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**Advancing** Free Trade  
for Asia-Pacific **Prosperity**

# **APEC Women's Participation in the Mining Industry**

**APEC Policy Partnership on Women and the Economy**

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# APEC Women’s Participation in the Mining Industry

## Table of Contents

|       |  |    |
|-------|--|----|
| 1     | Executive Summary.....   | 7  |
| 2     | Introduction .....   | 8  |
| 2.1   | About the Project.....   | 8  |
| 2.2   | Objectives and Scope .....   | 10 |
| 3     | Literature and Key Insights .....  | 10 |
| 4     | Survey Methodology .....   | 13 |
| 4.1   | Primary Survey.....  | 13 |
| 4.1.1 | Sampling Strategy.....   | 13 |
| 4.2   | Second-Layer Survey .....  | 16 |
| 4.2.1 | Sampling Strategy.....   | 16 |
| 4.3   | Design of the Surveys .....  | 16 |
| 4.4   | Analysis of the Surveys.....   | 17 |
| 4.5   | Case Studies .....   | 17 |
| 4.6   | Limitations of the Study.....  | 18 |
| 5     | Survey Results.....  | 19 |
| 5.1   | Data Completion .....  | 19 |
| 5.2   | Women in the Mining Industry .....   | 20 |
| 5.2.1 | Diversity and Inclusion of Women in the Mining Industry.....                 | 20 |
| 5.2.2 | Attraction, Retention, and Development .....                                 | 24 |
| 5.3   | Women and Girls (Non-Employees and Non-Clients) Living in Mining Communities | 30 |
| 5.3.1 | Participation of Women from Mining Communities.....                          | 30 |
| 5.3.2 | Programs for Mitigating Socio-Environmental Impacts of Mining.....           | 33 |
| 5.4   | Case Studies: Networks That Focus on Supporting Women in Mining .....        | 34 |
| 5.4.1 | Mining Industry Human Resources Council (MiHR), Canada.....                  | 35 |
| 5.4.2 | Teck Resources Ltd., Chile.....  | 36 |
| 5.4.3 | Sustainable Alluvial Mining Services (SAMS), Papua New Guinea .....          | 37 |

|       |   |    |
|-------|---|----|
| 5.4.4 | Ernst & Young, Peru.....                | 38 |
| 6     | Final Analysis.....                     | 39 |
| 6.1   | Results and Discussion.....             | 39 |
| 6.2   | Action and Policy Recommendations ..... | 40 |
| 7     | References .....                        | 43 |
| 8     | Appendix .....                          | 48 |

## Index of Tables

|          |  |    |
|----------|--|----|
| Table 1. | Selected case studies by economy ..... | 17 |
|----------|--|----|

## Index of Figures

|            |  |    |
|------------|--|----|
| Figure 1.  | Gender-focused mining groups contacted by APEC economy .....   | 14 |
| Figure 2.  | First-layer survey methods .....   | 15 |
| Figure 3.  | Mining associations contacted by APEC economy.....   | 16 |
| Figure 4.  | Survey respondents (N=26) by APEC economy and organization type .....  | 19 |
| Figure 5.  | Data completion rate by survey sections in (%) terms .....   | 20 |
| Figure 6.  | Is it important for your organization to include women with the following characteristics in the workplace? (N=15) .....             | 22 |
| Figure 7.  | What kind of value do women’s inclusion and diversity add to your organization? (N=16).....  | 23 |
| Figure 8.  | What kind of value do women’s inclusion and diversity add to your organization? (N=16) by APEC economy.....                          | 23 |
| Figure 9.  | What are 3-5 characteristics that help your organization excel in promoting inclusion and increasing diversity? (N=12).....          | 24 |
| Figure 10. | Does your organization work towards ensuring equal participation in leadership positions? (N=15) by APEC economy.....                | 25 |
| Figure 11. | Do you believe any of the following factors influence women leadership or lack thereof in the mining sector? (N=15).....             | 26 |
| Figure 12. | Do women in your organization get equal pay than men for the same job title? (N=15) .....  | 27 |
| Figure 13. | Please select some initiatives that have been carried out by your organization to ensure equal payment. (N=14) by APEC economy ..... | 28 |

|  |    |
|--|----|
| Figure 14. What kind of policies is your organization implementing to address attraction, retention and development of women through the employment cycle in the mining industry? (N=14).....                  | 29 |
| Figure 15. What kind of policies is your organization implementing to address attraction, retention and development of women through the employment cycle in the mining industry? (N=14) by APEC economy ..... | 29 |
| Figure 16. What kinds of initiatives has your organization implemented to increase participation of women from mining communities (non-employees and non-clients)? (N=11) .....                                | 31 |
| Figure 17. What kinds of initiatives has your organization implemented to increase participation of women from mining communities (non-employees and non-clients)? (N=11) by APEC economy .....                | 31 |
| Figure 18. Do any of the following factors influence the participation or lack thereof of women from mining communities (non-employees and non-clients)? (N=11).....   | 32 |
| Figure 19. Does your organization conduct and/or sponsor any of the following programs to mitigate socio-environmental impacts on women in mining communities? (N=8).....                                      | 34 |
| Figure 20. Does your organization conduct and/or sponsor any of the following programs to mitigate socio-environmental impacts on women in mining communities? (N=8) by APEC economy.....                      | 34 |

## **Glossary and acronym list**

|        |   |
|--------|---|
| ABAC   | APEC Business Advisory Council  |
| APEC   | Asia-Pacific Economic Cooperation   |
| ASGM   | Artisanal and small-scale gold mining   |
| AUS    | Australia   |
| CDA    | Canada  |
| CHL    | Chile   |
| GEI    | Gender-Equality Index   |
| IMF    | International Monetary Fund   |
| MiHR   | Mining Industry Human Resources Council   |
| PE     | Peru  |
| PNG    | Papua New Guinea  |
| PPWE   | APEC Policy Partnership on Women and the Economy  |
| PRC    | People's Republic of China  |
| WAAIME | The Woman's Auxiliary to the American Institute of Mining, Metallurgical, and Petroleum Engineers |
| WDD    | Workplace Diversity Disclosure  |

## **1 Executive Summary**

This project focuses primarily on the effects of mining on women, in the context of general interest in gender dynamics important for mining projects and impacts. Women's participation in the mining industry through direct employment is relatively small, and those who enter the sector tend to remain at the bottom of the organizational hierarchy. Furthermore, women do not always benefit from mining to the extent we might expect, while women's contributions to the mining sector both in large-scale and in artisanal and small-scale mining remains frequently overlooked. Similarly, the role and value of women from mining communities often remain invisible or unaddressed.

APEC economies, through APEC's Policy Partnership on Women and the Economy (PPWE), supported the "APEC Women's Participation in the Mining Industry" project. This project, developed by an interdisciplinary research team at The University of British Columbia, was designed to begin to address a range of gender and mining-related challenges. Our goal is to provide insights regarding (1) gender disparities concerning the economic participation of women in the mining industry in APEC economies; (2) the challenges faced by women and girls living within communities affected by mining operations; and (3) the experiences of existing networks that focus on supporting women in mining. While many other considerations might be important for a broader understanding of the intersection between gender and mining, our effort represents an initial step in this regard.

In order to achieve these goals, the team conducted a literature review followed by an online survey (26 participants) and a series of interviews (4 participants) of selected organizations operating at different scales (local and domestic) in six APEC economies: Australia; Canada; Chile; People's Republic of China; Papua New Guinea, and; Peru. Ultimately, following from this work, we hope to identify existing activities and policy interventions that have been carried out by organizations to support women who work within the mining sector and those whose lives are critically affected by mining activities. Such further work will be required to develop and enhance a set of policy recommendations for APEC businesses and governments to work toward the economic empowerment of women in this sector.

The enthusiasm and commitment shown by the participants in this project have demonstrated that APEC's support of women's empowerment and inclusion across all levels and career life cycle stages within the mining industry is essential. There continues to be a need to increase research to advance equitable development further, thereby improving the social and economic well-being of women and their capacity to directly contribute to their communities and economies.

## 2 Introduction

### 2.1 About the Project

“The evidence is clear, as is the message: when women do better, economies do better.”

— Christine Lagarde, in IMF (2013:1)

Extractive industries have the potential to promote economic growth and improve the well-being of people in societies rich in natural resources. However, this promise is too often not realized, and benefits are typically not equally distributed socially or spatially. Different groups experience the economic, socio-cultural, and socio-environmental impacts of mining differently (Eftimie et al., 2009). It is well documented that Indigenous communities have often borne the brunt of the adverse effects of mining (Radcliff et al., 2004). Women, in particular, are also disproportionately and negatively impacted by mining (Jenkins, 2014). The focus of this report is on the gendered dimensions of mining. While the research team recognizes the importance of intersectional issues (concerning impoverishment, race, or Indigeneity, for instance), this project nonetheless remains focused primarily on the effects of mining on women, with some attention to broader gender dynamics important to assessing mining projects and impacts.

The relationship between mining and gender intersects at different scales, including those of the “body, territory and the non-human, and interdependencies local-national-transnational” (Ulloa, 2016:125). Some negative impacts that can be observed from a broad intersectional perspective include political violence, human rights violations, land dispossession, economic insecurity, denial of ethnic and cultural rights, health issues, and breakdown of traditional social structures, among other concerns (Ulloa, 2016; Jenkins, 2014; Bermúdez et al, 2011). Given such concerns, Indigenous groups frequently resist mining operations and practices, with demands for environmental, climate, and territorial justice (Ulloa, 2016). While acknowledging the myriad negative impacts of this type, this report is focused solely on three themes of interest: (1) gender disparities and the economic participation of women in the mining industry in APEC economies; (2) challenges faced by women and girls in mining communities; and (3) experiences of existing networks and activities that focus on supporting women in mining. While we find this narrower focus to be useful, we nonetheless also consider that the broader implications and equity and justice considerations related to mining also need to be foregrounded.

Concerning our specific goals, several elements deserve mention. Mining remains a male-dominated industry – for instance, the estimated economic participation of women in all APEC economies in the mining industry is less than 20% (Rodriguez and Lay, 2018). Moreover, as Lahiri-Dutt (2010) notes, the participation of women tends to remain at the bottom of the organizational hierarchy; there are a smaller number of women at higher-level positions. This phenomenon is likely due to a range of factors, including that women are not promoted at the same rate as men. This significant loss of talent is broadly described as “leaky pipeline.” Similarly, other works of academics, such as that of Botha and Cronjé (2014), have identified the “glass ceiling,” a phenomenon that describes that women face invisible barriers (e.g., institutional culture, implicit bias, and so forth) that often keep them from advancing to leadership positions. Women thus typically do not reap the equivalent economic benefits as their male counterparts, particularly as higher levels of responsibility often come with higher remuneration (Lahiri-Dutt, 2012).

Mining’s disproportionate and adverse effects are also particularly important when considering the women living in communities surrounding mining operations (non-clients and non-employees).

While economic, socio-cultural, and socio-environmental impacts affect all those living in communities, including men, women, and children, women's traditional roles at times position them as particularly vulnerable (Jenkins, 2014). As Lahiri-Dutt (2010: 341) notes, "Women are affected both from lack of access to assets and resources, as well as from increased cash flows into local economies and into the hands of men." As such, some of the deleterious effects of mining might be mitigated by some positive benefits flowing to some community members, but not others (e.g., men mostly spend money on alcohol, which often translates into higher levels of domestic violence).

APEC has an opportunity to increase the visibility of women as productive agents within mining companies and operations, and to promote gender equity and well-being in communities surrounding mining operations. Thus far, APEC has created Gender Inclusion Guidelines (GIG) to promote gender-responsive policies and activities across all industries in APEC economies, with a primary goal of fostering women's economic inclusion. The GIG consists of practical tools and directives to address gender disparities on the basis of five pillars of action with the aim of empowering women: access to capital and assets; access to markets; skills, capacity building, and health; leadership, voice, and agency; and innovation and technology (PPWE, 2017). There is a need to evaluate and critically unpack each of these elements to delve more deeply into gendered dimensions of mining, to consider their potential and also to evaluate how they might be strengthened to attend to common concerns that emerge in the sector and related activities.

Similar efforts at gender mainstreaming have emerged from a host of international organizations (e.g., UN's Empowerment Principles); industries (e.g., International Council on Mining and Metals Community's Development Toolkit<sup>1</sup>); development agencies (e.g., International Finance Corporation [IFC] toolkit on Unlocking Opportunities for Women and Business); and civil society groups (e.g., International Women and Mining Network's and Oxfam's toolkits to measure gender impacts). All of these efforts are seen as essential platforms to promote gender equity, but also crucial elements deserving of critical reflection and evaluation. In critical development and critical participation studies, it is well-known that the mere inclusion of women is not sufficient to meet empowerment objectives (e.g., Cornwall and Rivas, 2015, Cairns et al., 2019, Morales and Harris, 2014).

As part of APEC Chile 2019 Women, SMEs and Inclusive Growth Priority 2019,<sup>2</sup> this report seeks to highlight the challenges and opportunities faced by women employed within the mining industry, as well as women and girls (non-clients and non-employees) living within mining communities. The work further seeks to identify and assess initiatives that have been implemented by APEC member economies to counter challenges faced by women and to enhance their opportunities. The report will contribute to the development of an Action Strategies Toolkit by APEC Chile, which seeks to assist economies in the development and implementation of more effective gender diversity strategies to overcome the under-representation of women in male-dominated industries, including mining, transportation, and energy. Furthermore, it is hoped that the knowledge contained in this report will assist efforts to address gendered barriers in the

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<sup>1</sup> The ICMM toolkit incorporates women in aggregated form as part of the vulnerable groups and/or marginalized groups such as Indigenous Peoples, ethnic minorities, and the economically displaced.

<sup>2</sup> This project supports the APEC objectives for capacity building as it is designed to advance equitable development, thereby improving the social and economic well-being of women and their capacity to contribute to their communities and economies. It is centred on dialogue and knowledge-sharing and will build the capacity of mining industry stakeholders, policy-makers, and civil organizations across the APEC region as they gain understanding and obtain recommendations regarding women's empowerment and inclusion across all levels and employment cycle stages within the mining industry.

industry and, in this way, to improve actions and opportunities toward the Sustainable Development Goals, especially Goal 5 on gender equality and the empowerment of women and girls.

It is essential to acknowledge that the category “women” is diverse and that women experience and engage with the mining industry in different ways depending on their economic, socio-cultural, and socio-environmental background, among other key considerations. As Jenkins (2014: 330) notes, “the impacts of mining on women are mediated by class, ethnicity, age, disability, and levels of literacy (among other factors), and are differently experienced by rural and urban women.” While it is beyond the scope of this project to address these differences, it is critical to acknowledge them, and they are worthy of consideration in more context-specific and qualitative follow-up studies. Thus, the aim is to characterize and learn from how different APEC member economies are working to address gender inclusion in the industry, as well as some of the impacts of mining on women.

## **2.2 Objectives and Scope**

The objective of the study is to provide insight on the current state of women’s participation in the mining industry, and the challenges and opportunities faced by women and girls living in the communities affected by mining in various APEC economies. Ultimately, the study seeks to identify potential interventions to counter the challenges faced by women and girls that have been carried out by different APEC economies and to propose gender-responsive policy recommendations. To achieve this, the following three themes will be covered:

- Gender disparity and the economic participation of women in the mining industry in APEC economies;
- Challenges faced by women and girls in mining communities; and
- Experiences of existing networks that focus on supporting women in mining.

As per the scope of the project, a consultation survey was designed and disseminated to selected organizations in six APEC economies: Australia; Canada; Chile; People’s Republic of China; Papua New Guinea, and; Peru. The response rate was of 30 participants (26 survey responses and 4 interviews) from an expected response rate of 30-45 participants. From these responses, five case studies on existing activities and policy interventions that have been carried out by organizations to support women in the mining sector and/or women in mining communities were further developed.

## **3 Literature and Key Insights**

Several authors have analyzed the different impacts on and the roles undertaken by women in mining, in particular but not limited to women in large-scale and industrialized mining (Lahiri-Dutt, 2010; Macintyre, 2006), artisanal and small-scale mining (Hilson, 2002; Orozco Zevallos, 2003; Lahiri-Dutt, 2008), women from mining communities (Hill and Newell, 2009; Jenkins, 2017), and Indigenous women (Gibson and Kemp, 2008). Their collective works have shed light on: (1) the invisibility of women’s contributions to the mining sector, (2) changes in women’s productive roles at home and at their workplace, and (3) socio-environmental challenges due to women’s involvement in precarious and marginal jobs as well as the double and triple burden of household, care work, and formal employment. As part of the project’s objective and scope, this

report will delve into a selected number of impacts that fall within the following three areas: women in the mining sector; women living in mining communities; and networks that focus on supporting women in mining.

Diversity and inclusion in the mining sector are often associated with the need to account for the complex nature of the category “women.” These notions are important not only for understanding the experiences of different groups of women working in the mining industry across different socio-political spaces but also concerning effective community consultation (Lahiri-Dutt, 2010; Jenkins, 2014). As Lahiri-Dutt (2010: 343) notes, the homogenization of women can “lead to a dualism between women and men, separate their spheres and spaces of production, and equate women primarily with biological reproduction.” Mayes and Pini (2014) further elaborate on this idea by reflecting on how this dualism results in gendering skills, which limits women to being associated with specific labour skills (e.g., truck operators or human relation types of work).

As suggested by Mayes and Pini (2014), increasing the recruitment and hiring of women in the mining sector or, in other words, “capitalizing” on diversity is becoming a required step for many companies to become competitive in the market under the argument that more diverse companies perform better. In fact, “the employment of more women, far from becoming over time a taken-for-granted aspect of the industry, is restated in each and every report” (ibid.: 542). This business approach reflects the logic of labour commodities and privatization of equality empowering industries by only increasing the number of women (Lahiri-Dutt, 2012; Mayes and Pini, 2014). Similarly, other authors advocate against the instrumental value of women based on enhancing the efficiency of the private sector and economic growth and positioning men as beneficiaries of the participation of women (e.g., who are known to take fewer risks) (Eveline and Booth, 2002; Lahiri-Dutt, 2012). In Chile; Papua New Guinea, and; Zambia, for example, more women are operating trucks since they are seen as safer drivers; this understanding of women, however, can lead to occupational segregation (Khan, 2013), and does not always work to enhance the well-being of women and girls, nor of communities more broadly.

