since 2021, with the election of Ricardo Díaz as regional governor, grassroots movements have leveraged political connections to demand concrete investments, including plazas and a future cancer treatment centre in Calama, showing that organized pressure can yield results. Still, these gains remain fragmented, as communities negotiate benefits project by project rather than shaping integrated territorial development strategies.

- **Risk of co-optation and dependency.**

Financial transfers and agreements with communities may alleviate immediate tensions but can also entrench dependency and reduce transparency. Without independent oversight, such dynamics reinforce scepticism about whether assurance genuinely improves accountability. This perception highlights the fragility of trust in company–community relations.

WHY THIS MATTERS FOR THE COPPER MARK'S IMPACT:

The Copper Mark assessments can confirm the existence of grievance mechanisms or dialogue forums, but in highly asymmetrical contexts, these processes may not translate into genuine empowerment. Communities may continue to perceive assurance as validating corporate narratives rather than balancing power relations. Yet, the recent shifts in some communities suggest that, while asymmetries remain entrenched, communities are beginning to learn how to negotiate and demand recognition. This evolving agency underscores both the limits of assurance in isolation and the need for it to support more inclusive, territorial forms of governance.

Internal Factors

While external conditions set the stage, the Copper Mark also faces internal challenges that shape its ability to generate transformative impact. These do not negate the progress made but highlight areas where the assurance system could be strengthened. Even as the Copper Mark advances in setting standards for responsible copper production, its internal architecture reveals constraints that limit how far it can convert conformance into meaningful change. These are opportunities for adjustment and improvement.

REPRESENTATION AND STAKEHOLDER VOICE IN ASSESSMENTS

Interviews suggest that while assessment processes formally seek to include a range of stakeholders, workers, contractors, communities, and management, in practice they tend to privilege managerial perspectives, and the basis for selecting participants is not always clear. A unionist remarked: *"The Copper Mark says everything is fine. But they never talked to us,"* highlighting the perception that worker voices can be underrepresented.

This perception is supported by the limited quantitative data available from assessment reports. In the minority of cases where interviewee distribution is disclosed, around 50% of participants are management, 16% direct workers, 15% contractors, and 19% community or other stakeholders. Such proportions suggest that managerial voices dominate, while those of workers and affected communities remain underrepresented.

Most reports list categories of stakeholders consulted but do not specify how many individuals were interviewed within each group. Our review shows that roughly 82 percent of assessment reports omit such detail, though some cases demonstrate that fuller reporting is feasible. Similarly, in about 80 percent of reports the methodology for selecting interviewees is not described, leaving it unclear whether selection was random, stratified, or based on convenience. More consistent reporting on these aspects would help to demonstrate inclusiveness and reinforce the credibility of the process.

LOW VISIBILITY, AWARENESS, AND TRANSPARENCY

A second internal constraint is low visibility. Many people within assured sites—whether workers, contractors, local leaders, or community members—do not know what the Copper Mark is, why it matters, or what it requires.

Several interviewees noted that only those directly involved in preparing assessments are familiar with the system. For the majority, the Copper Mark remains invisible. A unionist echoed this: *"We were never engaged. All we see is that the company presents its reports, but we never participated."*

A former executive from another big mining company pointed to the same weakness: *"In the metrics, we don't see ourselves. The Copper Mark is very structured, but it doesn't open a dialogue of equals."*

Interviews also revealed that within companies themselves, awareness is concentrated mainly among managerial staff who are tasked with preparing assessments. Sustainability experts, often based in Santiago corporate headquarters, play a central role in organizing and supporting the process, which reinforces a perception that the Copper Mark is driven from the top down. One of the directors of one of the biggest mining companies in Chile was blunt: *"For most workers, it feels like just another assurance."*

As one senior manager admitted: *"At the site level people just see it as paperwork; the assurance is managed in Santiago. It feels like ISO—something you comply with, not something you believe in."* This distance reduces local ownership and contributes to what we term the **"ISO-fication" of the Copper Mark**: a situation where the assurance is assimilated as another conformance system, rather than embraced as a set of values for cultural and organizational change specially in big mining operations.

If even internal staff experience the Copper Mark as a remote conformance exercise, the gap is far greater for external stakeholders. The majority of outside actors interviewed—including union leaders, local authorities, and community representatives—reported little or no knowledge of the assurance.

A community member was direct: *"We have never heard of the Copper Mark. Nobody from them has come to talk to us."* Likewise, Indigenous representatives, municipal officials, and neighbourhood activists confirmed they had no engagement with the process.

A labour lawyer interviewed added that, while assurances promote awareness of grievance channels, unions often perceive them as external to their own struggles: *"Sindicatos know the Copper Mark exists, but it rarely enters negotiations."*

The result is that the Copper Mark circulates primarily among corporate managers and assessors but remains unknown to the communities most affected by mining operations. Ultimately, this invisibility limits the assurance's ability to catalyse broader cultural shifts.

A future improvement lies in building stronger communication and stakeholder engagement strategies so that the Copper Mark can become not just a certificate of conformance but a tool for genuine transformative change—an issue that will be developed further in the conclusions and recommendations.

ASSESSMENT FOCUS ON EXISTENCE OF MECHANISMS RATHER THAN THEIR FUNCTIONING

A third internal factor concerns the **scope of assessments**. Reports tend to confirm whether required mechanisms – such as grievance systems, community committees, or monitoring protocols – are formally in place but devote less attention to their functioning in practice. This creates a gap between documented conformance and lived effectiveness.

- **Grievance mechanisms:** Across most sites, assessments note the presence of grievance channels aligned with international standards. However, they rarely provide systematic data on the number of grievances, resolutions, or satisfaction levels. In some cases, workers and contractors reported being unaware of outcomes or unsure how to access the system, while one report described workers being dismissed before their complaints were resolved.
- **Community engagement committees:** Assessment reports generally verify that dialogue forums or committees exist but offer little evidence on their inclusiveness or decision-making power. Community representatives often stressed that participation was limited to information-sharing sessions rather than genuine influence over mining decisions.
- **Monitoring protocols:** Environmental and social monitoring systems are consistently documented but reports usually describe them in procedural terms. Less attention is given to whether monitoring results are trusted by communities or whether they lead to remedial action when problems are identified.

Note: These shortcomings may reflect limitations in individual assessors' competencies, methodologies, and audit execution rather than inherent deficiencies in the Copper Mark assessment framework itself. In fact, under RRA Criteria Guide 2.0, **Criterion 7 (Freedom of Association and Collective Bargaining)** we observed a case where the site was rated "fully meets" while the **union** accused the company of **unfair union practices**, suggesting a disconnect between conformance judgments and real-world practice.

In some cases, assessments flag weaknesses in implementation – e.g., contractors not knowing procedures, workers not being informed of grievance outcomes, or even dismissals after complaints were filed. At other sites, assessments confirm functioning mechanisms, but again with little information about their effectiveness from the perspective of rightsholders.

As one high level executive in charge of the Copper Mark assessments put it, *"assessments are a snapshot in time—they show the form of a mechanism, but not if it works or if people use it."* Another director reinforced this point, noting that the greatest difficulty is not demonstrating the existence of mechanisms but showing that they deliver for people: *"The Copper Mark in Chile is more about reputation and markets than about everyday trust."*

This scope is also shaped by timing. Because full assessments occur every three years, problems that emerge between assessment cycles may not be detected. Expanding the focus from the presence of mechanisms to their actual functioning would further strengthen the system's credibility.

Together, these findings suggest that assessments often validate the *form* of required mechanisms, but not necessarily their function. This limitation reduces the ability of the assurance to demonstrate that procedural conformance translates into meaningful outcomes for workers and communities

As discussed earlier in this report, Chile's mining sector is characterized by entrenched power asymmetries between companies, workers, and communities. When the Copper Mark validates structures without interrogating their effectiveness, it risks reproducing those asymmetries rather than helping

to address them. A constructive way forward would be to place greater emphasis on performance and stakeholder perceptions, making assessments more reflective of lived realities.

Taken together, the analysis of external and internal factors highlights both the opportunities and the limits of the Copper Mark's influence in Chile. Structural conditions set boundaries that assurance alone cannot overcome. At the same time, internal dynamics shape how much credibility and transformative potential the system can achieve.

A balanced assessment therefore recognizes that the Copper Mark cannot be expected to resolve systemic deficits in governance or redistribution, but it can strengthen its own design and implementation so that its contributions are more visible, inclusive, and durable. Positioning the assurance system in this way underscores its value: not as a panacea for extractivism, but as a framework that can steadily reinforce better practices and, in doing so, support broader pathways toward responsible mining.

Positive Impacts Directly Linked to the Copper Mark

The previous section underscored the limits set by structural and internal factors: the Copper Mark cannot resolve systemic deficits of governance or redistribution on its own. Within these boundaries, however, the assurance has produced a series of **positive and tangible effects** in Chile. These impacts are most evident in how companies organize their internal practices, report on sustainability, and engage with external stakeholders. While modest in scale compared to the depth of Antofagasta's challenges, they represent **direct attributions** of the assurance process and highlight the Copper Mark's role in reinforcing responsible mining practices.

Interviews and workshops revealed that it has been a **catalyst for change** in other critical dimensions: corporate culture, governance, transparency, credibility, and policy frameworks. These impacts are not uniform. They are **stronger in medium-scale mining**, where the Copper Mark has acted as a genuine driver of transformation, and more limited in large-scale mining, where internal policies and production imperatives often overshadow assurance requirements.

The following analysis is organized into six dimensions:

1. Cultural change in medium-scale mining.
2. Standards and transparency.
3. Order and systematization of processes.
4. International credibility and reputation.
5. Creation of responsible policy frameworks.
6. A common sustainability language.

Together, these dimensions illustrate the **indirect yet significant ways in which the Copper Mark is reshaping the Chilean mining landscape**.

Cultural Change in Medium-Scale Mining

Perhaps the most significant and visible impact of the Copper Mark in Chile has been its ability to **trigger cultural transformation in medium-scale mining companies**. Unlike the largest companies, which already had well-developed ESG (environmental, social, governance) structures, medium-scale firms often lacked comprehensive sustainability systems. The introduction of the Copper Mark filled this gap, providing not just an external seal but also a **roadmap for internal change**.

MEDIUM-SCALE MINING BEFORE THE COPPER MARK

Traditionally, medium-scale mining operations in Chile occupied a difficult middle ground. They were too large to operate informally but too small to sustain the complex ESG structures of global mining giants. The **medium-scale mining sector (mediana minería)** contributes **around 8–9%** of Chile's total copper production. Sustainability practices, where they existed, were fragmented, ad hoc, or oriented toward conformance with national regulation rather than international best practice.

The arrival of the Copper Mark brought with it a **new set of expectations**: transparency in human rights, labour standards, environmental performance, and community relations. For many medium-scale miners, these were the first encounters with systematic assessments and external assessments that went beyond narrow regulatory conformance.

One emblematic case is a medium-scale operation in northern Chile. Interviews highlighted that the Copper Mark assurance catalysed a **deep organizational shift**:

- Corporate governance structures were overhauled to integrate sustainability considerations into decision-making.
- Workers received new training on human rights, occupational safety, and community engagement.
- Sustainability reporting was institutionalized, replacing sporadic disclosures with systematic data collection and publication.

Stakeholders described the process as more than conformance: it was a **cultural transformation**, changing *"how the company thinks about itself and its responsibilities."*

WHY MEDIUM-SCALE MINING IS DIFFERENT

The contrast with large mining is telling. For global big companies the Copper Mark is one among many seals and reporting frameworks. Their ESG teams are often well-developed but remain **peripheral to core production decisions**. As a result, the Copper Mark has limited power to reshape internal culture. In medium-scale mining, however, the seal has provided the **first structured ESG platform**, anchoring sustainability in daily operations.