Subsequent work has moved beyond examining how the business approach is dismissing other workplace gender-related issues (Perriton, 2009). This is exemplified, for instance, in the context of Indonesia, where Lahiri-Dutt (2012) has found that many women working as truck operators often quit their jobs due to the persistent division of gender roles in the sector. Hence, companies need to provide a supportive environment for women, including policies for attraction, retention, and development. The gendered division of labour is usually accompanied by discriminatory wages and labour divisions that often concentrate women into the bottom strata (Lahiri-Dutt, 2010; 2012). In Australia, for instance, the 2012 gender pay gap in the mining sector “was recorded as 21.8%, ranging from 2.9% at the lower end of the salary scale to 32.3% at the upper end” (AusIMM, n.d. in Mayes and Pini, 2014: 531). As stated by Macintyre (2011), the unequal distribution of wealth generated by the gender pay gap can deteriorate the well-being and status of women and impact the overall social structure profoundly.

Academic and policy-based literature has also highlighted the lack of opportunities offered to women in the mining industry for evolving within the employment cycle (Botha and Cronjé, 2014; Lahiri-Dutt, 2010). As Lahiri-Dutt (2010: 332) argues, “even where women have entered in small numbers to take advantage of the better pays that are offered by many large mining projects, they tend to remain at the bottom of the company hierarchy.” The lower status of women tends to be reinforced by the allocation of women in more “suitable” jobs, reflecting on gendering skills or attitudes such as nimble fingers or lesser risk-taking propensities (Lahiri-Dutt, 2010). Similarly,

Jenkins (2014: 332) advocates that “in the global South, where women are employed by mining companies, this tends to be largely either in ancillary and administrative positions (*Chaloping-March, 2006; Lahiri-Dutt, 2006b*), as well as within Corporate Social Responsibility and public relations departments where they are involved in community liaison.”

Some of the factors that have been identified as influencing the lack of women’s leadership roles are often linked to the male-dominated nature of the sector, which fosters the invisibility of women’s efforts and participation (Jenkins, 2014). However, despite the masculinization of mining, labour history literature emphasizes that women still play an important role in mining by supporting their male family members’ work, working as independent wage earners, campaigning for better working conditions, and so on (Jenkins, 2014; Mercier and Gier, 2017).

Other academics and policy analysts have questioned the migration (relocation) requirements and overall travel requirements, such as fly-in fly-out (FIFO), to participate in the mining sector, arguing that these requirements are not ideally suited to women with caretaking responsibilities (Jenkins, 2014). Women involved in FIFO face challenges adapting to a workplace dominated by men while additionally maintaining relationships with family and community members (Bailey-Kruger, 2012). Although technology is often recognized to improve work conditions by facilitating the commute to remote work locations in an easier and faster manner and also providing a safer environment, there are numerous examples (in Bolivia, India, and Japan) that prove technology is not a gender-neutral tool. On the contrary, technology inscribes gendered meanings onto the people performing specific tasks (now automated) and displaces women from production (Lahiri-Dutt, 2010). As Lahiri-Dutt (2012: 196) notes, “Historical and contemporary evidence reveal that technological change works against the interests of women in mining. Capitalization of the production process is never gender-neutral”.

The impacts of mining are equally relevant when considering women from mining communities. Although undeniably positive impacts come from the mining industry, principally in terms of the trade balance, wages, and urban development, there is much debate about socio-environmental impacts and development in local communities. Authors have described this dual trend as “mining and the Janus Face” (Barton et al., 2013) and “contentious and ambiguous” (Bebbington et al., 2008).

While the myriad negative impacts of mining affect all men, women, and children living in mining communities, these impacts affect women differently as a result of the different social roles attributed to men and women (Jenkins, 2014). Referring to women’s disadvantaged position, “Hargreaves (undated-c) highlights that women are in effect subsidizing the mining industry through their unpaid care work, in reproducing and feeding the family, as well as dealing with the health consequences resulting from mining, in a context of inadequate healthcare provision” (ibid.: 333). Furthermore, women are disproportionately affected by their traditional roles as subsistence and small-scale farmers (e.g., responsible for agriculture and raising livestock) and by gender biases in relation to the workforce (Jenkins, 2014; Bhanumathi, 2002).

Women also begin from a disadvantaged position (e.g., culturally), since cash flows enter local economies and fall into the hands of men, who receive monetary compensation because the land belongs to them (Jenkins, 2014; Lahiri-Dutt, 2012). More cash income, both from land compensation and the creation of new jobs associated with mining operations, leads to increasing levels of gender-based and domestic violence as a result of higher levels of alcohol consumption and prostitution (Hinton et al., 2006). As Jenkins (2014) and Bermúdez et al. (2011) note, there is

an increasing abuse of women's sexuality in mining camps, both from women as sex workers (relatively freely chosen in a context of poverty and formal labour segregation) and sexual exploitation.

Violence in mining camps is not restricted to the abuse of women's sexuality but can also be expressed as the criminalization of social organizations and civic protest, specially on women anti-mining activists (Jenkins, 2017; Bermúdez et al, 2011), as well as territorial violence committed by international mining companies, governments, and in some cases paramilitary forces where mining projects are being developed (Cohen, 2014; Bermúdez et al, 2011).

In response to the challenges faced by women and girls in the mining sector, women's organizations are emerging, particularly, from mining communities across the global South (Jenkins, 2017; 2014). While they have not been visible, they are crucial for tackling the impacts that emerge from the mining sector (ibid.). The work of these organizations and their relationship with mining communities, mining companies, suppliers, and other entities in the sector thus merit further research.

## **4 Survey Methodology**

To ensure effective capacity building, this project sought to gain perspectives from a diverse sample of respondents by engaging four different types of organizations: gender-focused mining groups, mining companies, mining associations, and APEC fora. Due to the different nature of these organizations, two different surveys were designed: one directed to gender-focused groups and mining companies, and a second survey directed to mining associations and APEC fora. Both surveys were sent to organizations from the six selected APEC economies. These economies represent the top six APEC economies with highest mineral rent contribution to GDP (in % terms): Papua New Guinea (19.85%); Chile (14.61%); Peru (7.09%); Australia (5.42%); People's Republic of China (1.78%), and; Canada (0.73%) (ABAC, 2015).

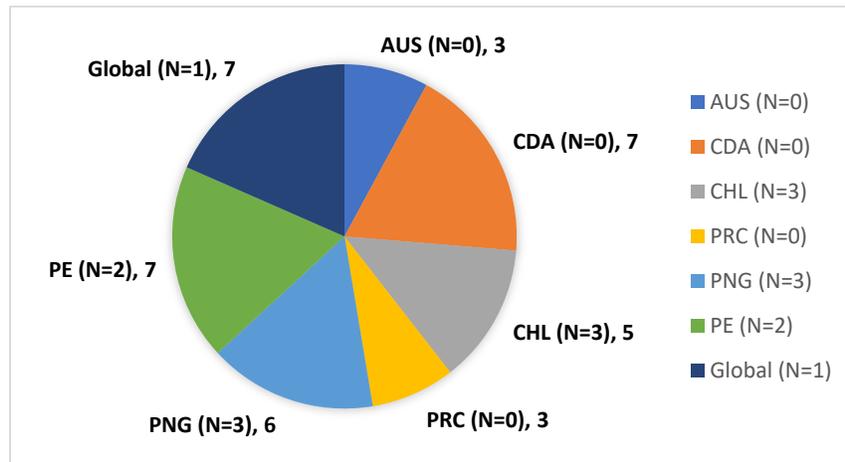
The selected APEC economies are positioned differently in terms of gender equality. The World Economic Forum (2018) prepared a report capturing the magnitude of gender-based disparities on the basis of four criteria: economic participation and opportunity, educational attainment, health and survival, and political empowerment. The index provides rankings that allow for effective comparisons across regions and income groups. In 2018, 149 economies were ranked, including Canada (16); Australia (39); Peru (52); Chile (54), and; People's Republic of China (103). Papua New Guinea was not included.

### **4.1 Primary Survey**

#### **4.1.1 Sampling Strategy**

A primary survey (see Appendix 1) was designed for gender-focused mining groups and mining companies operating across the selected APEC economies. Gender-focused mining groups were identified in three different ways: through networking at the workshop *APEC Joint Project Chile-Canada: Women's participation in the mining industry* (herein, APEC Workshop), from an online search (using keywords such as women in mining, women and mining, gender groups in mining, gendered impacts of mining), and a literature review based on feminist studies in mining. In total, 38 gender-focused mining groups were identified and contacted: 7 at the multinational level and 31 at the domestic level (see Figure 1).

**Figure 1. Gender-focused mining groups contacted by APEC economy**



\* N = the number of respondents in contrast to the total number of gender-focused mining groups contacted

Two approaches were used to identify mining companies. The first selection process was guided by considering the 2019 Bloomberg Gender-Equality Index (GEI) (Bloomberg, 2019), which includes 230 companies from 36 economies across 10 different sectors. The GEI is assessed across four distinct areas: (1) internal employment and female management statistics, (2) internal policies supporting a gender-equal workplace, (3) public support for women in the community, and (4) product offerings supporting women. Five companies were selected from this index by taking into consideration companies from the mining sector that operate in the selected six APEC economies. Accordingly, Anglo American, Harmony Gold Mining Company Limited, IAMGOLD Corporation, Newmont Mining Corporation, and Teck were selected. While the Bloomberg GEI includes companies committed to advancing women in the workplace and promoting gender equality across the four areas mentioned above, only companies with a market capitalization of US\$1B or higher are eligible for index inclusion, which restricts the scope of analysis. Despite such restriction, however, the index still provides a comprehensive framework for measuring gender equality.

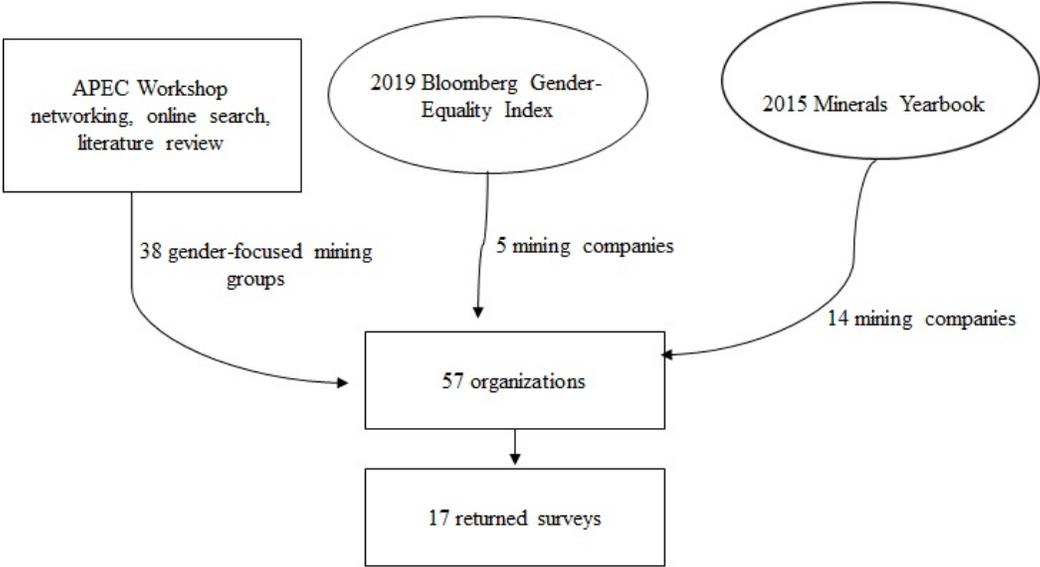
The second selection process was guided by considering mining companies with the highest annual production capacity of major mineral commodities in each economy. The *2015 Minerals Yearbook* was consulted, a yearly publication by the United States Geological Survey (USGS, 2015) that reviews the mining industry of several economies and creates individual reports. These reports provide a brief but detailed introduction to the current state of the mining industry in the given economy, highlighting government policies and programs related to the sector and information on mining production, structure, and main commodities. To unpack this data, all the companies mentioned under the “Commodity Review” section of the report, which lists the main companies with the highest contribution to the production of each commodity, were identified. These companies were further cross-checked with PricewaterhouseCoopers’s (2018) “Top 40 Global Mining Companies,” a list of the largest mining companies by market capitalization in the *Mine 2018 Report*, as well as government documents, mining reports, and rankings published in newspapers to select the top two or three companies with highest contribution to the sector production.

The following 14 companies were selected from the second selection process: Rio Tinto Ltd. and BHP Billiton Ltd. in Australia; Rio Tinto Ltd. and Vale in Canada; Codelco and Minera Escondida (a BHP Billiton Ltd. and Rio Tinto Ltd. collaboration) in Chile; Jiangxi Copper Co. Ltd., Shenhua Group Corp. Ltd., and Anshan Mining Co. in People’s Republic of China; Ok Tedi Mining Ltd., Barrick Gold Ltd., and Newcrest Mining Ltd. in Papua New Guinea, and; Compañía Minera Antamina S.A. (a BHP Billiton Ltd., Glencore, and Teck collaboration) and Sociedad Minera Cerro Verde (a Freeport-McMoRan project) in Peru.

Company representatives were identified through networking at the APEC Workshop, visiting websites for each company and identifying main email contact information for headquarters and/or representatives in each APEC economy, requesting APEC to share the survey in their networks that met the project’s inclusion criteria, and connecting with the research team’s personal network. The focus was to contact representatives from positions such as diversity and inclusion, human resources, and corporate communications. In total, 14 mining companies were identified and contacted.

In summary, 57 organizations were identified and contacted from both gender-focused mining groups and mining companies via email, with the objective of inviting them to participate in the survey (see Figure 2). The email included two attachments: a Letter of Initial Contact, which explains the objective of the survey and invites them to participate in it; and 2) a Letter of Consent, which describes the research study, its procedures, confidentiality terms, data collection process, and requests their consent. The survey was distributed electronically. Participants provided their consent by taking the survey and completing it. The time frame for collecting survey answers was three weeks. Two reminder emails were sent within this time.

**Figure 2. First-layer survey methods**



The modest response rate from the primary survey created a need for additional efforts to enlarge the dataset. For this reason, snowball sampling was used. Mining companies and gender groups

from the first sampling group were asked to share the survey with their personal network. This effort extended the survey time frame for an additional week.

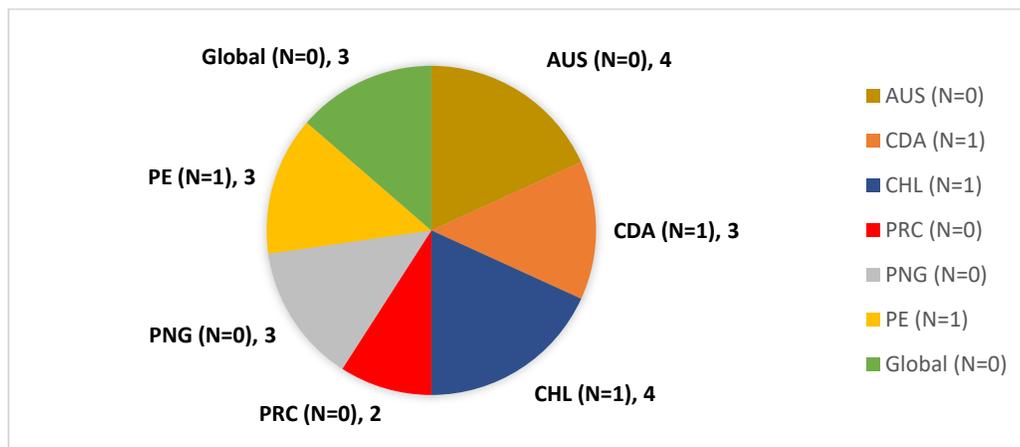
## 4.2 Second-Layer Survey

### 4.2.1 Sampling Strategy

Responses from the primary survey were complemented with a second-layer survey (see Appendix 2) designed for mining associations in the selected APEC economies and various APEC fora. This survey aimed to obtain more in-depth information to complement the dataset by taking into consideration a different scale of operation (i.e., domestic) than the one considered originally, meaning gender-focused groups and mining companies (i.e., local).

The selected mining associations were identified through networking at the APEC Workshop and online searching, and the selected APEC fora were facilitated by the APEC project overseer (PO). In total, 21 mining associations (see Figure 3) and 2 APEC fora<sup>3</sup> were identified and contacted via email. The contact process followed the same structure as in the primary survey.

**Figure 3. Mining associations contacted by APEC economy**



\* N = the number of respondents in contrast to the total number of gender-focused mining groups contacted

## 4.3 Design of the Surveys

Both surveys were conducted using Qualtrics, an online survey software. The primary survey consisted of 40 questions (multiple choice and open-ended questions), which were structured within four sections: *Basic information*, *Women in the mining sector*, *Women in mining communities*, and *Networks supporting women in mining*. The dataset was complemented with secondary research, in both academic literature and practitioner/policy-based literature. For instance, some key documents reviewed were from APEC fora and gender agencies in governments from different APEC economies. The information was also triangulated with discussions from the APEC Workshop.

<sup>3</sup> Several representatives from Policy Partnership on Women and the Economy and Mining Task Force (a former APEC forum) were contacted.

The second-layer survey consisted of a very short questionnaire comprising nine questions. It followed a similar structure to the primary survey; however, it consisted of more open-ended questions. Furthermore, the third section, *Networks supporting women in mining*, was not included.