This explains why interviewees consistently pointed to **medium-scale mining as the space where the Copper Mark's cultural impact is most profound**.

Standards and Transparency

Another clear positive impact is the Copper Mark's role in promoting **standards of evidence and transparency**.

FROM RHETORIC TO EVIDENCE

Before the Copper Mark, many mining companies operated in a context of **discursive sustainability**: public statements of commitment without systematic evidence. Assurance has forced a shift "from discourse to evidence." As one staff member who was in charge of the Copper Mark assessments put it, *"The Copper Mark pushed us to move from talking about sustainability to showing evidence of it."*

This change matters because it creates a **discipline of disclosure**. Companies must produce tangible documentation on:

- Human rights due diligence.
- Worker health and safety policies.
- Environmental management systems.
- Community grievance mechanisms.

IMPROVED TRACEABILITY

Another dimension is **traceability**. The Copper Mark requires companies to document and track supply chain processes. For many operations, this has meant centralizing data that was previously dispersed across departments. This improved traceability not only helps meet international expectations but also strengthens internal risk management.

TRANSPARENCY AS ACCOUNTABILITY

Stakeholders interviewed acknowledged that the Copper Mark's requirements have created **new channels of accountability**. Communities and regulators can now request documented evidence of conformance. While transparency alone does not guarantee better outcomes, it **creates conditions for accountability** that were not present before.

Order and Systematization of Processes

Assurance has also played a key role in **ordering and systematizing internal processes**.

FROM FRAGMENTATION TO SYSTEMATIZATION

Many companies, particularly large ones, already had sustainability policies. Yet these were often fragmented, applied unevenly across sites, or lacking integration with corporate governance. The Copper Mark requires systematic documentation, which has forced companies to **consolidate and standardize procedures**.

As another staff member who was in charge of the Copper Mark assessments in one of the biggest Mining companies in Chile explained, *"The Copper Mark has served to systematize and improve internal governance."* This meant:

- Aligning different departments under a single sustainability framework.
- Creating standardized data systems to respond to assessments.
- Integrating ESG into corporate governance mechanisms.

GOVERNANCE BENEFITS

The benefits of systematization go beyond assurance. Companies now find themselves better prepared to:

- Respond to external assessments from other frameworks (e.g., ICMM, ISO, EMRA).
- Manage reputational risks in global markets.
- Demonstrate conformance to shareholders and investors increasingly focused on ESG.

In this sense, the Copper Mark operates as a **disciplining device**, ensuring that sustainability is no longer an afterthought but a structured part of corporate governance.

International Credibility and Reputation

A recurring theme in interviews is the Copper Mark's role in **enhancing credibility and reputation** at the international level.

EXTERNAL VALIDATION

For companies operating in a globalized market, credibility is currency. The Copper Mark provides an **independent external validation** that their practices meet international standards. As one of the key figures of the Mining Council put it: *"The Copper Mark provides a floor of international credibility that did not exist before."*

REPUTATIONAL SHIELD

Assurance serves as a reputational shield, especially in an era where civil society and investors scrutinize environmental and human rights practices. While critics argue that assurance can mask ongoing problems, there is no doubt that **the Copper Mark strengthens Chilean mining's image** in global markets.

SECTOR-LEVEL REPUTATION

At a collective level, the adoption of the Copper Mark by several Chilean operations reinforces the **global reputation of Chilean mining as sustainable and responsible**. This reputational capital is critical for maintaining access to demanding markets such as Europe, where ESG conformance is increasingly tied to trade.

Creation of Responsible Policy Frameworks

The Copper Mark's influence is not limited to individual companies. It has also **catalysed the creation of broader policy frameworks** that shape mining governance in Chile.

FROM COMPANY TO SECTORAL FRAMEWORKS

In some cases, the Copper Mark has served as the **template or inspiration for national frameworks**, including:

- The **EMRA** (Estrategia Minera de la Región de Antofagasta. Antofagasta Region Mining Strategy).
- The **PNM** (National Mining Policy).

These frameworks borrow language, standards, and methodologies from the Copper Mark, demonstrating how a corporate assurance can spill over into **sectoral policy innovation**.

POLICY DIFFUSION

This diffusion effect extends the impact of the Copper Mark beyond assured sites. Even companies not directly assured face pressure to align with standards that are **becoming sectoral benchmarks**.

A Common Sustainability Language

Finally, one of the Copper Mark's subtle but significant contributions has been to introduce and embed a **common language of sustainability** across the industry.

CONVERGENCE OF DISCOURSES

Before the Copper Mark, sustainability discourse varied widely between companies, departments, and stakeholders. Assurance introduced a **shared vocabulary**: human rights due diligence, traceability, continuous improvement, grievance mechanisms.

Interviewees noted that the Copper Mark allows different actors—corporate managers, community liaisons, ESG professionals—to ***“speak of sustainability with a common frame of reference.”***

INTERNAL AND EXTERNAL BENEFITS

This common language improves:

- **Internal coordination**: aligning departments that previously operated in silos.
- **External communication**: enabling dialogue between companies, regulators, and communities.
- **Global alignment**: positioning Chilean mining within international ESG discourse.

FROM LANGUAGE TO PRACTICE

While language alone is not sufficient, it matters. Having a shared framework allows companies and stakeholders to **navigate complex issues with greater clarity**, reducing misunderstandings and aligning expectations.

Conclusion

The positive impacts directly linked to the Copper Mark can be summarized as follows:

- **Medium-scale mining** has undergone genuine cultural change.
- **Transparency** has shifted from discourse to documented evidence.
- **Processes** have become more ordered and systematic.
- **Credibility** has increased in global markets.
- **Policy frameworks** have emerged inspired by the Copper Mark.
- **A common language of sustainability** has taken root.

These impacts should not be overstated. They do not resolve the deeper issues of ecological sacrifice or structural inequality documented elsewhere in this report. Yet they matter. The Copper Mark has created **new institutional pathways** that make it harder for mining companies to ignore sustainability altogether.

The challenge for the future is to **leverage these positive impacts into substantive outcomes**, ensuring that cultural change, transparency, and credibility translate into tangible restoration of ecosystems and communities.

Findings by Outcome and Assumption Testing

This section evaluates the Copper Mark's Theory of Change (ToC) by testing whether its outcomes and assumptions hold true in practice. The three outcomes—respect for communities, equitable access to resources, and sustainable livelihoods—are valid and well-aligned with responsible mining goals. Yet they are highly ambitious and strongly shaped by Chile's socio-environmental context of inequality, weak state presence, and entrenched power asymmetries. In such conditions, isolating the Copper Mark's specific contribution from wider structural dynamics is difficult.

While the ToC is conceptually sound, its current formulation remains too abstract. Evidence shows that assurance encourages procedural improvements, but it is less clear how these translate into substantive change on the ground. Future iterations would benefit from making outcomes more concrete and measurable, and from clarifying how assumptions can be tested directly. This would allow for a clearer assessment of the Copper Mark's added value without overstating its impact.

Outcome 1: Respect for People and Communities (Including Remedy)

This outcome emphasizes that mining operations should respect the rights of all people connected to metal supply chains. It includes ensuring effective grievance mechanisms and remedy where rights are violated. The focus is not only on formal conformance but on creating processes where rightsholders actively participate in engagement, feel heard, and can trust that concerns will be addressed.

1. DO RIGHTSHOLDERS ACTIVELY PARTICIPATE IN ENGAGEMENT PROCESSES?

Findings: Participation remains partial, instrumental, and unequal. Communities and Indigenous peoples are often invited to informational sessions rather than genuine decision-making spaces. Relationships are also framed as economic transactions—compensation or projects—rather than sustained dialogue.

In Workshops participants stressed “*we still don’t see*” a tangible impact. The lack of visible change reinforces the sense that participation is symbolic rather than empowering.

At the same time, some cases suggest a gradual shift toward more medium- and long-term perspectives. In certain coastal communities, for instance, relations between the company and local fishermen have moved beyond purely compensatory arrangements to include initiatives such as women’s economic inclusion, alternative fisheries, and ecosystem restoration. These efforts remain incipient and, crucially, it is not clear whether they can be attributed to the Copper Mark processes or assessments, or rather to broader company policies or local pressures and negotiations. Still, they show that engagement can evolve toward more territorial development approaches instead of being confined to transactional exchanges.

Importantly, this research also found that many of the more positive or transformational initiatives observed in companies are highly personalistic. Their continuation and depth often depend less on formal frameworks and more on the motivation, power, and decision-making capacity of individual staff in charge of engagement policies. This reliance on personal leadership makes impact uneven and fragile, as progress depends on who holds key positions at any given time rather than on systemic processes.

Conclusion: The assumption that engagement creates legitimacy and change remains valid in principle, but evidence from assured sites shows that participation is still limited, often symbolic, and transactional. The key question is what kind of engagement actually generates legitimacy. Experiences suggest that short-term, transactional arrangements reinforce distrust, while longer-term, transformational initiatives—such as the emerging programs in some communities—hold more potential to strengthen credibility. Overall, legitimacy depends on moving from compensatory to transformative engagement, which remains a challenge in the current system.

2. ARE GRIEVANCE MECHANISMS EFFECTIVE AND TRUSTED?

Findings: Trust in grievance mechanisms is low. Union representatives interviewed report complaints are disregarded: “*Our complaints have not been considered by the company.*” Some community members interviewed and different analyses describe direct payments as substitutes for remedies, perceived as “*they pay us for silence.*” In Calama, participants insisted that existing mechanisms are not useful for addressing structural concerns such as cancer rates, air pollution, or water contamination.

Moreover, even where grievance mechanisms formally exist, there is little evidence that workers or communities are actually aware of them. Several interviewees noted the paradox that mechanisms are technically in place, but remain invisible to those they are meant to serve. One interviewee recalled the story of a worker being interviewed during an (non-the Copper Mark) assessment: when asked about the grievance system, he replied that he did not know of any—even though a poster explaining his rights was hanging directly behind him. This anecdote reflects a broader pattern highlighted in multiple interviews: grievance channels are often not effectively communicated or embedded in everyday workplace and community practices.

Conclusion: The assumption that grievance mechanisms improve with monitoring and input is sound in theory, yet practice shows otherwise. At assured sites, grievance systems exist formally but lack credibility and effectiveness. The crucial issue is not only whether mechanisms are in place, but **how, when, and how often monitoring and feedback occur.**

3. HAVE PRACTICES IMPROVED SINCE JOINING THE COPPER MARK?

Findings: Workers describe deteriorating labour conditions, with more outsourcing and weaker bargaining power. One union leader stated: *"From 2021 until today, nothing has improved. It has only gotten worse."* Communities acknowledge some progress in transparency and diversity but perceive these as superficial.

In Calama, participants emphasized the city's ongoing status as a *sacrifice zone*, with high cancer rates and autism diagnoses linked to mining exposure. Despite assurance, there is no perception of tangible improvements. As a local Paediatrician consulted put it starkly: *"Calama is an environmental laboratory. And we are not studying what is happening to the children who live here."* He added: *"The cloud that covers the city contains particles that we don't know the composition of. And the children are breathing that every day."* These testimonies highlight that environmental health impacts remain largely invisible in assurance processes, undermining perceptions of meaningful progress.

A recurring pattern observed in this research is not only the deterioration of public health and other conditions, but also the lack of data, research, and institutional motivation to fully understand these impacts. Several actors pointed out that research is often discouraged or deprioritized, with the result that no one knows precisely how pollution is affecting workers, families, or ecosystems. This absence of systematic information makes it difficult to hold actors accountable and reinforces the perception that problems remain invisible until they escalate into crises.