#### 4.4 Analysis of the Surveys

For the data analysis and visualization of the first-layer survey, Excel and Stata were used; for the second-layer survey only Excel was used. Results were exported from Qualtrics and transcribed into an Excel sheet. In Excel, responses were divided by survey respondents (e.g., gender-focused groups, mining companies, mining associations, and APEC fora) and between the six APEC economies to generate more detailed visualizations. In Stata, the Excel sheet was imported, the data was cleaned, and responses were coded for analysis and visualization.

Furthermore, for the analysis and reporting of the data, answers were coded into four main categories: (1) diversity and inclusion; (2) attraction, retention, and development; (3) participation of women from mining communities; and (4) programs for mitigating socio-environmental impacts.

#### 4.5 Case Studies

After analyzing the survey findings, five case studies on existing activities and policy interventions that have been carried out by organizations from four different member economies to support women in the mining sector and/or women in mining communities were selected (see Table 1). These organizations were then contacted via email and phone and asked to take part in a follow-up to inform the case studies. As part of the survey, respondents were asked to describe any activities/policy interventions undertaken by their organizations that support women in the mining sector and/or women in mining communities and how their networks assisted in the implementation of such interventions. The selection process for the five chosen case studies took into account: interventions from different economies as well as different types of organizations; interventions that were mentioned more than once by different branch representatives of the same institution; and interventions from organizations that contacted the research team to present their initiatives.

A comprehensive discussion of the case studies can be found in section 5.4, “Case Studies: Networks That Focus on Supporting Women in Mining.” It is important to note that the aim of this section is not to provide a comparative analysis between economies, but rather to expand the current policy literature on existing initiatives that have been carried out to counter the challenges faced by women and girls, both in the mining sector and in mining communities, while showcasing the importance of networks in supporting the implementation of such initiatives.

**Table 1. Selected case studies by economy**

| <b>APEC Economy</b> | <b>Organization</b>  | <b>Initiative(s)</b> | <b>Network Support</b>    |
|---------------------|--|----------------------|---------------------------|
| Canada              | Mining Industry Human Resources Council (mining association) | GEM Works            | Talent Alloy              |
|                     |  | Mining Essential     | Assembly of First Nations |

|                  |  |  |                                |
|------------------|--|--|--------------------------------|
| Chile            | Teck Resources Ltd.<br>(mining company)                                | Originarias: Program for the Empowerment of Indigenous Women | UN Women                       |
| Papua New Guinea | Sustainable Alluvial Mining Services<br>(community-based organization) | ASGM Pilot Project   | Local and domestic governments |
| Peru             | Ernst & Young<br>(consulting company)                                  | Roundtables for high-level women executives to network       | WAAIME                         |

**4.6 Limitations of the Study**

This study has several potential limitations. First, the small sample size limits the ability to draw conclusive results, meaning that the data collected cannot be understood to represent the entire APEC economy, but rather represents the actions of a small number of selected organizations operating in the selected APEC economies. Further, given that single individuals responded to the survey, results may not necessarily represent the views of the entire organization to which they belong. Note that a more significant number of participants from Chile and Papua New Guinea completed the survey in comparison to respondents from Canada and Peru, which is not necessarily correlated with the former two being more proactive in terms of gender initiatives than the latter two. It is also important to note that no survey responses were recorded for Australia and People’s Republic of China, which is a limitation in itself and, similarly to economies with low responses, their lack of participation in this survey does not mean that they are not working toward gender equality. The outcomes of this study should thus be considered as exploratory in the sense that they prompt questions that should be explored in future work rather than providing conclusive results.

Second, while the report highlights several policies that have been carried out to promote diversity and inclusion or attraction, retention, and development, the team was unable to assess the extent to which these policies led to the desired outcomes; in-depth case study research would be needed to answer this question. The five case studies that are presented should be considered with this limitation in mind; that is, they provide a snapshot of existing activities and policy interventions, but the authors are unable to assess if they are necessarily translating into successful implementation. Therefore, while organizations’ efforts deserve critical evaluation and reflection, further in-depth research is required to analyze the ultimate outcomes achieved from those efforts.

Finally, time constraints presented important limitations for this work. The project timeline was three months total,<sup>4</sup> resulting in important limitations, including considerable efforts to complete deliverables on time. This included the data collection phase, which might be partially responsible for the lack of a more robust response. We expect that longer time frames might have led to a higher response rate and may have entailed a more detailed and thorough analysis.

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<sup>4</sup> The project was formulated in early June, when the state of the art of women’s participation in the mining industry and the survey design were presented at the APEC Workshop in Chile (June 5-6, 2019). By contract, the project started on July 25, 2019.

## 5 Survey Results

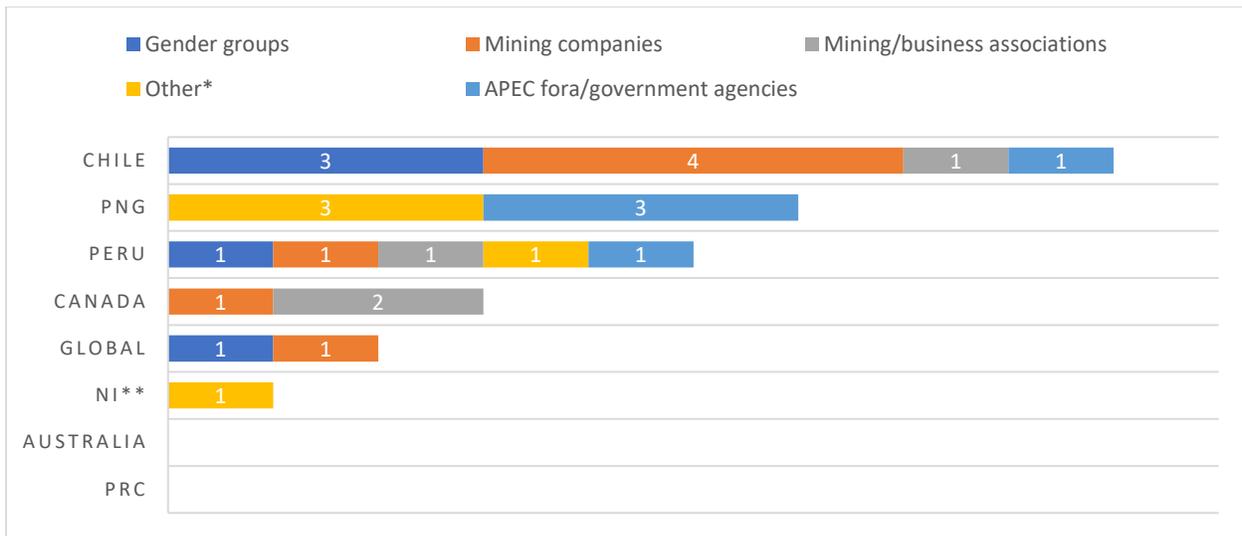
This section summarizes the findings of the research project based on the first-layer survey completed from July 18 to August 9, 2019, and the second-layer survey completed from August 9 to August 30, 2019. Following the structure of the survey, findings were divided into three sections: (1) women in the mining industry, (2) women in mining communities, and (3) networks that focus on supporting women in mining. Note that the graphs in this section illustrate only findings from the first-layer survey (mining companies and gender-focused mining groups). Findings from the second-layer survey (mining associations and APEC fora) will be introduced through text boxes to complement findings in a qualitative manner.

### 5.1 Data Completion

A total of 78 participants were identified and contacted: 57 for the first-layer survey and 21 for the second-layer survey. Out of these 78 participants, 43 responded to the survey request. A total of 26 participants completed the survey, 15 started the survey but did not complete it (withdrawals), and 2 declined the survey request. See Appendix 3 for the participants' profile.

The results presented in this report are based on the 26 recorded responses to the surveys and 4 interviews (total response rate of 30 participants). Out of the 26 survey responses, 17 were completed by Friday, August 9, 2019, (first-layer survey deadline) and 9 were completed by Friday, August 30 (second-layer survey deadline) (see Figure 4). Only for the economies where no information was gathered from the survey (e.g., Australia and People's Republic of China), secondary sources were reviewed (e.g., corporate reports; APEC Workshop findings). These economies are not portrayed in the charts or tables.

**Figure 4. Survey respondents (N=26) by APEC economy and organization type**

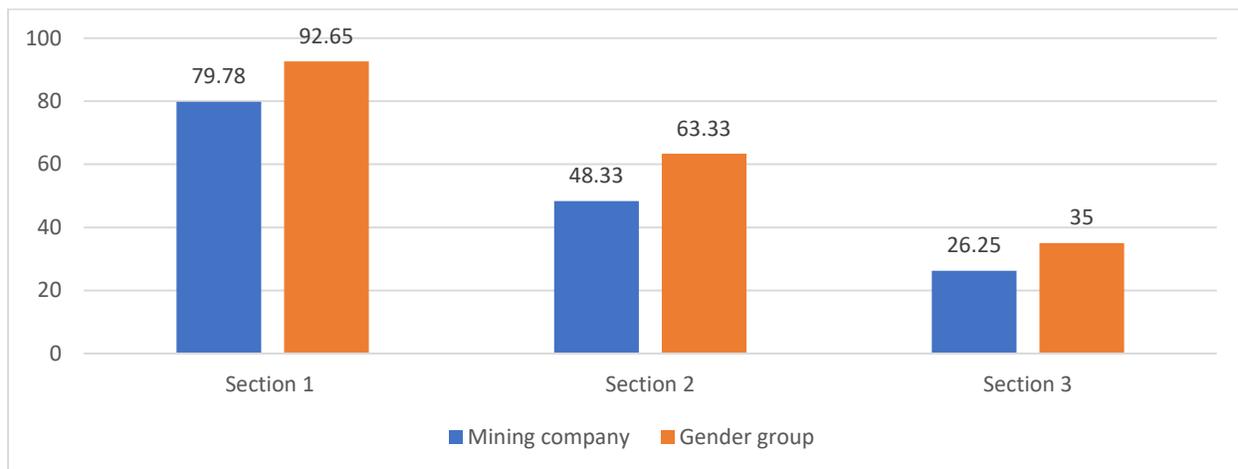


\* Other (includes organizations such as consultant companies and governmental agencies)

\*\*NI (no identity).

The following graph (see Figure 5) further depicts what sections of the first-layer survey were completed and to what extent.

**Figure 5. Data completion rate by survey sections in (%) terms**



As per the graph above, no section was completed by all participants. Most organizations completed the first section on women in the mining industry, in particular, gender-focused mining groups. However, there is a noticeable decrease in the completion rate as participants moved to the second and third sections on women from mining communities (non-employees and non-clients) and networks, respectively.

## **5.2 Women in the Mining Industry**

When asked “What percentage of your organization’s total employee workforce are women?”, 47% of participants from the first-layer survey answered that more than 50% of their employee workforce are women, 20% answered 30%-50%, another 20% answered 10%-30%, and the remaining 13% (two participants) answered less than 10%. The answers did not present any common pattern, which prevented any further analysis by member economy or organization type.

From the second-layer survey, only two participants representing mining associations from Canada reported that 10%-50% of women work in mining companies as opposed to men (15% of answers). Participants from the remaining economies (Chile; Papua New Guinea; Peru) answered less than 10% (75% of answers).

### **5.2.1 Diversity and Inclusion of Women in the Mining Industry**

In this subsection, in line with definitions introduced in the survey, *diversity in the workplace* is conceptualized as not only about fair representation of diverse socio-cultural identities (race, ethnicity, religion), physical attributes (or disabilities), age, gender, language, sexual orientation, and so on, but also about respecting and valuing differences (Ghorashi and Ponzoni, 2014). Meanwhile, *inclusion in the workplace* is not only about closing physical, social, and economic distances separating people, but also about treating all individuals fairly and respectfully, giving them equal access to opportunities and resources, and allowing them to contribute fully to the organization’s success (ibid.). While the research team recognizes that inclusion and diversity signal a range of concerns, including historically marginalized and underrepresented groups, poverty, and so forth, our focus here is on gender broadly, and women specifically as one dimension of these broader concerns.

Diversity and inclusion are foundational concepts in domestic legal frameworks of some APEC economies (see Box 5.2.1).

**Box 5.2.1. Second layer: Does your APEC economy have enforcing laws for workplace gender equality and diversity? (N=8)**

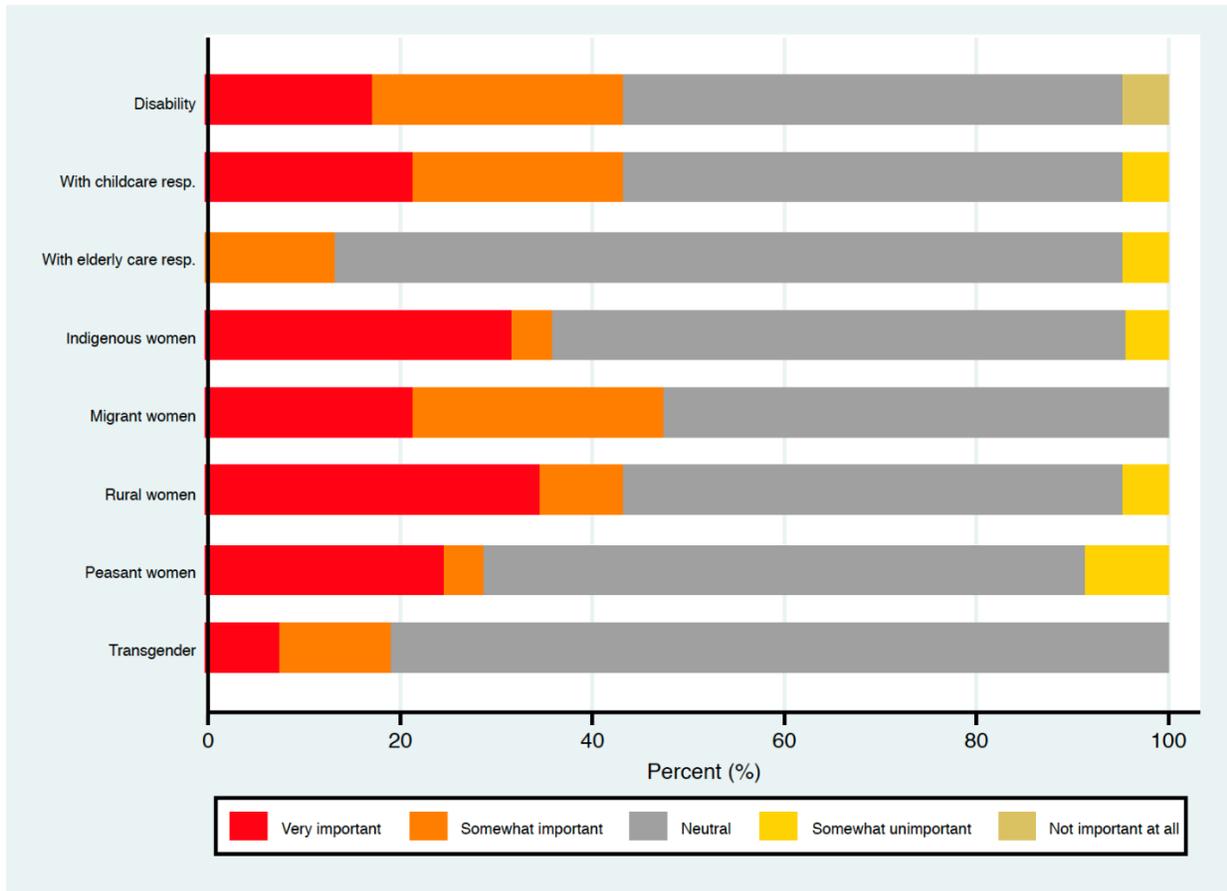
Participants from Peru and Canada highlighted specific laws concerning gender equality and diversity that are currently enforced. In the case of Peru, Law No. 28983 was identified, which “1. Promotes and guarantees equal opportunities between women and men (...); 2. Adopts temporary positive action measures, aimed at accelerating de facto equality between women and men (...); and 3. Incorporates and promotes the use of inclusive language in all communications writings and documents (...).” In Canada, several laws were highlighted, including employment equity laws, the *Canadian Human Rights Act*, and the *Canadian Employment Equity Act*.

In the case of Chile and Papua New Guinea, no particular law was highlighted. Respondents from Papua New Guinea, however, explained that while there is no law regarding equal pay, remuneration packages are calculated by organizations based on merit qualifications, experiences, etc.

During the APEC Workshop, among other topics, the importance of inclusion as a step forward from diversity was discussed. It was argued that there is a need to account for the complex nature of the category “women” and that companies should disclose their diversity numbers (workplace diversity disclosure [WDD] reporting). Drawing from the survey findings, it was found that the inclusion (in terms of equal access to opportunities and resources) of women with particular characteristics was valued differently. For instance, when asked “Is it important for your organization to include women with the following characteristics in the workplace?”, over 80% of organizations had a neutral perception toward transgender women and women with elderly care responsibilities. On the contrary, almost 40% of organizations saw the inclusion of Indigenous women (in particular mining companies) and rural women (in particular gender-focused groups) as very important. The inclusion of women with childcare responsibilities, migrant status, and disabilities were perceived as somewhat important (see Figure 6). Only respondents from Chile perceived the inclusion of women with disabilities as highly important.