Conclusion: The assumption that site-level assurance drives behavioural change may hold conceptually, but evidence suggests otherwise. Workers in assured sites report worsening conditions, and communities see little change on issues like pollution and health. Broader movements, such as the rise of community mobilization in one of the biggest cities in the region, reflect wider societal dynamics rather than assurance impacts. This reflects an internal factor—assessments that verify conformance rather than effectiveness—and external factors—the extractivist production-first model and weak state presence—that Copper Mark cannot control. As a result, no significant positive changes can be directly attributed to assurance.

Outcome 2: Equitable Access to Land, Water, and Natural Resources

The Copper Mark recognizes the centrality of land and water in mining contexts and seeks to ensure that affected communities have fair access to these resources. This involves minimizing environmental harm, improving water efficiency, and supporting transparent, multi-actor governance to reduce conflicts over land and water. It also includes commitments to restore ecosystems and maintain long-term sustainability of shared resources.

4. ARE SITES MINIMIZING HARM TO WATER USERS AND ECOSYSTEMS?

Findings: At the Copper Mark assured sites, water remains the most contested issue. In some communities fishermen reported that brine discharges and concentrate leaks since 2018 damaged marine ecosystems, reducing fisheries and increasing distrust in company monitoring systems. While the company highlights desalination as a sustainability achievement, local actors see risks of marine ecosystem degradation that are not adequately addressed by assessments or reporting.

As two fishermen interviewed explained: *“We no longer fish near our homes. The octopus and conger aren’t here anymore. Now we have to travel for hours – four hours out to sea and four hours back – just to find what used to be nearby”*. This testimony illustrates how environmental impacts are experienced not only as abstract ecological concerns, but as concrete losses in everyday livelihoods, forcing communities to adapt at higher cost and effort.

The Loa River has been contaminated with arsenic for decades, and its flow has declined significantly due to water extraction for mining¹⁰. Local workshops confirmed that communities perceive both the city and surrounding areas as highly vulnerable, with scarce potable water and continuing overuse by industry.

The UN Special Rapporteur corroborated this site-level concern, reporting that the Loa River has lost around 75% of its flow in recent decades because of water-intensive mining and urban demand¹¹. This loss has affected Indigenous peoples' access to drinking water, food security, and cultural practices, while degrading wetlands and biodiversity in Calama's surroundings.

Conclusion: The assumption that efficiency measures can mitigate water challenges is reasonable, but findings show that improvements are technical rather than territorial. While desalination and efficiency projects mark progress, they create systemic issues such as water scarcity and unequal governance and a lack of research support. The positive aspect is that water use has become a highly visible issue, creating pressure on both companies and regulators to prioritize human and ecological needs more explicitly. Still, overall conflicts remain entrenched, and situations are not improving.

5. ARE ECOSYSTEMS RESTORED OR MAINTAINED?

Findings: Interview evidence suggests that ecological restoration is very limited across assured sites. Fishermen interviewed acknowledged some company-led projects, such as algae cultivation and small-scale marine conservation initiatives. However, they emphasized that these efforts lack continuity, scale, and real territorial impact. They are seen more as experiments than as strategies capable of reversing long-term degradation of marine ecosystems.

In **Calama and the Loa River basin**, community representatives and participants in local workshops pointed out that despite decades of overuse and contamination, no significant restoration programs have been implemented. Plans to decontaminate the Loa River have been postponed repeatedly, and participants highlighted the absence of independent data on contamination levels. One workshop participant remarked: *“We don't even have a real diagnosis. Without knowing the numbers, how can there be restoration?”* This points to a broader concern that research and monitoring are insufficient, making it impossible to measure progress or design effective recovery strategies.

Conclusion: The assumption that improved practices would lead to ecological restoration is valid in principle but has not materialized in practice at assured sites. Compensation and monitoring programs exist, yet no measurable restoration outcomes were identified. The fact that ecosystem degradation

¹⁰ *Humanidad en las cuencas. Usos y abusos RÍO LOA. Matías Calderón Seguel*

¹¹ UN Human Rights Council, *Visit to Chile: Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, David R. Boyd, A/HRC/55/43/Add.1*, 12 January 2024.

is now consistently discussed in assessments and community forums is a positive sign, but actual improvements depend on structural changes that go beyond assurance.

6. ARE LAND/WATER CONFLICTS DECREASING?

Findings: Conflicts around land and water remain a defining feature in the territories where the Copper Mark-assured sites operate. In **Calama**, residents and community leaders repeatedly highlighted that water scarcity and contamination of the Loa River continue to be a source of frustration. Despite multiple initiatives and promises, they feel that structural problems remain unresolved. As one participant expressed: *"the company has resources for everything, but the city has waited an eternity for a solution to its water and housing needs."*

Concerns are not limited to freshwater. In coastal areas, fishing groups described how marine resources have become scarcer and how past pollution incidents have eroded confidence. While some projects to strengthen collaboration exist, they are often perceived as fragmented or transactional, insufficient to reduce underlying tensions.

Across both inland and coastal contexts, what stands out is not a decrease in conflict but a transformation in its expression. Communities are increasingly organized—whether through neighbourhood associations, unions, or movements—and are using both institutional and collective action to demand greater accountability on water and land issues. This organization can be seen as a positive development, as it gives more structure and visibility to community concerns.

Conclusion: The assumption that transparent governance reduces conflict makes sense theoretically, but at assured sites conflicts remain persistent or are even escalating. Communities have, however, become more organized and use environmental regulation as leverage, which is a positive trend—but again one that cannot be attributed to the Copper Mark. Broader governance and legal frameworks drive outcomes here, and the general tendency is toward sustained or rising conflict.