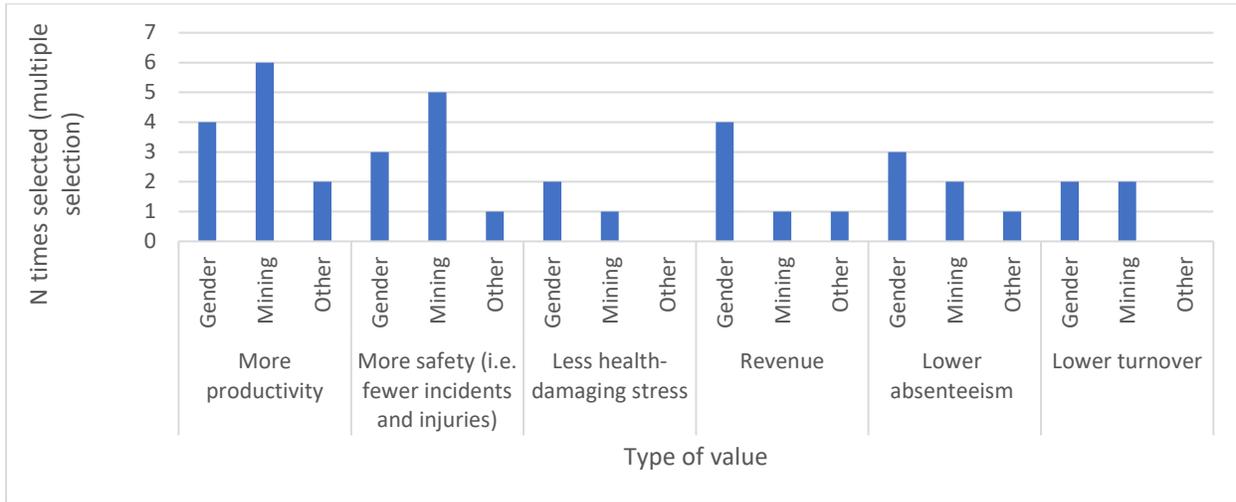
Secondary research (a sustainability report for BHP Billiton Ltd.) for Australia shows that “Awareness sessions have been held at BHP locations around the world to build understanding and acceptance and raise awareness of the challenges and discrimination experienced by the LGBT+ community” (2018: 26).

**Figure 6. Is it important for your organization to include women with the following characteristics in the workplace? (N=15)**



Additionally, on the importance of women’s inclusion in the workplace, 80% of the participants strongly agreed with the statement “Women contribute value to the mining industry.” The other 20% agreed with this statement, meaning that all respondents felt that this statement was appropriate. In terms of what kind of value women contribute to mining, most organizations see the inclusion of women into the mining industry as *More productivity* (81%) and *More safety* (63%). On the opposite side of the spectrum, *Lower turnover* (25%) and *Less health-damaging stress* (19%) were not perceived to contribute much value. *Lower absenteeism* (37.5%) and *More revenue* (37.5%) were more neutrally perceived (see Figure 7). While we cannot evaluate the meaning and context of all of these statements, they are nonetheless suggestive and merit further evaluation.

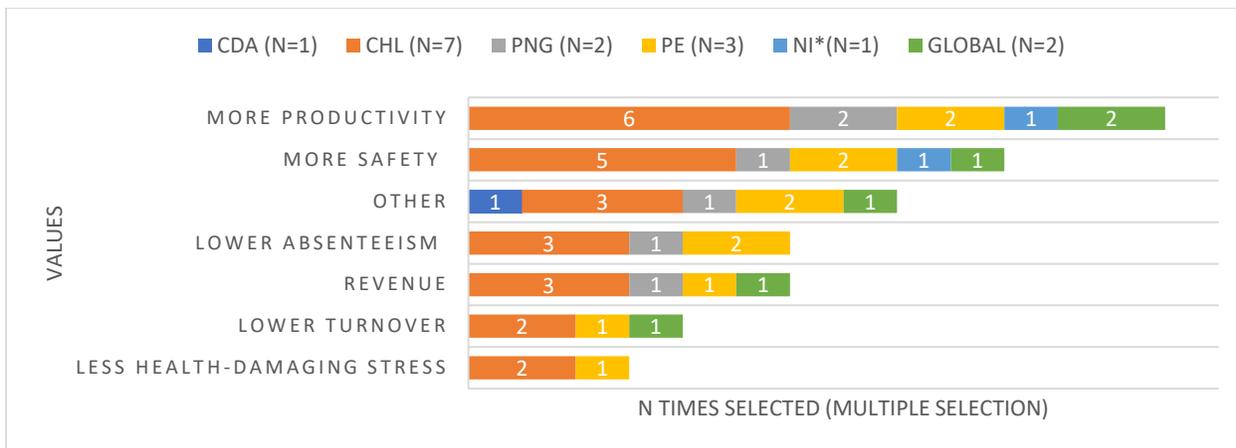
**Figure 7. What kind of value do women’s inclusion and diversity add to your organization? (N=16)**



\*Gender (gender-focused mining groups); \*\*Mining (mining companies); \*\*\*Other (includes organizations such as consultant companies and governmental agencies)

The figure below presents the same information as the figure above but in a different manner, showing the findings by APEC economy (see Figure 8).

**Figure 8. What kind of value do women’s inclusion and diversity add to your organization? (N=16) by APEC economy**



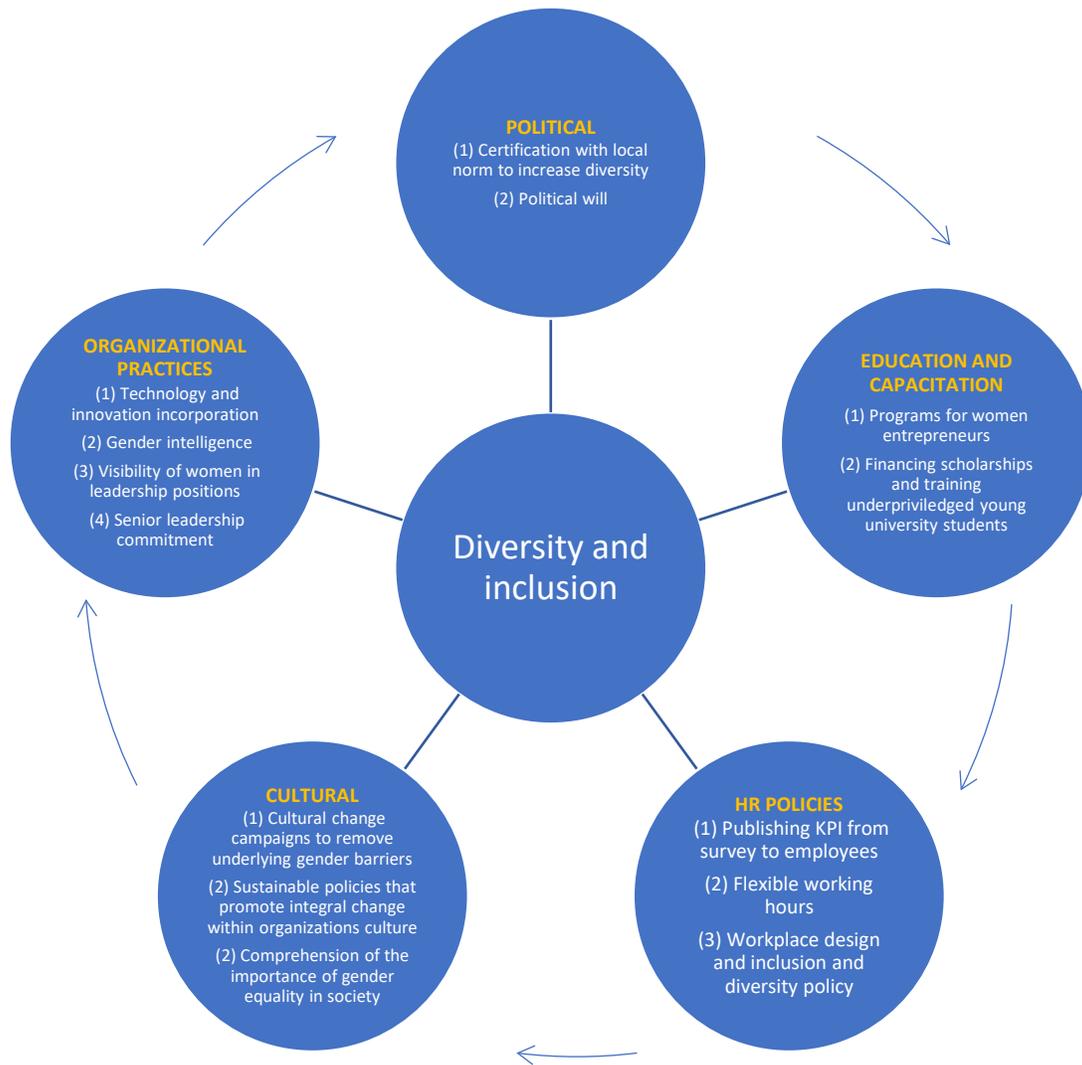
\*NI (no identity).

In Figure 8, topics highlighted as “Other” include more effective leadership, better ethical behaviour for resolving conflict, more social justice, more points of view, and more diversity.

Finally, participants were asked to name three to five characteristics that help their organization excel in promoting inclusion and increasing diversity. The responses were coded according to five different categories: political, cultural, organizational practices, HR policies, and education and capacitation (see Figure 9). These categories are captured from two separate reports published by

WIM (2016) and Stefanovic and Saavedra (2016), which examine factors that influence women’s participation in the mining sector.

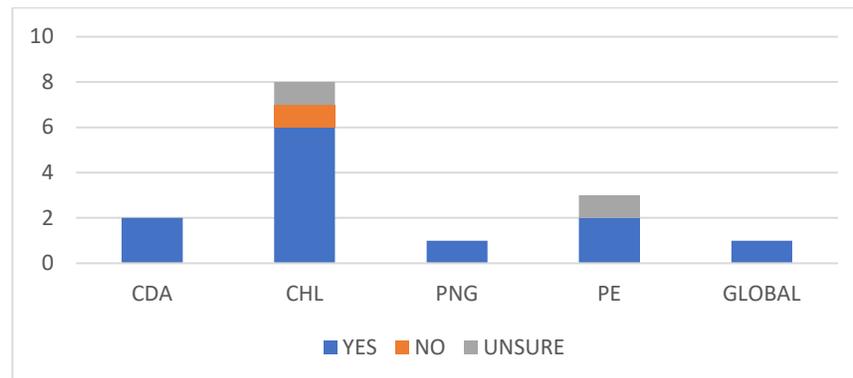
**Figure 9. What are 3-5 characteristics that help your organization excel in promoting inclusion and increasing diversity? (N=12)**



### 5.2.2 Attraction, Retention, and Development

Organizations were asked if they are working toward ensuring women’s participation in leadership positions, to which 80% of the participants said yes, 13% were unsure, and 7% said no – the latter figure representing a single mining company in Chile (see Figure 10).

**Figure 10. Does your organization work towards ensuring equal participation in leadership positions? (N=15) by APEC economy**



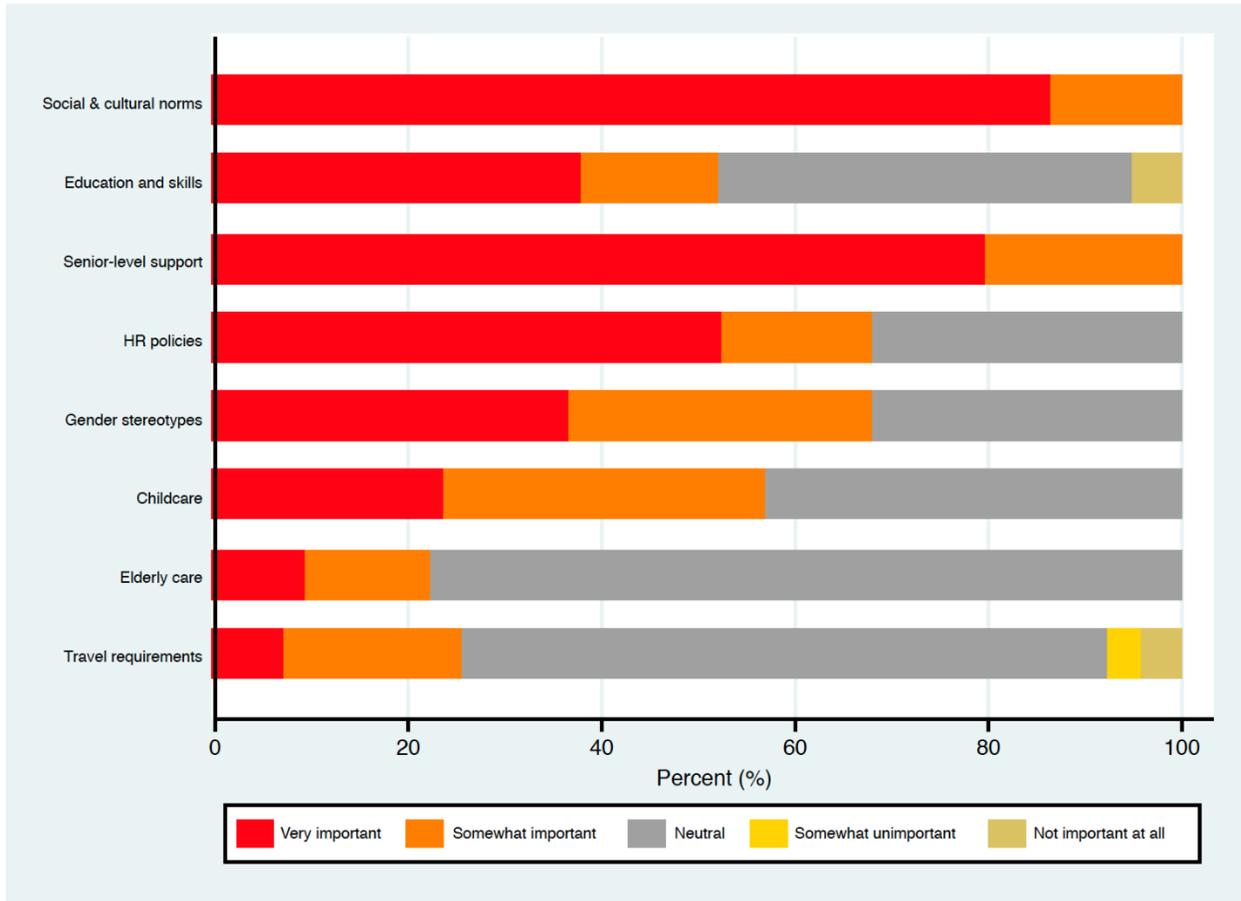
Participants further noted that *Administration* (69%), *Senior management* (62%), and *Other management* (62%) (e.g., other than executive and senior management positions) are the positions most commonly reached by women throughout the employment cycle in their organization. This is followed by *Board members* (46%) and, with lower likelihood, *Executive management* (38%) and *CEO* (23%). Note that while the meaning and context of all of these statements cannot be evaluated, they are nonetheless suggestive and merit further evaluation, particularly concerning leaky pipeline and glass ceiling phenomena.

Most participants believe that *Social and cultural norms* (87%) as well as *Senior-level support* (80%) are “very important” factors influencing women leadership in the sector. As one survey participant mentioned:

“There are cultural factors within organizations and at the society level that should be addressed in order to promote new leadership models that could be played by either women or men. Women’s ‘double burden’ of household and work limits women participation at work and, particularly, at the leadership level” (gender group from Chile).

About 50% also believe *HR policies*, *Education and skills*, and *Gender stereotypes embedded in corporate culture* to be very important factors, and *Childcare responsibilities* to be somewhat important. On the contrary, *Elderly care responsibilities* and *Travel requirements* (fly-in and fly-out) were perceived as neutral factors (see Figure 11). In the APEC Workshop, the latter factor was also identified as less important than the rest due to the technological transformation that the industry is experiencing: “[A]utomation has the potential to positively transform female participation by creating new opportunities. For example, remote jobs, which would facilitate work-family conciliation, among many other benefits.” Note that it is important to recognize that automation can also negatively impact workers; for example, it has replaced jobs of Indigenous peoples and other minorities.

**Figure 11. Do you believe any of the following factors influence women leadership or lack thereof in the mining sector? (N=15)**



To address some of the barriers identified above, most mining companies have focused on implementing changes to their human resource policies. A participant from Chile stated the following when asked “What kinds of initiatives has your organization implemented to address some of the barriers identified above?”:

“Gender intelligence training, sexual and labour harassment awareness, gender neutral policies, flexible schedules and alternative work arrangements, diversity and inclusion leadership role within the organization, operational diversity committees, visible promotion, high potential talent development plans, restructured employment criteria – weighted to competence/leadership rather than experience” (mining company from Chile).

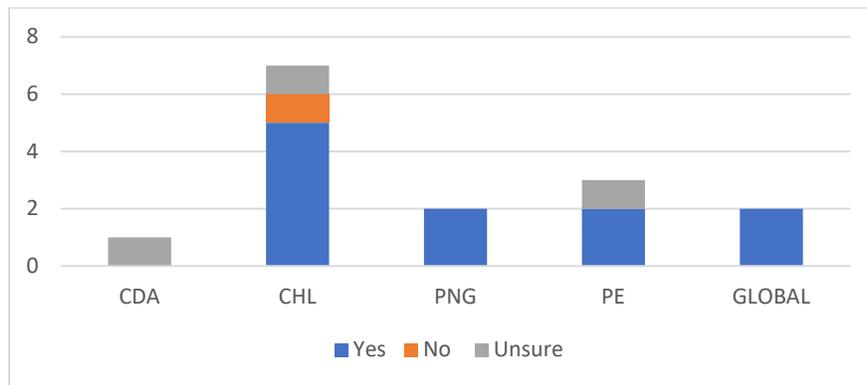
Similarly, one survey participant from Peru reported that it is important to “implement recruiting programs to include diversity” (mining company from Peru).

A mining company from Canada noted that policies are being implemented without considering gender differences: “Policies are not gender-specific, discrimination is not tolerated [...] opportunities are awarded based on merit, irrespective of characteristics” (mining company from Canada). However, as per second-layer findings (see Box 5.2.1), there are specific laws in Canada concerning gender equality and diversity. While we cannot evaluate the impacts of these policies, it is important to assess policies that consider gender more generally, or those that promote women

specifically (e.g., difference between focus on workplace culture, versus mentoring or promoting women specifically).

Further findings on attraction, retention, and development show that pay gap remains an issue: while 73% of respondents (N=11/15) indicated that women receive equal pay to men for the same job title, the remaining 27% were either unsure about whether their organization assures equal pay (N=3/15) or simply stated that women do not get equal pay to men for the same job title (N=1/15) (see Figure 12). No further specific data on equal pay was provided, which means that results noted above remain a general impression rather than a substantiated claim in terms of pay equity in organizations.<sup>5</sup>

**Figure 12. Do women in your organization get equal pay than men for the same job title? (N=15)**



As reported on the survey, policies that have been carried out by organizations to ensure equal pay include *Offering equal opportunities for women’s advancement* (71%), *Removing barriers that hinder women’s career progression* (57%), *Paying parity for the same job title* (57%), and *Providing unconscious bias training for all employees* (43%). In contrast, *Conducting a pay audit* (29%), *Making it a norm for women to negotiate* (21%) (only identified by gender groups), *Hiring an impartial third-party workplace investigator* (14%) (only identified by mining companies), and *Publishing salary ranges up front* (14%) were not commonly reported (see Figure 13). While we cannot imply that these goals were met, they are nonetheless suggestive that the intent was to achieve these goals. Further evaluation is required in the intersection of these policies and real outcomes.

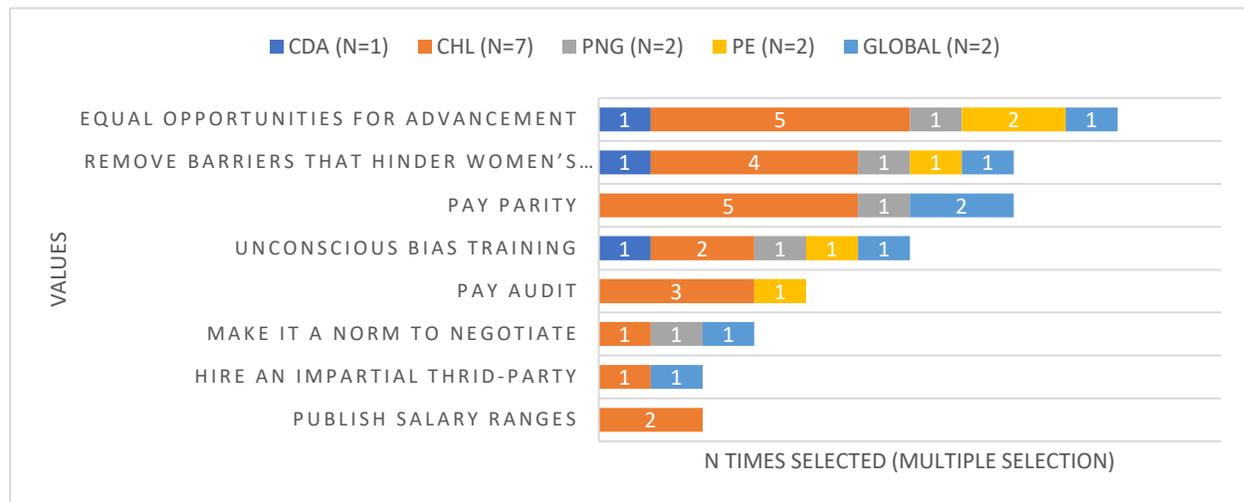
Secondary research was reviewed for People’s Republic of China and Australia to complement this dataset. An annual report for China Shenhua Energy Company Ltd. notes: “In strict compliance with laws and regulations including the ‘Labor Contract Law,’ China Shenhua standardizes recruitment, prevents employment discrimination, ensures male and female employees get equal pay for equal work, precludes the use of child labor and forced labor, and provides job opportunities for the disabled, minorities and veterans” (2017: 53).

<sup>5</sup> As per findings noted in the below paragraph, only two participants noted that their organizations conduct pay audits, which suggests that only a few (and not all 73% respondents who indicated that women receive equal pay to men for the same job title) are aware of the pay gap situation in their respective organizations.

The sustainability report for BHP Billiton Ltd. shows: “Our employees have been trained to recognize and mitigate potential bias through more inclusive behaviour towards all employees. Policies and systems have been changed to reduce potential bias. BHP has taken steps to reduce potential bias in recruitment and conducts an annual pay gap review” (2018: 26).

Note that such purported claims are not necessarily aligned with outcomes and reality in organizations. Further research is required in the intersection of these policies and real outcomes.

**Figure 13. Please select some initiatives that have been carried out by your organization to ensure equal payment. (N=14) by APEC economy**



In some APEC economies, equal pay is accounted for in domestic legal frameworks and policies (see Box 5.2.2).

**Box 5.2.2. Second layer: Does your APEC economy have enforcing laws for women to be paid the same as men for the same job position? (N=8)**

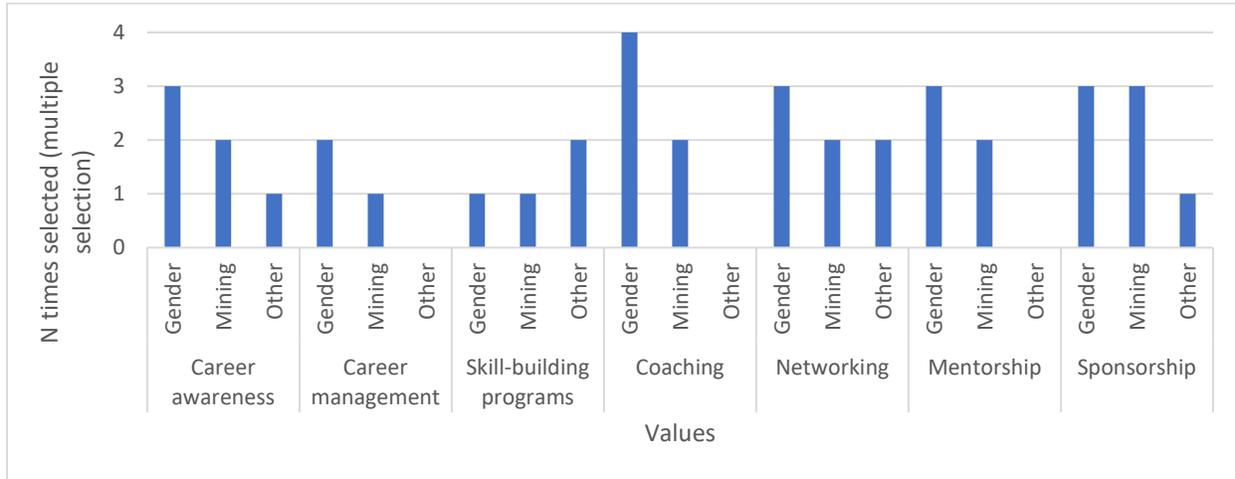
A participant from Peru was the only one to highlight an enforcing law on equal payment: Wage Inequality Law No. 30709 (2018), which prohibits pay discrimination between men and women. Participants from the remaining APEC economies of Chile, Canada, and Papua New Guinea stated that no enforcing law exists on this matter. The latter mentioned the existence of a Women in Mining Policy; however, whether this policy enforces equal pay and benefits was left unclear.

Similar efforts have been taken to address the attraction, retention, and development of women through the employment cycle. Some policies that have been carried out by organizations include: *Sponsorship* (50%), *Networking* (50%), *Career awareness* (43%), *Coaching* (43%), *Mentorship* (36%), *Skill-building programs* (29%), and *Career management* (21%) (in particular by gender and consultant groups) (see Figure 14).

In the APEC Workshop, the need to report the impacts of these policies was discussed: “There is a strong agreement to identify possible measurements that could lead to a more inclusive recruitment and more equitable work climate. Equally important to measuring, is reporting the impact that policies, practices and strategies have in advancing women’s participation in the

company and its impact in productivity.” As such, while our survey is able to report general efforts and directions, more detail and follow-up is needed with attention to outcomes.

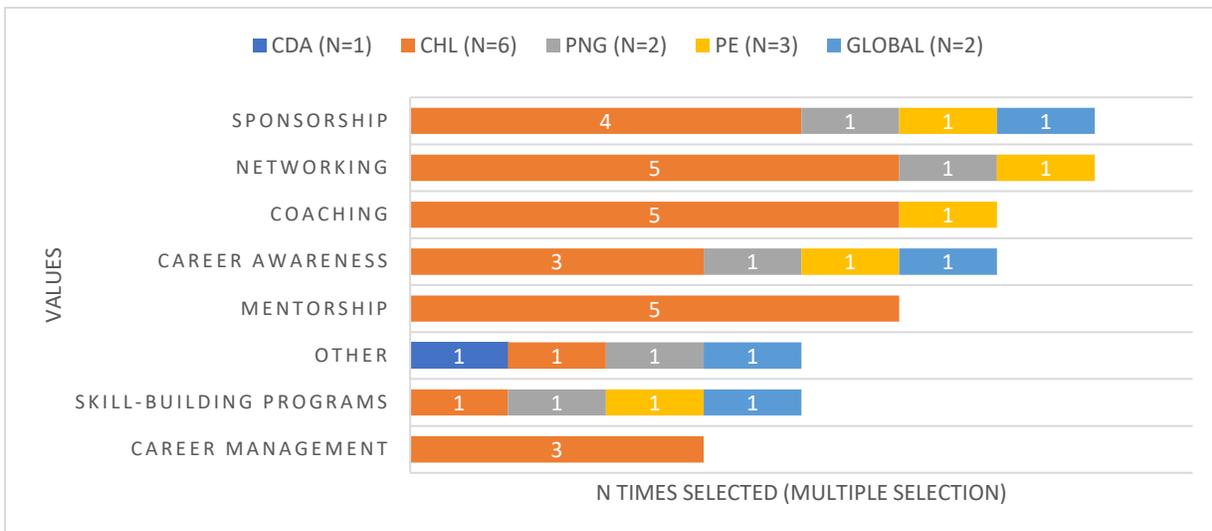
**Figure 14. What kind of policies is your organization implementing to address attraction, retention and development of women through the employment cycle in the mining industry? (N=14)**



\*Gender (gender-focused mining groups); \*\*Mining (mining companies); \*\*\*Other (includes organizations such as consultant companies and governmental agencies)

The figure below presents the same information as the figure above but in a different manner, showing the findings by APEC economy (see Figure 15).

**Figure 15. What kind of policies is your organization implementing to address attraction, retention and development of women through the employment cycle in the mining industry? (N=14) by APEC economy**



In Figure 15, topics highlighted as “Other” include none, volunteer training, and all of the above, but not gender specific.

In some APEC economies, attraction, retention, and development are accounted for in domestic legal frameworks and policies (see Box 5.2.3). In Australia, for example, “the Workplace Gender Equality Act 2012 requires non-public sector organizations with 100 or more employees to report on a series of gender data to encourage measures that improve gender equality outcomes, such as number of women in management roles, overall gender equality policies and strategies, pay equity and flexible work” (APEC Workshop).

**Box 5.2.3. Second layer: What kind of policies is your APEC economy implementing to address attraction, retention and development of women through the employment cycle in the mining industry? (N=8)**

Participants from Peru and Chile mentioned specific laws for addressing the attraction, retention, and development of women. In 2012, the Chilean government issued a standard (NCh3262) on “Gender equality and reconciliation of professional, family and personal life” (*Igualdad de Género, Conciliación de la vida laboral, familiar y personal*). It was also highlighted that Chile has “various public-private initiatives focusing on eliminating gender stereotypes and advancing on women’s integration into the mining industry.”

In 2007, the Peruvian Government issued Law No. 28983 “Law on Equal Opportunities between Women and Men” (*Ley de igualdad de oportunidades entre mujeres y hombres*).

Participants from Canada and Papua New Guinea did not mention any particular law but rather described a series of policies and broader initiatives that exist related to the matter at stake:

- Canada: “Examples include unconscious bias training, women career development programs, review of hiring and recruitment practices, introducing parental leave, providing support to expecting and new mothers through work re-assignment when necessary and possible (e.g., once pregnant can’t go underground so may be assigned other duties during pregnancy).”
- Papua New Guinea: “Policies related to employment covers both genders. The private sector, in particular pertaining to mining and petroleum, take gender equality and diversification seriously. These industries have programs whereby women are fully empowered through employment, MSMEs etc.” Note that PNG has a Mining Act; however, it has not been revised since 1992 – a revision is expected to be passed in the parliament at the end of this year (2019).

### **5.3 Women and Girls (Non-Employees and Non-Clients) Living in Mining Communities**

#### **5.3.1 Participation of Women from Mining Communities**

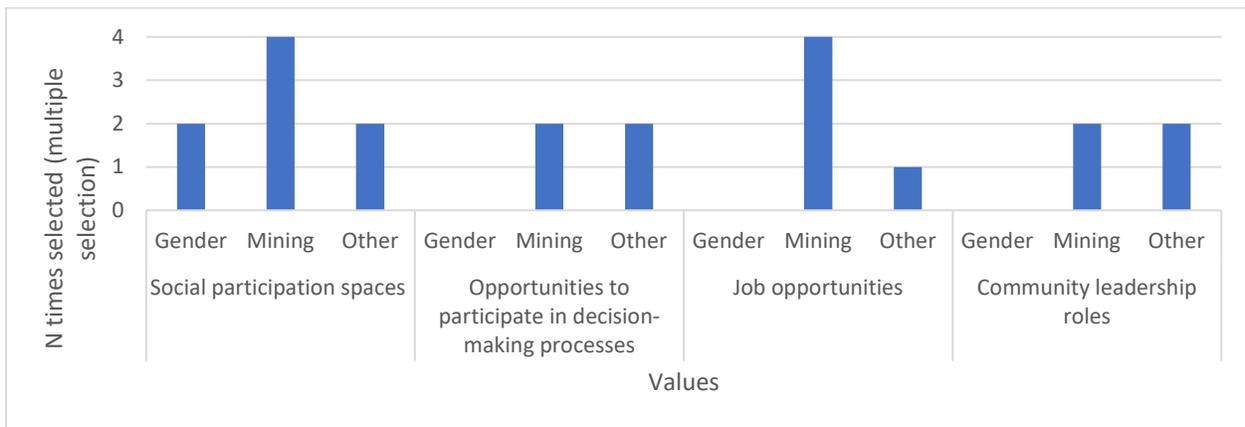
Mining’s disproportionate and negative effects are equally relevant when considering women’s participation in mining communities (non-clients and non-employees). In this subsection, in line with definitions introduced in the survey, *participation* means not only consultation related to mining operations in their territory, but also inclusion in decision-making processes that affect their lives, e.g., free, prior, and informed consent.

The majority of the participants (75%) indicated that the participation of women within mining communities is important for their organizations. Only one mining company – from Chile – and two gender-focused mining groups – from Peru and global – answered that it was not important. It is essential to note that many participants withdrew from the survey at this stage or skipped most

questions from this section (see Figure 5). A possible explanation might be that more attention is paid to women in the mining sector as opposed to women in mining communities (non-clients and non-employees). Further attention is needed to explore these differences.

Most initiatives implemented by organizations to support the participation of women from mining communities tackle the creation of *Social participation spaces* (73%), *Job opportunities* (45%), *Community leadership roles* (36%), and *Opportunities to Participate in decision-making processes* (36%) (see Figure 16). Most companies have been implementing these initiatives for less than 5 years (with the exception of two organizations who selected 5-10 years) regardless of their years of existence, which varies from less than 10 years to more than 50 years.

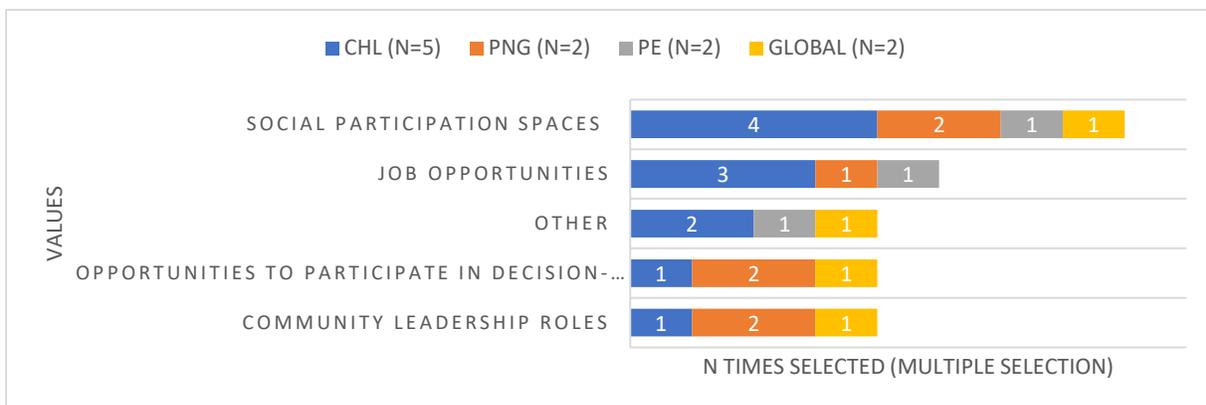
**Figure 16. What kinds of initiatives has your organization implemented to increase participation of women from mining communities (non-employees and non-clients)? (N=11)**



\*Gender (gender-focused mining groups); \*\*Mining (mining companies); \*\*\*Other (includes organizations such as consultant companies and governmental agencies)

The figure below presents the same information as the figure above but in a different manner, showing the findings by APEC economy (see Figure 17).