Outcome 3: Economic and Social Development through Sustainable Livelihoods

The third outcome focuses on whether mining contributes to sustainable, inclusive, and decent livelihoods. This means creating decent work opportunities, ensuring that marginalized groups such as women, youth, and Indigenous peoples benefit equitably, and linking operations to broader development goals. It also involves supporting long-term improvements in community wellbeing and aligning with the Sustainable Development Goals.

7. ARE DECENT WORK OPPORTUNITIES INCREASING?

Findings: In the Antofagasta mining sector, outsourcing has become a structural feature of operations, with studies estimating that more than a third of the workforce is subcontracted¹². This reliance on external contractors fragments labour relations, weakens collective bargaining, and contributes to the

12 See: Cook, Phil. *Contract labour mobilisation in Chile's copper mining and contracting*. *Employee Relations*, Vol. 28

deterioration of decent work opportunities, as many subcontracted workers face lower wages, less stability, and reduced benefits compared to directly employed staff.

Workers interviewed report increased outsourcing and wage cuts. One union leader explained: *“The company takes us off the truck and replaces us with a contractor. The same truck, the same task, but with lower pay.”* Others described efforts to weaken bargaining power: *“What the company wants is to break us. To have a union controlled by them.”*

In Calama, unemployment remains around 10%, and about 70% of jobs are filled by external workers who do not reside in the city. This points to a broader regional phenomenon: the most stable and best-paid positions are often occupied by commuting workers. Operational staff rotate in fly-in/fly-out schemes from other regions, while medium- and high-level managers often reside in Santiago or abroad.

The result is that much of the mining wage bill does not circulate locally. As Calama participants stressed, salaries and consumption “leave with the workers,” depriving the regional economy of multiplier effects. This weakens already fragile local commerce and reinforces inequality, since those who bear the environmental and social costs are not the ones receiving the main economic benefits.

Conclusion: The assumption that the Copper Mark supports sustainable livelihoods is conceptually valid, yet outcomes at assured sites reveal the opposite. Outsourcing, commuting, and weaker unions undermine labour stability, and no clear improvements can be attributed to assurance.

8. ARE MARGINALIZED GROUPS BENEFITING EQUITABLY?

Findings: Chile is among the global leaders in women’s representation in mining, with women making up around 21.8 % of the national mining workforce in 2024, placing the country second worldwide after Australia. In the Antofagasta region, the rate is even higher, reaching 25.6 % in the second half of 2024. Some companies report that women now represent over 40 % of their workforce in Chile, which demonstrates that deliberate policies and recruitment strategies can accelerate inclusion. These figures mark a remarkable change compared to a decade ago, when women’s share in mining barely exceeded 10 %.

However, while participation has grown, most of these new opportunities are concentrated in operational and technical roles, with relatively few women holding leadership or decision-making positions. Interviews confirm that cultural and family barriers remain significant, limiting the translation of numerical progress into substantive equity.

Moreover, corporate policies tend to focus narrowly on gender, leaving other dimensions of marginalization—such as nationality, Indigenous origin, or sexual orientation—underdeveloped or absent. This suggests that inclusion policies are moving in the right direction but remain partial and uneven, with limited evidence of broader structural change.

Conclusion: The assumption that inclusion promotes equity remains valid in principle, but progress has been partial and cannot be linked directly to the Copper Mark. Gender inclusion shows some advances, with women’s participation rising, but barriers persist in leadership and other forms of discrimination (e.g., ethnicity, origin, sexual orientation) remain largely unaddressed. While the growing focus on inclusion is positive, structural inequities continue to limit equitable benefits.

9. ARE COMPANIES CONTRIBUTING TO SDGS BEYOND CONFORMANCE?

Findings: Evidence from interviews and reports indicates that contributions to the Sustainable Development Goals (SDGs) are limited and tend to be framed as conformance or reputational strategies. Companies emphasize their alignment with the SDGs in assessments and sustainability reports, but these commitments rarely translate into transformative practices at the site level. As Chilean consultant cautioned, assurances *“often become an end in themselves, without necessarily improving practices on the ground.”*

Interviewees across unions, communities, and local organizations consistently highlighted that initiatives presented under the SDG umbrella are fragmented, short-term, and largely designed to meet reporting requirements. The perception is that these actions serve to maintain market credibility rather than to address the long-term structural challenges that mining regions face.

Conclusion: The assumption that transparency drives sector-wide change holds conceptually, but evidence suggests that at assured sites contributions remain reputational¹³ and conformance-driven. Communities tend to see royalty revenues as marginal relative to the scale of extraction. A positive trend is that citizens are increasingly demanding accountability for how royalties are used, showing rising civic oversight

In sum, the testing of outcomes and assumptions highlights a mixed picture. There are areas where progress, while incipient, is visible—such as the growth of women’s participation, the establishment of engagement and grievance mechanisms, and the increasing organization of local actors. At the same time, more critical challenges remain: grievance systems are often not trusted, environmental restoration has advanced little, decent work opportunities are undermined by subcontracting, and conflicts over water and land persist. These dynamics confirm that many changes are shaped by structural conditions and contextual dynamics that go well beyond assurance, making direct attribution to the Copper Mark difficult. This underscores the need to refine how contributions are measured and communicated, providing a foundation for the conclusions and recommendations that follow.

13 Based on observed sites

Conclusions

This study shows that the Copper Mark has contributed to important shifts in Chilean mining, particularly by raising transparency, systematizing sustainability practices, and offering an independent framework that strengthens international credibility. In medium-scale mining, the assurance has catalysed deeper cultural changes, while in large-scale mining its influence is more limited, often dependent on internal leadership and policies.

At the same time, the research highlights the **structural limits** of what assurance can achieve in contexts such as Antofagasta. External conditions—weak state presence, the persistence of an extractivist economic model, entrenched power asymmetries, and centralism—shape both the expectations placed on mining companies and the distrust that communities feel toward initiatives perceived as substitutes for absent public institutions. These dynamics mean that even when companies meet assurance requirements, communities may not perceive meaningful improvements in their quality of life.