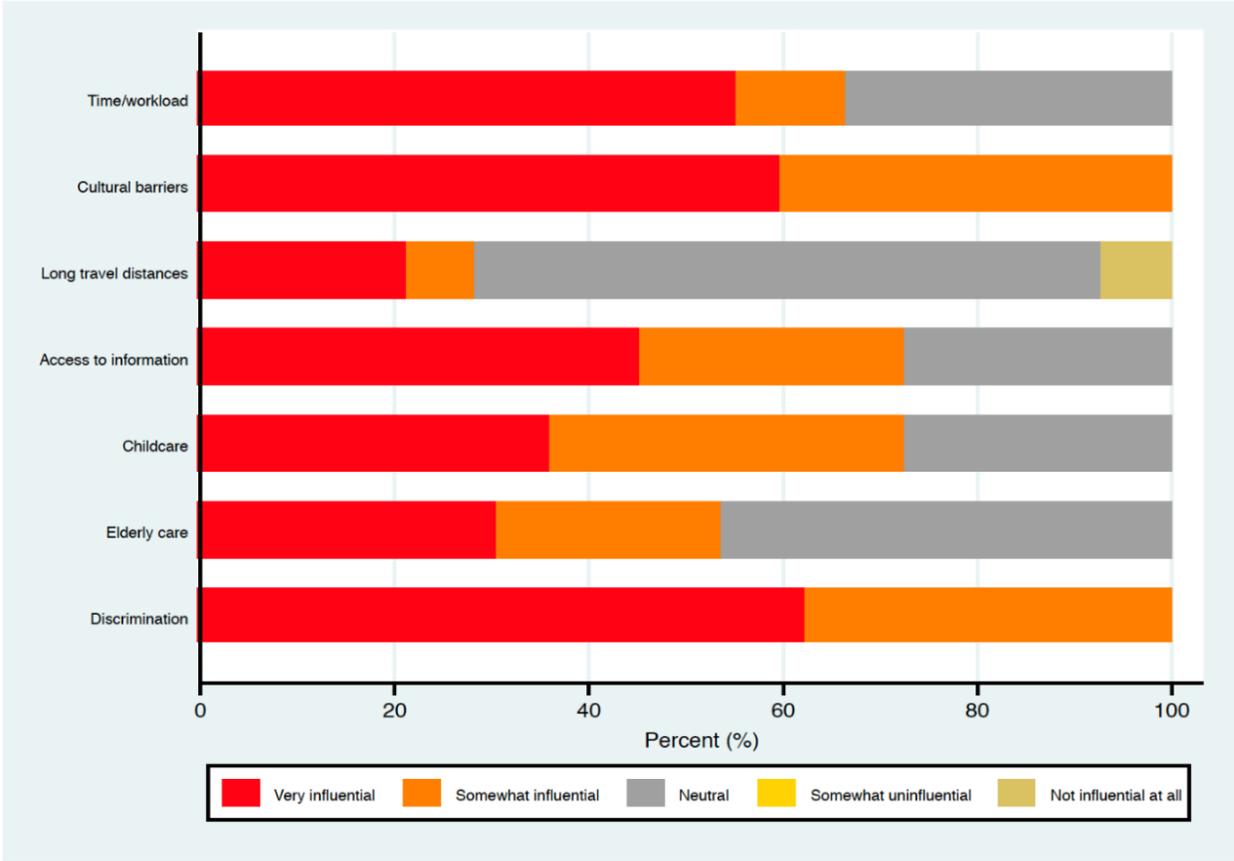
**Figure 17. What kinds of initiatives has your organization implemented to increase participation of women from mining communities (non-employees and non-clients)? (N=11) by APEC economy**



In Figure 17, topics highlighted as “Other” include none and networking events.

Furthermore, organizations were asked what factors they believe influence the participation or lack thereof of women from mining communities. Over 50% of the participants believe *Discrimination*, *Cultural barriers*, and *Time/workload* to be very influential factors. The chart below shows, in percentage terms, how influential organizations believe each factor to be (see Figure 18).

**Figure 18. Do any of the following factors influence the participation or lack thereof of women from mining communities (non-employees and non-clients)? (N=11)**



In some APEC economies, the factors noted above are addressed by domestic policies (see Box 5.3.1).

**Box 5.3.1 Second layer: What kind of policies is your APEC economy implementing to address such characteristics? (N=7)**

A participant from Papua New Guinea highlighted very specific policies pertaining to the factors (noted above) influencing the participation or lack thereof of women from mining communities: “There is currently a labour policy, MSME policy, the revised Mining Act (which is expected to be passed in the parliament at the end of this year 2019) and other policies that place emphasis on women empowerment.”

Participants from both Canada and Chile highlighted policies on childcare. A participant from Canada further highlighted additional efforts, including to promote women role models, engage women’s groups, and provide women-only training to encourage more women to join the industry. Meanwhile a participant from Chile noted an increased interest in endorsing gender equality certifications for companies. Only a participant from Peru stated that no current policies exist on the matter.

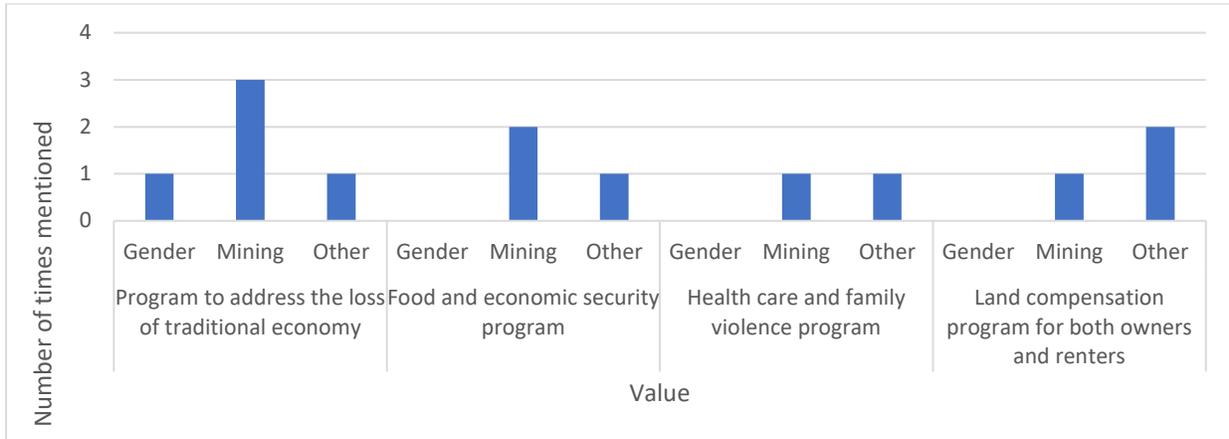
### **5.3.2 Programs for Mitigating Socio-Environmental Impacts of Mining**

Some of the initiatives that have been carried out by gender groups and mining companies to mitigate socio-environmental impacts on women in mining communities include *Programs to address the loss of traditional economy* (63%), *Food and economic security programs* (38%) (mainly being implemented by mining companies), and *Land compensation programs for both owners and renters* (38%) (mainly reported by “others” in our sample – consultant companies and governmental agencies). On the opposite side of the spectrum, not many initiatives have been implemented or prioritized on *Health care and family violence programs* (25%) – this latter figure represents two participants from Chile and Papua New Guinea (see Figure 19). This lack of prioritization potentially represents a significant gap given the expected effects of mining on health (including notably women’s health), as well as documented links between mining and gender-based violence.

A sustainability report from Rio Tinto (2018: 1) reveals that Rio Tinto Australia “became the first mining company to receive White Ribbon Australia accreditation, a recognition of our efforts to eradicate domestic violence particularly as it affects our employees, their families and our communities. We have since expanded our support to employees in Canada and the United States.”

In the APEC Workshop, it was mentioned that “Equally important to investing in recruitment strategies is to ensure a safe and comfortable environment for women (...) The group also suggested to pay closer attention to protocols for dealing with complaints of sexual violence and other offensive behaviours.”

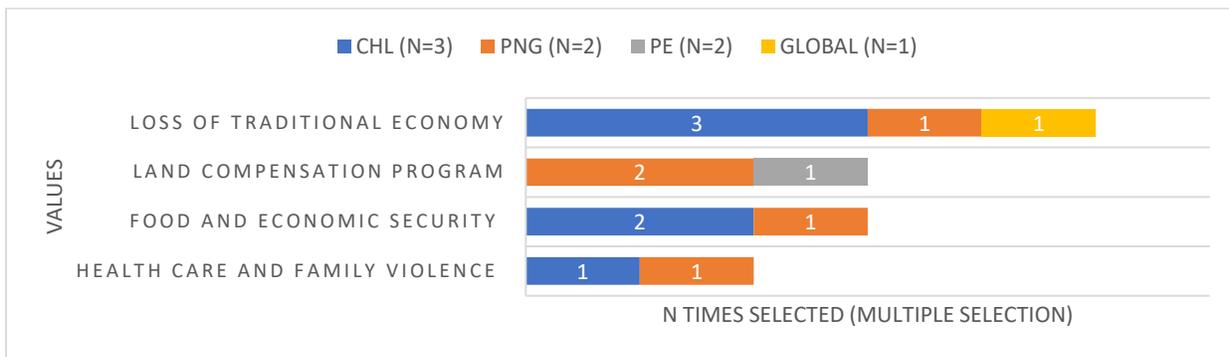
**Figure 19. Does your organization conduct and/or sponsor any of the following programs to mitigate socio-environmental impacts on women in mining communities? (N=8)**



\*Gender (gender-focused mining groups); \*\*Mining (mining companies); \*\*\*Other (includes organizations such as consultant companies and governmental agencies)

The figure below presents the same information as the figure above but in a different manner, showing the findings by APEC economy (see Figure 20).

**Figure 20. Does your organization conduct and/or sponsor any of the following programs to mitigate socio-environmental impacts on women in mining communities? (N=8) by APEC economy**



To unpack some of the initiatives that have been carried out for women and girls both in the mining sector and in mining communities, the next section explores five case studies from four different APEC economies.

#### 5.4 Case Studies: Networks That Focus on Supporting Women in Mining

This section will look into a selected number of case studies (see section 4.5) to (1) showcase existing activities and policy interventions that have been carried out to support women in the mining sector and/or women in mining communities, and (2) understand the value of network collaboration between gender-focused mining groups, mining companies, mining associations, and other organizations in implementing these activities and policy interventions.

The research team conducted interviews and secondary research, including reviewing firm reports, public sector documents, and NGO reports, to triangulate and analyze the information provided.

#### **5.4.1 Mining Industry Human Resources Council (MiHR), Canada**

MiHR is an “independent, non-profit organization that leads collaboration among mining and exploration companies, organized labour, contractors, educational institutions, industry associations, and Indigenous groups to identify and address the human resource and labour market challenges facing the Canadian minerals and metals sector” (MiHR, 2019a: 1). While MiHR has launched several initiatives to identify and address these challenges, for the purpose of this report, only two initiatives were selected: Gender Equity in Mining Works (GEM Works) and Mining Essentials. These two initiatives were built on the findings of a 2014-2016 research initiative named *Strengthening Mining’s Talent Alloy: Exploring Gender Inclusion*, which sought to identify employment barriers and strategies to increase workforce engagement of women, Aboriginal people, and immigrants (Senior Director of MiHR, personal communication, 2019).

##### **Initiative 1: GEM Works, with Talent Alloy**

The 2014-2016 research initiative findings suggested that with respect to gender-inclusive workplaces, the mining industry is a sector in transition – while many barriers to the inclusion of women are gradually being lowered, progress is slow and inconsistent across the industry (MiHR, 2016).

GEM Works was thus developed to help companies foster a mining and minerals industry where both women and men have the best opportunities for making significant contributions and having rewarding careers. It provides mining companies with comprehensive and tangible tools and training, including an e-learning program, an executive development session, and written tools to guide mining employers in their efforts to create more gender-inclusive workplaces (MiHR, 2019b). It helps establish a Gender Champion (someone in the position to make change within an organization, e.g., a senior executive) and Change Agents (to assist the Gender Champion), and supports them in their efforts to eliminate unintentional barriers to gender inclusion found in dated policies, procedures, and practices throughout the period of one year (Senior Director of MiHR, personal communication, 2019).

As explained by the Senior Director of MiHR, the initiative started with a cohort of 10 companies in Ontario, and it is currently undergoing its second implementation phase with another 10 companies (5 mining companies and 5 mining suppliers) in Saskatchewan. This second implementation phase distinguished itself from the first one by accounting for suppliers, who are often excluded from policy initiatives despite their equally important contribution. Owing to the success of this initiative, MiHR is currently piloting an inclusion and diversity training program in Ontario – an upgrade from GEM Works that seeks to provide a broader-based training on how to create more inclusive spaces for new Canadians, Indigenous peoples, and LGBTQI individuals (Senior Director of MiHR, personal communication, 2019). During the interview, the Senior Director of MiHR further recognized that Canadian mining companies have a significant influence in South America, which merits the expansion of MiHR initiatives beyond its frontiers.

## **Initiative 2: Mining Essentials: Training with Indigenous People, with the Assembly of First Nations**

Mining Essentials was created through a partnership between MiHR and the Assembly of First Nations. While GEM Work seeks to help employers, the focus of Mining Essentials is to help employees and communities (Senior Director of MiHR, personal communication, 2019).

It is a pre-employment training program for Indigenous peoples who are interested in a career in mining. The program consists of 11 modules and is facilitated throughout a period of 12 weeks with the assistance of a trainer, an elder, and an industry leader who is there to support the program, provide guest speakers and other resources, and ultimately hire graduates from the program (Diversity Initiatives Manager of MiHR, personal communication, 2019). It teaches skills using industry examples, tools, and documents, while embracing traditional Indigenous teaching methods. It combines classroom training on non-technical skills with hands-on activities, guest speakers, and certifications necessary to gain an entry-level position in the Canadian mining industry. In doing so, it allows companies to benefit from a local, skilled, and safety-conscious workforce that also fosters economic development, resulting in healthier communities (MiHR, 2019c).

A total of 626 Indigenous people have registered for the program since 2011; 384 have graduated from the program (62% graduation rate), out of which 54% have found employment in the industry, furthered their education, or found employment in another industry within a year of completing the program (Diversity Initiatives Manager of MiHR, personal communication, 2019).

MiHR is currently considering expanding this type of essential training to other groups, including women (in particular women with disabilities), youth, and new Canadians (Diversity Initiatives Manager of MiHR, personal communication, 2019). While Mining Essentials was developed for Indigenous peoples in general, MiHR recognizes the importance of identifying specific challenges to Indigenous women and working toward addressing them. For this reason, the Senior Director of MiHR indicated during the interview that two proposals had been recently submitted: for developing an essential training program for Indigenous women seeking employment and a GEM Works program to promote their hiring.

MiHR collaborates with gender groups and other organizations, including *Women Who Rock*<sup>6</sup> and *Women in Mining Canada*<sup>7</sup> to better implement these initiatives while serving as the main point of contact to network. “MiHR’s role is to serve as a national collaborative point. We want to bring organizations’ messages forward, create awareness about existing barriers in the industry, and discuss how to address them” (Senior Director of MiHR, personal communication, 2019).

### **5.4.2 Teck Resources Ltd., Chile**

#### **Initiative 3: Originarias, with UN Women**

Teck supports UN Women with the implementation of *Originarias: Programa para el Empoderamiento de Mujeres Indigenas*, a program for the empowerment of Indigenous women in areas where mining activity takes place in northern Chile. The program, which was launched in 2016 with an initial US\$1M investment from Teck, seeks to contribute to the empowerment and

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<sup>6</sup> <http://womenwhorock.ca/>

<sup>7</sup> <https://wimcanada.org/>

economic and social participation of Indigenous women and to consolidate their tangible progress made on participation and equitable representation (Teck, 2019a).

The program consists of three implementation stages. The first stage consists of diagnosis: generating evidence about the current status and needs of Indigenous women in terms of economic empowerment and productive development. In the second stage, data analysis and findings made *in situ* will inform the design of the program's requirements and, at the same time, establish guidelines together with Indigenous women. The third stage consists of the launch of a pilot program that seeks to generate a space to encourage networking to strengthen leaderships and to provide training related to socio-economic empowerment. According to the Originarias program's website (Teck, 2019a), access to effective training that is actually linked to their needs, their culture, and their ancestral cosmogony is the biggest gap to strengthening leadership, boosting new ventures, and improving the working conditions of Indigenous women.

In April 2018, UN Women and Teck announced the extension of their partnership to empower Indigenous women. A second US\$1M investment from Teck will support the goal of providing Indigenous women in northern Chile with access to high-quality, culturally relevant, flexible training programs with a focus on economic development, entrepreneurship, and business management skills by initiating its third phase (Teck, 2018). The Originarias program is currently undergoing its implementation phase, with the challenge of generating a training space dedicated to leadership and economic empowerment and directed by a team of specialized professionals with experience not only in Chile but also in Latin America. Inclusion y Equidad is the Latin American consulting firm in charge of the leadership school implementation, which is a training space dedicated to leaderships and economic empowerment (Teck, 2019b).

Note that the research team was unable to interview Teck for the completion of this case study and relied on secondary research only. Therefore, the meaning, context, and impact of this initiative require further evaluation.

### **5.4.3 Sustainable Alluvial Mining Services (SAMS), Papua New Guinea**

#### **Initiative 4: ASGM Pilot Project, with District Administration/Local Level Government**

The artisanal and small-scale gold mining (ASGM) pilot project concept was designed as a follow-on project by the founder of SAMS while under a Fellowship Program in the United States called the Community Solutions Program. The pilot project aims to develop the artisanal small-scale mining industry in the Esa'ala District, Papua New Guinea, and, hence, boost local economic development (Founder/Project Lead of SAMS, personal communication, 2019). As explained in the survey, the pilot project was designed to decentralize responsibility for the regulation of the ASGM sector from the domestic level to the local level of government to regulate the sector, and in doing so, develop policies that support small-scale miners – in particular women – in a holistic way.

“The different levels of government and local authorities are required to accommodate and or address issues faced by the women, empower and technically and financially support them through decentralization processes for greater outcomes in economic, social and environmental development” (Founder/Project Lead of SAMS, personal communication, 2019).

According to the Founder/Project Lead of SAMS, the pilot project is set out in five different and succeeding phases over a period of four years. Unfortunately, due to funding constraints, the project will most likely transit into the fifth or sixth year from the initial phase (Founder/Project

Lead of SAMS, personal communication, 2019). The first phase consists of planning and mobilization, which is almost complete. The second phase will consist of capacity building and research, creating a database, and conducting alluvial resource surveys. The third phase will further establish sustainable supply chains (fair-trade initiatives) and licensing processes. The fourth phase includes mining, downstream processing, and exports through supply chains (fair-mined/fair-trade initiatives). Lastly, the fifth phase will seek to introduce and promote sustainable livelihood programs that support rural mining communities to invest in sectors such as tourism, agriculture, and fisheries, or help with community projects like education, rural electrification, health facilities, etc.