Internally, the Copper Mark assurance process faces **gaps of visibility, inclusiveness, and depth**. Workers and community members often do not know what the Copper Mark is, or feel that they are not meaningfully included in assessments. Assessments tend to emphasize the existence of mechanisms rather than their functioning, making assurance appear more like a conformance exercise than a driver of authentic change. The **Theory of Change** provides a useful guide, but remains too abstract to clearly delimit issues of attribution and contribution of assurance.

Overall, the Copper Mark has proven valuable in creating a common language for sustainability and embedding new standards into mining practices. Yet, its legitimacy and impact will depend on moving beyond reputational assurance¹⁴ toward approaches that are facilitative, inclusive, and territorially relevant.

¹⁴ Based on observed sites

Recommendations

The Copper Mark's future effectiveness will depend less on adding new conformance checks and more on evolving its assurance model toward facilitation, inclusiveness, visibility, and territorial relevance. The following recommendations are framed as **strategic shifts of emphasis**—not abandoning assurance but complementing it with new approaches that strengthen credibility and impact.

1. ASSESSORS → ALSO FACILITATORS

The Copper Mark should maintain rigor in its assurance but strengthen its role as a facilitator of learning and continuous improvement. Assurance will be more credible if it is seen as a process of growth rather than just a test.

- Organize **post-assessment feedback sessions** to share lessons with sites and stakeholders.
- Create **communities of practice among assured sites**, both **internally** (within Chile and Antofagasta) and **internationally**, so companies, workers, and assessors exchange lessons and innovations.
- Provide structured **follow-up support** to companies on corrective actions.
- Convene **territorial impact labs** in high-tension areas to co-design solutions on water, health, or planning.
- Promote dialogue and practice exchange on **gender and inclusion**, ensuring lessons are shared across assured sites.

2. REPUTATIONAL CONFORMANCE → ALSO AUTHENTIC ORGANIZATIONAL CHANGE

Assurance should not be a reputational badge but embed cultural and organizational transformation inside companies. This requires ensuring that all teams—not only sustainability experts—understand and engage with the Copper Mark as a meaningful tool.

- Combine **quantitative indicators** (resolution rates, closure times, corrective actions) with **qualitative, participatory tools** (focus groups, perception surveys, worker/community panels).
- Assess not only a "snapshot" of conformance but also **how grievance systems, engagement forums, and other mechanisms evolve over time**.
- The Copper Mark should make efforts to **communicate more effectively within companies**, ensuring that operational, technical, and managerial staff also see the value of assurance **beyond conformance**.

3. TRANSACTIONAL CSR → ALSO TRANSFORMATIONAL TERRITORIAL DEVELOPMENT

Many company–community interactions remain framed around compensation, CSR projects, or isolated initiatives. Assurance should encourage approaches that respond to territorial priorities, strengthen long-term trust, and reduce reliance on short-term compensations. This is also crucial to **minimize the influence of external factors identified in this research**—such as weak state presence, centralism, extractivist dependence, and power asymmetries—that limit the credibility of assurance.

- Promote **multi-year agreements** with communities that go beyond compensations.
- Incorporate assurance criteria on **local procurement strategies and training pipelines for residents**.

- Partner with local institutions on **health and water monitoring**, with community co-validation of results.
- Extend assurance to **critical service providers** (ports, desalination) that shape territorial dynamics.
- Encourage companies to **partner with government programs and projects**, rather than working in isolation with communities, so public institutions regain responsibility and long-term accountability is strengthened.
- Track in assessment reports whether initiatives are **compensatory or transformative**.

4. QUANTITY → ALSO QUALITY OF MECHANISMS

Assessments should not only verify the presence of mechanisms but also evaluate their functioning and credibility. The Copper Mark already has indicators on grievance resolution and stakeholder input, but these need to be applied more systematically and transparently.

- Strengthen the **implementation of existing grievance indicators** by ensuring they include not just resolution numbers, but also **qualitative evidence of trust and usability** from workers and communities.
- Require assessment reports to present **stakeholder feedback** on grievance mechanisms, not only technical conformance.
- Introduce **annual light checks** on high-risk issues (e.g. water, labour conditions) between full assessment cycles, so that performance is monitored continuously rather than only every three years.

5. CLARIFYING ATTRIBUTION AND CONTRIBUTION

A recurring challenge for the Copper Mark is distinguishing between what it can directly influence and where it contributes indirectly within wider systemic dynamics. Refining the Theory of Change and communicating this clearly would help strengthen both accountability and credibility.

- Refine the **Theory of Change** into **concrete, testable outcomes** (e.g., "30% increase in grievances resolved satisfactorily" or "community-led monitoring at two sites").
- Explicitly link **outputs at the attribution level** and **outcomes at the contribution level**, so that expectations are realistic and proportional.
- Publish an **"attribution ladder"** to clearly distinguish direct impacts (attributable outputs) from indirect ones (contributory outcomes).
- Ensure that this distinction is **reflected in assessment reports and stakeholder communications**, making it clear what the Copper Mark is accountable for directly and where it is one contributing factor among others.

6. TOP-DOWN → ALSO BOTTOM-UP OWNERSHIP

To increase legitimacy, the Copper Mark needs greater visibility and ownership among local actors. Workers, unions, and communities should not only be consulted but also empowered to use assurance as an accountability tool. This requires a **clear communication plan with stakeholders**, so that expectations, results, and corrective actions are consistently shared in accessible formats.

- Publish **bilingual, plain-language site summaries** of assessment results and follow-up actions.

- Hold **open Q&A sessions** with workers and community members.
- Establish **site-level engagement panels** with unions, Indigenous representatives, contractors, and local officials.
- Standardize **stakeholder sampling disclosure** in assessment reports to strengthen credibility.
- Develop a **structured communication plan** at site and national level, setting out how the Copper Mark will engage different groups (workers, unions, Indigenous organizations, local authorities, NGOs) on a regular basis.