It is envisaged that the positive outcome of the project will see its replication in other small-scale mining districts across Papua New Guinea, as well as influencing policy development in the sector. Approximately 100 women miners in the Esa'ala District will benefit and, if the project is to be replicated around the economy, about 40% of female miners of the total ASGM population of miners will benefit (Founder/Project Lead of SAMS, personal communication, 2019). SAMS further seeks to challenge the normal process of enacting policies and laws in Papua New Guinea, which is informed by desktop studies. This project is challenging such processes by first implementing the pilot project and then using findings, of both positive and negative outcomes, to influence policy. In this way, policies reflect what is truly happening on the ground, which is more holistic and fulsome compared to a desktop study.

#### **5.4.4 Ernst & Young, Peru**

##### **Initiative 5: Roundtables for High-Level Executive Women, with WAAIME**

Ernst & Young (EY) is one of the largest business and auditing firms in Peru and one of the four largest in the world, together with Deloitte, KPMG, and PricewaterhouseCoopers (PwC). It serves the majority of mining companies and extractive industries.

WAAIME (formerly known as the Women's Auxiliary to the American Institute of Mining Engineers) is a division of the Society for Mining, Metallurgy and Exploration (SME) and has the following objectives:

1. To render service to Peru and to the community through all that pertains to the interest of the professions of Mining, Metallurgical and Petroleum Engineering.
2. To promote philanthropic work and the interchange of ideas amongst its members.
3. To devise and promote ways and means of procuring a fund and to maintain such fund for the purpose of assisting promising students to obtain a technical education in Mining, Metallurgical and Petroleum Engineering and their allied subjects. (WAAIME, 2019).

WAAIME Peru receives pro-bono consulting services from Women Fast Forward, an international initiative of EY that seeks to address issues such as the attraction, retention, and development of women within the company (Partner at EY, personal communication, 2019). In 2014, a difficult year for the mining industry, WAAIME sought assistance from EY as it struggled to find donations to pay for the scholarships. EY proposed restructuring its strategical operating model entirely; instead of targeting companies through donations, WAAIME could offer them a service to grow their women executives and, hence, their companies (Partner at EY, personal communication, 2019).

The survey revealed that EY is organizing recurring network roundtables that showcase high-ranking female executives, which EY defines as two levels below CEO. To date, it has hosted six

roundtables and about 300 high-level women executives (Partner at EY, personal communication, 2019). In addition to the roundtables, EY/WAAIME partnered with Peru's main business magazine with the ultimate goal of making visible the faces and value-added nature of women in the industry. During the interview, EY's Partner explained that higher visibility of women is important to show that women exist, are capable, and also generate innovative ideas. Visibility further showcases the value of diversity, resulting in a more competitive organization. Further, it helps women advance in the employment cycle and, moreover, promotes a more meritocratic society.

"EY's collaboration with WAAIME has opened mental spaces, economical spaces, and spaces in the media that did not exist before" (Partner at EY, personal communication, 2019). While EY achieved their goal of strategically defining and repositioning WAAIME, it recognizes that much more needs to be done to make women visible and promote their participation as agents of growth.

## **6 Final Analysis**

### **6.1 Results and Discussion**

This section introduces further analysis of the findings presented in the previous sections. Section 5.2.1, "Diversity and Inclusion," suggests that the inclusion of women in the mining sector is also influenced by multiple intersecting identities, i.e., the value of transgender women, women with elderly care responsibilities, and women with disabilities, which are not necessarily treated equally by all respondents. This difference in value potentially represents a significant gap in making visible the experiences of different women working and being impacted by the mining industry (Lahiri-Dutt, 2010; Jenkins, 2014). Furthermore, only respondents from Canada and Peru mentioned that their APEC economies have enforcing laws for workplace gender equality and diversity; however, further analysis is required to understand whether these laws account for the complex nature of the category "women."

Further findings on domestic legal frameworks show that in Peru, as noted by two participants from the second-layer survey, there is a recent law that mandates women be paid the same as men for the same job position (Law No. 30709 [2018] prohibits pay discrimination). The majority of participants from the first-layer survey still indicated that women receive equal pay to men for the same job title in their organizations (only three participants – from Canada; Chile; Peru – were unsure about this matter). These survey findings suggest the following. Firstly, even if women and men do receive the same pay for the same job, women are less likely to advance through the leaky pipeline. Secondly, only a few respondents were aware of pay gaps in their organizations, as only a few participants mentioned that their organization conducts pay audits (4 participants out of 14) to ensure equal pay. Across the literature, we see discussions suggesting that the pay gap still exists. For instance, in Australia, for the year 2016, International Women in Mining (IWIM) (2019: 1) found a gender pay gap for the mining sector, showing that "men are paid on average \$100,000 more per year than women." Similarly, in Canada, it was shown that women in mining earned, on average, approximately 32% less than their male counterparts (Riza and Beckton, 2012). Results about equal pay, therefore, remain a general impression rather than a substantiated claim, since specific data on the pay gap was not provided.

Interestingly, it was found that the influence of mine automation on women's economic participation in the mining sector conflicts with existing literature. It is generally argued that

advances in artificial intelligence and technology may displace women from low-skilled production roles in the mining sector (e.g., as shown in cases such as old-style open cuts in India, coal mines in Japan, and sorting minerals in Bolivia) (Lahiri-Dutt, 2010; 2012). However, participants in the APEC Workshop highlighted that the technological transformation that the industry is experiencing has the potential to positively transform female participation because it has the potential to create job opportunities in more urbanized regions, which may be more attractive to female employees. Nonetheless, recent literature warns about the disproportionate impacts that technological transformation in mining may have on Indigenous communities and minority groups, including potential employees (both male and female) from mining communities (Holcombe and Kemp 2019).

Another key finding of the research study from the survey is that 3 out of 12 participants – a Chilean mining company and two gender-focused mining groups (one Peruvian and one global) – did not perceive the participation of women from mining communities as important for their organization. It is important to note that many participants withdrew from the survey at this stage (or skipped most questions from this section), contrary to the first section on women in the mining sector. Further research is required to understand the reasons behind the differences in the response rate for both sections.

There were prevalent responses in considering discrimination, cultural barriers, and time/workload to be very influential factors in the lack of participation of women from mining communities. However, when asked what policies have been implemented at the domestic level to address such characteristics, participants from Peru stated that no policies exist, and the most common policies that were highlighted by the remaining participants were specific to childcare. Only a participant from Canada highlighted several initiatives that address the issues noted above. Such purported claims have to be further explored in relation to outcomes.

While our survey results suggest general efforts and directions in “programs for mitigating socio-environmental impacts of mining” in local communities, further research is needed, intersecting interventions and outcomes. It was found that not many initiatives that address health care and family violence are being implemented or prioritized. This potentially represents a significant gap in practice given the expected effects of mining on health, in particular on women’s health, that the literature recognizes (Jenkins, 2014), as well as documented links between mining and gender-based/family violence (Cohen, 2014; Bermúdez et al., 2011).

The analysis of networking shows the importance of collaboration and support at different scales (domestic and local) and with different groups (gender-focused mining groups, mining companies, mining associations, government agencies, consulting companies, etc.) for countering the challenges faced by women and girls, both in the mining sector and in mining communities. The limited dataset restricts the ability to draw definitive conclusions in terms of outcomes. Further research is needed at the local level with communities and groups targeted as the beneficiaries of those networks.

## **6.2 Action and Policy Recommendations**

Based on the project results, the following gender-responsive policies are recommended to be considered by APEC economies and, specifically, PPWE members. Note that specific mechanisms or pathways to engage these policy recommendations will vary by economy, across context and region. The actions and policies introduced below are divided into two categories: business (local

level) and government (domestic level). Some of these actions and policies, however, might apply to both categories (noted with \*\*).

### **Businesses (Local Level)**

- Promote workplace diversity disclosure (WDD) reporting on the composition of governing bodies and breakdown of employees according to gender, age group, minority group membership, and other indicators of diversity. Monitor and report on pay gaps.
- Redefine the obligation of companies to disclose their diversity numbers: reporting does not always translate into action. While organizations are required to report the number of their female workforce, they are not necessarily required to be specific in their reporting (e.g., specify the proportion and distribution of women employees in the whole organization, including women in executive positions and women on the Board) or do something about improving their diversity numbers.
- Expand reporting to include the disclosure of established policies concerning diversity (i.e., gender equity policies of attraction, retention, and development), including measurable objectives for achieving diversity. Equally important to measuring is reporting the impact of these policies in advancing diversity in the workplace.
- Revise human resource policies to identify and address informal and persistent barriers to gender inclusion found in dated policies, procedures, and practices. This might include issues such as workplace harassment, chilly climate, or similar considerations.
- Initiate policies and practices that attract and encourage women to enter the mining industry. For instance, finance scholarships for female university students in applied science, geological engineering, or relevant mining-related education. \*\*
- Develop special programs and training to attract Indigenous women from communities close to mine sites.
- Develop and implement multi-faceted strategies that address the gender pay gap, including conducting pay audits, publishing salary ranges upfront, making it a norm for women to negotiate, hiring an impartial third-party workplace investigator, and so on.
- Ensure women's development throughout the career cycle to avoid female concentration in lesser-paid positions and attract women into leadership positions by providing them with the necessary education and training (balancing both job-specific and transferable skills) as well as senior-level guidance by high-level executive women.
- Create policies that recognize and attempt to address the negative effects of technology. While technology (e.g., automation) has created new jobs, it has also replaced many; in particular, it has replaced jobs of Indigenous peoples and other minorities. Furthermore, policies should further recognize that technology interacts differently with men and women. \*\*
- Develop zero-tolerance policies that include reporting and remediation mechanisms to address workplace harassment and abuse by workers and contractors (on-site/field sites). This includes paying closer attention to protocols for dealing with complaints of sexual violence and other offensive behaviours in the workplace.

- These policies and mechanisms should also extend to addressing domestic violence (e.g., develop prevention programs).
- Engage men and community leaders (including male family members of women who work in the industry or who live in their mining communities) as partners in promoting women's empowerment through cultural change campaigns and sustainable policies that promote integral change within an organization's culture.
- Initiate policies and practices that support family-related responsibilities and equally make it possible for both women's and men's family responsibilities to be supported (e.g., introduce flexible working arrangements that recognizes both childcare and elderly care responsibilities).
- Expand policies to engage suppliers. Companies can implement supplier diversity programs that include women-owned businesses and/or suppliers with robust diversity and inclusion policies. \*\*

### **Governments (Domestic Level)**

- Support artisanal small-scale mining (ASM): in ASM operations, in contrast to large-scale operations, women make up a significant portion of the workforce. APEC economies should create formal regulations that address the invisibility of women miners and recognize their involvement in the sector.
- Promote workplace diversity disclosure research: WDD has received surprisingly little attention within the broader accounting and corporate and social responsibility (CSR) literature. By promoting WDD research, APEC economies could improve diversity reporting.
- Bridge the gap between domestic policies and local implementation: gender-equal laws are a necessary and crucial step toward guaranteeing gender equality and equity, but are not sufficient on their own. Governments should also introduce policies that promote gender equity through affirmative action policies in the mining sector. Note that policies purportedly designed to protect women workers can further disadvantage women by pushing them into the least regulated and most hazardous parts of the informal/illegal sector.
- Examine and improve the legal and regulatory framework for ensuring women from mining communities have access to land and capital to ultimately promote their agency. This legal change has to be accompanied by a cultural change – men, as landowners, receive all compensation, which further justifies their participation in decision-making processes (and excludes women). \*\*
  - Support strategies that encourage gender-balanced norms and address the effect of cultural norms that are inhibiting the participation of women in the sector.
  - Extend the protection of the law and redress for vulnerable communities.
- Facilitate networking opportunities through direct government support or working with existing networks to promote inter-organizational alliances or partnerships between gender-focused mining groups (and other grassroots groups or NGOs), mining companies, mining associations, governmental agencies, academia, and other relevant organizations.

As illustrated in the case studies section, organizations benefit from collaborative work with other organizations when implementing gender-responsive initiatives. \*\*

- Involve women's organizations working in mining communities since they have access to information, populations, and venues that are closed to non-community members.
- Consider intersectionality (e.g., women with disabilities, visible minorities, Indigenous women, etc.) and how this creates different experiences for women and their career opportunities in the mining industry. APEC should consider a broader perspective of diversity and inclusion that acknowledges that the category "women" is diverse and that women experience and engage with the mining industry in different ways depending on their economic, socio-cultural, and socio-environmental background, among other key considerations.

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## 8 Appendix

### Appendix 1. First-Layer Survey

#### INTRODUCTION AND PARTICIPANT CONSENT

Thank you for agreeing to participate in this survey. The University of British Columbia, as part of APEC Chile **Women, SMEs and Inclusive Growth Priority 2019** is conducting a research project “**APEC Women’s Participation in the Mining Industry**”. The objective of this project is to provide insight in the current state of women’s participation in the mining industry, and the challenges and opportunities faced by women and girls living in the communities surrounding mining operations (non-employees and non-clients). Ultimately, it seeks to identify successful interventions to counter the challenges faced by women and girls that have been carried out.

The survey should take no more than **15 minutes** to complete. Participation is optional. There are no right or wrong answers. Please read the questions carefully and answer to the best of your ability. Any question that you do not feel comfortable answering can be skipped, and the survey can be terminated at any time. You can only take the survey once, but you can edit your responses at any time before completion. Once the survey is completed, it is assumed that consent has been given.

All responses to this survey will be kept confidential. The survey data will be reported only in aggregate form.

Please note: This survey will be best displayed on a laptop or desktop computer. Some features may be less compatible on a mobile device.

- **Yes, I consent**
- **No, I do not consent**

| Q # | QUESTIONS  | POSSIBLE ANSWERS  |
|-----|--|---|
|     | Job title  | Board member<br>Executive management<br>Senior management<br>Other management<br>Administration<br>Other _____(specify)   |
|     | Sex  | M/F/Other/Prefer not to respond   |
|     | Age  | Dropdown list (18+)   |
|     | <b>SECTION 1 - BASIC INFORMATION</b>   |   |
|     | <b>Before asking specific questions about Women’s Participation in the Mining Industry, we would like to ask some general questions about your organization.</b> |   |
| 1   | Within which APEC member economy do you work?  | Dropdown list: Australia; Canada; Chile; Papua New Guinea; Peru; People’s Republic of China   |
| 2   | What type of organization do you work for?   | <ul style="list-style-type: none"> <li>○ Mining company (is your company affiliated with any mining association)? _____ (specify)</li> <li>○ Gender-focused mining group</li> </ul> |

|   |   |   |
|---|---|---|
| 3   | Please provide the name of your organization.   | OPEN  |
| 4   | How large is your organization?   | <input type="radio"/> More than 1000<br><input type="radio"/> 500-1000<br><input type="radio"/> 100-500<br><input type="radio"/> 50-100<br><input type="radio"/> Less than 50<br><input type="radio"/> Unsure         |
| 5   | How long has your organization been operational?  | <input type="radio"/> More than 50 years<br><input type="radio"/> 30-50 years<br><input type="radio"/> 10-30 years<br><input type="radio"/> Less than 10 years<br><input type="radio"/> Unsure                        |
| <b>SECTION 2 – WOMEN IN THE MINING SECTOR</b>   |   |   |
| <b>This section aims to understand the roles and experiences of women working directly in the sector and which policies, plans or programs are undertaken for inclusion, diversity, and women’s career advancement.</b> |   |   |
| 1   | Is it important for your organization to involve more women in mining?  | Y/N/Unsure  |
| 2   | What percentage of your organization’s total employee workforce are women?  | <input type="radio"/> More than 50%<br><input type="radio"/> Exactly 50%<br><input type="radio"/> 30% - 50%<br><input type="radio"/> 10% - 30%<br><input type="radio"/> Less than 10%<br><input type="radio"/> Unsure |
| 3   | What percentage of new hires in FY2018 were women?  | <input type="radio"/> More than 50%<br><input type="radio"/> Exactly 50%<br><input type="radio"/> 30% - 50%<br><input type="radio"/> 10% - 30%<br><input type="radio"/> Less than 10%<br><input type="radio"/> Unsure |
| 4   | What percentage of employees that left the company during FY2018 were women?  | <input type="radio"/> More than 50%<br><input type="radio"/> Exactly 50%<br><input type="radio"/> 30% - 50%<br><input type="radio"/> 10% - 30%<br><input type="radio"/> Less than 10%<br><input type="radio"/> Unsure |
| 5   | <p>Does your organization implement diversity and inclusion initiatives for women in the mining sector?</p> <p><i>Diversity in the workplace is not only about fair representation of diverse socio-cultural identities (race, ethnicity, religion), physical attributes (or disabilities), age, gender, language, sexual orientation and so on, but also about respecting and valuing differences.</i></p> <p><i>Inclusion in the workplace is not only about closing physical, social and economic distances separating people but also about treating all individuals fairly and respectfully, giving them equal access to</i></p> | Y/N/ Unsure   |

|  |  |  |
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|  | <i>opportunities and resources, and allowing them to contribute fully to the organization's success.</i>   |  |
| 6                                      | If <b>yes</b> , when did your organization started the first diversity and inclusion initiative(s)?  | <ul style="list-style-type: none"> <li>○ More than 20 years ago</li> <li>○ 10-20 years ago</li> <li>○ 5-10 years ago</li> <li>○ Less than 5 years ago</li> <li>○ Unsure</li> </ul>   |
| 7                                      | What are 3-5 characteristics that help your organization excel in promoting inclusion and increasing diversity?  | OPEN   |
| Questions about socio-cultural aspects |  |  |
| 8                                      | Do you believe any of the following factors influence women leadership or lack thereof in the mining sector? Please rate how important you believe these factors are. Likert scale of importance: very important, somewhat important, neutral, somewhat unimportant, and not important at all.   | <ul style="list-style-type: none"> <li>○ Social and cultural norms</li> <li>○ Education and skills</li> <li>○ Peer and senior-level support from within the organization</li> <li>○ Human resource policies (i.e. maternal leave, flexible working arrangements, etc.)</li> <li>○ Gender stereotype embedded in corporate culture</li> <li>○ Childcare</li> <li>○ Elderly care</li> <li>○ Travel requirements</li> <li>○ Other_____ (specify)</li> </ul> |
| 9                                      | Please explain why you believe the factors identified above are important.   | OPEN   |
| 10                                     | What kinds of initiatives has your organization sought to implement to address some of the barriers identified above?  | OPEN   |
| 11                                     | Is it important for your organization to include women with the following characteristics in the workplace? Please rate how important you believe these characteristics are. Likert scale of importance: very important, somewhat important, neutral, somewhat unimportant, and not important at all.<br><br>By inclusion, we mean giving women with such characteristics equal access to opportunities and resources. | <ul style="list-style-type: none"> <li>○ Disability</li> <li>○ With childcare responsibilities</li> <li>○ With elderly care responsibilities</li> <li>○ Indigenous</li> <li>○ Migrants</li> <li>○ Rural women</li> <li>○ Peasant women</li> <li>○ Transgender women</li> <li>○ Other_____ (specify)</li> </ul>   |
| Questions about socio-economic aspects |  |  |
| 12                                     | Women contribute value to the mining industry.   | <p>Strongly agree<br/>Agree<br/>Neutral<br/>Disagree<br/>Strongly disagree<br/>Unsure</p>  |
| 13                                     | If you <b>strongly agree</b> or <b>agree</b> to question above. What kind of value do women's inclusion and diversity add to your organization? Please select all possible answers.  | <ul style="list-style-type: none"> <li>- More productivity</li> <li>- More revenue</li> </ul>  |

|    |  |  |
|----|--|--|
|    |  | <ul style="list-style-type: none"> <li>- More safety (i.e. fewer incidents, fewer injuries)</li> <li>- Less health-damaging stress</li> <li>- Lower absenteeism</li> <li>- Lower turnover</li> <li>- Other</li> </ul>  |
| 14 | Do women in your organization get equal pay than men for same job title?   | Y/N/ Unsure  |
| 15 | Please select some initiatives that have been carried out by your organization to ensure equal payment.  | <ul style="list-style-type: none"> <li>- Conduct a pay audit</li> <li>- Publish salary ranges up front</li> <li>- Pay parity for the same job titles</li> <li>- Offer equal opportunities for women's advancement</li> <li>- Make it a norm for women to negotiate</li> <li>- Provide unconscious bias training for all employees</li> <li>- Remove barriers that hinder women's career progression</li> <li>- Hire an impartial third-party workplace investigator</li> <li>- Other</li> </ul>  |
| 16 | Does your organization work towards ensuring equal participation in leadership positions?  | Y/N/Unsure   |
| 17 | <p>What positions are most commonly reached by women throughout the employment cycle in your organization?</p> <p>Please select all possible answers.</p>  | <p>Chairperson</p> <p>Board member</p> <p>Executive management</p> <p>CEO</p> <p>Senior management</p> <p>Other management</p> <p>Administrative</p> <p>Other _____(specify)</p> <p>Not applicable</p>   |
| 18 | What kind of policies is your organization implementing to address attraction, retention and development of women through the employment cycle in the mining industry? Please select all possible answers. | <ul style="list-style-type: none"> <li>- Career awareness (To build awareness among women job seekers of opportunities)</li> <li>- Career management (To build skills on-the-job among women looking to get into a new role (including non-traditional) or advance to management)</li> <li>- Skill-building programs (To build skills through a structured program for women looking to advance to management, or re-training for those interested in a non-traditional role)</li> <li>- Coaching (To build an individual's capacity to</li> </ul> |

|  |  |  |
|--|--|--|
|  |  | <p>perform in a particular situation, or manage a certain issue)</p> <ul style="list-style-type: none"> <li>- Networking (To provide access to career-related social support to address isolation, build confidence and networking skills)</li> <li>- Mentorship (To facilitate knowledge-transfer to build skills and productivity and provide career guidance for individual employees)</li> <li>- Sponsorship (To facilitate exposure to high-visibility assignments, promotions or jobs for senior leadership positions)</li> <li>- Other</li> </ul> |
| <b>SECTION 3 – WOMEN IN MINING COMMUNITIES</b>   |  |  |
| <b>This section aims to understand the experiences of women in mining communities i.e. girls and women from local communities surrounding mining operations (non-employees and non-clients). What are the challenges and opportunities observed and what are the policies, plans or programs in place to mitigate them latter?</b> |  |  |
| 1  | <p>Is women’s participation from mining communities (non-employees and non-clients) important for your organization?</p> <p>By participation, we mean inclusion in the decision-making process and consultation related to mining operations in their territory.</p> | Y/N/Unsure   |
| 2  | Does your organization implement initiatives for supporting the participation of women in mining communities (non-employees and non-clients)?  | <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Unsure</li> </ul>  |
| 3  | If <b>yes</b> , for how long have these initiatives been implemented?  | <ul style="list-style-type: none"> <li><input type="radio"/> More than 20 years</li> <li><input type="radio"/> 10-20 years</li> <li><input type="radio"/> 5-10 years</li> <li><input type="radio"/> Less than 5 years</li> <li><input type="radio"/> Not at all</li> </ul>   |
| Questions about socio-cultural aspects   |  |  |
| 4  | What kinds of initiatives has your organization implemented to increase participation of women from mining communities (non-employees and non-clients)? Please select all possible answers or <b>Nothing</b> if no initiative has been implemented.                  | <ul style="list-style-type: none"> <li><input type="radio"/> Social participation spaces (i.e. consultation)</li> <li><input type="radio"/> Community leadership roles</li> <li><input type="radio"/> Opportunities to participate in decision-making processes</li> <li><input type="radio"/> Payment compensations</li> <li><input type="radio"/> Job opportunities</li> <li><input type="radio"/> Nothing</li> <li><input type="radio"/> Unsure</li> </ul>  |

|   |   |   |
|---|---|---|
|   |   | <input type="radio"/> Other_____ (specify)  |
| 5   | <p>Do any of the following factors influence the participation or lack thereof of women from mining communities (non-employees and non-clients)? Please rate how influential you believe these factors are. Likert scale of influence: very influential, somewhat influential, neutral, somewhat uninfluential, and not influential at all.</p> | <input type="radio"/> Time/workload<br><input type="radio"/> Cultural barriers<br><input type="radio"/> Long travel distance<br><input type="radio"/> Access to information<br><input type="radio"/> Childcare<br><input type="radio"/> Elderly care<br><input type="radio"/> Discrimination<br><input type="radio"/> Other_____ (specify)  |
| <p>Questions about socio-economic aspects</p>   |   |   |
| 6   | <p>The participation of women from mining communities (non-employees and non-clients) contributes value to your organization.</p> <p>By participation, we mean inclusion in the decision-making process and consultation.</p>   | <input type="radio"/> Strongly agree<br><input type="radio"/> Agree<br><input type="radio"/> Neutral<br><input type="radio"/> Disagree<br><input type="radio"/> Strongly disagree<br><input type="radio"/> Unsure   |
| 7   | <p>If <b>strongly agree</b> or <b>agree</b> to question above. What kind of value do women from mining communities add to your organization?</p>  | OPEN  |
| <p>Questions about socio-environmental aspects</p>  |   |   |
| 8   | <p>Does your organization conduct and/or sponsor any of the following programs to mitigate socio-environmental impacts on women in mining communities? Please select all possible answers.</p>  | <input type="radio"/> Program to address the loss of traditional economy<br><input type="radio"/> Land compensation program for both owners and renters<br><input type="radio"/> Food and economic security program<br><input type="radio"/> Health care and family violence program<br><input type="radio"/> None of the above<br><input type="radio"/> Other_____ (specify)<br><input type="radio"/> Unsure   |
| <p><b>SECTION 4–NETWORKS SUPPORTING WOMEN IN MINING</b></p>   |   |   |
| <p><b>Finally, we will ask a few questions about experiences of existing networks (i.e. a set of connections between organizations and/or individuals interacting with each other to benefit the entire group) that focus on supporting women in mining</b></p> |   |   |
| 1   | <p>Does your organization’s network rely on support from, or collaboration with any organization(s) in which the primary mission is to advocate for gender equality? Please select all possible answers and specify.</p> <p>By support, we mean both monetary and non-monetary support.</p>   | <input type="radio"/> Governmental organizations _____(specify)<br><input type="radio"/> Non-governmental organizations _____(specify)<br><input type="radio"/> Corporate organizations _____(specify)<br><input type="radio"/> Civic organizations _____(specify)<br><input type="radio"/> Mining associations _____(specify)<br><input type="radio"/> None of the above<br><input type="radio"/> Unsure<br><input type="radio"/> Other_____ (specify) |

|   |  |  |
|---|--|--|
| 2 | <p>Please briefly describe what activities/policy interventions are been undertaken by your organization that support women in the mining sector and/or women in mining communities.</p> <p>If you have further information on this matter, kindly include a weblink if available.</p> | OPEN   |
| 3 | <p>How does your network help for such activities/policy interventions to succeed?</p>   | OPEN   |
| 4 | <p>Please briefly explain some of the 'lessons learnt' from the adoption of the activities/policy interventions mentioned above.</p> <p>If you have further information on this matter, kindly include a weblink if available.</p>   | OPEN   |
| 5 | <p>Considering your responses to the questions above, is your network having:</p> <p>Please select the best answer for each, women in the sector and women in mining communities.</p>  | <ul style="list-style-type: none"> <li>○ No noticeable impact on women in the mining sector</li> <li>○ No noticeable impact on women in mining communities</li> <li>○ Some impact on women in the mining sector</li> <li>○ Some impact on women in mining communities</li> <li>○ A beneficial impact on women in the mining sector</li> <li>○ A beneficial impact on women in mining communities</li> <li>○ Unsure about the impact on women in the mining sector</li> <li>○ Unsure about the impact on women in mining communities</li> </ul> |

## Appendix 2. Second-Layer Survey

### INTRODUCTION AND PARTICIPANT CONSENT

Thank you for agreeing to participate in this survey. The University of British Columbia, as part of APEC Chile **Women, SMEs and Inclusive Growth Priority 2019** is conducting a research project “**APEC Women’s Participation in the Mining Industry**”. The objective of this project is to provide insight in the current state of women’s participation in the mining industry, and the challenges and opportunities faced by women and girls living in the communities surrounding mining operations (non-employees and non-clients). Ultimately, it seeks to identify successful interventions to counter the challenges faced by women and girls that have been carried out.

The survey should take no more than **10 minutes** to complete. Participation is optional. There are no right or wrong answers. Please read the questions carefully and answer to the best of your ability. Any question that you do not feel comfortable answering can be skipped, and the survey can be terminated at any time. You can only take the survey once, but you can edit your responses at any time before completion. Once the survey is completed, it is assumed that consent has been given.

All responses to this survey will be kept confidential. The survey data will be reported only in aggregate form.

Please note: This survey will be best displayed on a laptop or desktop computer. Some features may be less compatible on a mobile device.

- **Yes, I consent**
- **No, I do not consent**

| Q # | QUESTIONS   | POSSIBLE ANSWERS  |
|-----|---|---|
|     | <b>SECTION 1 - BASIC INFORMATION</b>  |   |
|     | <b>Before asking specific questions about Women’s Participation in the Mining Industry, we would like to ask some general questions about your organization.</b>  |   |
| 1   | What is your job title?   | OPEN  |
| 2   | Within which APEC member economy do you work?   | Dropdown list: Australia; Canada; Chile; Papua New Guinea; Peru; People’s Republic of China                   |
| 3   | What type of organization do you work for?  | <ul style="list-style-type: none"> <li>○ APEC Fora</li> <li>○ Mining Association</li> </ul>                   |
| 4   | Please provide the name of your organization.   | OPEN  |
|     | <b>SECTION 2 – WOMEN IN THE MINING SECTOR</b>   |   |
|     | <b>This section aims to understand the roles and experiences of women working directly in the sector and which policies, plans or programs are undertaken for inclusion, diversity, and women’s career advancement.</b> |   |
| 1   | Is it important for your organization to involve more women in mining?  | Y/N/Unsure  |
| 2   | What would you say is the percentage of women (as opposed to men) who work in mining companies within your APEC economy?  | <ul style="list-style-type: none"> <li>○ More than 50%</li> <li>○ Exactly 50%</li> <li>○ 30% - 50%</li> </ul> |

|  |   |  |
|--|---|--|
|  |   | <ul style="list-style-type: none"> <li>○ 10% - 30%</li> <li>○ Less than 10%</li> <li>○ Unsure</li> </ul> |
| 3  | Does your APEC economy have enforcing laws for women to be paid the same as men for the same job position? Please elaborate your answer.  | OPEN   |
| 4  | Does your APEC economy have enforcing laws for workplace gender equality and diversity? Please elaborate your answer.   | OPEN   |
| 5  | What kind of policies is your APEC economy implementing to address attraction, retention and development of women through the employment cycle in the mining industry?  | OPEN   |
| 6  | Considering your answers for the question above, what are some potential barriers that the mining industry presents compared to other male-dominated industries (i.e. energy and transportation) on policies for the attraction, retention and development of women?                                      | OPEN   |
| <b>SECTION 3 – WOMEN IN MINING COMMUNITIES</b>   |   |  |
| <b>This section aims to understand the experiences of women in mining communities i.e. girls and women from local communities surrounding mining operations (non-employees and non-clients). What are the challenges and opportunities observed and what are the policies, plans or programs in place to mitigate them latter?</b> |   |  |
| 1  | <p>Is women’s participation from mining communities (non-employees and non-clients) important for your organization?</p> <p>By participation, we mean inclusion in the decision-making process and consultation related to mining operations in their territory.</p>                                      | Y/N/Unsure   |
| 2  | What kind of economic, socio-cultural, and/or environmental characteristics hinder women’s participation in mining communities in the APEC economy that you represent (i.e. social and cultural constraints, travel distance, childcare and elderly responsibilities, etc.) Please elaborate your answer. | OPEN   |
| 3  | What kind of policies is your APEC economy implementing to address such characteristics?  | OPEN   |

### Appendix 3. Participants' Profile

| <b>List of respondent organizations</b> |  |  |
|---|--|--|
| <b>Gender-focused mining groups</b>     |  |  |
| <b>Economy</b>                          | <b>Organization</b>                          | <b>Description</b>   |
| Global                                  | International Women in Mining (IWIM)         | A network that aims to create new opportunities for female workers in the mining industry.   |
| Chile                                   | RedMAD ( <i>Red Mujeres Alta Dirección</i> ) | An organization seeking to empower female workers and helping them achieve leadership positions.                                       |
| Chile                                   | Women in Mining Chile                        | An organization focused on promoting career development for women in the mining industry.  |
| Chile                                   | Humana Consultores                           | A consulting company lead by women that provides multidimensional solutions.   |
| Peru                                    | WAAIME                                       | A women's organization focusing on young students in the extractive industries.  |
| <b>Mining companies</b>                 |  |  |
| <b>Economy</b>                          | <b>Organization</b>                          | <b>Description</b>   |
| Chile                                   | Teck Chile                                   | A diversified Canadian mining company and a significant copper producer with operations in Canada, Peru, Chile, and the United States. |
| Chile                                   | Teck Resources                               | A diversified Canadian mining company with operations in Canada, Peru, Chile, and the United States.                                   |
| Chile                                   | Freeport-McMoRan                             | An American mining company with operations in Indonesia, the United States, Peru, and Chile. It explores copper, gold, and molybdenum. |
| Chile                                   | Anglo American                               | A British mining company with a diverse portfolio of exploration and operations in North and South America, Africa, and Australia.     |
| Canada                                  | Not identified                               | No further information was provided.   |

| Global (Canada, Chile)        | Teck   | A diversified Canadian mining company and a significant copper producer with operations in Canada, Peru, Chile, and the United States.  |
|-------------------------------|--|---|
| Peru                          | Trafigura  | A multinational commodities trading company with operations in all continents.  |
| Mining/business association   |  |   |
| Economy                       | Organization                                     | Description   |
| Chile                         | Aprimin  | An association for mining industry providers.   |
| Canada                        | Mining Industry Human Resources Council (MiHR)   | An independent, non-profit organization that leads collaboration among mining and exploration companies, organized labour, contractors, educational institutions, industry associations, and Indigenous groups. |
| Canada                        | Mining Association of Canada                     | No further information was provided.  |
| Peru                          | COMEXPERU  | A business association for companies that deal with foreign trade.  |
| APEC fora/Government agencies |  |   |
| Economy                       | Organization                                     | Description   |
| Papua New Guinea              | Department for Community Development             | Ministry responsible for promoting community development and religion.  |
| Papua New Guinea              | Mineral Resources Authority                      | Government agency responsible for regulating mining industry.   |
| Papua New Guinea              | Prime Minister's Department                      | Head of government.   |
| Chile                         | Ministry of Women and Gender Equality            | A ministry with the mission to create policies, plans, and programs seeking to eliminate gender discrimination and disparity.   |
| Peru                          | Ministerio de la Mujer y Poblaciones Vulnerables | A ministry with the mission of promoting social and gender equality.  |

| <b>Other/First-layer survey</b> |                                      |   |
|---------------------------------|--------------------------------------|---|
| <b>Economy</b>                  | <b>Organization</b>                  | <b>Description</b>  |
| Peru                            | EY                                   | Consulting firm with operations in America, Europe, Asia, and Africa.                 |
| Not identified                  | Not identified                       | No further information was provided.  |
| Papua New Guinea                | Sustainable Alluvial Mining Services | A community-based organization providing professional services in small-scale mining. |