7. ASSESSOR TRAINING: FROM AUDIT TO IMPACT VIA PARTICIPATORY ENQUIRY

The Copper Mark should formalize a clear role distinction: use assessors for internal assurance of controls and deploy evaluators when judging external outcomes and impact. Assurance work can remain document-led and control-focused, but when the purpose is to understand whether practices translate into lived improvements for workers, rightsholders, communities, and ecosystems, a different craft is required. Impact evaluations should adopt participatory enquiry as the default approach, shifting emphasis from paperwork to people, and from presence of mechanisms to how they function in everyday use.

Participatory enquiry rests on methods, attitude, and behaviour rather than a ticking-box checklist. Evaluators should lead their own independent sampling—constructed and contacted by them, not provided by the company—to ensure the inclusion of contractors, night shifts, women and younger workers, Indigenous representatives, residents near operations, and both union and non-union staff across pit, plant, and port. In the field, they should privilege co-discovery: semi-structured conversations, shadowing, and user-journey walk-throughs of participation and grievance channels that test whether these are known, accessible, timely, and remedial. Findings should be “member-checked” in plain language with participants to confirm accuracy and invite correction, while ethics and safeguarding are treated as non-negotiables—clear consent, neutral venues, no manager presence, and active mitigation of retaliation risk.

If assessors training is expected to serve an evaluative purpose as well as an assurance one, it must explicitly include participatory approaches and qualitative data-collection skills. Training should cover independent sampling led by the assessor, semi-structured interviewing and small-group facilitation, participant observation and user-journey mapping, member-checking of emerging findings, and reflexive practice to surface and mitigate bias. It should also build comfort with qualitative rigor—clear consent and safeguarding, triangulation of sources, basic coding and thematic analysis, saturation and audit trails, and transparent documentation of uncertainty—so that assessors can credibly judge not only the presence of mechanisms but how they function in people’s real experience.

FINAL REFLECTION

The key to strengthening the Copper Mark lies in **evolution, not rupture**. By leaning more toward facilitation, authentic change, transformational territorial development, quality, clarity on attribution, and bottom-up ownership, the Copper Mark can grow from being perceived mainly as a conformance exercise to becoming a credible accountability framework that supports positive change in mining territories.

Implications for the Copper Mark's Global Learning: ToC and M&E System

The Antofagasta field study provides valuable lessons not only for Chile but also for the Copper Mark's global Monitoring & Evaluation system and its underlying Theory of Change (ToC). Several implications stand out:

1. CLARIFYING ATTRIBUTION VS. CONTRIBUTION

- **Finding (Chile):** Assurance has led to clearer governance structures, improved transparency, and cultural change in medium-scale mining. But there is little evidence of direct improvements in health, water, or livelihoods.
- **Global ToC implication:** The Copper Mark should **differentiate attribution (direct, site-level effects)** from **contribution (broader systemic change)** in its ToC.
- **M&E adjustment:** Future M&E indicators should explicitly separate outcomes that the Copper Mark can reasonably claim (e.g., number of grievance cases resolved, worker awareness of assurance) from systemic results that depend on state policy and broader governance.

2. TESTING ASSUMPTIONS MORE DIRECTLY

- **Finding (Chile):** Some ToC assumptions do not hold – e.g., grievance mechanisms exist but are not trusted; improved practices are documented but not consistently implemented; communities see little benefit.
- **Global ToC implication:** The Copper Mark's ToC should **specify testable assumptions** (e.g., "mechanisms are known, trusted, and used") rather than general ones ("mechanisms exist").
- **M&E adjustment:** Incorporate perception-based indicators (trust, satisfaction, awareness) alongside procedural checks. This would make assessments more reflective of lived realities.

3. STRENGTHENING OUTCOME MEASUREMENT

- **Finding (Chile):** Positive impacts (like transparency and systematization) were observable, but outcome areas (rights, water, livelihoods) showed limited or no measurable improvement.
- **Global ToC implication:** The Copper Mark should **redefine outcomes in more concrete, measurable terms** (e.g., % of workers aware of grievance systems; number of community agreements that lead to co-designed projects).
- **M&E adjustment:** Develop mixed-method indicators that combine **conformance data** (are systems in place?) with **effectiveness metrics** (are they used, do they work?).

4. ADDRESSING VISIBILITY AND AWARENESS

- **Finding (Chile):** Many workers and communities had never heard of the Copper Mark, even at assured sites. Assurance was seen as an "ISO-like" conformance exercise.
- **Global ToC implication:** The ToC assumes that assurance influences organizational culture and stakeholder trust. The Chile case shows this assumption is weak without deliberate communication.
- **M&E adjustment:** Add indicators on **awareness and communication** (e.g., proportion of site-level workers and community representatives who know about the Copper Mark, its purpose, and grievance rights).

5. PRIORITIZING LEVERAGE POINTS

- **Finding (Chile):** The Copper Mark had more transformative effects in medium-scale mining than in large-scale companies.
- **Global ToC implication:** The Copper Mark should **identify priority leverage points** in its ToC – e.g., medium-scale mining, early adopters, or contexts where ESG structures are less institutionalized.
- **M&E adjustment:** Disaggregate evaluation data by company type (large vs. medium-scale mining, state-owned vs. private) to identify where assurance has the strongest impact.

6. EMBEDDING CONTEXTUAL ANALYSIS IN M&E

- **Finding (Chile):** Structural barriers (centralism, weak state presence, extractivist model) limited the Copper Mark's influence, regardless of company efforts.
- **Global ToC implication:** The ToC must explicitly recognize that systemic change depends on **external enabling conditions** beyond the Copper Mark's control.
- **M&E adjustment:** Add a "context lens" to evaluations – requiring each field study to document governance conditions, state presence, and structural constraints. This avoids overstating the Copper Mark's role and situates findings realistically.



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